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WEALTH INEQUALITY IN THE UNITED STATES AND GREAT BRITAIN

James Banks
Richard Blundell
James P. Smith

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James Banks*,

Richard Blundell*

and

James P. Smith[†]

* Institute for Fiscal Studies and University College, London

[†]RAND

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Addresses for correspondence: j.banks@ifs.org.uk; r.blundell@ucl.ac.uk; smith@rand.org;

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I. Introduction

Considerable theoretical and empirical research has been conducted by economists during the last decade on the motives underlying household decisions regarding optimal paths of consumption, savings, wealth accumulation. This research has been decidedly inter-national in the sense that scholars from many countries have investigated many diverse country settings. But very little of this existing research has explicitly used cross-national patterns and differences in household wealth to enrich our understanding about what are the primary determinants of these household choices. This is unfortunate in that there are institutional and policy parameters impacting wealth accumulation that vary mainly across and not within country settings.

Are the reasons for savings unique to nations or do some savings motives transcend national boundaries? Are the citizens of some countries 'savers' while the citizens of others 'spenders'? Do institutions and national policies matter for aggregate national savings? Simple comparisons based on cross-sectional household surveys suggest that although there are some differences in median financial wealth between the US and Europe by far the most striking differences are in the upper middle of the wealth distribution.[1] These differences are observed between the US and Britain despite the fact that both are commonly thought to have similarly developed financial systems, particularly with respect to the availability and ownership of certain types of assets and credit. In addition, econometric evidence suggests that consumption smoothing models

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[1] See, for example, the country papers presented at National Academy of Sciences international panel on Aging, London, October 1999

for working age households work equally well across the two countries,[2] although this evidence exists only for models estimated at the cohort, or cohort and education, specific means, and hence may say little about the behaviour at various quantiles of the wealth distribution (particularly relative to the behaviour at other quantiles).

A full documentation and analysis of such cross-country differences in wealth distributions, coupled with an investigation of possible explanations requires substantial data sources. In this paper, we document in detail differences in the US and UK wealth distributions, particularly in the dimensions outlined above. We also attempt to shed light on potential explanations for these differences. To the extent that possible explanations are limited by data availability, we also discuss what data would be needed to improve our understanding of these issues.

The reasons for the marked difference observed in financial wealth dispersion across countries can be grouped into broad categories. Certainly, there are a set of issues concerning the importance of measurement issues and institutional factors in generating observed differences in the wealth distribution across countries. As with any comparative exercise these have to be dealt with on a specific basis, but differences in the policy regime (both past and future) can play an important role. Since saving and wealth levels reflect anticipated future consumption needs, to the extent that these are diminished by differential provision of social security or health care at different points in the wealth distribution, there may be less incentive to accumulate wealth for precautionary or retirement reasons.

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[2] See Attanasio and Weber, (1993, 1995) for empirical evidence in each country.

A second set of possible explanations is that the dynamic economic environment facing households differs substantially across countries. Consumption smoothing, through saving or wealth accumulation, is a response to an inherently dynamic process, and the cross-sectional distribution of wealth will be affected by household's past experiences as well as their expectations about the future. There are several motives for saving and wealth accumulation, including straightforward intertemporal consumption smoothing (to provide income in retirement, funds for the education of children), precautionary saving (to cover potential periods of poor health or unemployment) and the desire to leave bequests to ones children. The importance of these motives will depend on both household preferences and the economic environment in which they take their decisions. The dynamics of income processes will be particularly important, and longitudinal data is essential in picking up differences across countries. The degree of deterministic growth in individual income processes, coupled with the persistence and the (conditional) variance of shocks to household income may all be central in driving wealth accumulation and hence wealth dispersion. Equally salient may be household composition, as it will typically determine spending needs across the life-cycle.

Another explanation, and one on which we focus in some detail, may relate to differences in 'initial conditions' across the two wealth distributions. Differences in levels and trends in rates of return across countries would tend to lead to increasing differences in inequality across time. But this divergence will be amplified if there are initial differences across countries in the prevalence of ownership of assets where the differentials in rate of return are largest. Such an explanation is natural when thinking about the particularly high returns to risky assets (predominantly equity) in the 1980s and

1990's. For example, only recently (post 1988) has the UK had substantial levels of direct share ownership in comparison to the US, and even then the direct holdings of equity of many stockholders are small.

Finally, there may well be differences in other components of wealth which, when coupled with a degree of fungibility between measured and unmeasured components, may lead to misleading inferences about differences in the distribution of total wealth when made from financial wealth alone. In this case, the issue becomes one of which is the more relevant distribution of interest. The most obvious candidates are housing wealth and pension wealth (both public and private). To the extent that their importance in household portfolios differs across countries, particularly at different points in the wealth distribution, differences in financial wealth may just be picking up substitution in or out of these omitted components. We investigate all these issues below.

Our analysis in this paper uses primarily the British Household Panel Study (BHPS) and the Panel Study of Income Dynamics (PSID) to investigate these issues. The BHPS contains only one wave in which there is information on household wealth, but now has eight waves of income and demographic data available. In contrast the PSID contains income histories for every year since 1968, coupled with data on assets collected every five years since 1984. Combined with information on the importance of other forms of wealth as well as differences in institutional factors, this allows us to evaluate the relative importance of the above explanations for such striking differences in the distribution of wealth across the two countries.

There are several dimensions where data does not exist to evaluate relevant explanations for differences in the wealth distribution across the US and the UK. Hence,

where necessary we also supplement our analysis by the use of other cross-sectional or short panel surveys (such as the Financial Research Survey and the Family Expenditure Survey in the UK and the Survey of Consumer Expenditures (SCF) in the US).

In this paper we address these issues by first estimating the distribution of wealth in the UK in 1995 using BHPS data and the distribution of wealth observed in the US from the 1994 PSID. We move on to consider the relative role of potential explanations by looking at differences in income processes, household composition, and portfolio structures (i.e. holdings of risky assets) at different points in the distribution across countries. These differences are set within the context of institutional differences to evaluate how much of the observed difference in wealth dispersion can be explained given the data currently available, and how much remains as a topic for future research.

II.   Data Sources

To make wealth comparisons between the UK and the US, we rely on two micro-data sources that represent among the best attempts in each country to improve measurement of household wealth for the entire age distribution. For the United States, we use the Panel Study of Income Dynamics (PSID) which has gathered almost 30 years of extensive economic and demographic data on a nationally representative sample of approximately 5,000 (original) families and 35,000 individuals who live in those families. Unlike many other prominent American wealth surveys, the PSID is representative of the complete age distribution. Wealth modules were included in the 1984, 1989, 1994, and 1999 waves of the PSID and all four waves are examined here.

For the UK, we use the British Household Panel Survey (BHPS). The BHPS has been running annually since 1991 and, like the PSID, is also representative of the

complete age distribution. The wave 1 sample consisted of some 5,500 households and 10,300 individuals, and continuing representativeness of the survey is maintained by following panel members wherever they move in the UK and also by including in the panel the new members of households formed by original panel members.

The BHPS contains annual information on individual and household income and employment as well as a complete set of demographic variables. Data are collected annually on primary housing wealth, and occasionally on secondary housing wealth and vehicle wealth. In 1995 the BHPS survey included an individual wealth module which forms the basis of the wealth information used here. Since some components of wealth are collected at the household level we construct a household wealth definition from the wave 5 information to use in what follows. Hence we draw a sub-sample of households from the BHPS for whom the head and the spouse (where relevant) remain present, and who successfully complete the wealth module in 1995. This results in a total of 4,688 households, who are each observed in the panel for between one and eight waves.

A primary question involves whether the wealth modules of these two surveys are comparable. Appendix Table A1 contains a side by side account of the elements that comprise household wealth in the two surveys. Besides housing equity, PSID non-housing assets are divided into seven categories: other real estate (which includes any second home); vehicles; farm or business ownership; stocks, mutual funds, investment trusts and stocks held in Individual Retirement Accounts (IRA's); checking, savings accounts, CD's, treasury bills, savings bonds and liquid assets in IRA's; bonds, trusts, life insurance and other assets; and other debts. PSID wealth modules include transaction

questions about purchases and sales so that active and passive (capital gains) savings can be distinguished.[3]

While the BHPS detail on assets is quite similar to those available in PSID, there are some salient differences. Most important, no questions were asked about business equity in the BHPS. To make wealth concepts in the two surveys as comparable as possible, business equity was excluded from total household wealth in the PSID.[4] Neither survey over-samples high income or wealth households which- given the extreme skew in the wealth distribution- implies that both surveys understate the concentration of wealth among the extremely wealthy. While this lack of a high wealth over-sample is typically a limitation in describing wealth distributions, it has the advantage here of greater comparability between the datasets. Another limitation common to both countries is that neither provides any measure of private pension or government pension wealth.

There are differences between the surveys in the way in which financial asset wealth was collected. Both surveys collect wealth information in four broad classes but the classes are somewhat different in each country. The PSID uses checking accounts, stocks, other saving (predominantly bonds) and debts, whereas the BHPS uses bank accounts, savings accounts, investments, and debts. For each of these BHPS classes, there are also a series of dummy variables recording whether each individual has funds in a particular component of each category. In addition, for investments a variable records

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[3]The PSID was the first study to use unfolding brackets to reduce the missing data problem that has plagued surveys with wealth modules. The value of unfolding brackets is not simply in reducing item non-response, but in obtaining more accurate measures of asset values. Juster and Smith (1997) conclude that this device increases estimates of total non-housing net worth by 20% for the HRS sample. Unfolding brackets are also used for BHPS financial wealth measures, but other components of net worth were collected using a banded question (secondary housing wealth) or simple point values (housing and vehicles).

[4] To the extent that omitted components vary across countries, and particularly for groups converting business wealth to personal wealth, these may be important issues which deserve further investigation.

which of the various sub-components is the largest. The following procedure is used to make the wealth categories comparable when disaggregate data is necessary. First, bank accounts and savings accounts are aggregated in the BHPS data. Second, we subdivide the investments category as follows: For individuals who report no ownership of either National Savings Bonds, National Savings Certificates or Premium Bonds we code their entire investment wealth as shares (27% who report owning investment wealth). For those who report no ownership of shares, mutual funds, Personal Equity Plans or 'Other' investments we code their entire investment wealth as bonds (44% of those investment wealth). For those reporting both 'types' of investment wealth (28% of those with any investments) we allocate wealth entirely to either shares or bonds, according to asset type of the largest asset.

Finally, and most importantly, an issue of comparability arises over the unit of assessment to which the wealth module applies. More specifically, it is not possible to get a single estimate of household wealth in any subcategory of financial wealth from the BHPS. This is because every individual was asked to complete the wealth questionnaire, and having reported a total amount for, say, investments, was then asked 'Are any of your investments jointly held with someone else?' This framework creates obvious problems in generating a measure of household wealth. We address this issue by using a bounding approach. For each of the financial wealth categories in the BHPS we report two measures. First we compute an upper bound under the assumption that any jointly held asset classes are actually held solely by the individual (being the limit of the case where the individual owns 'most' of the asset). Second we compute a lower bound under the assumption that an individual only owns 1/Nth of the asset class in which joint ownership

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is reported, where N is the number of adults in the household. To compute the upper bound of net financial wealth we add the upper bounds for the asset components and subtract the lower bound of the debt component, and vice versa for the lower bound. In this paper, both lower and upper bound estimates are presented. Fortunately, our conclusions appear not be sensitive to how this problem is resolved.

III.   Comparing the Wealth Distribution in the US and Britain

In this section, we describe the main characteristics of household wealth distributions in the UK and US, highlighting both the similarities and differences. We begin with two concepts of household wealth — total household wealth (excluding business equity) and total financial assets. Since the BHPS wealth module was only fielded during the fifth wave (1995), we initially confine our cross-section comparisons to the 1994 wave of the PSID. Since simple summary statistics such as means and medians can be quite misleading when the subject is wealth, attributes of the full wealth distribution in each country will also be highlighted. To deal with currency differences, the UK data (collected in September 1995) are converted into US dollars using the then exchange rate of 1.5525 and all financial statistics for both countries are presented in 1995 US dollars.[5]

Table 1 lists mean values of wealth and its components for both countries. Total household wealth is about a third higher in the US, but within asset category differences are far larger. Total non-financial assets held by households are reasonably similar in the UK and US. Within that sub-aggregate, British households actually have greater wealth

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[5] Given that this is close to the OECD PPP conversion rates for this time (1.55 in 1994 and 1.53 in 1995) our comparisons are unaffected by the use of exchange rate as opposed to PPP conversion factors.

in home equity than American households do. The striking difference between UK and US lies instead in financial wealth where mean values in America are more than twice those in Britain. These differences exist in all components of financial wealth, but they are particularly large in stock market equity. On average, in the mid 1990s American households owned about $20,000 more in corporate equity.

Given the extreme skew in wealth distributions, it is well known that means are treacherous summary statistics to use for household wealth. Full distributions are described in Figure 1 (for total net worth) and Figure 2 (for financial wealth). Before highlighting across country differences, it is worth noting some key similarities. Most important, wealth distributions in both countries are extremely unequally distributed. For example, counting all assets, the median household in the US in 1994 has about $39,000 in net worth while the top 5% have more than twelve times that amount with the bottom third having little to speak of. Similarly, in the UK, median net wealth hovers in the mid forty thousands (above the US median) while the top 5% possess about eight times that amount. Of course, reliance on the PSID and BHPS understates the extent of total wealth inequality in each country since both surveys exclude the super-rich.

Dispersion is even more dramatic in financial assets alone. Most American and British households have very few financial assets, but a few have a great deal more. Median financial wealth in both countries is only a few thousand dollars. Again, the real story involves extreme dispersion with relatively few households possessing most of the financial assets.   In the US and the UK, the top 5% have about more than 50 times the level of financial assets of the median household.

Turning to the differences between the countries, Figures 1 and 2 illustrate that these differences do not emerge for the typical or median household. Median total net worth is slightly higher among British households while median financial assets are somewhat greater among American households. Rather the critical differences lie in the upper tails of the respective wealth distribution, especially in financial assets. No matter which assumption about joint or separate ownership of assets is made in the BHPS, the top fifth of American households have considerably more financial wealth than the top fifth of British households do. Moreover, the between country discrepancy in financial wealth expands rapidly as we move up the respective financial wealth distributions.The 98th percentile numbers are more than a quarter of a million dollars apart.

The data summarized in Table 1 and Figures 1 and 2 point to the principal research question to be addressed in this paper. Why do the wealthiest fifth of American households hold so much more financial wealth than the wealthiest fifth of British households? In the next section, we outline some possible factors that could provide partial answers to this question.

IV.   Explaining wealth differences

There are many factors determining household wealth accumulation that could contribute to the observed differences in wealth distributions of the US and the UK. In the rest of this paper we evaluate some prima facie evidence on the relative importance of several of these factors. To retain a structured approach to this task we separate potential explanations into broad groups. The first involves measurement issues — the extent to which the BHPS and PSID accurately capture the financial wealth and net worth

distributions in their respective populations. We conclude that measurement issues are quite unlikely to explain the principal differences between the countries.

A second class of potential explanations relates to the possibility that measured differences in unconditional distributions reflect differences in wealth covariates across households rather than differences in the wealth accumulation of truly 'similar' households. The obvious factors here are differences in the age-structure of the population, as well as differences in income levels or dispersion, or even income dispersion within age groups. To the extent that these factors cannot fully explain observed differences in wealth distributions (which they do not), we then go on to consider other potential explanations.

Throughout our analysis we keep in mind the possible influence of what we refer to as 'initial conditions'. That is, we consider the possibility that current differences in wealth distributions largely reflect past differences that have either persisted, or even been amplified, over the last ten or twenty years; as opposed to current differences in wealth accumulating behaviour across countries. For example, one question is simply whether these financial wealth distributions reflect much higher amounts of financial inheritances received by higher income American household. Our answer to that is a definitive no. A second initial condition argument is that differences in wealth distributions in the past have been amplified by the inequality increasing effect of high returns on risky assets. This initial condition does indeed play a significant role, but it fails to fully explain inter-country differences in financial wealth.

This then points us towards more behavioral differences between the two countries in their respective decisions about how much to consume and how much wealth

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to accumulate over the life-cycle, which may also help explain why differences in initial conditions arise in the first place. A primary example concerns the much greater reluctance of British households in the past to invest in equity markets. In addition, we also explore reasons why typical as well as atypical households in the two countries may desire to accumulate different amounts of financial wealth over their life-cycle. These reasons include differences in the financial consequences of the various risks faced by households (health, or longevity risk for example) that may produce different levels of 'precautionary savings', differences in bequest motives, differences in markets as a result of transactions costs, taxes or annuity markets, and the possibly different roles played by government and occupation pensions in providing income security during old age.

V.   Data Comparability

Since the design of the BHPS was modeled in part on the PSID, on the surface the PSID and BHPS data used to establish our stylised facts about wealth distributions should be comparable. In particular, both surveys are representative of the complete age distributions and neither contains an over sample of the extremely rich where wealth is heavily concentrated.[6] Thus, neither sample would provide a reliable estimate of mean population wealth, but estimates of mean wealth are not our purpose here. Rather, the principal comparability question for our research involves the extent to which the two surveys accurately depict all but the top one or two percent of wealth holders. The PSID gives a quite good measure of the bottom 99.5% of the wealth distribution.[7] While there

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[6] . The PSID contains a low income oversample which the BHPS does not (at least the waves used here do not, although such an oversample is planned for introduction in the future) but the use of frequency weights in each survey ought to control for this.
[7] See, Juster, Smith, and Stafford (1999).

is less evidence about the the BHPS, a few points are worth noting. Most important, as we show below, financial wealth data in the BHPS closely mimics financial wealth data in other recently collected wealth surveys in the UK. Thus, there appears to be nothing unique in the sampling frame used or questions asked in the BHPS which distorts wealth distributions within the range of our interest. But without a large scale official survey on household wealth (such as the Survey of Consumer Finances) however, it is difficult to address the issue of wealth-related differential sample response in the BHPS more directly. Certainly the use of sample weights throughout ought to correct for known dimensions of non-response, but the degree to which these weights (computed on the basis of region, dwelling type and socio-economic group) capture non-response or attrition by wealth is not known.

The addition of the wealth instrument in the 5th wave of BHPS does not appear to have resulted in any additional attrition in the panel. To get a broader idea of this we look at attrition by education group, which we would expect to be positively associated with wealth. The results are mixed. Encouragingly, overall levels of attrition are certainly no higher after the wealth module than before, and are fairly low overall, with recontact rates of over 90% after waves one and two. On the other hand the attrition occurring at or after the wealth module does appear to be differentially associated with higher education households. Those with education at or above A levels are significantly more likely to attrit after the wealth module than those with education below A levels.

We evaluate this question with a difference in difference approach. A probit for attrition (defined as an observation not being present in the following year) that includes year and education dummies and a treatment variable taking the value 1 for an educated

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individual observed at or after the wealth module in 1995. This yields a marginal effect on the treatment variable of 0.041 with standard error 0.006.[8] To the extent that attrition is controlled for by the cross-sectional sample weights used throughout (which control for socio-economic group which is correlated with both education and wealth), this differential attrition will not affect our analysis, which is predominantly based on the 1995 cross section, rather the longitudinal changes taking place after 1995. We are also encouraged by the comparability of the BHPS financial wealth distribution with those obtained from other cross-sectional surveys collected at the same time.

VI.   Controlling for Age and Income Differences

Since wealth accumulation is a life-cycle process, unconditional comparisons may be misleading to the extent that age structures of the US and UK populations differ. To investigate the degree to which age differences may underpin observed wealth differences we condition on three broad age groups of the head of household- (less than 40, 40 to 59, and 60 or over).[9] Table 2 presents estimates of mean, median and 90th percentiles of net financial assets by these broad age groups. If anything, the split by age exacerbates differences between the two countries. In all age groups the mean and 90th percentiles in the US are much higher than in the UK. This ranking is also true for median financial wealth in all but the youngest age group. Among those over age forty, even the median household has accumulated more financial wealth in the US.

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[8] This result is robust to whether one defines attrition as 'not present in the next wave', or 'never present again', and also to whether one considers attrition between 1994 and 1995 or not. Marginal effects are always significant and vary between 0.041 and 0.048.
[9] We select this split partly to keep cell sizes large (particularly once we look at bivariate sample splits below) but since these three age groups correspond to a natural broad subdivision of the life-cycle

Equally interesting is to compare inequality in, as opposed to the level of, wealth within age groups. The ratio of the 90th to the 50th percentile within age groups tells a different story than the 90/50 ratio across all households. In the youngest age group the US exhibits much more dispersion than the UK, but the reverse is true for those age groups above 40, where financial wealth held at the median in the US has increased rapidly to an extent that is not observed in the UK. These extreme patterns are in contrast to the unconditional ratio, which suggests that the US is more unequal than the UK (with wealth concentrated at the top end relative to the median) but not by nearly so much.

Of course, given that at this stage we are treating both the 1994 PSID and 1995 BHPS as cross sections, differences in wealth across age groups cannot be interpreted as life cycle patterns. Indeed the possibility of cohort effects distorting such a picture is not unrelated to the initial conditions argument that we will explore below.

Income Levels and Income Inequality

Income is an important determinant of both savings and wealth accumulation. The data in Table 3 show that, within our three age groups, financial wealth in both countries increases with household income albeit in a highly non-linear way. Below the median income household in each age group, median financial wealth increases are small as income rises, but then this association becomes quantitatively larger as we move to the highest income households. In both countries for those age 40-59, median wealth in the highest income decile is more than three times larger than median wealth in the 8th income decile.

Given the strength of this income-wealth relationship, to what extent can absolute income differences between the countries as well as higher income inequality in the US

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account for much larger financial wealth holdings by American households? Table 4 highlights differences in income dispersion by listing for each country within income decile median incomes relative to median household income. Columns (4) and (6) of this table give income inequality measures for the survey years corresponding to the wealth data in our comparison. While there is little difference between the UK and US in overall levels of income inequality, income dispersion is higher in the US especially in the upper two deciles of the household income distributions. For example, while US median household income exceeds that in the UK by 28%, the percent gap rises to 44% at the 90th percentile and 75% at the 99th percentile.[10] For issues concerning household savings and wealth, the only aspect of dispersion that really matters is at the upper end since that is where most of wealth is concentrated in both countries.

Figure 3 illustrates one revealing way of controlling for both inter-country differences in income levels and dispersion. This figure plots median financial wealth by percentiles of household income in both countries where the solid line represents the US, and the dashed represents the UK. For incomes below the median, this figure demonstrates that levels of median financial wealth are quite similar in the two countries.[11] The profiles of financial wealth holdings then depart at an increasing rate as one moves towards higher percentiles of household income. The companion figure 5 presents the same data except that now the UK financial wealth data are matched to US household income percentiles so that levels of household income are the same in both countries. For example, since median income in the US corresponds to the 64th percentile

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[10] It is worth reiterating that these comparisons are based in September 1995 US dollars, and as such will be sensitive to the precise conversion factors used.

[11] As shown in table 4, even at low income deciles, the top 10% have more financial wealth in the US.

in the UK, figure 5 plots financial wealth at the 64th income in the UK to financial wealth at the median income in the US. This figure shows that some but certainly not all of the excess financial wealth in the US is due to income difference between the two countries especially among the well-to-do.

Median households are only one relevant point of comparison between the two countries. Figures 4 and 6 perform the same analyses for households at the 90th percentile within each household income percentile. Here, it is much clearer that income differences between the countries can not explain the much larger concentrations of wealth holdings at the very top of the distributions.

These figures control for current inequality over time, but to investigate changes in inequality over time data are also presented in Table 4 from the 1984 and 1994 PSID: for the UK, we append onto the 1995 BHPS series income inequality measures from the 1984 and 1995 Family Expenditure Survey (FES) in columns (1) to (2).[12] Both countries experienced an equal increase in increase in income inequality at the top of the distribution over this period. Since the United States is on the more concave portion of the savings income function, however, the same increase in inequality in both countries should have a larger impact on savings and wealth in the US than in the UK.

Even after controlling for age and income, the fundamental differences between the countries that we identified earlier remain. Conditional on age and income, differences in median financial assets tend to emerge only among older households (those over 40) and those households above the median income deciles. These two factors

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[12] The FES data is used to get a picture of inequality in the mid-1980s since the BHPS was not collected at this time. The income measure is the HBAI definition of net income (before housing costs are deducted) as

interact so that among those over age 60, median financial assets are always higher in the US. Most important, the differences between the two countries remain far greater among the richest fifth. The wealthiest top 10% of American household within age and income cells have far more financial wealth than the top 10% of British households do.

VII.   The Role of the Stock Market

One potential explanation for the substantial mid 1990s differences in financial wealth holdings (especially at the top) between the UK and US is that they reflect smaller longer term behavioral differences that were exacerbated by macro-shocks affecting financial wealth holdings in both countries. One obvious example of such a macro-shock involves the stock market surge in both countries during this period. The sharp appreciation in equity values may have differentially affected financial wealth holdings if households in the UK and US differed in the initial size of their stock portfolios or if the magnitude of equity appreciation differed.

Figure 7 addresses the second issue by plotting inflation adjusted equity price indexes for both countries, each expressed relative to a 1980 base[13]. The magnitude of the recent stock market boom is impressive even compared to historical equity premiums. For example, real equity prices in the UK are about two and one-half times larger in real terms in 1995 as they were in 1980- slightly larger than the equity appreciation in the US over the same period. Yet, measured from this 1980 base, it is remarkable how similar equity appreciation has been in both countries. US equity rates of return would be higher

used for the calculation of official statistics on inequality and poverty (see Goodman and Webb (1994) for further details).

[13] The UK index is the Financial Times All Share index. For an analysis of the impact of the American stock market on wealth distributions and savings behavior, see Juster et al (2000).

than those in the UK if the mid 1970s was used instead as the reference suggesting that up to 1980 the (recent) historical experience in the stock market was more favorable in America. Still, the compelling message from figure 7 is that differential rates of return in each country's equity markets during the 1980s and 1990s can not explain the quite different levels of financial wealth holdings in each country by the mid 1990s.

While equity appreciation was similar in the US and UK, the relative exposure to the benefits from that appreciation were very different. Using the PSID, one-quarter of US households directly owned some stock in 1984, a fraction that would grow to one-third by 1994. Direct share ownership was far less common among British households especially in the early 1980s. Figure 8 plots times series patterns of rates of equity ownership in the UK between 1978 and 1996. By the mid 1980s, British household equity ownership rates had been stable and hovered just below 10%- well less US figure in 1984. Starting in 1984, equity ownership grew more rapidly in the UK than in the US. While the gap in equity ownership has narrowed, by the mid 1990s one-quarter of British households directly owned stock compared to one-third of American households.

In the UK most of the increase was concentrated in a four year period from 1985 to 1988, coinciding with the flotation of previously nationalized public utilities such as British Telecom (1984) and British Gas (1986). Around this time, the UK government introduced also a further set of measures aimed at promoting a 'share-owning democracy' – namely tax-favored employee share ownership schemes. In the US the increase in share ownership was more gradual throughout the 1980s. One result of these trends was that although the stock market boom was relatively similar across the

countries, the fraction of American households benefiting was far higher than in Britain throughout the 1980s and 1990s.

Moreover, conditional on owning some stock, the value of stock holdings was considerably higher among American households. Table 5 lists values of shares owned for all households and for shareowners only as revealed in the 1995 BHPS and the 1984 and 1994 PSID. In the mid 1990s, mean value of shares in America were almost three times larger than those in Britain and about twice as large among shareholders only. Not surprisingly, in both countries, distributions of stock values are highly skewed, with extreme concentrations in five to ten percent of households. But at all points in the distributions, the value of American holdings are multiples of two or three of those held by British households.

Yet, perhaps, the most remarkable contrast contained in Table 5 involves the 1995 BHPS and the 1984 PSID. Both for the full population of households and for shareholders only, the distribution of share values held by households are virtually identical. That is, after the stock market surge in both countries, British households had stock wealth similar to American households ten years earlier. In the early 1980s, however, we know that in light of the subsequent extremely large increase in share ownership British households' stock holdings were considerably smaller than their American counterparts. This initial condition difference between the two countries would have profound impacts on wealth distributions by the mid 1990s.

That initial conditions may have been important is demonstrated in Table 6, which lists total financial wealth and total net worth obtained from the 1984, 1989, and 1994 PSID wealth modules. Since we know that the principal differences occur at the top,

the data are displayed for selected percentiles starting at the median. Between 1984 and 1994, there was little change in inflation adjusted median financial or total household wealth in the United States. Relative to roughly stable medians, however, these two wealth distributions became far more dispersed over these ten years. For example, in real dollars, financial wealth in the US grew by 35% at the 70th percentile and by 54% at the 90th percentile. Clearly, the 1994 American financial wealth distribution which we are comparing to the 1995 financial wealth distribution in the UK is a far more unequal distribution than that which existed in the US even ten years earlier.

The culprit causing the rapidly increasing financial wealth inequality in the US is easy to find. Table 7 lists by 1984 deciles of household income changes in financial wealth held alongside changes in capital gains in stocks over the same period. Since stock ownership is so concentrated at the top, these data are arrayed for the 70th, 90th, and 95th percentiles of financial wealth and changes in financial wealth respectively. Throughout, increments in total financial net assets are almost one to one with the magnitude of the capital gains achieved in the stock market. Moreover, the largest increases in financial wealth holdings are concentrated among the well-to-do indicating that there is little doubt the stock market surge was largely responsible for increasing wealth inequality in the United States during the 1980s and 1990s.[14]

Due to limitations on the availability of household wealth data for earlier periods, the exact shape of the financial wealth distribution in the UK ten years before is much more uncertain. The only micro data available covering even part of this period is the Financial Research Survey, collected privately by NOP Financial. This cross-sectional

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[14] For a detailed analysis of the causes of rising wealth inequality in the United States, see Smith (2000).

survey was first collected over the period April 1987 to March 1988, and then on an

ongoing basis, with a different design, from 1994/5 onwards.[15] There are a number of

issues to deal with in using this NOP data to understand changes in the wealth

distribution, the most important of which is that the NOP relates to a sample of

individuals as opposed to all individuals within a sample of households. Hence no

estimate of the wealth distribution can be made at the household level.[16]

To look at changes in wealth over time therefore, Table 8 shows percentiles of the

wealth distribution at the individual level in the 1987/88 NOP data and at the individual

level in the 1995 BHPS data.[17] In addition we present estimates of percentiles from the

1997/98 NOP data to examine the comparability between the two sources of data. The

NOP data collects asset values within fixed bands, however, and these bands have not

changed even in nominal terms over the course of the survey. As a result there is a

problem of top coding in the most recent years of the survey. Hence we use two estimates

of percentiles for the 1997/98 NOP, where the first takes asset values to be the midpoint

of bands and the second uses the top points of bands along with an increased value for

those in the top (open ended) band. These two estimates ought to provide a reasonable

range within which each percentile should lie.

The 1995 BHPS and 1997/98 NOP prove to be highly consistent, with estimates

for all percentiles rising slightly between the two surveys — somewhat encouraging since

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[15] Early cross-sections of this survey were used to describe the UK wealth distribution in Banks, Dilnot and Low (1994), and more recent 1997/98 data has been used to look at recent evidence on household portfolios since the survey contains a very fine disaggregation of asset types (see Banks and Tanner (1999)).
[16] We also need to exclude transactions balances in 'ordinary' accounts at the bank or building society from the 1987/88 NOP wealth aggregate, since such balances are unlikely to be captured in the BHPS.

some households in these two surveys are separated by a time period of only eighteen months. Given this seeming compatibility of our two data sources, we can look at growth in percentiles from 87/88 to1995 across the two surveys with some confidence. Strikingly, the bottom three quarters of the distribution of net financial wealth remains close to constant in real terms over this period in contrast to the US where this is true only for the bottom half. Indeed the substantial real increases in financial assets over this period are only at the 90th or even 95th percentiles and above.

Given that stock ownership in 1987/88 was both lower in the UK than in the US, and also concentrated further up the income and wealth distributions, this lack of growth in financial wealth in the middle of the distribution could be a direct consequence of the differences in initial conditions in which we are interested. To examine this further, Table 9 presents percentiles of stock wealth conditional on being a stockholder in 1987/88 and 1995. The table shows marked rises in all percentiles above, and including, the median, in accordance with the receipt of the substantial capital gains shown in the FTSE All share return index presented in Figure 7. Of course, one must be careful in interpreting these changes since we are using two cross-sections as opposed to a panel, and hence these changes are not for the same person over time. However, if anything these will be a lower bound on the changes experienced by the percentiles of the 1987/99 distribution, given that it is extremely unlikely that new entrants to the set of shareowners are more wealthy, cetaris paribus, than those who held shares in 1987/88. Hence those at the 90th percentile in 1987/88, say, will probably be placed higher in the distribution by 1995. But these real

[17] Incidentally, by going back to the individual BHPS data for this comparison we no longer need to look at upper or lower bounds on asset values, since our BHPS 'upper' estimate simply aggregates all holding in each individuals name, whether held jointly or not, and this corresponds directly to the NOP measure.

gains were concentrated in far fewer hands than in the US, suggesting that the fact that less households were in the stock market to experience the real gains throughout the 1980's and 1990's is at least one reason why the top of the US wealth distribution is now so much higher than it's UK counterpart.

Cross-country differences across equity markets

The previous analysis shows clearly that stock market participation is, and has always been, higher in the US than in the UK. This has led to a difference in initial conditions that, although it cannot explain all of the disparity in current wealth holdings, is still interesting to explore. One possible explanation is that market conditions, in particular transactions costs, taxes or information, differ across the two countries. Certainly prior to the mid 1980's in Britain there was a tax bias away from direct holdings of equity towards wealth held in housing or occupational pensions, since equity was more heavily taxed than consumption, and housing and pensions benefited from tax advantages relative to consumption. Given the structure of the tax system these differences were significantly greater in times of high inflation.[18]

The introduction of Personal Equity Plans and Employee Share Ownership schemes meant that, from 1987 at least, equity could be held in a more favorably taxed manner by British households. Indeed, Personal Equity Plans give holdings of equity an identical tax treatment to IRA's or 401(k)'s, i.e. neutral with respect to consumption. On

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[18] For equity, interest income tax was levied on dividend income at the investor's marginal rate (which could be as high as 83% during the 1970s and 60% during the 1980s) and investment income over a certain threshold (around £2,000 per year in mid-1970's prices) was also subject to a 15% Investment Income Surcharge although this was paid by only very few tax payers. Capital gains tax was levied on nominal capital gains until 1985, and then real gains after that date, at a flat rate of 30%. Since 1988 real capital gains were taxed at the investor's marginal income tax rate. Since 1983 the ceiling on which mortgage interest payments were tax exempt was fixed in nominal terms, thus rapidly reducing the tax advantage to housing relative to other assets. See Banks and Blundell (1993) for further details.

direct holdings of equity or mutual funds held outside of PEPs or IRAs the tax treatment is also comparable across the US and UK. Dividend income is taxed as income in both countries, and realized capital gains are taxable in both countries. However, in the UK capital gains are taxed only above a fairly sizeable annual exemption (around $10,000 per year) whereas in the US capital gains are taxed at a rate lower than that in the UK (and also varying with the length of the time the asset is held) but with no exemption.

Perhaps a more pertinent difference is stamp duty, where a 0.5% charge is levied on all share transactions in the UK. But for infrequently traded portfolios such a difference is unlikely to be behind the marked differences in share ownership observed across the two countries. Finally, there could be differences in the information individuals have about stock market investment opportunities. Whilst this is a plausible explanation for differences in the middle of the income distribution the previous analysis shows that there are cross-country differences even in the very highest percentiles of the income or wealth distribution, where such information differences are unlikely to be so pronounced.

Another explanation for these differences, and possibly for higher accumulations of financial wealth in America compared to most of Europe (including the UK) more generally, involves differences in attitudes toward capitalist financial institutions. Especially during the 1970s and early 1980s, it is probably a fair characterization that there was more distrust of the fairness of capitalism as an economic system at least among significant segments of the European population. The stock market is one of most vivid capitalist symbols so this distrust may have resulted in lower average participation in equity markets among Europeans. This could be one reason why the equity boom that eventually occurred in the UK affected fewer households.

The existence and importance of ideological differences are always difficult to test especially among economists who tend to be wary of them. The approach we use in this paper involves a comparison of financial wealth portfolios of UK citizens who self-identify with either the Labour or Conservative Party.[19] Especially during the 1970s and early 1980s, it may also be a fair characterization that distrust of the fairness of capitalism was stronger among those who self-identified with Labor. Of course, since Conservative and Labour supporters differ in other salient ways (particularly age and income) that might affect wealth holdings, it will be necessary to control for such factors.

Table 10 shows that there are simple differences between the parties in their participation in equity markets. For example, one-third of Conservative affiliates held stock compared to about one-fifth of Labour affiliates, and one fifth of the unaffiliated. Similarly, among those who held some stock, the mean value of those holdings were about $69,000 for Conservatives and $33,000 for Labour. The differences at the 90th percentile are more striking. To see if such differences could be explained by differing attributes of affiliates of these political parties we estimate a set of models controlling for income decile, our three broad age groups and education of the household head.

Table 10 also reports the estimated parameters on these political group variables, where the base case is an unaffiliated head of household. Of course political affiliation itself may be determined by wealth, in the sense that purely selfish individuals would presumably favor redistribution if they stood to gain more, and vice versa. Whether this is the reason or not, wealth differences are certainly apparent between the two groups. The

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[19] The precise question is 'Which political party are you closest to?', where the possibility of answering 'none' is allowed. For the purpose of this analysis we group together those answering none with those

first line of coefficients reported come from a linear regression for financial wealth conditioning on age, education and income, and show that Conservative households are more likely to have accumulated wealth.

Therefore we also condition on the level of financial wealth in what follows. In the second line of coefficients we run a probit for share ownership which indicate that, even conditional on income, age, education and financial wealth, Conservative supporters are five percentage points more likely to be share holders than their labour counterparts, who in turn are no more likely to hold shares than the rest of the population. Finally, we look at the proportion of financial wealth held in shares (for those with positive financial wealth only) and show that, again conditional on income, age, education and level of financial wealth, a Conservative supporter would hold around 4% more of their wealth in shares than an equivalent Labour supporter.

This analysis suggests that, while income, age and education do explain a significant part of raw financial disparities associated with party affiliation and presented in Table 10, they clearly can not account for all of them. While these results indicate that political ideology may have played some role in the lower participation in equity markets in the UK, they also indicate that this falls well short of a full explanation. The adjusted differences implied by the coefficients are far too small relative to the differences that existed between the UK and US especially in the late 1970s and early 1980s.

The analysis in this section has shown that differences in initial conditions are an important component of the changes in wealth inequality in recent years. But in establishing this, our data have consequently indicated that significant differences in

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answering one of the other political parties, yielding a control group of 41% of our sample which we refer

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financial wealth holdings between British and American household predate the stock market boom of the 1980s and 1990s. That is, there are apparently some behavioral differences between households in these two countries that produce far smaller financial wealth holdings of British households compared to American households. We deal with this important issue below.

VIII.   Motives for Financial Wealth Accumulation

The initial conditions mentioned above cannot explain all differences in financial wealth between British and American households. As households age, and especially during their post-retirement ages, even the median American household appears to have accumulated significantly more financial wealth than British households were able to do. This disparity grows much larger in the top fifth of wealth holders in both countries.

In the subsequent sections, we discuss some possible theoretical reasons for these differences. In particular, the data presented thus far have suggested that the following facts need to be explained. First, for median households, except for the very highest income deciles, at young ages there appears to be very little difference in financial wealth holdings between US and UK households. In fact, young households in both countries have few financial assets of any kind. However, as households age and incomes grow over the life cycle, a significant gap in median financial assets emerges until during the retirement years (after age 60), the gap in financial assets is substantial even for the median household. Second, for those ten to twenty percent of households at the top (say the 90th percentile), there is a substantial disparity in financial wealth holdings between the UK and US households even at young ages. This gap has an even more pronounced

to as 'unaffiliated'.

age and income gradient until at older ages the difference in financial wealth holdings between the wealthiest US and UK households is very, very large indeed.

Economic theory suggests several potentially important motives for wealth accumulation over the life cycle. These include an altruistic bequest motive to bequeath financial resources to one's heirs, precautionary savings motives to reduce risks associated with income, health, or longevity, and smoothing life-cycle timing of consumption and income paths. In addition, there may be institutional and historical differences between the countries that lead to American and British households selecting quite different portfolios of financial and other assets. We organize our discussion in this section around these motives.

Precautionary Motives

Recent theoretical research in economics has brought back uncertainty and risk aversion (or precautionary savings) as a primary savings motive. At least under certain conditions, uncertainty causes individuals to discount future incomes more heavily and to place high values on social insurance schemes (such as annuities) that reduce risk. Age related risks can take many forms. Uncertainty about future incomes, health conditions, or longevity will tend to increase current savings and, at least in earlier part of the life cycle, consumption will tend to follow income.[20] The basic question here is whether older American households face more age related risks than their British counterparts do.

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[20] In an important variant of this model, impatience for the present duels with prudence as individuals attempt to maintain a 'buffer stock' of a small amount of wealth to deal with future uncertainty. The buffer stock remains small due to impatience. Another avenue explored in recent work involves liquidity constraints-that individuals cannot borrow and lend at the same interest rate. With liquidity constraints, individuals will not be able to borrow as much to finance their current consumption. Once again in this case, consumption will tend to follow income more closely

<u>Income risk</u>

Surely a key financial risk faced by households is that associated with fluctuating incomes during their working lifetimes. As such, one would expect income risk to be an important factor in determining precautionary balances of liquid and semi-liquid financial assets.[21] One can think of overall income risk as being determined by a number of sub-components, namely income risk conditional on remaining in employment, employment risk itself, and then the duration of, and associated financial consequences of, spells out of the labour market following labour market separations. If one considers household incomes as the concept of interest, there are also issues related to the magnitude of these three components for each adult household member, and this also introduces a fourth component – the risk of household separation itself. Indeed, one could define income as income relative to needs in which case the risk of household formation and separation, as well as child bearing, will have clear financial consequences for household 'incomes'.

Yet it is also quite clearly important to distinguish between true risk and simple fluctuations over time. Many changes may be anticipated by households or household members and as such ought not to be considered as determinants of precautionary saving. Obviously the availability of a long series of panel data is a crucial instrument in extracting the risk component from time series variations and to do so for both countries in this study on a comparable basis is an interesting and important agenda.[22] At this stage, however, we are content to point out that many of our observed differences in financial

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[21] See Banks, Blundell and Brugiavini (1998) for an empirical demonstration of this in the UK, or Hubbard, Skinner and Zeldes (1994) for a US example.

[22] A number of papers are already considering these issues for the countries individually, see Banks, Blundell and Brugiavini (1998) or Burgess, et al (2000) for the UK, and Gottschalk and Moffitt (1998) or Meghir and Pistaferri (2000) for the PSID.

wealth are most pronounced amongst late middle age and even the retired age groups where such income risks might be thought to be predominantly resolved. Income risks for those cohorts will undoubtedly have played a role in generating the wealth each cohort has accumulated by the mid-1990s but we think it unlikely that cross-country differences in employment or income risk can be large enough to have been a major influence for these older age groups.

When one looks at needs, the conclusion does not change substantially. Family compositions are comparable in the US and the UK, and one would expect the relative financial implications of unexpected changes in household size to be comparable also. Similarly, the concentrated of the largest disparities among the oldest age groups suggests that savings for children's college education expenses which will tend to larger in the United States seem an unlikely explanation of these differences. If wealth accumulation for education expenses were the principal explanation, then we should observe wealth differences between the countries narrowing after these the point in the lifecycle when these expenses are normally incurred. We do not observe such a narrowing.

Health risk

One well known difference in institutional structure between the US and UK is in the provision of health care. As such, at least one risk that may differ across countries relates to the financial consequences of bad health shocks, both in working life and during retirement. On first examination, however, it seems such differences are unlikely to be driving such large differences in financial wealth accumulation as those observed earlier. With regard to health care itself, the most important differences in health care systems are during working ages, where the US has a predominantly private system in

contrast to Britain's universal provision. At these ages, however, the prevalence of private insurance as the form of private provision in the US means that average asset accumulation profiles are unlikely to be substantially affected. At older ages, health care for the elderly is universally provided in both countries, so again accumulation is unlikely to occur differentially in anticipation of adverse health events during old age.[23] Aside from the direct health care components, the other financial liabilities are out of pocket expenses and financing of long term care needs. With regard to the former, privately borne costs have risen in Britain, as a result of the means testing of publicly paid medical, dental and optical expenses for working age households. Retired households, however, continue to receive completely free medical prescriptions, as well as not being liable for expenses associated with dental or optical care. Again, such differences are unlikely to explain such huge wealth accumulation disparities as are observed across the two countries. Finally, with regard to long term care, as with general health care for the elderly, there are similarities between the US and Britain where care is essentially privately financed. More precisely, in Britain the care component (as opposed to the health care component) needs to be privately financed. There is a low quality public long term care option for those below a (low) threshold of financial assets, but such an option would typically not be relevant to even the median wealth elderly household.

Longevity risk

Once an individual is retired, the intertemporal planning problem they face becomes one of decumulating their assets at an optimal rate, allowing them to enjoy the

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[23] There may of course be an issue of the quality of care provided within Medicare versus the National Health Service, but measurement of such differences is complex and controversial and we will not pursue it here.

benefits of current consumption whilst ensuring that their expected future consumption will not be too low. Even at retirement, once earnings and employment risk have been resolved, individuals will still face risks since the number of time periods over which their available resources have to be spread is uncertain. Earlier than anticipated death will lead to accidental bequests, but probably more importantly, an individual who lives 'too long' could end up facing periods of very low consumption, depending on the generosity of state support for the elderly.

Such issues are important to the degree that retirement wealth is not automatically converted to an annuity stream on retirement. Since both social security and private DB pension wealth are by definition annuitised, this may be more of an issue for some households than for others. On top of this, however, there are differences in compulsory annuitisation requirements across countries. More specifically, in the UK, individuals with a defined contribution pension scheme are forced to annuitise 75 per cent of their pension fund sometime between the ages of 50 and 75.[24] While only a small number of individuals currently receive income from such an annuity, in the future as a result of the

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[24] More precisely, the element of their pension fund which comes from the contracted-out rebate has to be converted into a *'protected rights'* annuity between the ages of 60 and 75. A protected rights annuity is one which pays the same rate for both men and women – i.e. insurance firms are not allowed to offer better terms to men despite their lower life expectancy. Such rules therefore build in redistribution, on average, from men to women, from rich to poor and from single adults to married couples.

Any individual who has made additional voluntary savings into their pension fund is, on retirement, allowed to withdraw 25 per cent of this as a tax-free lump sum. The remaining 75 per cent of the fund has to be used to purchase a *'compulsory'* annuity sometime between the ages of 50 and 75. Unlike protected rights annuities insurance firms are allowed to offer higher annuity rates to men than women, reflecting their lower life expectancy. Individuals are however given various options for how to annuitise this part of their pensions savings. For example they may purchase annuities which are fixed in nominal terms, indexed to prices, escalating or linked to some investment. In addition annuities can be purchased on either a single or a joint life basis. Those choosing to defer annuitisation past their retirement date are allowed to make annual income withdrawals of between 35 and 100 per cent of an amount calculated (in Government Actuary annuity rate tables) to be that which an annuity purchased with the fund would have provided. If the individual dies before they have annuitised their fund the remaining balance is subject to tax of 35 per cent and is then bequeathable. This makes the income draw-down arrangements

1986 Social Security Act allowing individuals to 'opt out' of SERPS into a defined contribution pension scheme and the subsequent popularity of both Private Personal Pensions and occupational defined contribution pension plans, many more individuals will reach retirement with wealth in a form that under current rules, requires annuitisation. Issues such as the as the return provided by annuities, whether individuals should be subject to mandatory annuitisation, and the design of any alternative income draw-down arrangements are important ones for today's working age households.

As long as arrangements remain as they currently are, it is certainly the case that UK individuals are less exposed to the 'risk of living too long' than are their US counterparts. Not only will public pensions provide an annuity stream but private pensions, which represent an increasingly important component of household wealth for working age households will also provide a stream of income for as long as individuals are alive. However, the corollary of this is not necessarily a reduction in overall risk but instead a change in the risks that an individual faces and a change of the point in time at which those risks are resolved. After all, the level of the retirement income generated from private pensions for a UK household will be determined by the market for annuities at the time the annuity is purchased, which in turn generates its own risks.

One might argue that if insurance against longevity risk was a big issue in the US there would presumably be a large market for voluntarily purchased annuities. Friedman and Warshawsky (1990), however, show that the observed lack of demand for annuities by young retirees can be explained by actuarially unfair pricing, which could result from

particularly attractive to anyone with a bequest motive. For more details and descriptive evidence see Banks and Emmerson, 1999

transactions costs, market power or simple adverse selection in the annuity market.[25] This suggests that, to the extent that adverse selection drives non-participation in annuity markets, it is certainly possible that the compulsory nature of annuity markets in the UK leads to less exposure to longevity risk in the UK than in the US, and this may be one reason why Americans keep higher balances of financial assets throughout retirement.

Permanent income

Other things being equal, increases in permanent income will result in increased saving and wealth. This is certainly true for levels of wealth and, although the debate is more controversial and yet to be resolved, some evidence is emerging to suggest a positive effect on saving rates as well (see Dynan, Skinner and Zeldes (2000)). One possibility therefore, akin to an initial conditions argument, is that widening financial returns to education, coupled with the higher proportion of college educated Americans throughout the 1970s and early 1980s, have led to a differential widening of the distribution of permanent income across the two countries.

Certainly the proportion of individuals completing college education in the US has been over double that in the UK for all cohorts throughout our sample period (at around 25% for younger US cohorts and 12% for younger UK cohorts). This alone could result in more higher wealth households in the upper percentiles of the wealth distribution. However, the differences as high up as the 95th and 98th percentiles, where presumably almost all individuals have higher levels of education in both countries, are probably unaffected by this. Also, to the extent that increased permanent incomes are

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[25] For older retirees a bequest motive is also needed to generate the lack of annuity purchases that one observes amongst this group in the US.

reflected in increased contemporaneous incomes we have shown in the previous section that such differences cannot control for all wealth differences across the two countries.

In addition, there have been increasing financial returns to education over the last twenty years, whose magnitude has also been comparable across countries.[26] Depending on the degree to which these increases in returns to education were successfully perceived by individuals as permanent as opposed to transitory, and also on the strength of the effect of increased permanent income on saving and saving rates, such changes could have widened the wealth distribution in the US more than in the UK, simply because individuals at the top end of the wealth distribution who would have received the increased returns is larger in the US. Card and Lemieux (2000), however, show that the increase in college-high school wage gaps has occurred predominantly amongst younger cohorts, both in the UK and in the US, with the gap for older men remaining nearly constant, presumably as a result of some cohort specificity in human capital, making educated members of certain cohorts imperfect substitutes for educated members of other cohorts. Once again, therefore, these differences cannot really explain the main differences in our data, i.e. the wealth differences for middle aged and older households. Such households, if the cohort specific human capital story is to be believed, will not have had such marked increases in permanent income as their younger counterparts.

Life cycle Accumulation

The starting point for most economic frameworks is the *life-cycle model* which emphasizes savings to deal with timing issues surrounding non-coincidence in income and consumption needs. In this theory, individuals will tend to want to 'smooth'

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[26] See Card and Lemieux (2000) for example.

consumption (to keep the marginal utility of consumption constant across periods) so that they will save when income is high and dis-save when income is low.

One way of evaluating the importance of life-cycle behaviour in determining wealth accumulation would be to attempt to adjust the age differences, previously calculated from the wealth cross-sections, for potential cohort effects, thus enabling them to be interpreted as true age profiles. Even with the panel data on wealth in the PSID linking individuals over time becomes a possibility, but distinguishing between age, cohort and time effects still requires identifying assumptions. Given that one could write a paper on this issue alone, and also that panel data, or even two cross sections, on wealth do not exist for the UK, meaning that any comparable adjustments we could do in both countries would be very crude, we choose not to pursue such a strategy here.

A further way of evaluating differences in life-cycle behaviour would be to look at the degree of consumption smoothing that is going on within each country's household population. Here there is an existing body of evidence for each country on which we can draw. Although still a controversial finding, for working age households it appears that the consumption smoothing model offers a fairly good explanation of intertemporal consumption behaviour both the US and the UK, once one controls for plausible codeterminants of marginal utility, such as household demographic or labour market characteristics.[27] With regard to consumption smoothing between work and retirement it appears that there is some puzzle remaining to be explained, but this is a characteristic of data in both countries rather than just one.[28] On balance, therefore, it seems difficult to

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[27] See Browning and Crossley (2000) for one of many surveys of these issues.
[28] Banks, Blundell and Tanner (1998) for the UK, or Bernheim, Skinner and Weinberg (1999) for the US.

argue, given existing evidence, that the life-cycle model is in some sense more relevant in the US than in the UK, or vice versa.

Bequests

Parents may want to provide for their offspring and their descendants posthumously, and they can do so by accumulating assets over their lives and then bequeathing some financial inheritances at the time of their death. One potential initial conditions explanation for the greater financial wealth holdings among the top third of wealth holders in the United States is that these households had received larger financial bequests from their parents than British households with roughly similar incomes received from their parents. Since that belief rests on an exaggeration of the relative importance of financial inheritances in accounting for wealth holdings, bequests are a very unlikely source of the inter-country difference. To see this, the data in Table 11, obtained from the 1995 wave of the Survey of Consumer Finances (SCF), list levels of aggregate net worth, the value of inheritances received, and the ratio of financial inheritances to current net worth (all in 1998 dollars). To evaluate the impact of inheritances on the distribution of wealth, these data are provided for selected household income deciles and percentiles.

On average, current household wealth is more than seven times larger than all financial inheritances received suggesting that financial inheritances can not be a major part of the story. Moreover, this ratio appears not be sensitive to a household's position in the income distribution.[29] For example, inheritances as a proportion of current wealth

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[29] This table also illustrates the impact of the over-sample of the super wealthy in the SCF. The top one in a thousand households of the SCF had a net worth approaching 20 million dollars. These households have received 2.9 million dollars in inheritances, a ratio of inheritances to household wealth of only 0.15.

are 6% for the top 1% of households and 8% among those with household incomes at the tenth percentile. The relatively small amount of financial inheritances in the aggregate alongside the absence of any systematic pattern across the income distribution suggests that an explanation of high financial wealth holdings of American compared to British households in the wealthiest third of households must lie elsewhere.

While past financial inheritances do not provide an explanation, what about future bequests? Altruistic bequests should rise with the income of the donors and fall with the income of recipients so that the increasing income equality across generations should lead to a fall in inheritances. In addition, rapid fertility reductions could produce higher bequest per offspring which may reduce desired total bequests. Even so, is it possible that bequest motives for today's households differ across countries, i.e. are bequests motives stronger in the US than in the UK thereby accounting for some of the differences in financial wealth accumulation with age? On this issue, our conclusions must be tentative since the existing literature does not suggest that we know a good deal about what determines bequests in general. Yet, we doubt that differences in financial wealth accumulation in the two countries stem from a differential bequest motive. In both countries, the fraction subject to estate tax appears to be too small to explain differences among the top quarter. For example, in the UK, inheritance tax is levied on values of estate over £234,000 (around $363,000) while the threshold in the US was $600,000 during most of this period. Current estimates suggest that only 3% of deaths in UK result in inheritance tax compared to only one or two percent in US. Similarly, variation in fertility rates and income by generation do not seem sufficiently different in the two countries to suggest a strongly differentiated bequest motive.

IX.   Housing

The patterns described for financial wealth above change somewhat when we look at total net worth across the two countries. To investigate this, in Table 12, we report median, 90th and 95th percentiles and mean net worth, as opposed to net financial wealth, for each of these income-age cells. Households in the top decile of the net worth distribution are still considerably richer in the US than in the UK (although less so in the lowest income deciles), and by retired ages the US also has higher levels of median wealth, vastly so in the upper income deciles. However, what is also striking about this table is that at younger ages median net worth is markedly higher in the UK than in the US both across all income groups and for the majority of income deciles.

One possibility is that there is an issue related to household portfolios that could be key when comparing wealth distributions, namely the amount of wealth held in housing compared to the amount of wealth held in equity. Housing wealth permeates much further down the income-wealth distribution in the UK, in very much the same way as equities are held further down the distribution in the US. Hence comparisons of financial wealth and net worth tell different stories at this point in the distribution in a way that is not true when looking at the top percentiles, where the US dispersion is always much greater under either measure. We investigate this further below.

Housing is an important wealth component, particularly so for many UK households who do not hold substantial financial assets. Much as we argued when looking at initial conditions in stock market wealth, differences across countries could manifest themselves in a number of ways, through historical returns being higher in the

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UK than in the US, through ownership rates or through the amount of net equity held in housing by homeowners.

Figure 9 shows real indices of average house prices for the US and UK over the period 1974 to 1998. Once again, as with the indices for equity returns, both series are normalized to unity in 1980. Immediately apparent is the increased volatility of housing prices in the UK, with real prices rising by 50% over the period 1980 to 1989 and then falling back to it's previous value by 1992. Over the period as a whole, real returns were similar across the two countries. Once again, then, much as with equity, differing asset returns across the two countries do not appear to lie behind the observed wealth differences.[30] Moreover, these returns do not compare to those in the stock market in either country, which rose fourfold over the same period.

Table 13 shows the proportion of households who are homeowners, by the age of head of household, in the US and the UK for both 1985 and 1997/98 and reveals a striking difference in ownership patterns.[31] Home ownership rates amongst young households are far higher in the UK than in the US, with the difference being around twenty percentage points in 1985 for households aged under 34. Since 1989 the proportion of homeowners amongst the youngest group in the UK fell gradually, yet there is still a difference of around twelve percentage points between the UK and US in 1997/98. Despite this, the overall home ownership is slightly higher in the US in both periods, predominantly as a result of older age groups being significantly more likely to

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[30] It is worth noting that the US and UK average indices also hide considerable regional variation both in the level and volatility of returns. For example in the UK, the regional sub-indices lie between 1.11 and 1.87 in the 1989 peak, then all fall back to around their 1980 level. By the end of the sample dispersion has increased again, and the highest regional indices lie at 1.283, with the lowest at 0.877.

hold housing wealth. There are strong cohort effects in UK home ownership, which show up clearly when comparing those below 55 in 1985 to those above (and correspondingly, those below and above 65 in 1997). Elderly US households are still substantially more likely to hold housing wealth than their UK counterparts.

Perhaps unsurprisingly, given Tables 12 and 13, the amount of equity held in housing by homeowners is also higher in the UK, at least for the younger age groups. In Table 14 we report percentiles of net primary housing wealth for homeowners only, by age group. As is clearly evident, even the median young homeowner holds substantially more wealth in the form of housing than does the corresponding household in the US. Once more, however, at the very top percentiles, and also at lower percentiles for older groups, US wealth levels are higher.

The role of cross-country differences in tax treatment is interesting since, if anything, the tax treatment is actually more favorable in the US than in the UK. Whilst in the past mortgage interest payments had been tax deductible in the UK, over the past twenty years this has been gradually phased out, to the point that all tax relief has been abolished from April 2000. In contrast, US households still receive full tax deductibility on all mortgage interest payments. Capital gains on primary residences are untaxed in both countries. These tax differences may affect ownership rates and equity payments differently. Importantly, there is no tax advantage to carrying mortgage debt in the UK, whereas this advantage is substantial in the US. The detailed effects of these differences

[31] Figures for the UK are computed from the FES microdata to enable the comparison with 1985. However, calculations confirm that home ownership rates in the 1995 BHPS data match those in the 1995 FES to well within one percentage point for all age groups and for the population as a whole.

(possibly in a wider set of countries) would be an interesting empirical investigation which we leave as a topic for the future.

Differences in housing wealth accumulation could be driven by other factors in the housing market. Rental market rigidities or failures (which are thought to exist in the UK) could be one issue. Renters right rules are far more common in the UK, making it difficult to evict existing tenants. This may explain differences in ownership rates but not differences in the amount of net equity in housing held by homeowners. Another possibility is the structure of mortgages themselves. The typical UK model is characterized by a low downpayment (5% to 10%), variable interest rates and a fairly low take up of mortgage interest insurance. In contrast, the typical US mortgage has a higher downpayment (20%), fixed interest rates and often is accompanied by mortgage interest insurance, generating a more stable intertemporal financial commitment (see Chiuri and Jappelli (2000) for a detailed discussion of institutional diffrences). The differences in down payment requirements alone significantly shortens the time (compared to American households) it takes young British households to save in order to reach their required down payments. In addition, the highly volatile returns to housing equity (Figure 9) and variable interest rates leaves British households much exposed to business cycle vagaries. This should make them much more cautious than Americans would be to refinancing their homes during housing price upswings and converting the funds into financial assets. Refinancing was a very common phenomena among Americans during this period.

Combined, rental market 'failures', low down payments, and variable interest rates in light of highly volatile housing price cycles appear to be the most promising

explanations of the high rates of house ownership of young British households and thereby contributing to their correspondingly their low values of financial assets.

X.   Pensions and Retirement Saving

The final component of household wealth remaining to be discussed is pensions, and to the extent that there may be differences in pension wealth across countries one might expect to see offsetting differences in other forms of wealth, particularly financial wealth. Once again, the UK is a good point of comparison as far as the US is concerned because the differences in pension provision are not as huge as those between the US and other European countries. In both countries there are no taxes on private pension contributions, nor on accumulation within pension funds, and pensions in payment are treated as income and taxed at the investors marginal rate.[32] Coverage of private pensions is also fairly similar across the working population of each country, although it is worth noting that in the UK individuals with private provision are required to contract out of the earnings related second tier state scheme, thus relinquishing their rights to earnings related social security benefits (and therefore earning a contributions rebate to be paid into the private scheme). Both countries also have a private Defined Contribution alternative earning the same tax treatment as traditional Defined Benefit occupational schemes and once again the proportion of individuals with such schemes are broadly comparable (with just over 23 million individuals participating in 401(k) plans in 1993,

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[32] Although in the UK a portion of the fund can be withdrawn in the form of a tax free lump sum (see footnote 22 above). Also for a brief period surrounding their introduction, contributions to Personal Pensions were matched by a government contribution generating a substantial subsidy to this form of saving.

compared to around 5.5 million individuals with Personal Pensions in the UK in 1995 (see Johnson, 1998, for example).

So there seem to be few differences in the tax incentives to hold pension wealth instead of other financial wealth across the two countries, and these are matched by similarities in the numbers of individuals with various types of pension wealth. The other possibility, therefore, is that there are differences in the relative generosity of public pensions, or in the amounts individuals are contributing to their private pensions, that are also affecting financial wealth accumulation. In particular, the UK has reduced the generosity of state pensions for future cohorts considerably over the last twenty years, in response to the funding problems that loomed on the horizon given that the public scheme is unfunded and the population is aging.[33] A consequence of this is that although currently retiring cohorts may receive a large fraction of their retirement income from the state, this will not be the case for those retiring after around 2010, for whom the state system will be less generous and contracting out will have been the norm, even for those without occupational pensions.

One way of examining the importance of these issues is by looking at the sources of income of pensioners, and the proportion of income during work that is replaced during retirement. Table 15 shows these replacement rates for one particular cohort, born between 1923 and 1928, split by the education level of the head of the household in the US and in Britain. As long as individuals are not returning to full time education in their retirement the composition of these groups will remain constant over time, and hence the

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[33] In an interesting difference of approaches to dealing with the funding problem, the UK pensions system has been frequently reformed with little, if any, debate whereas the US system has been the subject of much debate, but as yet has had no reform.

mean changes in incomes over time will be a consistent measure of the average change for each group.[34] It is important to note the differences in sizes of the education groups within this cohort. In the UK the minimum school leaving age was fourteen until 1948, and the vast majority of individuals left school at this time. In contrast, in the US the expansion of secondary education that took place between 1910 and 1940 resulted in the majority of individuals in this cohort at least graduating high school (see Goldin (2000)).

In addition to providing replacement rates for all households, in Table 15 we also look at those for married couples only. Each of these groupings will be affected differently by selection or differential mortality and it is useful to consider them together. On one hand the overall replacement rates may actually understate retirement income replacement due to the death of spouses within households. On the other, the married couples replacement rates probable overstate it due to mortality selection — the set of households that are still married couples at age 75 is presumably a rich subset of the households that were married couples at age 55, some evidence on which can be gleaned by looking at the proportion of the cohort in each education group in each of the two years in question. On balance we prefer the replacement rates for all households, on the grounds that the former problem is probably less of an issue than the latter, but the married couple rates still provide interesting supplementary empirical evidence.

Table 15 shows that, on average, overall income replacement in retirement is if anything somewhat higher in the UK than in the US, at least for the most educated group.

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[34] Ideally, one would want to look within the cohort in more detail, possibly at the 10th, 25th, 75th or 90th percentiles of income, for example, to correspond to the break down of groups we use in our analysis of wealth above. However, we would expect individuals to move between these groups over time and in the absence of panel data (with a long enough time dimension) in the UK we cannot condition on income in any one particular time period. For a detailed discussion of this issue in the US see Smith (2000).

What is more, replacement by state benefits and pensions is considerably higher in the UK for all education groups — this cohort is one of those that will have received the most generous treatment from the state earnings related scheme. Finally, the table shows that private pensions make up a more important component of retirement income for the most educated UK households. It is worth pointing out that these are averages only, and there will certainly be some households experience larger falls in income at retirement (particularly in the UK, where the bottom education group is particularly large and presumably fairly heterogeneous).[35] Also, these numbers are for one cohort only. Earlier (or later) cohorts could fare considerably worse (or better), particularly given the changes in pension institutions in the UK. The detailed analysis of US replacement rates in Smith (2000) suggests that younger cohorts will indeed have higher replacement rates. On these grounds, we would argue that the evidence in Table 15 suggests that in both countries those cohorts recently retired, as well as those retiring currently and in the future, are doing a fairly good job of smoothing their income across work and retirement.

These results pertain directly to the finding of an unexplained fall in consumption growth around the retirement, on which there is now empirical evidence in both the US and the UK (see Banks, Blundell and Tanner (1998) for the UK or Bernheim, Skinner and Weinberg (2000) for a similar analysis for the US). If incomes are maintained through retirement the fall in consumption is a genuine puzzle which presumably has more to do with preferences or needs than prior retirement saving. This would be the case if all retirement income was annuitised. However, incomes may fall through retirement,

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[35] There may well be other measurement issues, such as the particular point in the business cycle at which these data are drawn, or differences in the level of real earnings growth between our base year and the actual year when these households retire, for example.

even from the levels we observe in Table 15. For example, households may be selling off asset stocks or unable to earn so much self-employment income or earnings as they age. If therefore, this retirement income stream will not stay high until death some downward adjustment in consumption at and during retirement may still be necessary. This brings us back to the puzzle, because such an adjustment has to be unanticipated, since otherwise households would presumably have saved in advance, particularly since once a household is fully retired such shocks are difficult to smooth by return to the labour market.

Interestingly, savings and investment income represents a similar proportion of retirement income in both countries. This is not inconsistent with differing levels of financial wealth for a number of reasons. Firstly, incomes at age 52-57 are lower for this group in the UK than in the US and consequently the asset stocks required to generate a comparable proportion of this income level will be lower. Second, our income measures do not include disposal of assets and given differences in stocks of wealth (and, in particular, shares) this may represent a considerably more important source of retirement resources in the US than in the UK. Third, there is some evidence that income from savings and investments is underestimated in the CPS data, which would lead to both higher overall replacement rates and a higher fraction of retirement income coming from this source.

XI.   Conclusions

In this paper we have examined differences in wealth accumulation between British and American households, predominantly using the two panel datasets that are most comparable across the countries. Unconditionally, there a large differences in financial wealth between the two countries at the top fifth of the wealth distribution.

After, conditioning on age and income, we show that US households accumulate more financial wealth even at the median.

A number of alternative reasons for these patterns were explored and some explanations were rejected as not plausible. These include differential receipt of financial inheritances or desired bequests, and differential average rates of return to corporate equity or housing. While less certain at this point, we have also argued that the differences that are concentrated among the older well-to-do are not likely due to differences in income or employment risks, savings for college expenses, or changes in permanent income. On a more positive note, we find that some of the observed differences are due to what we refer to as 'initial conditions', in particular the high rates of corporate equity ownership in the US and the high rates of housing ownership among young British households. However, since these differences existed even in the early 1980s, initial conditions do not provide a full explanation. One explanation may be that due to forced and voluntary annuitization of retirement incomes, older British households face considerably less longevity risk

Looking more widely, however, we find wealth held in different forms across the two countries, in particular in housing, which to some extent offsets the differences we observe in financial wealth patterns. Indeed, when comparing the degree to which incomes are smoothed across work and retirement substantial differences across countries do not emerge, with the evidence suggesting that households in recent cohorts are providing fairly well for their retirement in both countries, at least on average.

More generally, we have shown that it is crucial that comparative exercises of this form acknowledge the importance of institutional differences across countries. These

differences can be very informative in understanding behaviour since they generate dimensions of variation which are often not observed in a single country over time. Examining the impact of such differences in further detail (using appropriate data) ought to yield important insights, both for understanding comparative measurements and considering the possible effects of future government policy or institutional reforms. Potential candidates for investigation arising from this paper have been the stock market, annuity markets and the housing market, all of which could be important explanatory factors in generating measured wealth differences between the two countries.

Finally, we would argue that it is important that comparative studies compare genuine economic phenomena (such as the ability to smooth consumption) rather than particular economic measurements (such as the level of wealth in any one particular form). It is worth pointing out that, in this particular area, i.e. the analysis of wealth accumulation, panel data is not just a useful luxury but an indispensable tool, since the economic phenomena in question are inherently dynamic. Whilst we have learnt much about the wealth distribution from the analysis in this paper, the scope of our analysis has been limited by the fact that, despite repeated observations on incomes and demographics, the British Household Panel Study still contains only one measurement on household wealth. Once a second measurement is taken we hope to be able to address some of the questions that still remain unanswered when comparing the level and dynamics of wealth accumulation in the US and Britain. Nevertheless, we are already encouraged by the degree to which a detailed investigation can point to potential explanations of observed wealth differences between the two countries.

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Table 1

Household Wealth and Components in the US and UK

1995 USD, thousands

Wealth category	1994 PSID	1995 BHPS	
		Lower	Upper
Net Home Equity	38.9	53.7	53.7
Other Real Estate	24.2	9.5	9.5
Net Vehicle wealth	10.9	3.8	3.8
Net Tangible Assets	*74.0*	*67.1*	*67.1*
Stocks and Mutual Funds	28.8	7.7	10.3
Liquid Assets	19.5	10.0	12.8
Other Financial Assets	9.5	4.7	5.2
Other Debts	6.1	1.6	2.0
Net Financial Assets	*51.7*	*19.4*	*26.7*
Total Wealth	**125.7**	**86.5**	**93.7**

Table 2

Net Financial Assets by broad age band of head of household,

1995 USD, thousands

Age	Median			90th Percentile			Mean		
Band	**UK**		**US**	**UK**		**US**	**UK**		**US**
	L	**U**		**L**	**U**		**L**	**U**	
<40	0.0	0.2	0.2	19.4	27.9	54.2	5.0	9.9	20.2
40-59	1.8	3.6	11.2	61.6	79.3	171.8	23.5	33.7	60.0
60+	5.4	7.0	17.4	86.9	128.9	239.2	33.2	42.0	99.2
All	1.5	2.3	4.1	54.3	72.2	141.1	19.4	26.7	51.7

Note: For the UK, columns L and U refer to Lower and Upper bounds for financial assets, as described in text.

Table 3

Percentiles of net financial wealth and mean net financial wealth, by income decile within broad age groups

1995 USD, thousands

Income Decile	Age < 40				Age 40-59				Age 60+			
	50	90	95	Mean	50	90	95	Mean	50	90	95	Mean
UK												
1	0.0	3.6	6.2	1.9	0.0	8.3	25.4	3.1	0.5	32.6	62.1	9.9
2	0.0	3.1	12.4	3.4	0.5	34.2	44.2	8.9	3.9	23.9	31.5	8.2
3	0.0	6.2	12.2	0.8	1.0	38.8	62.9	12.9	4.1	17.9	66.0	10.9
4	0.0	7.1	19.4	3.3	0.8	72.8	100.2	17.2	2.3	24.8	55.9	9.3
5	0.1	12.4	25.6	3.2	1.6	46.6	121.1	19.3	6.2	73.0	108.7	14.4
6	0.4	15.9	28.0	4.2	4.3	66.8	132.0	22.3	18.1	82.3	114.9	33.7
7	1.2	32.9	66.8	12.2	6.4	77.9	125.6	29.8	14.7	139.7	201.5	43.8
8	1.3	36.2	58.6	9.0	9.3	115.6	183.2	43.7	27.9	128.1	177.0	49.7
9	4.7	69.9	122.1	24.2	15.8	95.8	154.9	46.0	38.0	213.0	287.2	74.0
10	7.1	79.5	116.4	28.1	28.7	279.4	590.2	113.2	103.2	380.4	468.7	158.7
US												
1	0.0	1.3	8.4	4.6	0.0	30.4	97.1	19.4	0.0	34.8	111.4	20.1
2	0.0	3.1	17.4	9.2	0.0	51.2	112.5	15.6	3.9	102.2	153.3	29.9
3	0.0	13.3	42.1	4.9	0.2	35.1	68.5	12.7	6.1	102.2	122.3	31.3
4	0.0	13.3	25.6	2.1	0.4	88.6	230.0	28.7	18.4	169.5	235.2	54.4
5	0.3	36.8	69.9	14.3	4.6	127.8	194.3	35.5	30.7	245.4	378.1	91.6
6	1.0	31.7	94.1	11.6	4.1	86.6	143.1	21.1	50.1	201.4	265.8	81.3
7	2.1	45.0	89.0	18.6	12.3	98.3	146.7	37.6	93.4	332.2	577.7	150.2
8	5.1	80.3	135.3	26.8	20.4	112.5	209.6	43.0	70.5	561.4	971.9	202.4
9	12.3	90.0	141.1	32.4	40.9	210.6	306.7	78.6	184.0	775.0	1237.1	285.3
10	36.8	286.3	388.5	105.4	75.7	493.8	613.7	178.3	194.3	1032.7	1288.3	488.4

Table 4

Income inequality in the US and UK

Ratio of median income within income deciles to median income within 5th decile

Income decile	(1) 1984 FES	(2) 1995 FES	(3) 1995 BHPS*	(4) 1995 BHPS	(5) 1984 PSID	(6) 1994 PSID
1	0.37	0.35	0.24	0.26	0.20	0.16
2	0.50	0.50	0.38	0.39	0.37	0.38
3	0.66	0.65	0.56	0.55	0.57	0.61
4	0.82	0.81	0.76	0.76	0.77	0.81
5	1.00	1.00	1.00	1.00	1.00	1.00
6	1.18	1.21	1.24	1.29	1.24	1.22
7	1.40	1.43	1.48	1.59	1.49	1.50
8	1.65	1.73	1.79	1.94	1.83	1.91
9	1.99	2.16	2.21	2.44	2.31	2.48
10	2.69	3.05	3.13	3.48	3.40	3.94

* Column (3) uses BHPS Unweighted data

Table 5

Value of Stocks and Shares, by percentile of wealth held in stocks and shares

1995 USD, thousands

	1995 BHPS		1984 PSID		1994 PSID	
	All	Share-owners only	All	Share-owners only	All	Share-owners only
50	0.0	10.1	0.0	9.9	0.0	20.5
70	0.0	31.1	0.0	21.3	2.0	51.1
90	15.5	116.4	14.2	99.3	51.1	204.5
95	50.5	156.8	42.6	141.9	139.9	306.7
98	116.4	326.0	127.7	354.8	306.7	511.2
Mean	10.3	43.4	10.1	40.7	28.7	83.4

Table 6

Net financial wealth over time, by percentile of financial wealth

1995 USD, thousands

	PSID			BHPS	
	1984	1989	1994	1995 Lower	1995 Upper
Percentile of Financial Wealth					
50	3.1	4.0	4.1	1.5	2.3
70	16.0	22.6	22.6	9.3	12.4
90	82.3	101.3	141.1	54.3	72.2
95	146.2	178.8	249.2	100.9	139.7
98	276.7	359.6	465.2	184.0	251.1
Percentile of Total Net Worth					
50	32.5	40.1	38.7	46.7	49.7
70	88.8	104.2	104.3	96.3	100.1
90	230.7	291.4	303.7	212.3	232.1
95	357.6	476.0	482.0	327.6	372.6
98	592.7	798.7	799.5	503.0	551.0

Table 7

**Changes in Financial Assets and Capital Gains in Stocks,
by 1984 income decile and percentile of financial assets**

(1995 USD, thousands)

Income Decile	Change in Financial Assets			Capital Gains in Stocks		
	70th	90th	95th	70th	90th	95th
1	0.9	17.4	82.6	0.0	22.4	62.3
2	1.4	30.1	86.0	2.1	55.3	83.1
3	2.8	38.9	60.5	0.0	27.1	53.0
4	6.4	48.6	94.3	4.2	58.7	137.8
5	11.5	77.0	130.4	6.0	48.1	143.5
6	16.5	59.1	103.9	6.8	67.3	140.2
7	31.8	98.6	167.9	23.3	105.0	200.5
8	41.3	125.7	218.0	29.8	143.1	276.0
9	68.4	166.6	307.9	56.2	200.4	367.4
10	191.7	560.4	848.9	106.0	473.4	900.3

Table 8

**UK Individual net financial wealth over time,
by percentile individual financial wealth**

1995 USD, thousands

Percentile	1987/88 NOP	1995 BHPS	1997/98 NOP (midpoint)	1997/98 NOP (upper)
50	0.8	0.7	1.1	3.6
70	3.4	3.5	5.0	7.9
75	4.1	5.5	6.6	11.8
90	17.0	24.0	24.6	36.1
95	25.2	47.5	47.3	68.1
98	47.1	90.0	99.1	155.8
Mean	5.9	9.9	10.3	15.9

Table 9

Percentiles of individual stock wealth, stockholders only

1995 USD, thousands

Percentile	1987/88 NOP	1995 BHPS
10	0.6	0.8
50	1.7	7.8
70	3.4	18.6
90	23.5	77.6
95	50.7	124.2
98	134.5	214.7
Mean	10.4	31.7

Table 10

Share ownership and political preferences in the UK
Values: 1995 USD, thousands

	Conservative (22.7%)	Labour (36.3%)	Unaffiliated (41.0%)
Descriptive statistics:			
Proportion with shares	0.330	0.206	0.212
Mean share wealth (shareholders only)	69.1	32.5	30.7
Median share wealth (shareholders only)	23.3	7.8	7.8
90th %tile share wealth (shareholders only)	170.8	62.1	79.2
Regression coefficients:			
Financial wealth	17,926.01	-5,070.12	
t-ratio	*5.559*	*-1.845*	
Probability of owning shares (marginal effect)	0.051	0.007	
t-ratio	*2.99*	*0.49*	
Proportion of financial wealth held in shares	0.044	0.009	
t-ratio	*3.441*	*0.834*	

Note: All regressions control for age and education of head of household as well as household income decile. Probit for being a shareholder and regression on proportion of financial wealth held in shares also control for level of financial wealth.

Table 11

Inheritances Received by percentile of household income

1995 SCF (1998 USD, thousands)

Percentile	Income	Net worth	Inheritances received	Inheritances as % of net worth
10	2.6	46.2	3.8	8.2
30	15.3	70.9	13.3	18.8
50	26.5	98.1	9.4	9.6
70	40.6	139.1	18.3	13.1
90	68.5	248.1	38.8	15.6
99	201.8	1,429.5	88.6	6.2
99.9	2,661.2	18,815.4	2,868.8	15.2
Mean	43.5	208.9	28.2	13.5

Table 12

**Percentiles of net worth and mean net worth,
by income decile within broad age groups**

1995 USD, thousands

Income	Age < 40				Age 40-59				Age 60+			
Decile	50	90	95	Mean	50	90	95	Mean	50	90	95	Mean
UK												
1	0.2	47.8	100.9	18.6	0.9	90.7	122.9	38.5	1.6	116.4	240.6	44.5
2	0.9	60.4	106.9	23.7	34.5	157.2	271.7	67.5	11.6	107.1	132.6	42.7
3	2.1	63.6	81.1	16.3	49.4	189.6	239.1	70.0	6.2	121.1	178.5	48.0
4	9.4	93.9	166.1	35.5	61.6	217.7	275.9	88.9	6.3	141.3	156.0	40.2
5	17.1	91.2	125.8	35.3	65.2	244.8	399.8	115.4	65.2	194.1	232.9	75.6
6	27.5	111.9	178.5	47.4	91.6	212.3	302.7	109.5	85.0	207.3	240.6	96.6
7	45.4	153.3	229.1	68.3	98.7	285.2	466.9	136.1	93.9	263.5	465.8	132.9
8	39.4	141.8	204.0	62.2	115.3	330.7	417.5	166.3	118.2	274.8	344.7	137.5
9	49.7	204.9	311.9	89.1	130.6	295.0	448.7	164.8	151.4	433.1	532.0	201.1
10	74.9	305.1	437.8	126.0	210.0	779.5	892.7	308.7	284.1	694.7	813.5	345.7
All	*21.4*	*133.9*	*211.4*	*53.7*	*83.1*	*289.8*	*425.7*	*123.9*	*70.3*	*287.2*	*440.1*	*113.9*
US												
1	0.0	17.4	39.8	10.9	1.5	157.6	278.0	94.0	13.3	127.9	198.3	52.7
2	1.2	24.8	43.4	17.8	7.2	116.6	204.6	48.4	32.9	173.8	280.0	71.3
3	4.8	45.1	73.5	17.5	14.3	174.9	206.2	51.4	66.3	211.6	259.2	88.9
4	5.8	58.8	97.2	17.6	26.5	258.7	652.3	154.2	102.2	350.6	461.4	151.1
5	11.2	85.4	123.2	61.9	37.6	242.4	321.1	86.7	145.3	463.9	649.4	192.7
6	17.4	94.1	133.0	36.7	45.2	186.1	280.2	80.4	181.0	386.5	437.7	212.9
7	16.4	109.7	179.0	45.1	65.5	243.4	332.9	108.8	237.2	559.4	946.2	295.4
8	34.1	148.3	238.0	61.1	86.9	296.6	373.3	142.4	342.9	791.7	1164.2	342.9
9	61.4	184.0	249.5	97.3	147.3	415.3	557.5	192.2	560.0	1264.3	1516.2	560.0
10	91.0	390.6	574.6	187.8	266.5	837.6	1270.0	431.1	860.1	1672.0	1875.1	860.2
All	*11.2*	*117.6*	*200.4*	*50.7*	*78.6*	*375.4*	*589.0*	*166.5*	*98.2*	*476.5*	*754.7*	*205.1*

Table 13

Home ownership rates by age of head of household

Per cent

Age group	UK (FES)		US (PSID)	
	1985	1997	1985	1998
<35	58.5	52.2	39.9	39.3
35-44	72.7	72.2	68.1	66.9
45-54	72.7	76.1	75.9	75.7
55-64	56.8	77.1	79.5	80.9
65+	48.1	59.6	74.8	79.3
All	*60.5*	*65.4*	*64.5*	*66.3*

Table 14

Percentiles of net primary housing wealth in 1995, homeowners only
by age of head of household

1995 USD, thousands

Age	UK (BHPS)					US (PSID)			
Band	50	90	95	Mean		50	90	95	Mean
<40	39.6	121.1	155.3	56.7		12.3	75.7	97.2	26.6
40-59	82.3	186.3	232.9	99.6		46.0	159.6	230.2	73.2
60+	93.2	186.3	232.9	109.6		66.5	184.2	255.9	82.3
All	*66.8*	*155.3*	*217.4*	*84.0*		*38.8*	*145.3*	*204.6*	*61.3*

Table 15

Components of disposable income, as a ratio of disposable income in 1980/81

Cohort born 1923-1928

	UK (1994/95)			US (1999)			
Years of education:	0-9	10-12	13+	0-11	12	13-15	16+
<u>All households</u>							
State benefits	43.6	33.3	23.9	44.7	38.2	33.2	22.1
Private pensions	12.1	25.1	31.6	10.3	14.7	13.7	22.8
Sub total: pensions and benefits	**55.5**	**58.0**	**54.9**	**50.4**	**48.6**	**43.5**	**43.4**
Savings and investment income	6.5	10.5	20.5	9.8	14.2	15.1	20.2
Earnings and self employment	9.7	7.3	9.4	8.4	9.9	12.2	16.0
Total: All income	**71.9**	**76.2**	**85.5**	**73.4**	**77.3**	**75.2**	**81.3**
Per cent of sample (80/81)	*70.1*	*22.2*	*7.8*	*36.4*	*35.6*	*12.3*	*15.8*
Per cent of sample (94/95, 99)	*65.8*	*25.3*	*8.9*	*31.6*	*33.7*	*18.6*	*16.0*
<u>Married couples only</u>							
State benefits	53.8	40.1	21.5	45.2	38.9	33.6	22.2
Private pensions	18.9	38.6	34.2	13.2	18.5	16.9	25.3
Sub total: pensions and benefits	**72.4**	**78.7**	**55.6**	**55.2**	**54.8**	**47.3**	**47.4**
Savings and investment income	10.2	15.4	24.2	12.1	16.7	17.0	25.1
Earnings and self-employment	7.0	7.7	14.1	10.7	12.5	16.5	19.2
Total: All income	**89.9**	**100.0**	**94.0**	**81.4**	**86.2**	**84.0**	**88.9**
Per cent of sample (80/81)	*72.5*	*20.8*	*6.7*	*34.9*	*34.9*	*12.2*	*18.0*
Per cent of sample (94/95, 99)	*65.5*	*25.3*	*9.2*	*29.0*	*32.1*	*18.7*	*20.2*

Table A1

Comparisons of PSID and BHPS asset categories

PSID	BHPS
1- Other Real Estate second home, land, rental real estate, money owed in land contract	1. Value of second home
2- Net equity in Vehicles- wheels, cars, trucks, motor home, trailers, boats	2. Net value of car(s?)
3- Net Equity in Farm or Business	3. not available
4- Stocks-corporate, mutual funds, Investments trusts, stocks in IRAs	4. 'Investments' : stocks, shares, mutual funds and investment trusts, bonds
5- Checking, Savings accounts, funds in IRAs, money market funds Treasury bills, CD's	5. Savings in accounts at bank, building society, including TESSAs
6- Other Savings—bonds, life Insurance, valuables, trust or Estate rights	6. Not available
7- Other debts-credit card, Student loans, loans from Relatives, medical or legal bills	7. Other loans outstanding: credit card, bank loan, hire purchase, store card, credit union, etc.
8. Net equity in home (home value- all mortgages)	8a. value of residence 8b. outstanding mortgage on all property

Notes:

Net Financial Assets:

4+5+6-7   4+5-7

Net Worth:

1+2+3+8 + Net Financial Assets   1+2+8+Net financial assets
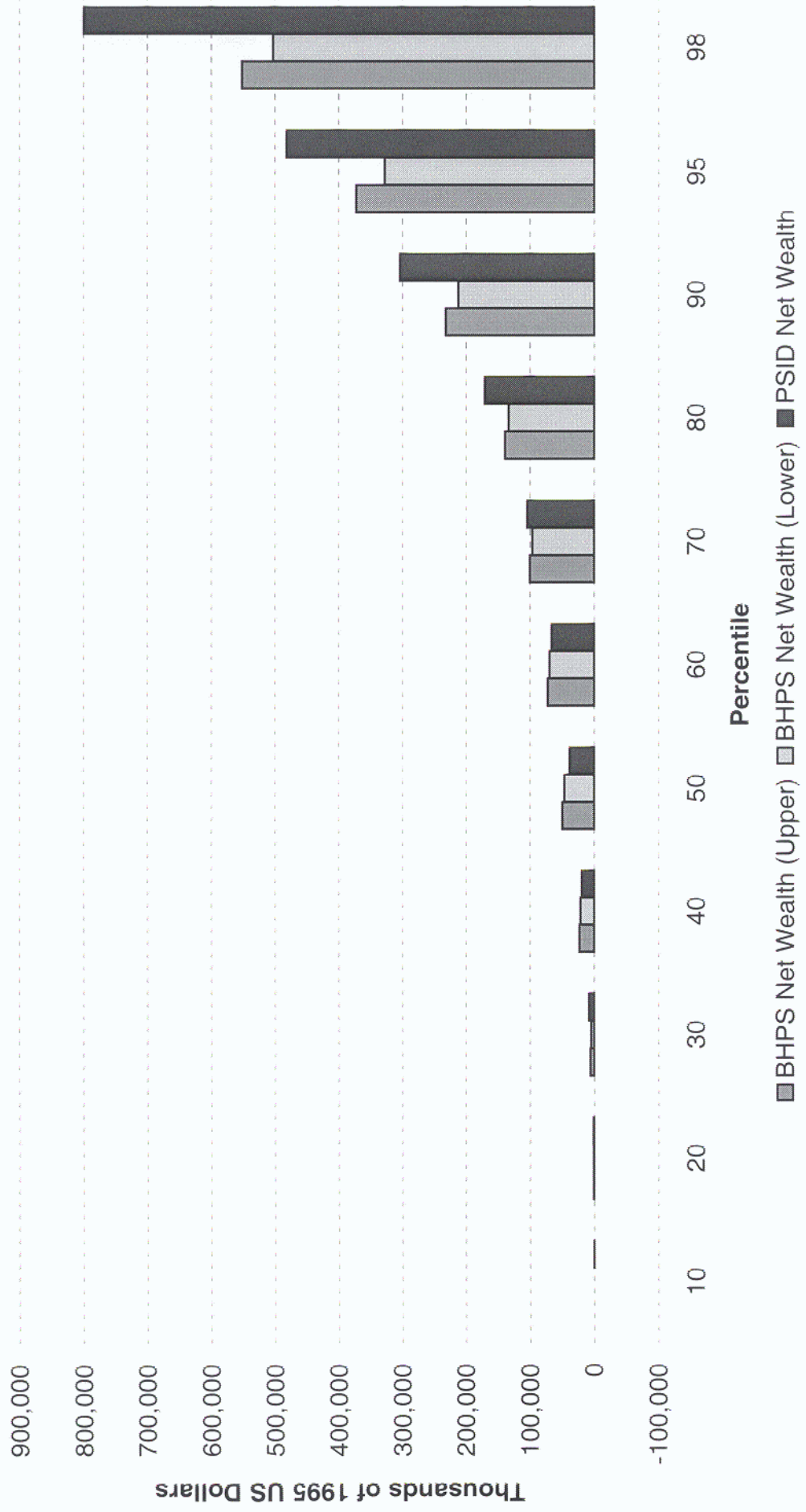
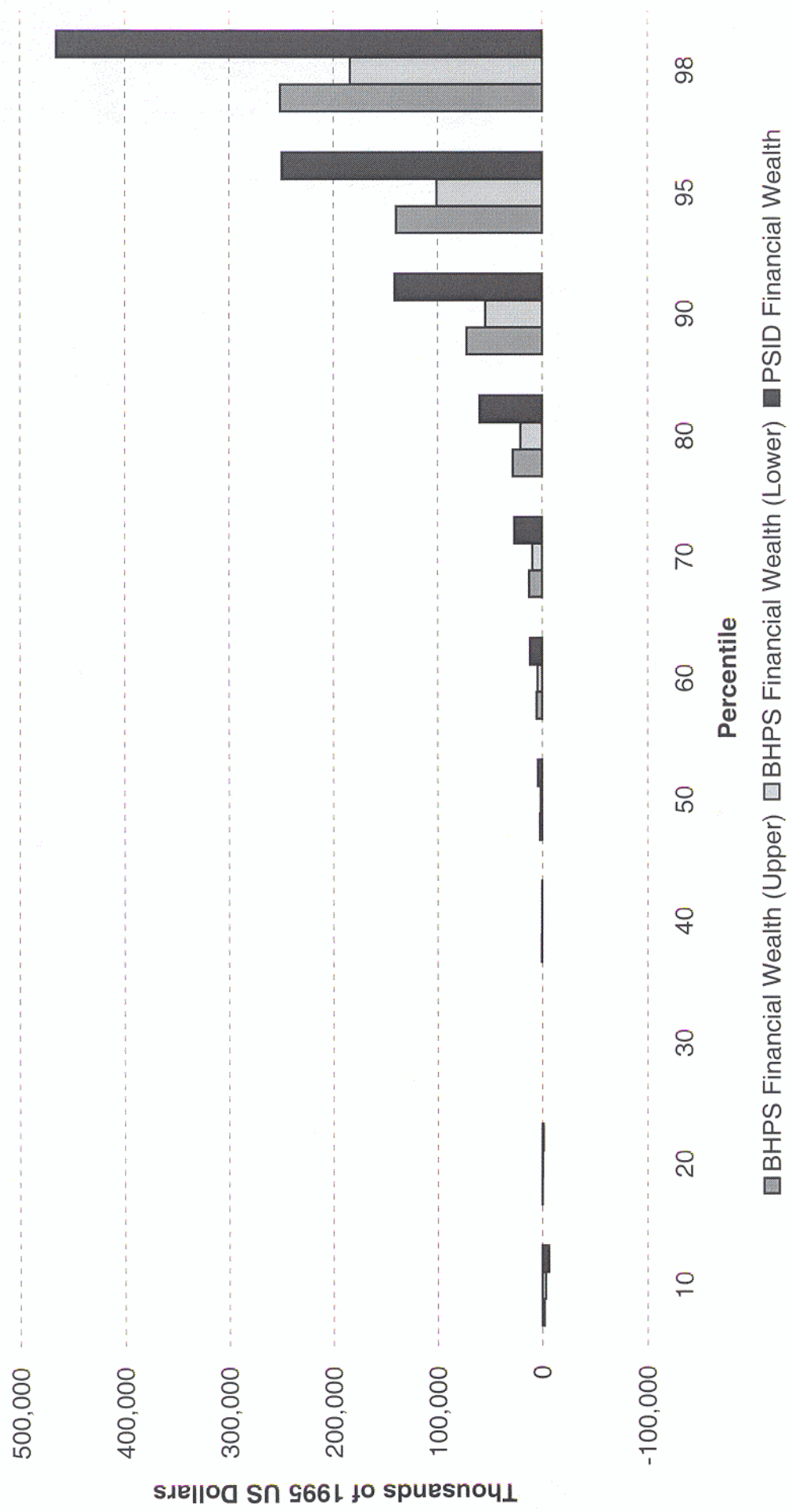*Questionnaire methods:*

Unfolding brackets   1: banded.
2, 8a, 8b: value requested
4,5,7: value requested, then unfolding brackets

Figure 1:
Percentiles of net wealth

Figure 2:
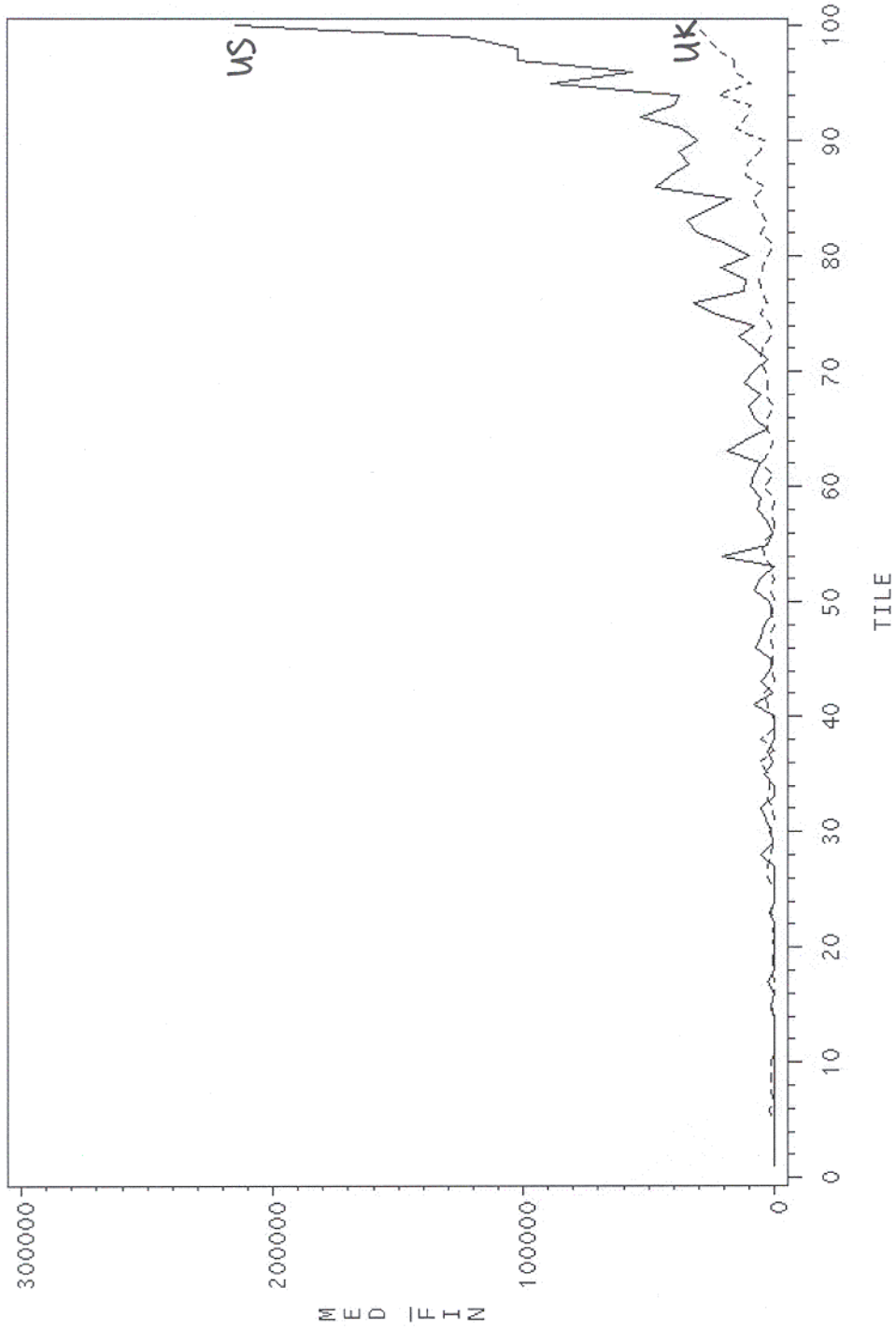Percentiles of net financial wealth

Median Financial Wealth
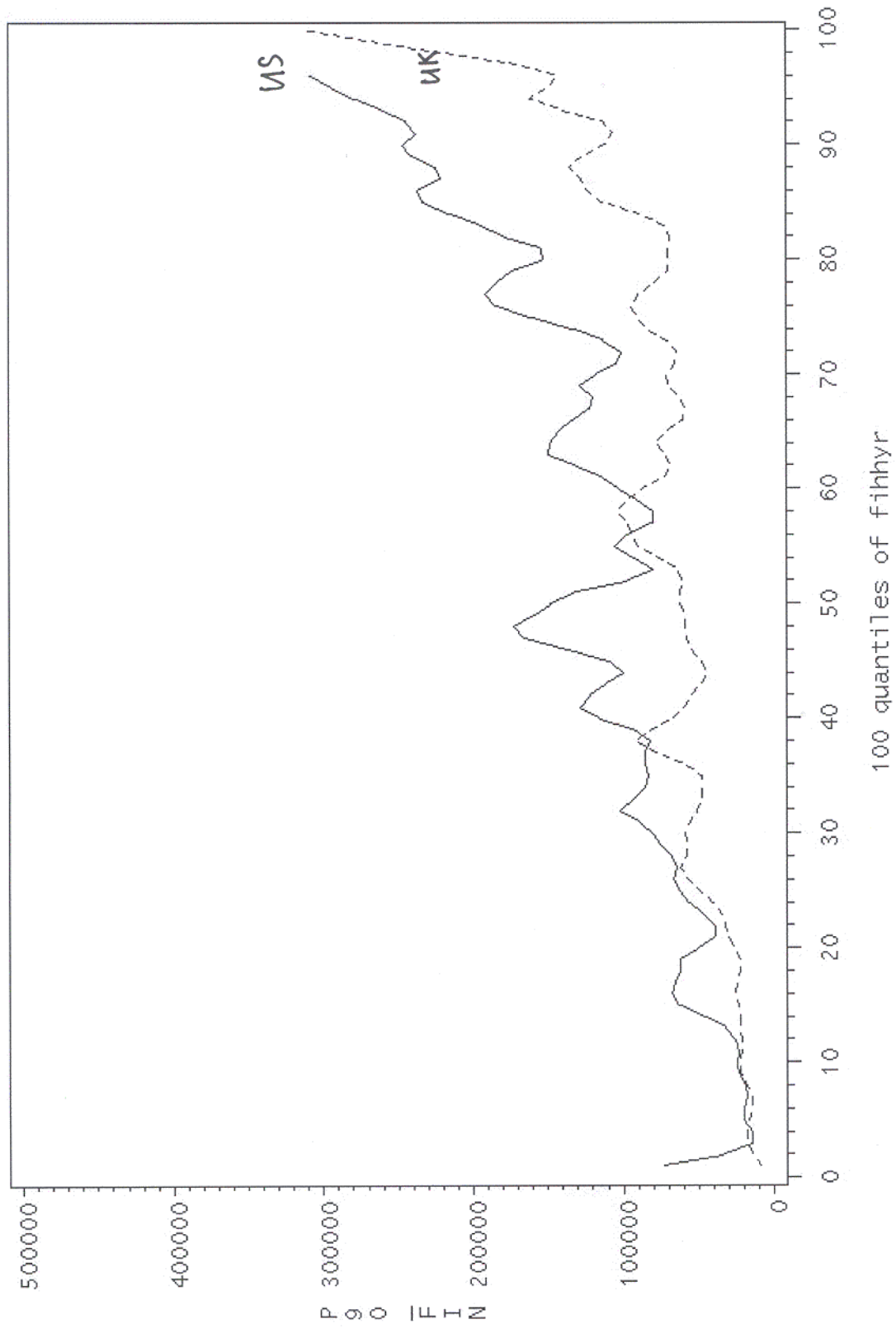

Figure 3

90th Percentile Financial Wealth

Figure 4

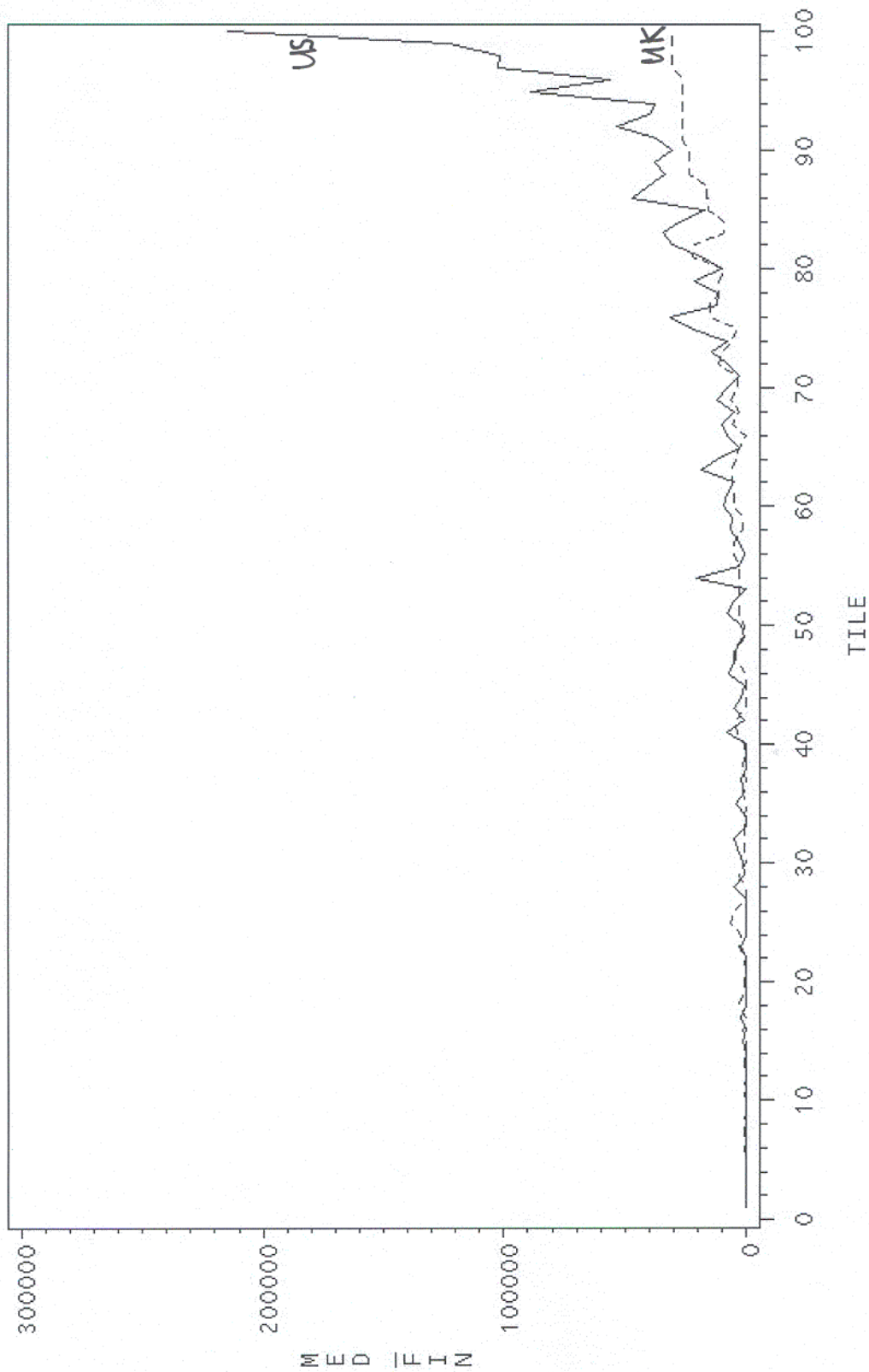# Percentiles matched by Mean income
Median Financial Wealth

Figure 5

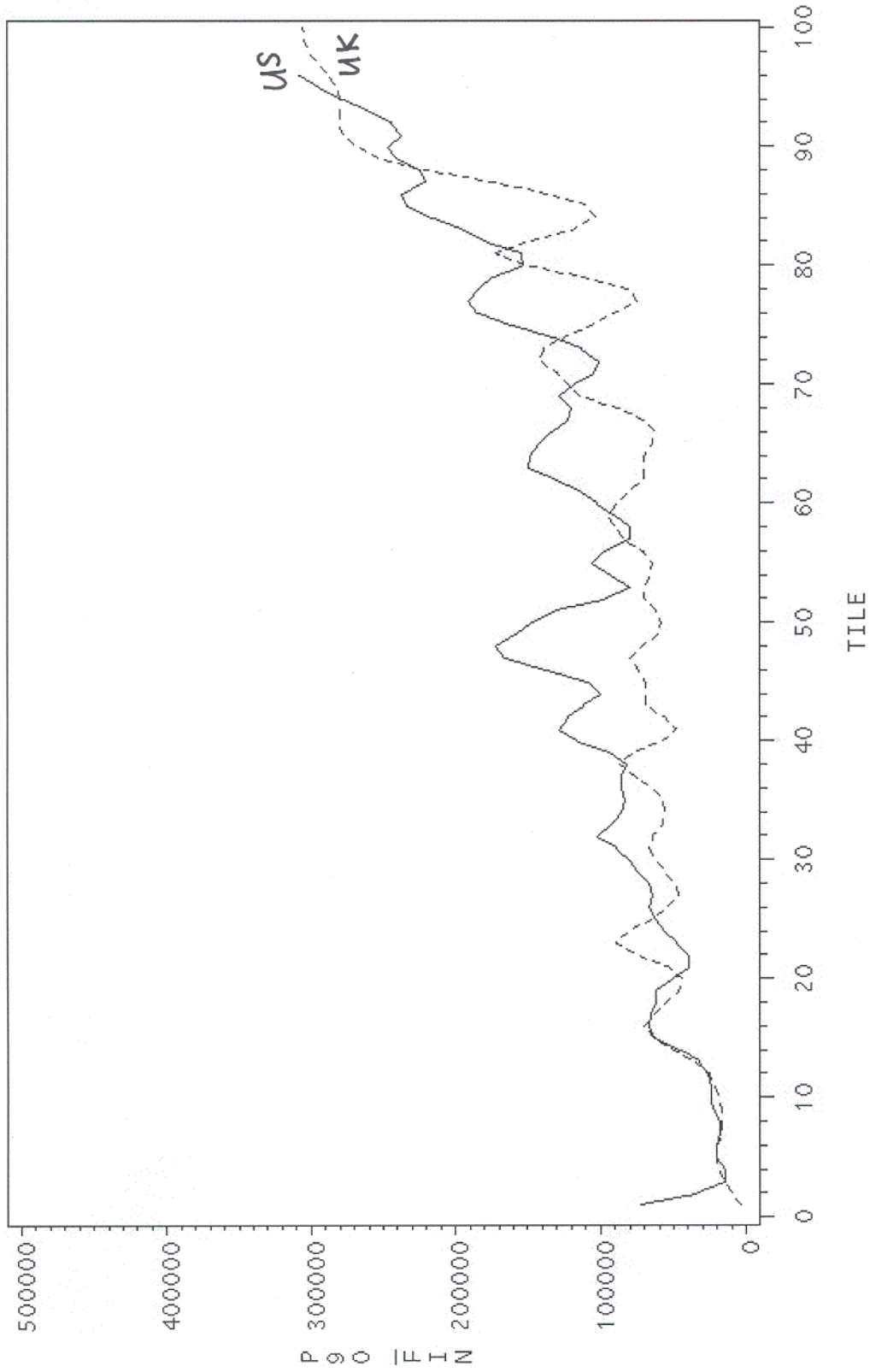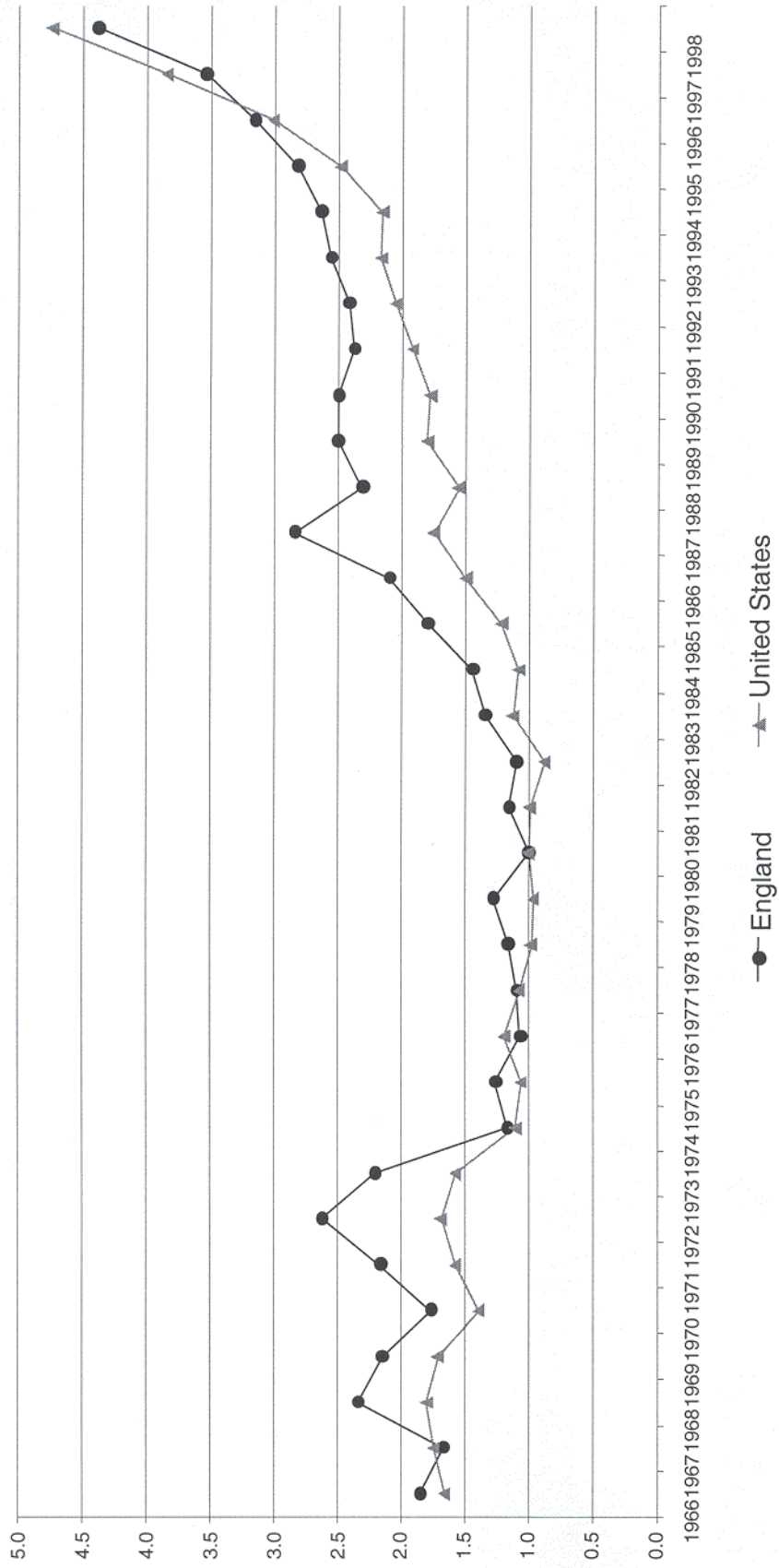# Percentiles matched by Mean income
90th Percentile Financial Wealth

US

UK

500000

400000

P 300000
9 O
|F
T I 200000
O N

100000

0

0   10   20   30   40   50   60   70   80   90   100

TILE

Figure 6

Figure 7: Stock Prices

England ⬤ United States ◄

1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998

Figure 8:
Time Series of Household Share-Ownership Rates from FES Data

Figure 9:
Comparison of U.S. and U.K. Housing Prices