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Financial Wealth Inequality in the United States and Great Britain

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Abstract

In this paper we describe the household wealth distribution in the US and UK, and compare both wealth inequality and the form in which wealth is held. Unconditionally, there are large differences in financial wealth between the two countries at the top fifth of the wealth distribution. Even after controlling for age and income differences between the two countries, we show that the median US household accumulates more financial wealth than their UK counterpart. We explore a number of alternative reasons for these differences and reject some explanations as implausible. Some of the observed differences are due to what we refer to as 'initial conditions', in particular previously high rates of corporate equity ownership in the US and housing ownership among young British households. But since these differences existed even in the early 1980s, initial conditions only provide a partial explanation. One other partial explanation may be that due to forced and voluntary annuitization of retirement incomes, older British households face considerably less longevity risk.

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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, and 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 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 appear to have similarly developed financial systems. In addition, some econometric evidence suggests that consumption-smoothing models for working age households work equally well across the two countries.² But this evidence exists only for models estimated at the cohort, or

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

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

cohort and education, specific means, and hence may say little about the behaviour at various quantiles of the wealth distribution.

In this paper, we document in detail differences in the US and UK financial wealth distributions and also attempt to shed light on potential explanations for these differences. The reasons for marked differences in financial wealth dispersion across countries can be grouped into broad categories. There are a set of issues concerning the importance of measurement issues and institutional factors in generating 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. For example, since saving and wealth levels reflect anticipated future consumption needs, to the extent 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.

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 past experiences as well as expectations about the future. There are several motives for saving and wealth accumulation, including inter-temporal 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 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 may be important, and panel 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 be central in driving wealth accumulation and hence wealth dispersion. Equally salient may be household composition, as it will 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 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 differentials in rate of return are largest. Such an explanation is natural when thinking about the high returns to risky assets (predominantly equity) in the 1980s and 1990’s. 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.

In this paper we focus almost entirely on financial wealth. In order to understand broader differences in wealth levels one needs to examine housing equity and pension savings. We have chosen to focus on financial wealth because this is the central source of liquidity for families across their working life and a direct measure of the resources available to households. Housing equity and pensions will clearly be important in a complete measure of wealth accumulation, and this needs to be borne in mind when interpreting financial wealth differences across countries. A detailed analysis of these issues will be addressed in subsequent research. Preliminary evidence on the relationship

between financial wealth differences and housing equity differences is provided in Banks, Blundell and Smith (2000).

I. 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, and 1994 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. 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.

One question involves whether the two wealth modules are comparable.

Appendix Table A1 contains a side by side account of the elements that comprise household wealth. 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 similar to those available in PSID, there are some salient differences.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.

³The 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.

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 how financial asset wealth was collected. Both surveys collect information in four broad classes but the classes are slightly 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 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 which of the various sub-components is the largest. The following procedure is used to make the wealth categories comparable when disaggregate data are necessary. First, bank accounts and savings accounts are aggregated in the BHPS data. Second, we subdivide investments 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 with 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.

One important issue where comparability needs to be established is over retirement savings. Neither survey collects information on state pension wealth or on private DB pensions. In the PSID wealth data, however, IRA wealth is included whereas in the BHPS personal pension wealth (the equivalent private DC pension in the UK) is

not. Strictly from a measurement point of view this is not as problematic as it might seem. In the UK, personal pensions are a private *alternative* to social security, and contributors have their social security contributions redirected into their personal pension funds. What is more, for the first few years following their introduction in 1988 most individuals did not make additional contributions over and above their social security contribution rebates (see Inland Revenue, 2000) or Disney, Emmerson and Wakefield, (2001) for example). This was still somewhat true for contributors in 1995, and it is certainly not unreasonable to assume that accumulated stocks at this point largely reflect past social security rebates. Hence, one would not want to include them when constructing a definition of financial wealth to match to the US where such wealth is unmeasured.⁵

Most importantly, an issue of comparability arises over the unit of assessment to which the wealth module applies. 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 with a bounding approach. For each of the financial wealth categories in the BHPS two measures are reported. First we compute an upper bound assuming that any jointly held asset class are held solely by the individual (the limit of the case where the individual owns ‘most’ of the asset). Second we compute

⁵ A more substantial point relates to the fungibility between pension and non-pension wealth more generally. If these components are different sizes in the US and the UK one might expect their omission to

a lower bound assuming that an individual only owns $1/N$ th of the asset class in which joint ownership 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 are not sensitive to how this problem is resolved.

There are several dimensions where data do 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).

II. Comparing the Wealth Distribution in the US and Britain

In this section, we describe the main characteristics of household financial wealth distributions in the UK and US, highlighting both the similarities and differences. 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

have differential effects on other forms of wealth accumulation in each of the countries. This would be an issue regardless of the asset classes covered in each survey however.

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.⁶

Table 1 lists mean values of wealth and its components for both countries. The striking difference between UK and US lies 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, means are treacherous summary statistics to use for household wealth. Full financial wealth distributions are described in Figure 1. Before highlighting across country differences, it is worth noting some key similarities. Most important, wealth distributions in both countries are very unequally distributed. 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. 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.

Turning to the differences between the countries, Figure 1 illustrates that these differences do not emerge for the typical or median household since median financial assets are only slightly greater among American households. Rather the critical differences lie in the upper tails of the respective financial wealth distribution. No matter

⁶ Given that this is close to the OECD PPP conversion rates for this time (1.55 in 1994 and 1.53 in 1995)

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 in Table 1 and Figure 1 point to the principal research question 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 answers to this question.

III. Explaining wealth differences

There are many factors that could contribute to the observed differences in wealth distributions of the US and the UK. 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 within age groups. To the extent that these factors cannot fully explain observed differences in wealth distributions (which they do not), we then consider other potential explanations.

our comparisons are unaffected by the use of exchange rate as opposed to PPP conversion factors.

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 decisions about how much to consume and how much wealth 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.

IV. 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. Both surveys are representative of the complete age distributions and neither contains an over sample of the very rich where wealth is concentrated.⁷ While neither sample provides a reliable estimate of mean population wealth, estimates of mean wealth are not our goal. The principal comparability question involves whether 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.⁸ While there is less evidence about the BHPS, a few points are worth noting. Most important, as shown below, BHPS financial wealth data 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), it is difficult to address the issue of wealth-related differential sample response in the BHPS more directly. Certainly the use of sample weights 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

⁷ . The PSID contains a low income oversample which the BHPS does not, but the use of frequency weights in each survey ought to control for this.

⁸ See, Juster, Smith, and Stafford (1999).

at attrition by education group, which we assume is 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 (not present in the following year) that includes year and education dummies and a treatment variable taking the value 1 for an educated 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 0.006.⁹ To the extent that attrition is controlled for by the cross-sectional sample weights, differential attrition will not affect our analysis, which is 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.

V. Controlling for Age and Income Differences

Since wealth accumulation is a life-cycle process, unconditional comparisons may be misleading if age structures in the US and UK differ. To see if age differences underpin wealth differences we condition on three broad age groups of the head of

⁹ 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.

household- (less than 40, 40 to 59, and 60 or over).¹⁰ Table 2 presents estimates of mean, median and 90th percentiles of net financial assets by these broad age groups. If anything, the age split 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 more financial wealth in the US.

Equally interesting is to compare wealth inequality 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, primarily because financial wealth held at the median in the US has increased rapidly to an extent 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 in a highly non-linear way. Below the median income

¹⁰ We select this split partly to keep cell sizes large (particularly once we look at bivariate sample splits

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.

Can absolute income differences between the countries as well as higher income inequality in the US 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) 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, US income dispersion is higher especially in the upper two deciles of the income distributions. 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. 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 2 illustrates one 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 the UK. For the population below median income, median financial wealth is

below) but since these three age groups correspond to a natural broad subdivision of the life-cycle

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.

In making the right comparison across countries we need to match our datasets in a way that is robust to potential non-linearities in the relationship between income and wealth. Therefore, the companion figure 4 presents the same data except that now the UK financial wealth data are matched to US household income percentiles, adjusted 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 in the UK, figure 4 aligns financial wealth at the 64th income in the UK with financial wealth at the median income in the US. This is equivalent to fully non-parametric matching across percentiles of the income distribution. This figure shows that some but certainly not all of the excess financial wealth in the US is due to income differences between the two countries especially among the well-to-do.

Median households are only one relevant point of comparison between the two countries. Figures 3 and 5 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.

To investigate changes in inequality over time data are presented in Table 4 from the 1984 and 1994 PSID: for the UK, we append onto the 1995 BHPS series inequality measures from the 1984 and 1995 Family Expenditure Survey (FES) in columns (1) to

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

(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 richer, and hence on what is likely to be a 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.

After controlling for age and income, the basic differences remain. Conditional on age and income, differences in median financial assets emerge only among those over 40 and those households above median income deciles. These two factors 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 do the top 10% of British households.

VI. The Role of the Stock Market

One 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 exacerbated by macro-shocks affecting financial holdings in both countries. An example of a macro-shock involves the stock market surge in both countries during this period. The sharp appreciation in equity values may have affected financial wealth holdings differentially if households in the UK and US differed in the initial size of their stock portfolios or if the magnitude of equity appreciation differed.

¹² The FES 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 used for calculation of official statistics on inequality and poverty (see Goodman and Webb (1994)).

Figure 6 addresses the second issue by plotting inflation adjusted equity price indexes for both countries, each expressed relative to a 1980 base¹³. The magnitude of the recent stock market boom is impressive even compared to historical equity premiums. 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 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 7 plots 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 than the US figure in 1984. Starting in 1984, equity ownership grew more rapidly in the UK than in the US. While

¹³ The UK index is the Financial Times All Share index and the US index is the S&P500. For an analysis of the impact of the American stock market on wealth distributions and savings behavior, see Juster et al (2000).

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 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. 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. In both countries, distributions of stock values are highly skewed, with 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.

The remarkable contrast in Table 5 involves the 1995 BHPS and the 1984 PSID. Both for the full population and for shareholders only, the distribution of share values held by households is 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, 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 obtained from the 1984, 1989, and 1994 PSID wealth modules. Since the principal differences occur at the top, the data are displayed for selected percentiles of initial wealth starting at the median. Between 1984 and 1994, there was little change in inflation adjusted median financial wealth in the US. Relative to roughly stable medians, 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 to which we are comparing to the 1995 UK financial wealth distribution is a far more unequal distribution than that which existed in the US even ten years earlier.

The culprit causing 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 alongside changes in capital gains in stocks over the same period. Since stock ownership is 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 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 are concentrated among the well-to-do indicating that the stock market surge was largely responsible for increasing US wealth inequality during the 1980s and 1990s.¹⁴

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

Due to limitations on availability of wealth data for earlier periods, the shape of the financial wealth distribution in the UK ten years before is 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 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 several issues in using this NOP data to understand changes in wealth distributions, the most important of which is that the NOP relates to a sample of individuals as opposed to all individuals in 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 We present estimates from the 1997/98 NOP data to examine comparability between the two data sources. The NOP collects asset values within fixed bands and we use a simple estimate of percentiles that takes asset values to be the midpoint of bands. The 1995 BHPS and 1997/98 NOP prove to be highly consistent, with estimates for all percentiles rising slightly between the two surveys — encouraging since some households in the two surveys are separated by a time period of eighteen months. Given this seeming compatibility of our two data sources, we can look at growth in percentiles from 87/88 to 1995 across the two surveys with some confidence.

¹⁵ Early cross-sections 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.

¹⁷ 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 individual's name, whether held jointly or not, and this corresponds directly to the NOP measure.

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 lower in the UK than in the US, and concentrated further up the income and wealth distributions, the lack of growth in financial wealth in the middle of the distribution could be a direct consequence of the differences in initial conditions. To examine this, Table 9 lists percentiles of stock wealth conditional on being a stockholder in 1987/88 and 1995. The table shows marked rises in all percentiles at and above the median, in accordance with the receipt of the substantial capital gains shown in the FTSE All share return index in Figure 7.¹⁸ But these real 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 these real gains is 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 that stock market participation has always been higher in the US than in the UK. This has led to a difference in initial conditions that is 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

¹⁸ One must be careful in interpreting these changes since we are using two cross-sections as opposed to a panel, and so changes are not for the same person over time. If anything these will be a lower bound on the

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.¹⁹

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 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 this 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

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 than those who held shares in 1987/88.

¹⁹ 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. See Banks and Blundell (1993) for further details.

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 used here compares financial wealth portfolios of UK citizens who self-identify with either the Labour or Conservative Party.²⁰ 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 Labour. 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 documents differences between the parties in their participation in equity markets. One-third of Conservative affiliates held stock compared to about one-fifth of

²⁰ The precise question is 'Which political party are you closest to?' where of answering 'none' is allowed. For the purpose of this analysis we group together those answering none with those answering one of the other political parties, yielding a control group of 41% of our sample which we refer to as 'unaffiliated'.

Labour affiliates. Among those who held some stock, 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 estimated a set of models controlling for income decile, our three broad age groups and education of the household head.

Table 10 also reports estimated parameters on these political group variables, where the base case is an unaffiliated head of household. The 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 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. Finally, we look at the proportion of financial wealth held in shares (for those with positive financial wealth) 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 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 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.

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

VII. Motives for Financial Wealth Accumulation

Initial conditions 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 subsequent sections, we discuss some theoretical reasons for these differences. The data 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. As households age and incomes grow over the life cycle, a significant gap in median financial assets emerges until 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 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, including 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. There may also 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.²¹ The basic question here is whether older American households face more age related risks than their British counterparts do.

²¹ In a variant of this model, impatience for the present duels with prudence as individuals 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 and consumption will follow income more closely

Income risk

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.²² 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 important to distinguish between true risk and simple fluctuations over time. Many changes may be anticipated by household members and 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.²³ At this stage, however, we are content to point out that many of our observed differences in financial wealth are most pronounced amongst

²² 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.

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 concentration of the largest disparities among the oldest age groups suggests that savings for children's college education expenses, which will tend to be 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. Such differences are unlikely to be driving such large differences in financial wealth accumulation as those observed earlier. The most important differences in health care systems are during working ages, where the US has a predominantly

²³ Several papers are considering these issues for specific countries, 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.

private system in contrast to Britain's universal provision. At these ages, the prevalence of private insurance in the US shows that self-insurance is uncommon and hence 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.

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. With regard to long term care, 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 retired, the inter-temporal planning problem becomes one of decumulating assets at an optimal rate, enjoying the benefits of current consumption whilst ensuring that expected future consumption will not be too low. Even at retirement, once earnings and employment risk have been resolved, individuals 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 is more of an issue for some households than for others. On top of this, 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 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

²⁴ 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.

An 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 must purchase a 'compulsory' annuity between ages 50 and 75. Unlike protected rights annuities insurance firms can offer higher annuity rates to men than women, reflecting their lower life expectancy. Individuals are given various options for how to annuitise this part of their pension savings. They may purchase annuities fixed in nominal terms, indexed to prices, escalating or linked to some investment. Annuities can be purchased on either a single or a joint life basis. Those choosing to defer annuitisation past their retirement can 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 bequeathable. This makes the income draw-down arrangements particularly attractive to anyone with a bequest motive. For more details and evidence see Banks and Emmerson, 1999.

retirement with wealth in a form that under current rules, requires annuitisation. Issues such 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 growing 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 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 possible that the compulsory nature of annuity markets in the UK leads to

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.

less exposure to longevity risk in the UK than in the US. This may be one reason why Americans keep higher balances of financial assets throughout retirement.

Permanent income

Other things equal, increases in permanent income will result in increased saving and wealth. This is true for levels of wealth, and some evidence is emerging to suggest a positive effect on saving rates as well (see Dynan, Skinner and Zeldes (2000)). One possibility, 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 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.

There have been increasing financial returns to education over the last twenty years, whose magnitude has also been comparable across countries.²⁶ Depending on whether these increases in returns to education were successfully perceived as permanent,

²⁶ See Card and Lemieux (2000) for example.

and on the strength of the effect of increased permanent income on saving, such changes could have widened the wealth distribution in the US more than in the UK, simply because the set of individuals at the top end of the wealth distribution who would have received the increased returns is larger in the US.²⁷ 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. Once again, these differences cannot really explain the main differences in our data, i.e. the wealth differences for middle aged and older households who will not have had such marked increases in permanent income as their younger counterparts.

Bequests

Parents may provide for their offspring and their descendants posthumously 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

²⁷ Some evidence related to this can, in principle, be obtained by looking at consumption changes, which should reflect permanent but not transitory changes. Such a test would be related to the methods of

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 the inheritances received suggesting that financial inheritances are not a major part of the story. This ratio also appears not be sensitive to a household's position in the income distribution.²⁸ For example, inheritances as a proportion of current wealth are 6% for the top 1% of households and 8% among those with incomes at the 10th 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

Attanasio and Davies (1996) who use a similar framework to establish the degree to which cohorts' wage shocks are insured.

²⁸ 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.

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.

VIII. Pensions and Retirement Saving

There may be differences in pension wealth across countries one might expect to see offsetting differences in other forms of wealth, particularly financial wealth. In both countries there are no taxes on private pension contributions, or on accumulation within pension funds, and pensions in payment are treated as income and taxed at the investors marginal rate.²⁹ Coverage of private pensions is fairly similar across the working population of each country.³⁰ Both countries have a private Defined Contribution alternative earning the same tax treatment as traditional Defined Benefit occupational schemes. The proportion of individuals with such schemes are broadly comparable (with just over 23 million (out of 263 million) individuals participating in 401(k) plans in 1993,

²⁹ Although in the UK a portion of the fund can be withdrawn in the form of a tax free lump sum (see footnote 22). 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 (out of 58 million) individuals with Personal Pensions in the UK in 1995 (see Johnson, 1998)).

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 are differences in the relative generosity of public pensions, or in the amounts individuals are contributing to their private pensions, that are affecting financial wealth accumulation. The UK has reduced the generosity of state pensions for future cohorts considerably over the last twenty years, in response to funding problems that loomed on the horizon given that the public scheme is unfunded and the population is aging.³¹ 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 these issues looks at the sources of income of pensioners, and the proportion of income during work that is replaced during retirement. Table 12 lists replacement rates for one particular cohort, born between 1923 and 1928, split by the education level of the household head. The composition of the groups should remain constant over time, and mean changes in incomes will consistently measure average

³⁰ 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).

³¹ 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.

change for each group.³² 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 in this cohort left school at this time. 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 12 we also look at 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 may overstate it due to mortality selection — households that are still married couples at age 75 are a richer subset of the households that were married couples at age 55. This selectivity bias is small for this application in the US (Smith (2000)).

Table 12 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. 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

³² 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).

educated UK households.³³ 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 have higher replacement rates. On these grounds, we argue that Table 12 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 retirement in both the US and the UK (see Banks, Blundell and Tanner (1998) for the UK or Bernheim, Skinner and Weinberg (2000) for the US). If incomes are maintained through retirement the fall in consumption is a genuine puzzle which may have more to do with preferences or needs than prior retirement saving especially if all retirement income was annuitised. However, incomes may fall during retirement, even from the levels in Table 12. Households may be selling off asset stocks or unable to earn so much self-employment income or earnings as they age. If this retirement income stream will not stay high until death some downward adjustment in consumption at and during retirement may still be necessary. This adjustment still has to be unanticipated, as otherwise households would have saved in advance, particularly since once a household is fully retired such shocks are difficult to smooth by return to the labor 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 several reasons. Firstly, incomes at age 52-57 are lower for this group in the UK than in the US and thus the asset stocks required to generate a comparable

³³ These are averages only, and there will certainly be some households experience larger falls in income at

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 CPS data, which would lead to both higher overall replacement rates and a higher fraction of retirement income coming from this source.

IX. Conclusions

In this paper we examined differences in financial wealth accumulation between British and American households. Unconditionally, there are large differences in financial wealth between the two countries at the top fifth of the wealth distribution. Even after conditioning on age and income, we show that US households accumulate more financial wealth even at the median.

Several 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. While less certain, 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. However, since these differences existed even in the early 1980s, initial conditions are not a full explanation.

retirement (particularly in the UK, where the bottom education group is large and fairly heterogeneous).

One explanation may be that due to forced and voluntary annuitization of retirement incomes, older British households face considerably less longevity risk

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.

Whilst we have learnt much about wealth distributions 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
<i>Net Tangible Assets</i>	<i>74.0</i>	<i>67.1</i>	<i>67.1</i>
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
<i>Net Financial Assets</i>	<i>51.7</i>	<i>19.4</i>	<i>26.7</i>
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 Band	Median		90 th Percentile			Mean			
	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)	(2)	(3)	(4)	(5)	(6)
	1984 FES	1995 FES	1995 BHPS*	1995 BHPS	1984 PSID	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	1995
				Lower	Upper
<i>Percentile of Financial Wealth</i>					
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

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		
	70 th	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
50	0.8	0.7	1.1
70	3.4	3.5	5.0
75	4.1	5.5	6.6
90	17.0	24.0	24.6
95	25.2	47.5	47.3
98	47.1	90.0	99.1
Mean	5.9	9.9	10.3

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
90 th %tile share wealth (shareholders only)	170.8	62.1	79.2
Regression coefficients:			
Financial wealth	17,926.01	-5,070.12	
<i>t-ratio</i>	5.559	-1.845	
Probability of owning shares (marginal effect)	0.051	0.007	
<i>t-ratio</i>	2.99	0.49	
Proportion of financial wealth held in shares	0.044	0.009	
<i>t-ratio</i>	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

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

Cohort born 1923-1928

<i>Years of education:</i>	UK (1994/95)			US (1999)			
	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
<i>Per cent of sample (80/81)</i>	70.1	22.2	7.8	36.4	35.6	12.3	15.8
<i>Per cent of sample (94/95, 99)</i>	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
<i>Per cent of sample (80/81)</i>	72.5	20.8	6.7	34.9	34.9	12.2	18.0
<i>Per cent of sample (94/95, 99)</i>	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

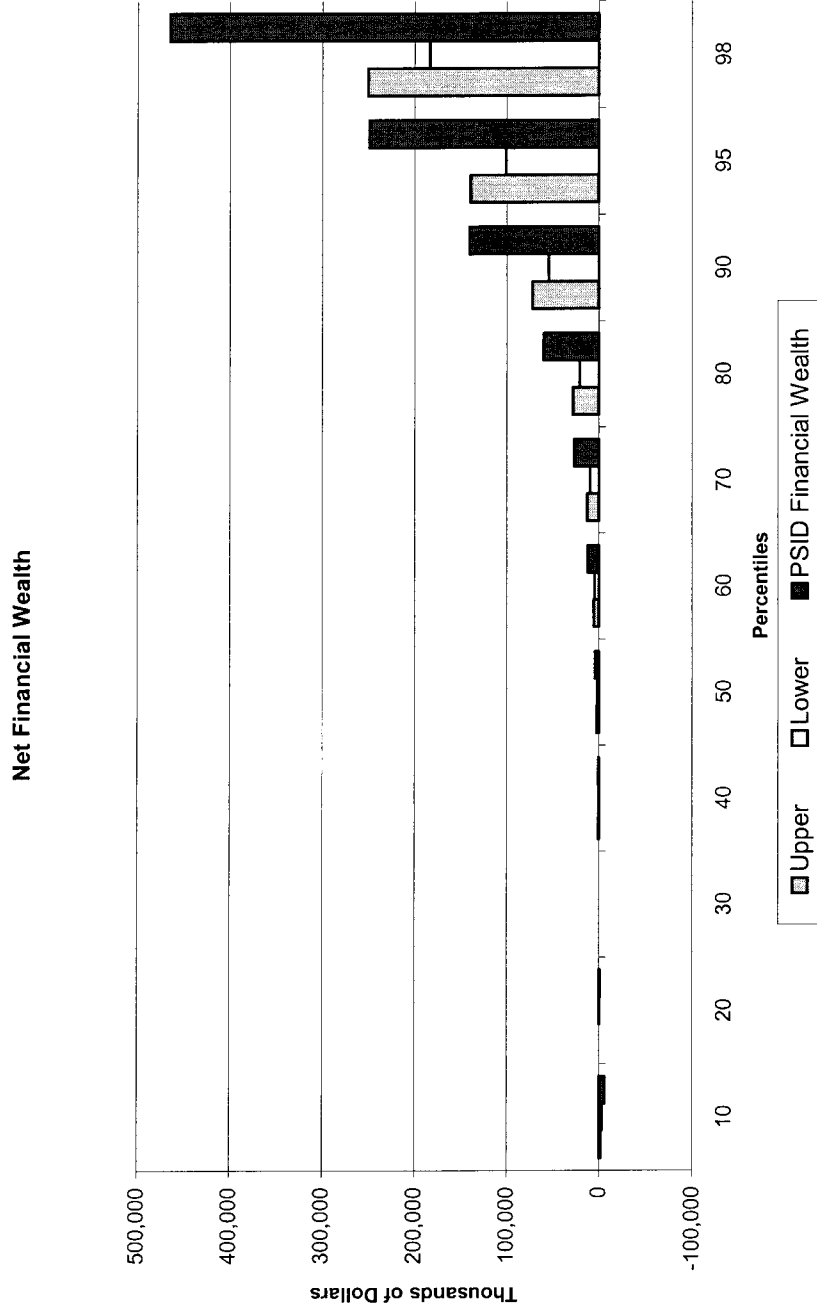


Figure 1

Median Financial Wealth

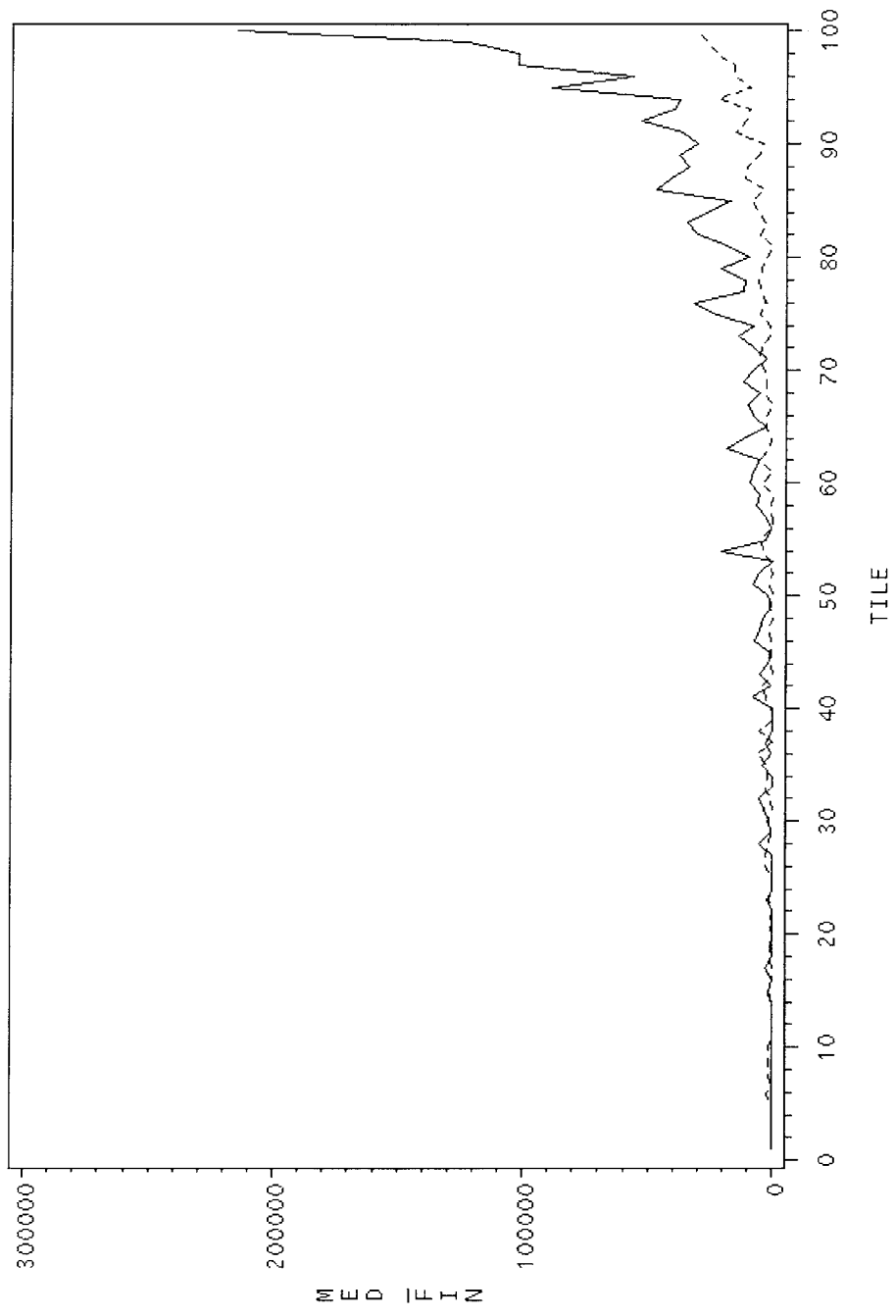


Figure 2

90th Percentile Financial Wealth

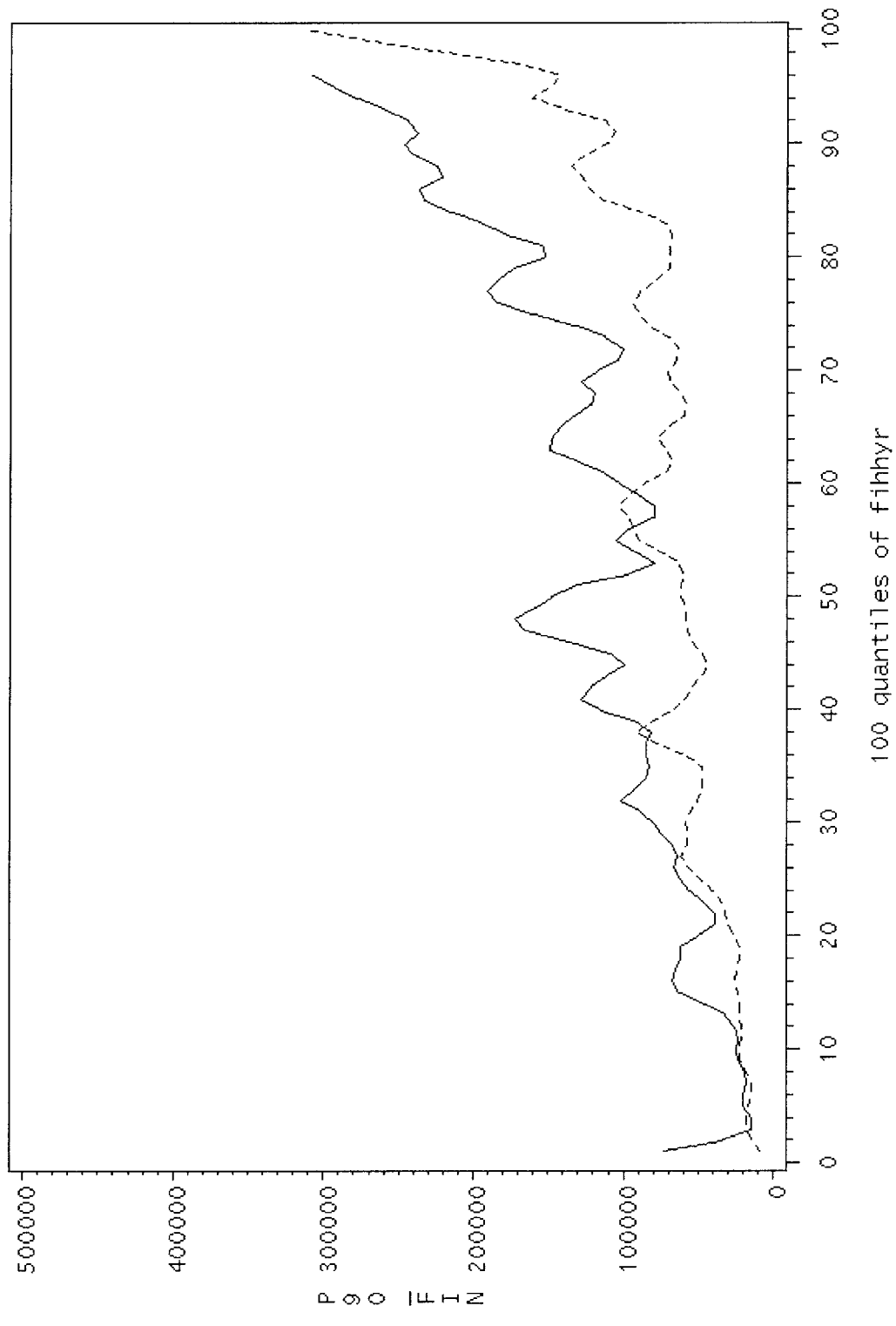


Figure 3

Percentiles matched by Mean income Median Financial Wealth

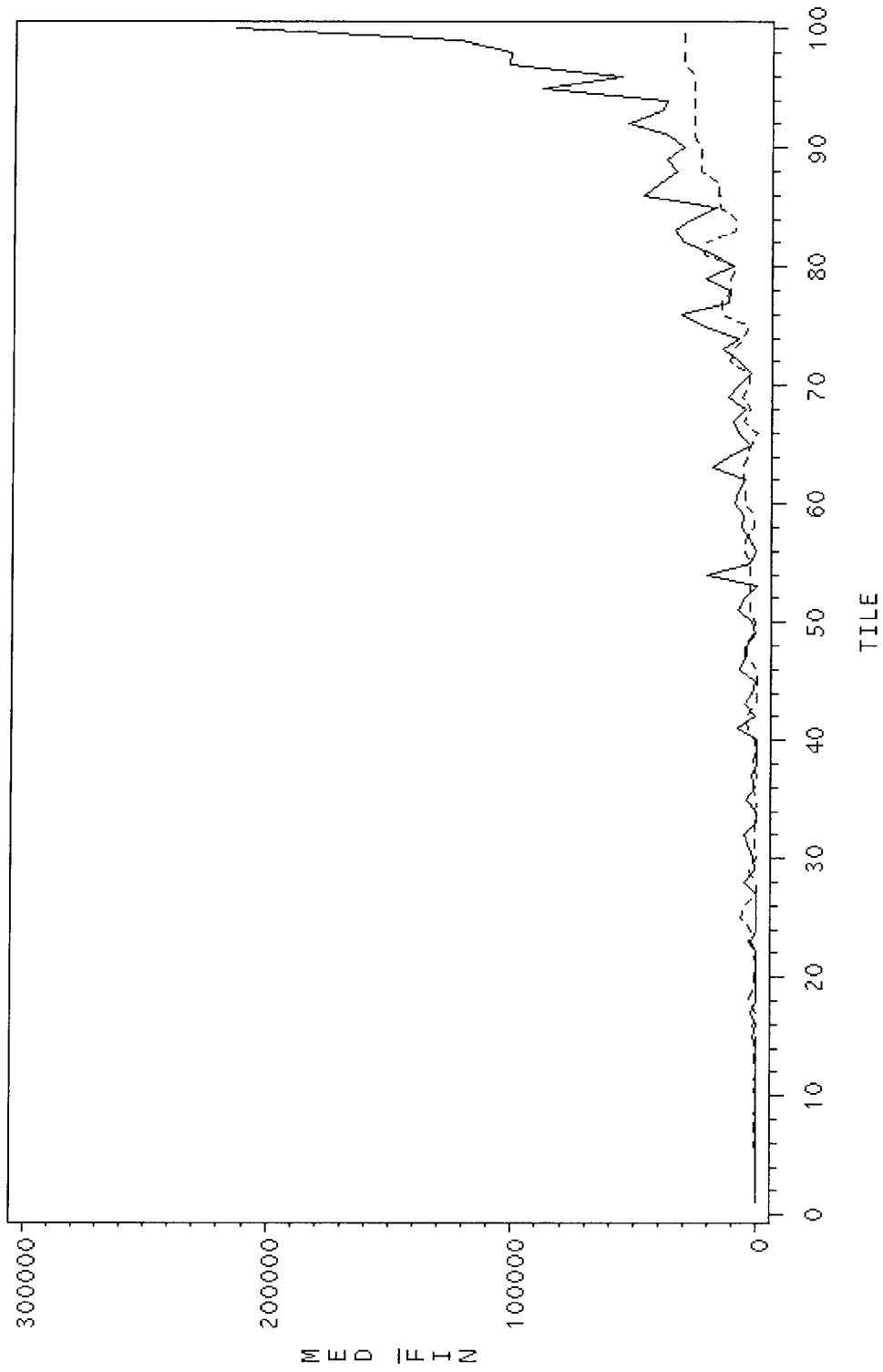


Figure 4

Percentiles matched by Mean income 90th Percentile Financial Wealth

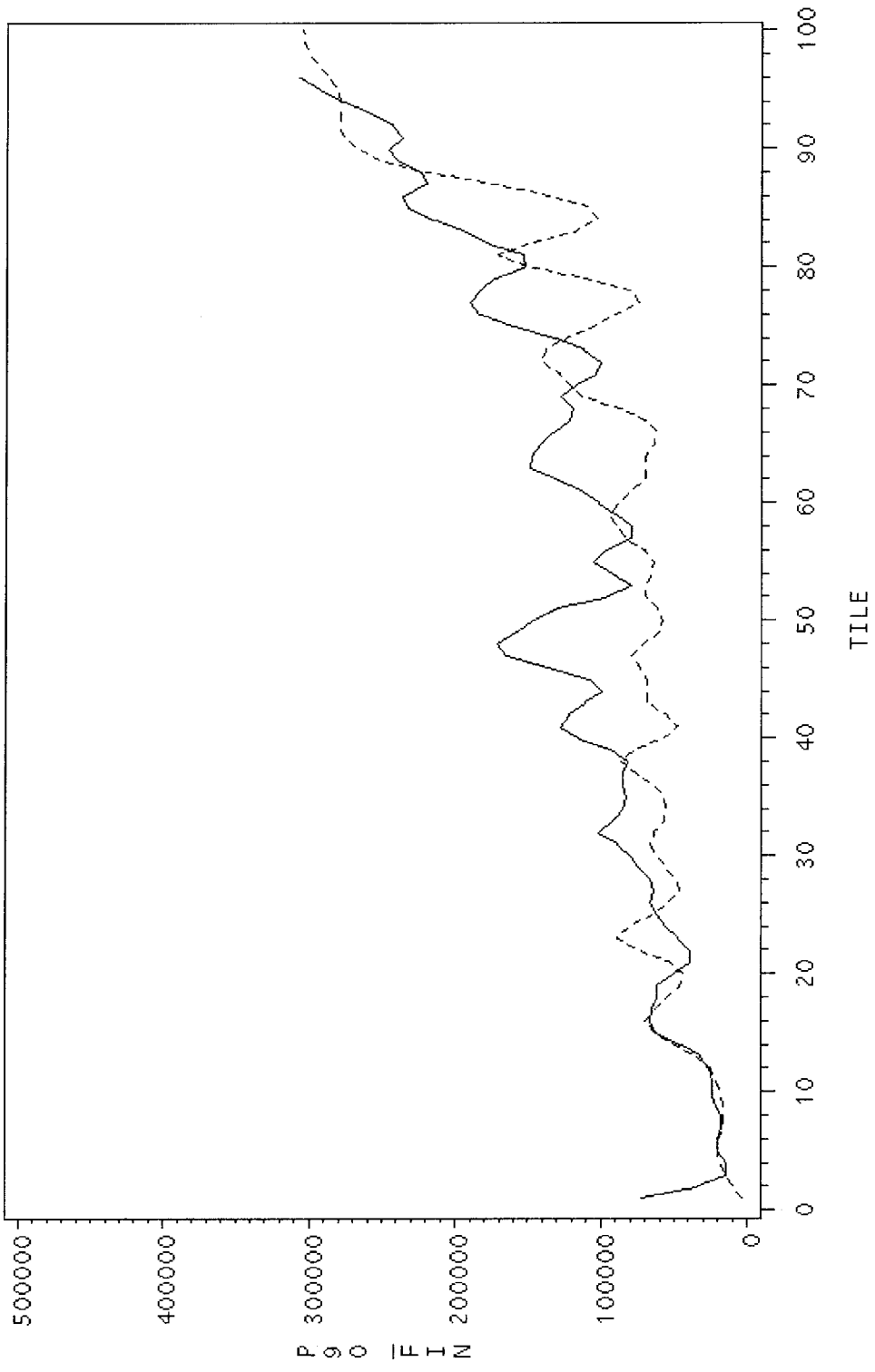


Figure 5

Stock Prices

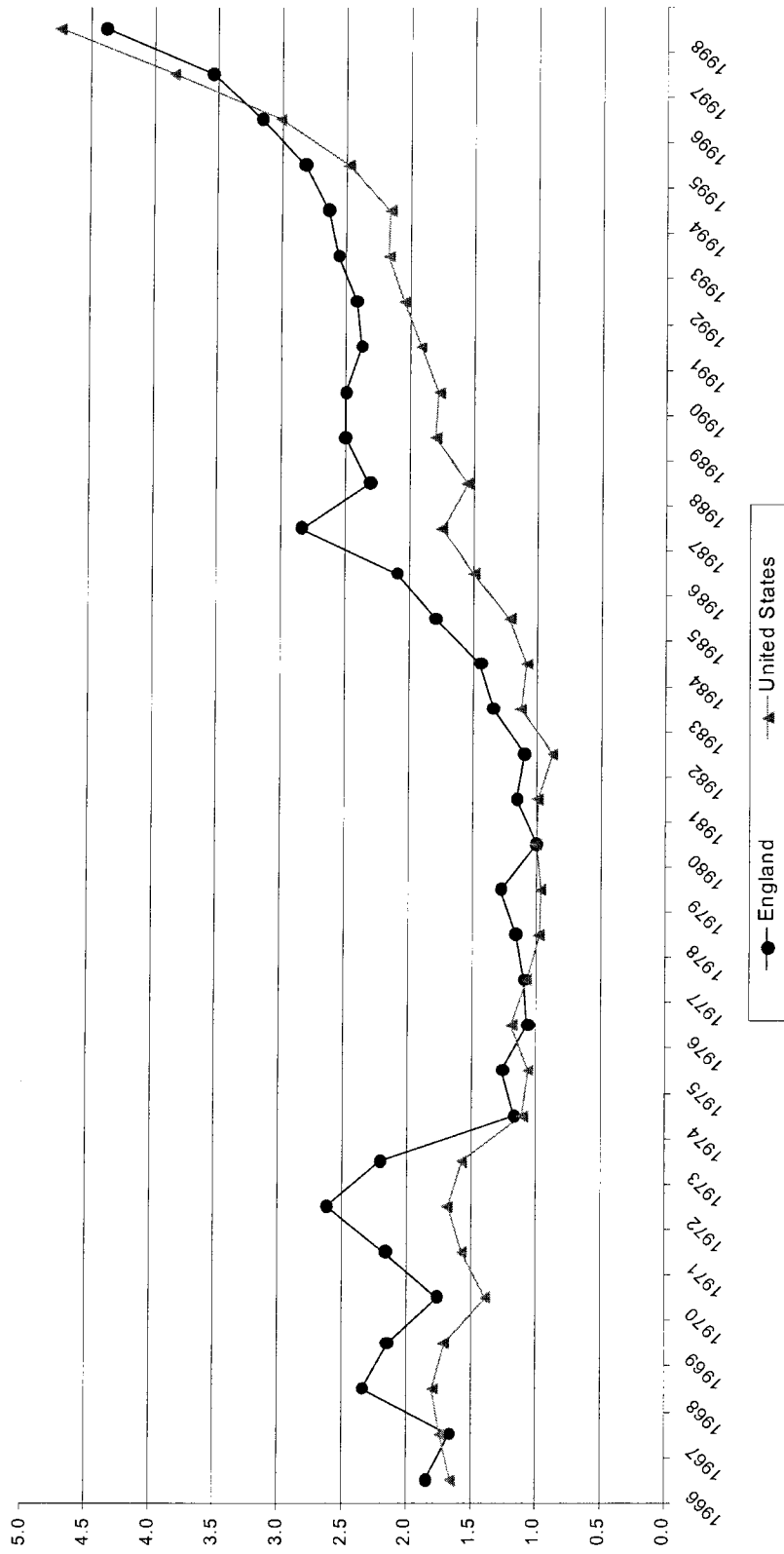


Figure 6

Time Series of Household Share-Ownership Rates from FES Data

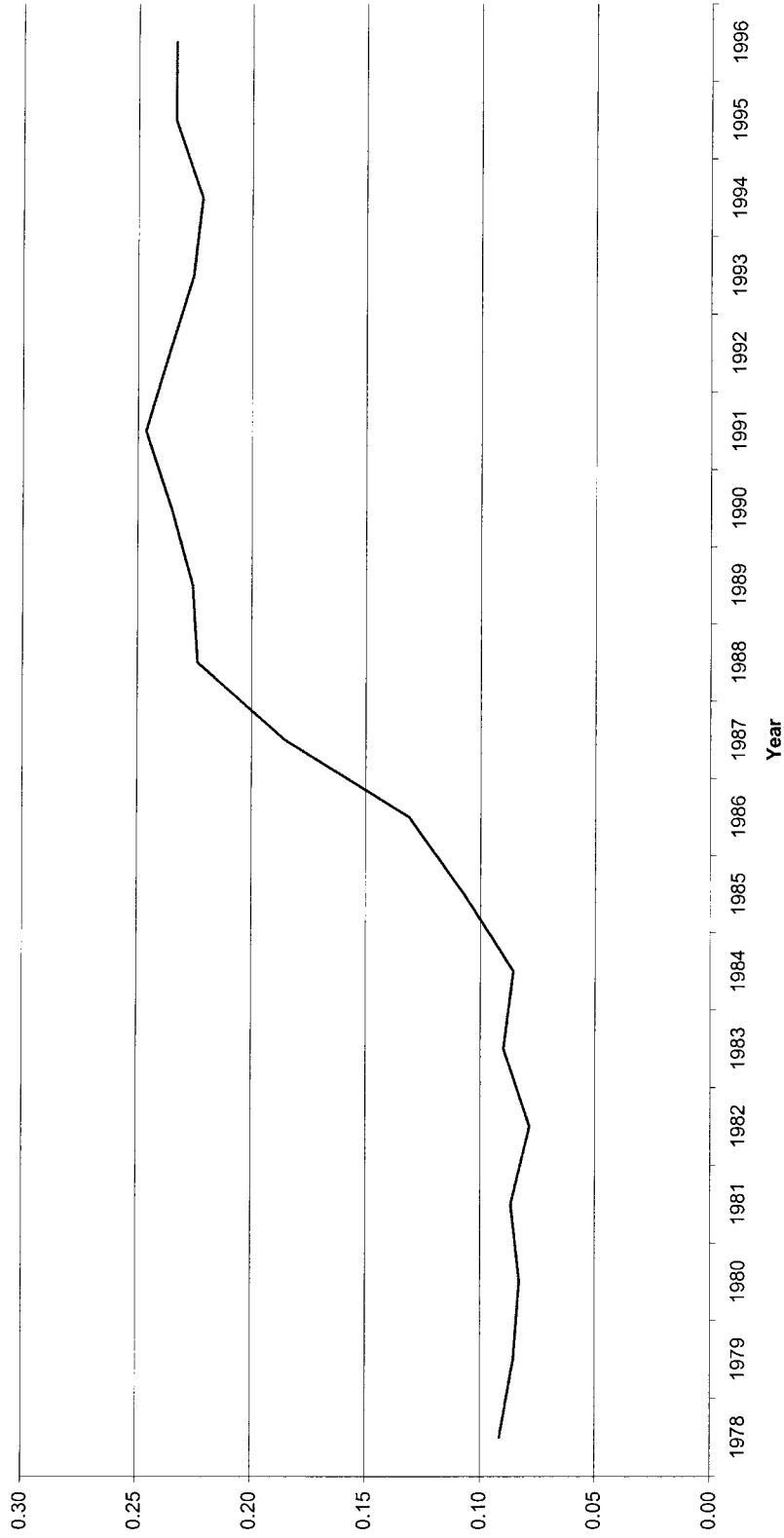


Figure 7