PERSONAL SECTOR WEALTH IN THE UNITED KINGDOM, 1920–56

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In the United Kingdom there is a wide range of sources which make it possible to construct a series for components of personal wealth for the period 1920–56. The data are consistent with contemporary estimates produced for specific years in the 1920s and 1930s. They indicate that a stock-market boom and the effects of deflation and low interest rates on the nominal value of the national debt took the wealth/income ratio in the mid-1930s to a level not seen again until the housing boom of the 1980s.

1. INTRODUCTION

Existing data series for U.K. personal wealth begin in 1957 (Roe, 1971), preventing any quantitative analysis of the large changes in the savings ratio before then. Here we present estimates of personal wealth for the period 1920–56. These are combined with the existing data for the period since 1957 so as to give a complete time series for the period since 1920.

The personal sector covers households, unincorporated businesses and non-profit-making bodies. Thus these estimates include not only the wealth owned by households directly, but also the value of businesses owned directly by households and the wealth of organisations such as the Church and the universities. The concept of wealth evaluated here corresponds to the measure W3 identified for the United States by Wolff (1989). This includes assets net of liabilities over which the personal sector has direct control, such as houses, unincorporated business capital, and shares and bank deposits held directly. It also includes the market values of assets held by life assurance and pension funds on behalf of their policy holders; such values are much higher than the surrender values of such policies. Current UN guidelines recommend that holdings of consumer durables should be shown only as a memorandum item (although they are included in Wolff's measure W3). While aggregates for the period 1920–56 are presented both including and excluding consumer durables, the most recent official data exclude consumer durables even as a memorandum item, and changes of wealth over the full period from 1920–93 are therefore monitored excluding consumer durables.

The definition of wealth excludes the present discounted value of social security and national insurance benefits. It also excludes human capital, the capitalised value of labour income. As a corollary, no liability is shown for the capitalised value of future tax payments.

TABLE 1
CAMPION'S ESTIMATES OF PRIVATE WEALTH (£m)

	1926–28	1932–34
Land	740	620
Houses and buildings	2,940	4,100
Farmers' capital	285	425
British and foreign government securities	5,080	6,480
Other dominion and foreign securities	1,400	1,250
Railways in Great Britain	1,060	850
Capital of industry etc.	8,735	7,825
Furniture etc.	970	725
Total	22,300	22,670

2. CONTEMPORARY ESTIMATES FROM THE 1920s AND 1930s

Two contemporary estimates of wealth have been identified. Neither of them provides a time series, however. Campion (1939) contrasts the two approaches available to the statisticians of the time. First there was the estate multiplier method. This involves estimating the multiplier needed to gross up the value of the estates of those dying. This approach suffers from the defect that a very considerable amount of work is needed to ensure that the observations of probate records are, in terms of age and social structure, representative of the living population. It also omits bodies such as the Church, and is affected by evasion. Campion's figures imply a multiplier of 36.9 for 1926–28, 35 for 1932–34 and 34.5 for 1936 in Great Britain (excluding Northern Ireland).

The alternative approach, attributed to Giffen (1878) by Campion involves the capitalisation of income flows. This approach faces the problem that it may not always be possible to identify suitable yields for capitalising income flows. Despite these concerns, Campion applies Giffen's method to produce estimates of the value of private property for 1911–13, 1926–28 and 1932–34.

Stamp (1937) also makes use of Giffen's method in order to estimate the value of the national capital for 1928 and 1935. He attempts to distinguish underlying values from stock market values, although this is not relevant for the purposes of identifying personal wealth. Table 1 shows the estimates produced by Campion and Table 2 shows those produced by Stamp in the interwar period.

TABLE 2
STAMP'S ESTIMATES OF NATIONAL WEALTH (£m)

	1928	1935
Buildings	4,500	5,250
Land	950	975
Farmers' capital	450	475
Profits and interest	16,170	20,710
Profits below tax level	475	440
Furniture etc.	1,500	1,650
Government and local property	1,200	1,350
Less foreign claims	500	500
Less debt charges	6,570	8,850
Net National Wealth	18,175	21,500

Plainly the two estimates differ, at least in part because Campion is evaluating private property while Stamp is evaluating national wealth. The main difference between the two is shown by the entry for debt charges in Stamp's table. This represents the sum of the national debt and borrowing by local authorities. When this is added back to Stamp's figures it can be seen that they exceed Campion's estimates very considerably. Campion's treatment of local authority debt is unclear, but one may assume that, since interest on it is not taxed as British, Dominion or other government securities' interest, it is included with industrial capital.

3. An Annual Series of Personal Wealth

Since the pioneering work described above, the conceptual framework has become more defined, and we can calculate estimates of personal sector balance sheets which are, as far as possible, in keeping with the structure used for the regular annual estimates. Nevertheless, the data are drawn from a variety of different sources.

3.1. *Housing and Farmers' Capital*

Feinstein (1965) provides estimates of the value of capital goods owned directly by the personal sector. This includes farm land, farm buildings, and livestock as well as housing. We use Feinstein's estimates of the value of farm land, farm buildings, and livestock unchanged. We put a zero valuation on growing crops, since our balance sheets are, in principle, intended to relate to December 31.

The valuation of the housing stock is more complicated. Feinstein quotes "first cost" and depreciated values of the housing stock, and suggests that his first-cost estimates are the better indicators of the value of the maintained housing stock. However, his estimates apply to the national housing stock. A deduction is needed to allow for the local authority sector. We have estimated the value of local authority housing by cumulating loan-financed expenditure on housing from 1920 and revaluing the resulting aggregate on the basis of changes in the house-price index implied by Feinstein (1965). By 1938 this suggests that one-sixth of the housing stock by value is owned by local authorities. This may seem high, but over the period 1925–38 28 percent of houses were built by local authorities.

An alternative estimate of the value of housing can be calculated from the rents charged to "ownership of dwellings" provided by Feinstein (1972) grossed up to capital values. The Inland Revenue reports show the average number of "years' purchase" used to capitalise the rents earned on different types of property, when producing estimates of capital values for estate duty purposes. The number of years purchase for England and Wales can be applied to Feinstein's estimate of rental income on housing, after deducting 80 percent of the rental income received by local authorities (with the remaining 20 percent assumed to represent rental income on property other than housing[1]).

[1] This is an arbitrary assumption. *Local Government Financial Statistics* does not distinguish rent from fees etc.
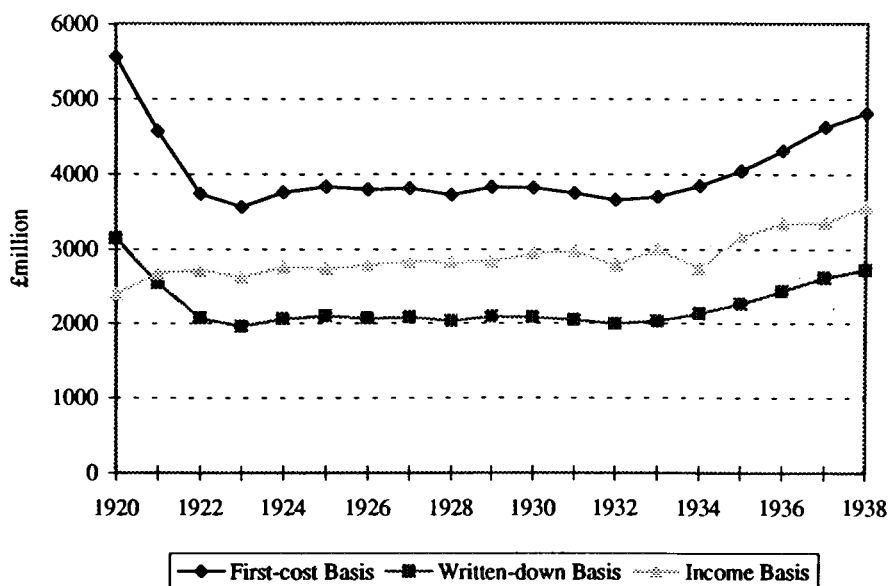
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Figure 1. The Private Housing Stock, 1920–38

Except in 1920, the grossed up estimate of rent lies between Feinstein's two figures; we have therefore used, as our estimate of the value of the private housing stock, the arithmetic average of Feinstein's first cost and depreciated value and the estimate based on the grossed up value of rent (see Figure 1).

We deal with the period 1939–56 differently. Estimates of imputed rent continue to be available, but the *Inland Revenue Statistics* stopped publishing grossing up factors. Feinstein's direct estimates do not proceed beyond 1938.

The British Economy: Key Statistics, 1900–70 (1971) provides an index of the price of existing houses for the period 1946–57 and of construction costs for the period 1900–46.[2] Data on gross investment in new houses are also available from the national accounts (Sefton and Weale, 1995) and depreciation figures are provided by Feinstein (1972), for the period 1948–56.

We proceeded as follows. In 1938 total gross investment in dwellings was £169m (Feinstein, 1972). Local authority investment was £59m and the cumulated value of the local authority stock was 17.3 percent of the total. These figures imply personal sector gross investment of £110m and depreciation charges of £46m.

First we projected the depreciation figures. Assuming that they simply increased in line with the price index gave an excessive figure for 1948. We took the year-on-year percentage increase in the depreciation charge to be 0.89 × the percentage increase in the house-price index so as to arrive at the published figure for 1948.

[2]The index rises from 20 in 1938 to 45 in 1945. As a check we consulted Professor Reddaway who reported that he had bought a house for £1,000 in 1938 and sold the same house for £3,000 in 1945. This small sample confirms the idea that there had been a sharp rise in house prices during the war.

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Secondly, we assumed that the figure for houses built by private builders (*Annual Abstract of Statistics*, 1938–48, p. 73) indicates the number of houses built by the private sector. This has been assumed to represent the volume of investment in new housing by the personal sector. The house-price index is used to revalue this to give a series in current prices. The estimates of gross investment in housing which emerge are given in Table 3.

TABLE 3

PERSONAL SECTOR GROSS INVESTMENT IN HOUSING, 1939–47, (£m)

1939	1940	1941	1942	1943	1944	1945	1946	1947
73.7	17.1	3.8	1.8	0.9	1.8	2.7	31.6	50.6

War damage has to be accounted for separately. Clements (1966) suggests that total damage to residential private property amounted to £494m. We have assumed that £200m of this occurred in 1940 and that £73.5m occurred in each of 1941–44.[3]

With these figures for gross investment and depreciation/war damage, together with the house-price index, we can project forward the value of the housing stock from 1938 to arrive at a figure for 1957. The estimate for 1957 is 20.7 percent below the figure quoted by Roe (1971). We apply an adjustment to the estimate for year Y of $(Y-1938)/(1957-1938) \times 20.7$ percent in order to produce a smooth series for the period 1939–57.

Farming capital falls into two types. First of all there are the land and non-residential buildings on the farms. The income on these is classified as rent. Secondly there are the livestock, plant and machinery and standing crops. The return to these is classified as income of the self-employed and is not distinguished from the wages that the farmer pays himself.

Ward (1958) provides a series for farm prices per acre for the period to 1957. These cover four-year moving averages of auction prices, and it is assumed that they relate to the mid-point, which is the end of the second year of the four-year interval. Beyond 1937–41 two series exist, for farms with and without vacant possession. The mean of these has been used, since the 1937–40 mean is the same as the single value quoted for 1936–39.

Feinstein's figures for farmers' capital are extrapolated forward using this land price series. His figure of £876m in 1938 becomes £2,172m in 1957. Roe (1971) quotes a figure of £1,202m for agricultural land, with the implication that the remaining figure of £970m is accounted for by farm buildings and installations. Since Roe gives a total figure of £5,508m for the value of all farm land and buildings, other land and buildings and stocks and work in progress, this implies a total figure of £3,608m as the total value of capital on which self-employment income is earned. This is the reference point for our estimates of the capital of unincorporated businesses described in section 3.3.

[3]The figures for England and Wales cover years to March 31. It has been assumed that relatively little building was done in the winter, so that they can be taken to represent the calendar year.

3.2. *Corporate Capital*

There are a number of possible sources of estimates of industrial capital. Feinstein (1972) provides estimates of payments of dividends on share capital as well as on debentures. *The Economist* for 1920–45, *The Economist: Records and Statistics* for 1946–50, and *Bank of England Quarterly Bulletin* (1960) for 1951–56 quote the dividend yield on the London market. These yield estimates can be used to gross up Feinstein's dividend series to give an estimate of the value of the London market.[4] The series is subject to offsetting biases. Yields on the shares of small companies are generally higher than those on shares of large companies, and the data, compiled from shares in large companies, probably understate the true yield on ordinary shares and thus lead to an overstatement of the value of equity. On the other hand up to a quarter of the dividends paid may have been dividends on preference shares. In the interwar years such shares commanded a lower yield because of the lower risk attached, and this implies that the overall yield would have been lower than that quoted by our sources.[5]

Some shares are owned outside the personal sector (for example by the foreign sector). Thus in 1957 the yield method gives holdings of £12,238m, while Roe quotes a figure of £11,106m. The earlier estimates are multiplied by $\frac{11106}{12238}$ to correct for non-personal holdings of equity.

An alternative method of valuing equity capital is to work backwards from Roe's estimate of £11,106m held by the personal sector in 1957. Three stock-market indices have been identified and, as Figure 2 shows, they do not present a very coherent picture of long-run trends although it is plain that they reflect the same short-run movements. We adopted an index which was an arithmetic average of these two or three indices.

This index was used to carry back Roe's 1957 figure. It was assumed that the volume of equity expanded by 1 percent p.a., so that the rise in the value of equity holdings from one year to the next was 1 percent more than the rise in price. Adjustments were made to allow for nationalisation in 1948–49.

Figure 3 shows the estimated value of personal sector equity holdings as calculated in these two different ways. As elsewhere, we have used the average of the two in our balance sheet.

Debenture interest can be grossed up to give an estimate of the value of outstanding loan stocks. The yield on new debentures issued during the year, quoted annually by *The Economist*, usually in February, is used to gross up Feinstein's series of debenture interest.[6] This method leads to an estimate of

[4]This total of £494m was eventually paid out as war damage compensation. However without any indexation provision, it is plain that the personal sector suffered considerable direct loss. No allowance has been included in the balance sheet for eventual payment of war damage compensation.

[5]The yields are those provided by *Barclays de Zoete Wedd Equity–Gilt Study* (1990) for the period 1920–28 and by the Institute of Actuaries from 1929 onwards. The latter, where available are to be preferred because they cover a wider range of securities.

[6]During the Second World War there are no estimates of ordinary and preference dividends paid. *The Economist* provides estimates of payments by a subgroup of companies. In 1938 it showed total payments of £187.2m, while Feinstein's figures show payments of £481m. In 1946 the comparable figures are £200.5m for *The Economist* and £321m from the national accounts. Thus it seemed unlikely that the *Economist's* series provided a good guide to the movement of dividends during the war and we have simply assumed that dividends fell linearly from the 1938 to the 1946 figure. We made a similar assumption about payments of interest on debentures.
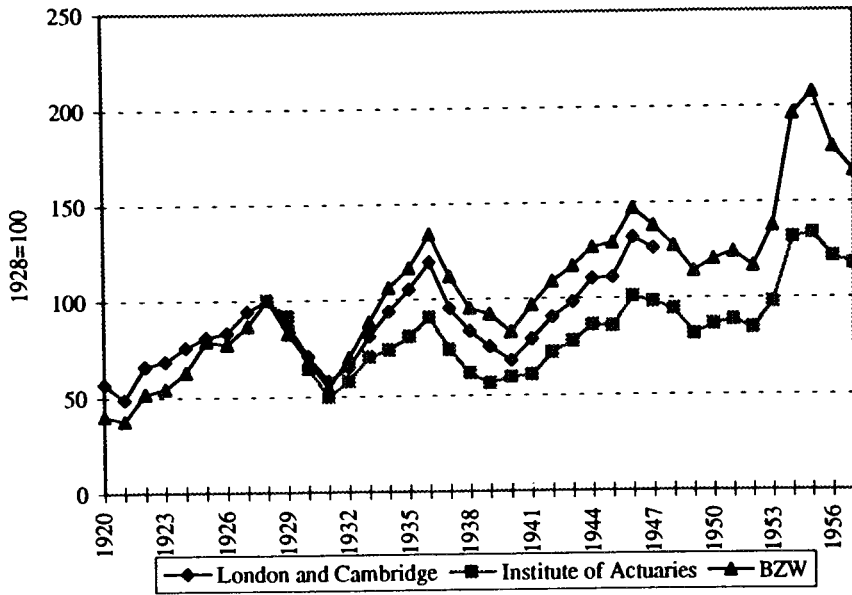
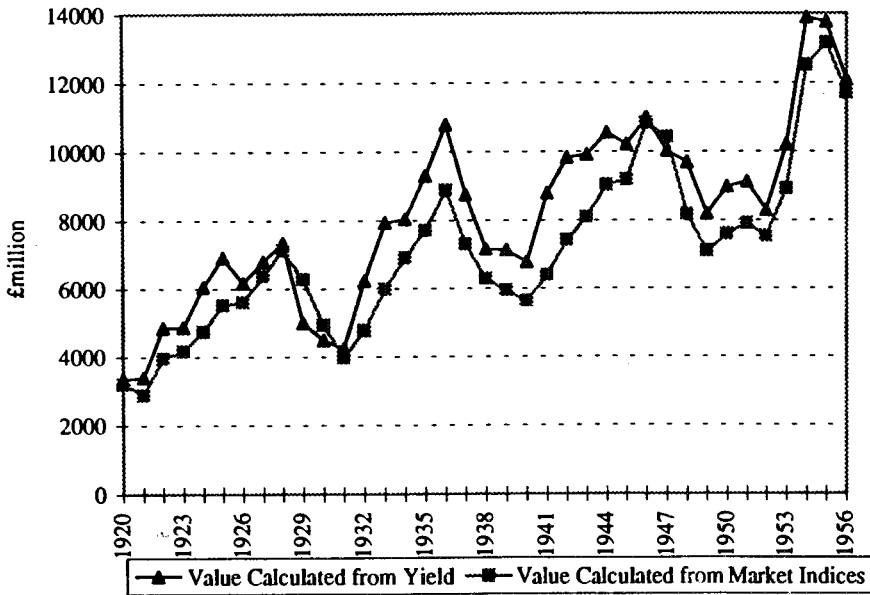Figure 2. Stock Market Indices, 1920–57

Figure 3. Estimates of Personal Sector Equity Holdings, 1920–56

£1,036m for debenture holdings in 1957 as compared with Roe's figure of £1,025m. A correction of $\frac{1025}{1036}$ is applied to all years.

3.3. *Unincorporated Businesses*

An estimate of the value of the capital owned by unincorporated businesses is harder to produce. Sefton and Weale (1995) provide estimates of income from self-employment. These are derived from Feinstein's (1972) data but revised in the light of the adjustments needed to remove the discrepancies between the various measures of GDP. The question arises how much of the income of the self-employed should be regarded as return to capital rather than labour income. In section 3.1 we estimated the total value of the capital used by the self-employed in 1957 to be £3,608m. The income of the self-employed was £2,035m in the same year.

We assume a constant ratio of capital to income ($\frac{3608}{2035}$) in order to project the capital of the self-employed back to 1938. For the period 1920–38 Feinstein provides estimates of the value of the farming capital on which self-employment income is actually earned; he also gives estimates of farmers' self-employed income. For 1938 we calculate an estimate of the value of capital used by the non-farming self-employed by deduction of Feinstein's figure from the aggregate. For the period 1920–37 we assume that the ratio of this to non-farming self-employed income, $\frac{651}{546}$, is constant. This combines with Feinstein's estimates of farmers' capital to give figures for the total capital employed by the self-employed.

3.4. *Public Debt*

The value of public debt is best assessed from the liability side, with adjustments being made where necessary. Pember and Boyle (1950) and Pember and Boyle (1977) present returns for the outstanding amounts of government debt on a security by security basis. For the period 1900–49, their figures are shown at December 31, while for 1950–56 they are for March 31 of the following year. The error introduced by using the March figures valued at December prices does not appear to be large.

The floating debt was held largely by the banks (including the Bank of England) and, before 1928 as backing for the Treasury note issue.[7] Double-counting is avoided by deducting holdings of government debt by banks and building societies from the totals calculated from Pember and Boyle's figures. Holdings of savings banks are also deducted.

To the marketed and floating debt must be added non-marketed liabilities of the government to the personal sector. Before the war these comprised National Savings Certificates. A wider range of instruments evolved during the war; these are fully documented by Pember and Boyle.

In these calculations debt due to foreign governments is omitted, because the aim is to measure the assets of the personal sector and not the liabilities of the

[7]From 1929 onwards a yield is quoted by the Institute of Actuaries. This is continued by *Bank of England Quarterly Bulletin* (1960) for the period 1951–56.

government. Some adjustment must, however, be made for foreign holdings of U.K. government securities bought on the London Stock exchange.

In 1957 foreigners' total holdings of U.K. government securities, cash, bank and discount and finance house deposits were quoted by Roe (1971) as £3,897m. *Balance of Payments, 1946–57* quotes total sterling liabilities of £3,909m. Of these we assume Roe's figure of £901m was held as bank deposits, with the remainder being government and local authority debt. This holding must be deducted from the estimate of national debt outstanding in order to arrive at the holding by the personal sector.

The British Economy: Key Statistics, 1900–70 (1971) quotes sterling liabilities for all the years from 1931. Of these figures we assume that a proportion $\frac{901}{3909}$ identified from the 1957 data is held as bank deposits, and that the remainder must be deducted from the national and local authority debt outstanding in order to arrive at the personal sector holding.[8] We assume that the proportion of national and local debt held by foreigners in 1920–30 was the same as that identified in 1931. The results appear plausible when compared with estimates of debt ownership for 1924 and 1934 presented by *The Economist* (1935).

Borrowing by local authorities excluding borrowing from central government must also be identified. The *Statistical Abstract* shows the cumulated debt of local authorities in Great Britain valued presumably on a nominal basis for the years 1920–36. Data for the period 1937–48 were obtained from *Local Government Financial Statistics in England and Wales* (1934/5–1948/9), *Local Taxation Returns (Scotland)* (1920/1–1946/7) and *Local Financial Returns (Scotland)* (1947/8–1956/7) with the remainder of the series provided by *Annual Abstract of Statistics* (1935/6–1957). From these gross amounts we deduct debt to central government as identified by *Accounts in Respect of the Capital and Income of the Local Loans Fund* (1920/1–1947/8) in order to identify the balance of debt in the hands of the private sector.[9] We convert this debt at nominal value to market value by applying the ratio of market value to nominal value observed for the national debt.

3.5. Savings Banks and Building Societies

Savings bank deposits are identified most simply from the figures quoted by Horne (1946) and in *Annual Abstract of Statistics (1935/6–1957)*. Building society deposits are quoted in the *Statistical Abstract* and *Annual Abstract of Statistics (1935/6–1957)*. Both of these types of deposit are assumed to be owned entirely by the personal sector.

In the evaluation of the national debt we deducted the value of debt held by the national debt commissioners on behalf of the post office and trustee savings banks before arriving at the debt in the hands of the public. Building societies

[8]This was consolidated into the Bank of England issue in 1928.

[9]There is a question of coverage. The liabilities data identify government securities held "by banks in bearer form or on nominee account for overseas accounts generally" (Reserves and Liabilities, 1931–45, 1951). This means that they exclude holdings by non-banks outside the United Kingdom (such as holdings by residents of the Irish Free State). There is no obvious means of identifying such amounts and we have included 2 percent of the national debt on the grounds that some allowance is better than none.

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also own government securities; we have assumed their holdings to be equal to the difference between shares and deposits and mortgages outstanding and deducted this from the national debt outstanding.

3.6. Currency

The value of the currency in the hands of the public is quoted by Capie and Webber (1985, pp. 175–183). There is no contemporaneous estimate of the amount in the hands of the personal sector. The more recent official balance sheets suggest that in 1976 80.1 percent of the total was held by the public, and in 1987 the ratio was 81.3 percent. This proportion is considerably higher than that estimated for the United States, for which it is estimated that only 40 percent is held domestically. It is possible that there were substantial holdings of U.K. banknotes in the dominions and the Colonial Empire during the period of our balance sheets, but we have no basis for making any except the simple assumption that 80 percent of the currency in the hands of the public was held by the personal sector.

3.7. Bank Deposits

Curiously enough, a difficult part of the whole exercise is the identification of bank deposits held by the personal sector. Capie and Webber (1985, pp. 139–147) have produced estimates of total bank deposits net of transit items and interbank deposits, but these cover the whole of the private sector. This is, nevertheless, one important source of information. We produce one estimate of personal sector bank deposits simply by assuming that the ratio of personal sector to total deposits for 1957 is relevant also for the period 1920–56.

The Inland Revenue publish the portfolio composition of the estates on which probate is granted in the year to March 31. We can therefore calculate the fraction of the wealth of those dying which was held as "cash at the bank," but there is no means of grossing up in a way which reflects possible differences in age and class structure of those dying from those surviving. The Inland Revenue Data include deposits with savings banks as well as with deposit banks, but, since the latter are known, the data can be used to calculate an estimate of holdings of accounts with the deposit banks. This is done by assuming that the ratio of bank deposits (including savings bank deposits) in total wealth is the same as that shown in the probate data. Revell (1967) argues that estates are more liquid than the population at large, and suggests that the estate duty figure should be multiplied by 0.8, before the deduction of savings bank deposits, in order to correct for this.

Annual Abstract of Statistics, 1935–46 published figures for the value of net deposits, that is deposits less overdrafts, with the clearing banks, distinguishing between "personal" and "other" net deposits for 1940–46.[10] The definition of "personal" is not the same as that currently in use. It omits deposits held by sole traders and unincorporated businesses for business purposes.

For 1940 we calculated bank deposits from the estate duty figures and deducted our estimate of bank advances (see section 3.10 below). This led to a

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[10]Omission of debt owed by Northern Irish local authorities leads to a small error.

figure which was 34.5 percent larger than that for the sub-personal sector. We grossed up the subsequent net figures in the same proportion and added back our estimate of bank advances in order to produce an estimate of total bank deposits for the period 1941–46.

For 1947–56 we once again looked at the probate data, calculating estimates in the same way as with the interwar data. The probate data show the share of bank deposits in total wealth rising from 10.1 percent of wealth in 1947 to 14.1 percent of wealth in 1956. At the same time our estimate of wealth rose by approximately one sixth. Thus the probate figures imply a sharp increase in liquidity of the personal sector. There is no other evidence for such a shift (*Committee on the Working of the Monetary System* 1959, p. 171).

Figure 4 shows our two relatively independent estimates of bank deposits, the first being a constant, proportion of bank deposits and the second being calculated from estate duty data or, for 1940–46 from figures for net deposits of the household sector. During the period 1920–39 the figure calculated from the estate duty data shows a sharper increase. It is possible that the scaling factor of 0.8 suggested by Revell was too low for a period when the average age of death was lower. The figure for 1933 is plainly an outlier and we replace the ratio of bank deposits to wealth for this year (9.4 percent) with the average of the figures for 1932 and 1934 (7.75 percent).

Figure 4. Bank Deposits, 1920–56
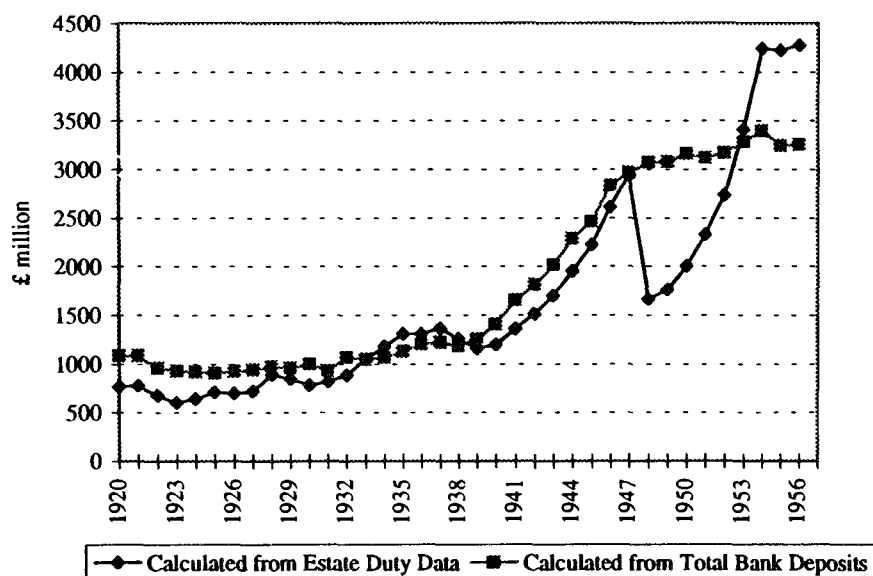
In the period 1934–38 the estate duty figure is above the value calculated from bank deposits. It should be noted that, in this period the value of total personal wealth is well above the aggregate implied by the probate data (see section 4). Had the excess of estimated wealth over estate duty wealth been more like that in the 1920s, the two series would have been much closer. However,

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during this period it seems perfectly satisfactory to take the arithmetic average of the two series (with the 1933 figure for the estate duty estimate replaced by the interpoland). Between 1940 and 1946 the two series move closely together. Once again we use the average of the two figures.

The odd behaviour of the estate duty figures after 1946 has already been noted. In this period we limit ourselves to the series calculated from the data provided by Capie and Webber (1985) and ignore the estate duty estimates.

3.8. *Foreign Assets*

The *Inland Revenue* reports indicate the amount of personal sector income reported as coming from abroad. This is grossed up using the yield on debentures to give an estimate of the capital value of the source of this income. The yield on debentures was selected in preference to that on loan stocks or on equity because investment in fixed interest securities seems to have been the dominant form in which Britain's overseas assets were held.[11] Assets owned by U.K. companies are correctly excluded from this total because they are included in the valuation of the corporate sector.

3.9. *Durable Goods*

Stone and Rowe (1966) quote estimates of the average value of stocks of durable goods calculated in 1938 prices. Their figures are averages for 5-year periods and are, for 1920–55, shown in Table 4. The data are calculated using a perpetual inventory, cumulating purchases net of estimated depreciation.

TABLE 4

ESTIMATES OF AVERAGE DURABLE GOODS HOLDINGS, (£m 1938 PRICES)

	1920–4	1925–9	1930–4	1935–8	1939–45	1946–50	1951–5
Estimates from Stone and Rowe (1966)							
Clothing	216.6	238.1	250.3	266	208.6	243.3	281.2
Vehicles	39.4	82.8	114.7	164	154.3	109.2	149.3
Other durables	704.2	887.8	1,070.0	1,249.3	1,023.2	925.4	1,249.5
Total	960.3	1,208.7	1,435	1,679.3	1,386.1	1,277.9	1,680
Estimates from Sefton and Weale (1995)							
Clothing	213.5	238.4	250.2	269.8	197.4	257.2	284.7
Vehicles	42.1	85.5	109.4	155.5	100.0	69.2	144.5
Other durables	764.1	915.9	1,084.2	1,245.6	943.6	1,006.3	1,689.2
Total	1,019.7	1,239.8	1,443.8	1,670.9	1,241.0	1,332.7	2,118.4

These estimates are very substantially larger than those which would be inferred from the probate data, but the latter are probably severely affected by evasion. Stone's figures were calculated using the depreciation rates shown in Table 5. These have to be consolidated in order to be applied to the categories

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[11]The data are for June and December. There are, however, no data for December 1940. The figure for June 1940 is £617m, while that for June 1941 is £661m. We used the mid-point £639m for December 1940.

of consumption identified by Sefton and Weale (1995) (and were indeed consolidated by Stone for part of the period). This allows annual figures of the stock of durables in current prices to be produced.

The second set of figures in Table 4 were calculated using Stone's technique, taking the average of his figures for 1915–19 and 1920–24 as indicating the value of the stock at the start of 1920. The estimated purchases are taken from the new dataset produced by Sefton and Weale (1995). While the annual data are related to current prices, in order to show the aggregate value of the stock of consumer goods in Table 8, here the annual data are simply averaged so as to produce figures on the same basis as Stone and Rowe's.

For the periods before the Second World War the differences between the two sets are relatively minor. After 1939 the differences increase. There are two clear reasons for this. First of all, unlike us, Stone and Rowe assume a lower rate of vehicle depreciation during the war because vehicle use was lower. Secondly, the original data have been subject to substantial revision since Stone and Rowe's work.

TABLE 5

DEPRECIATION RATES FOR DURABLE CONSUMPTION GOODS

Stone's Depreciation Rates	
Clothing and fancy goods	0.8
Tyres and tubes	0.57
Household durables	0.25
Bicycles and motor cycles	0.33
Cars	0.20
Jewellery and travel goods	0.14
Books	0.1
Depreciation rates used here	
Clothing	0.8
Motor vehicles	0.2
Furniture and floor coverings	0.25
T.V., radio and electrical goods	0.25
Textiles and hardware	0.25
Books and recreational goods	0.14

3.10. *Mortgages, Bank Advances and Other Debt*

Returns for the building societies show the value of mortgages; it is assumed that these are entirely lent to the personal sector.

Mortgages from insurance companies can also be identified for the years 1935–38 and 1946–56 (*Annual Abstract of Statistics 1935/6–1957*). The data for 1939–45 were calculated by interpolation and those for 1920–34 were estimated by assuming a constant ratio of life assurance to building society mortgages. Figures for consumer credit and hire purchase debt were provided by *The British Economy: Key Statistics, 1900–70* (1971). No data were available before 1947.

While the London Clearing Banks publish figures for total advances, the division of this between different types of borrowers is unknown. However Lloyd's

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TABLE 6
PERSONAL SECTOR BALANCE SHEETS: 1920-56 (£m)

	Standard Error	1920	1921	1922	1923	1924	1925	1926
Banknotes and Coin	20%	363	273	273	282	280	279	265
Bank Deposits	10%	927	929	818	768	779	811	813
Savings Certificates, Defence Bonds, Premium Bonds etc.	2%	320	387	418	446	459	476	493
Savings Bank Deposits	2%	318	357	366	376	387	396	394
Building Society Deposits	2%	82	90	101	123	137	160	183
Equity Holdings	7%	3,276	3,137	4,400	4,518	5,399	6,224	5,886
Debentures	7%	537	526	670	757	756	785	786
Foreign Assets	20%	1,030	954	1,226	1,348	1,445	1,495	1,532
Dwellings	10%	3,701	3,262	2,839	2,713	2,858	2,887	2,883
Farms	10%	1,182	953	953	1,003	1,012	1,017	949
Stock on Farms	10%	804	654	558	505	530	521	506
Non-Farm Business Capital	20%	796	655	663	650	670	691	680
National Debt	2%	6,781	6,909	5,989	5,688	5,753	5,744	5,876
LA Debt at Market Value	7%	386	462	588	630	628	648	694
Deduction of Public Debt not held by Personal Sector								
Public Debt Held by Banks etc.	2%	−1,014	−1,217	−1,164	−1,117	−1,061	−1,030	−1,013
Public Debt held by Building Societies	2%	−13	−14	−18	−24	−17	−14	−12
Public Debt Held by Bank of England and Currency Account	2%	−455	−337	−322	−316	−328	−321	−291
Foreign Holdings of U.K. Public Debt	20%	−333	−343	−306	−294	−297	−297	−305
Gross Personal Wealth		18,690	17,636	18,054	18,057	19,391	20,471	20,319
Deduction of Personal Sector Liabilities								
Bank Advances	10%	−320	−311	−293	−301	−324	−336	−354
Mortgages	2%	−69	−76	−84	−99	−120	−146	−171
Insurance Co. Morgages	10%	−22	−24	−27	−31	−38	−46	−54
Other Insurance Loans	10%	−60	−58	−55	−56	−61	−63	−66
Consumer Credit	2%							
Net Personal Wealth		18,220	17,167	17,596	17,569	18,849	19,880	19,673
Consumer Durables	10%	1,621	1,310	1,176	1,156	1,196	1,244	1,251
Net Personal Wealth including Durables		19,841	18,477	18,772	18,725	20,045	21,124	20,924
Standard Errors								
Net Personal Wealth		3.10%	2.98%	3.11%	3.16%	3.23%	3.19%	3.26%
Net Personal Wealth including Durables		2.96%	2.86%	2.98%	3.03%	3.10%	3.15%	3.12%
Memoranda								
Estate-Duty Measure (1920-38)		14,480	15,534	15,954	16,350	17,062	16,886	17,259
Personal Disposable Income		5,138	4,311	3,864	3,781	3,920	3,975	3,955
Net Wealth excluding Durables/Income		3.55	3.98	4.55	4.65	4.81	5.00	4.97
Net Wealth including Durables/Income		3.86	4.29	4.86	4.95	5.11	5.31	5.29
Savings Ratio		4.10	4.20	4.00	5.10	6.10	5.60	5.30
Increase in Wealth excluding Durables			−1,052	429	−27	1,280	1,031	−207
of which Saving			181	155	193	239	223	210
Capital Gains			−1,233	274	−220	1,041	808	−416

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TABLE 6—continued

1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
266	271	264	266	285	247	286	292	300	335	370	366
832	931	903	889	875	976	1,050	1,123	1,218	1,255	1,289	1,222
483	483	479	497	477	475	488	500	507	514	516	519
398	409	409	423	432	460	498	537	588	645	695	748
211	273	297	354	399	448	477	528	571	622	672	717
6,595	7,230	5,633	4,715	4.103	5,506	6,956	7,466	8,502	9,824	8,025	6,726
860	941	1,079	1,166	1,053	1,229	1,382	1,550	1,551	1,561	1,593	1,706
1,623	1,689	1,897	2,063	1,894	2,055	2,098	2,401	2,512	2,567	2,424	2,276
2,908	2,860	2,917	2,945	2,922	2,812	2,907	2,907	3,156	3,361	3,532	3,695
903	894	693	727	764	736	798	870	791	872	869	876
467	483	468	448	432	397	344	370	366	383	423	439
692	710	708	652	585	580	625	631	666	702	668	651
5,827	5,737	5,809	6,010	5,532	6,542	6,785	7,178	7,214	6,920	6,888	6,736
796	958	1,001	1,075	1,265	1,145	1,349	1,450	1,405	1,451	1,474	1,501
−1,034	−1,074	−1,037	−1,155	−1,088	−1,413	−1,489	−1,498	−1,658	−1,815	−1,792	−1,805
−14	−45	−29	−37	−39	−59	−53	−52	−42	−35	−36	−31
−310	−312	−312	−304	−326	−356	−334	−342	−342	−318	−318	−296
−308	−311	−317	−329	−316	−360	−414	−446	−461	−554	−621	−460
21,196	22,126	20,862	20,405	19,248	21,420	23,753	25,465	26,845	28,290	26,672	25,588
−365	−375	−388	−366	−354	−308	−290	−296	−304	−348	−386	−379
−198	−228	−268	−316	−360	−388	−424	−476	−530	−587	−636	−687
−63	−72	−85	−100	−114	−123	−134	−151	−168	−182	−191	−186
−68	−70	−73	−69	−66	−58	−54	−55	−57	−53	−51	−48
20,502	21,381	20,048	19,553	18,353	20,543	22,851	24,486	25,786	27,120	25,409	24,289
1,288	1,320	1,343	1,334	1,288	1,264	1,305	1,360	1,429	1,555	1,677	1,714
21,790	22,701	21,391	20,887	19,641	21,806	24,156	25,846	27,215	28,675	27,086	26,002
3.34%	3.38%	3.36%	3.37%	3.34%	3.33%	3.34%	3.37%	3.48%	3.60%	3.49%	3.37%
3.20%	3.24%	3.21%	3.22%	3.19%	3.19%	3.20%	3.24%	3.34%	3.45%	3.33%	3.21%
18,910	19,920	19,122	16,362	18,048	18,340	18,679	19,978	20,719	20,815	19,376	18,659
4,126	4,128	4,177	4,100	3,946	3,790	3,880	3,946	4,143	4,371	4,547	4,601
4.97	5.18	4.80	4.77	4.65	5.42	5.89	6.21	6.22	6.20	5.59	5.28
5.28	5.50	5.12	5.09	4.98	5.75	6.23	6.55	6.57	6.56	5.96	5.65
7.50	6.70	6.50	6.20	5.40	4.60	5.30	4.60	5.90	6.80	6.30	6.30
829	879	−1,332	−495	−1,200	2,190	2,308	1,635	1,300	1,334	−1,711	−1,120
309	277	272	254	213	174	206	182	244	297	286	290
519	603	−1,604	−750	−1,413	2,016	2,103	1,454	1,055	1,037	−1,998	−1,410

TABLE 6—continued

	Standard Error	1939	1940	1941	1942	1943	1944
Banknotes and Coin	20%	407	440	601	739	869	958
Bank Deposits	10%	1,204	1,298	1.506	1,659	1,856	2,116
Savings Certificates, Defence Bonds, Premium Bonds etc.	2%	634	1,008	1,437	1,770	2,166	2,533
Savings Bank Deposits	2%	803	930	1,146	1,354	1,689	2,021
Building Society Deposits	2%	730	711	703	706	721	745
Equity Holdings	7%	6,529	6,208	7,583	8,616	8,994	9,778
Debentures	7%	1,509	1,407	1,436	1,440	1,389	1,350
Foreign Assets	20%	2,167	2,079	1,974	1,801	1,660	1,620
Dwellings	10%	3,948	4,319	4,610	5,067	5,687	6,467
Farms	10%	876	946	1,051	1,156	1.226	1.332
Stock on Farms	10%						
Non-Farm Business Capital	20%	1,243	1,457	1,633	1,723	1,766	1,775
National Debt	2%	7,028	9,081	11,087	12,509	14,369	16,192
LA Debt at Market Value	7%	1,539	1,539	1,503	1,469	1,429	1,388
Deduction of Public Debt not held by Personal Sector							
Public Debt Held by Banks etc.	2%	−1,894	−2,390	−3,170	−3,657	−4,377	−5,159
Public Debt held by Building Societies	2%	−24	−33	−59	−98	−145	−184
Public Debt Held by Bank of England and Currency Account	2%	−711	−786	−991	−1,107	−1,249	−1,492
Foreign Holdings of U.K. Public Debt	20%	−397	−523	−978	−1,262	−1,807	−2,318
Gross Personal Wealth		5,590	27,692	31,070	33,885	36,244	39,121
Deduction of Personal Sector Liabilities							
Bank Advances	10%	−393	−361	−319	−302	−289	−291
Mortgages	2%	−706	−678	−644	−608	−576	−561
Insurance Co. Mortgages	10%	−181	−176	−171	−165	−160	−155
Other Insurance Loans	10%	−45	−42	−39	−36	−33	−30
Consumer Credit	2%						
Net Personal Wealth		24,265	26,435	29,898	32,773	35,186	38,084
Consumer Durables	10%	1,836	1,968	1,984	1,882	1,724	1,698
Net Personal Wealth including Durables		26,101	28,403	31,881	34,656	36,910	39,782
Standard Errors							
Net Personal Wealth		3.44%	3.25%	3.21%	3.18%	3.22%	3.29%
Net Personal Wealth including Durables		3.27%	3.10%	3.07%	3.06%	3.10%	3.18%
Memoranda							
Estate-Duty Measure (1920–38) Personal Disposable Income		4,911	5,747	6,356	6,768	7,014	7,131
Net Wealth excluding Durables/Income		4.94	4.60	4.70	4.84	5.02	5.34
Net Wealth including Durables/Income		5.31	4.94	5.02	5.12	5.26	5.58
Savings Ratio		9.90	21.40	23.30	22.90	23.60	20.00
Increase in Wealth excluding Durables		−24	2,171	3,462	2,876	2,413	2,898
of which Saving		486	1,230	1,481	1,550	1,655	1,426
Capital Gains		−510	941	1,981	1,326	757	1,472

TABLE 6—continued

1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956
1,063	1,181	1,119	1,065	1,060	1,153	1,152	1,208	1,296	1,379	1,445	1,529
2,341	2,722	2,957	3,075	3,079	3,158	3,118	3,172	3,282	3,395	3,242	3,253
2,861	3,027	3,132	3,097	3,108	3,066	3,104	3,070	3,073	3,135	3,173	3,226
2,502	2,655	2,673	2,747	2,802	2,838	2,799	2,750	2,703	2,730	2,732	2,764
771	810	882	960	1,058	1,168	1,265	1,384	1,541	1,757	1,948	2,103
9,694	10,895	10,206	8,923	7,639	8,280	8,504	7,909	9,547	13,197	13,454	11,885
1,286	1,335	1,079	833	712	814	776	847	1,010	1,170	1,089	1,099
1,655	1,628	1,537	1,607	1,534	1,789	1,699	1,846	1,930	2,239	2,104	2,123
7,127	7,645	8,861	9,911	10,108	10,472	11,000	11,041	10,644	10,649	11,041	12,195
1,472	1,717	1,822	1,962	2,102	2,102	2,067	2,067	2,102	2,102	2,102	2,137
1,890	2,067	2,245	2,585	2,691	2,762	2,862	2,941	3,108	3,159	3,292	3,440
17,797	19,297	18,277	19,209	18,059	18,333	17,399	17,406	18,604	19,809	18,839	18,177
1,343	1,345	1,341	1,161	1,136	1,125	1,136	1,207	1,410	1,525	1,700	2,100
−5,880	−6,684	−6,717	−6,848	−6,787	−6,822	−6,436	−6,676	−6,896	−6,894	−6,654	−6,665
−198	−169	−149	−123	−104	−108	−107	−121	−145	−175	−187	−217
−1,713	−1,761	−1,760	−1,793	−1,817	−1,734	−1,816	−1,927	−2,008	−2,107	−2,179	−2,272
−2,742	−2,795	−2,988	−2,729	−2,859	−3,121	−3,185	−2,911	−3,078	−3,213	−3,110	3,145
41,269	44,915	44,517	45,642	43,520	45,276	45,337	45,214	48,125	53,858	54,033	53,732
−314	−402	−498	−574	−642	−659	−747	−664	−654	−706	−695	−626
−573	−640	−733	−837	−954	−1,060	−1,158	−1,263	−1,396	−1,582	−1,761	−1,886
−150	−149	−164	−188	−215	−258	−311	−362	−396	−430	−506	−594
−27	−26	−26	−26	−29	−31	−35	−42	−46	−49	−55	−64
		−68	−105	−128	−167	−208	−241	−276	−384	−466	−386
40,205	43,697	43,027	43,912	41,553	43,101	42,877	42,642	45,357	50,707	50,550	50,176
1,741	1,996	2,297	2,531	3,048	3,732	4,388	4,668	4,970	5,460	6,187	6,828
41,946	45,693	45,324	46,443	44,601	46,833	47,266	47,310	50,327	56,167	56,736	57,004
3.35%	3.32%	3.52%	3.53%	3.71%	3.76%	3.88%	3.86%	3.76%	3.66%	3.72%	3.82%
3.23%	3.21%	3.38%	3.39%	3.52%	3.55%	3.64%	3.62%	3.53%	3.45%	3.49%	3.57%
7,176	7,443	8,092	8,716	9,123	9,707	10,492	11,243	12,130	12,715	13,739	14,780
5.60	5.87	5.32	5.04	4.55	4.44	4.09	3.79	3.74	3.99	3.68	3.39
5.85	6.14	5.60	5.33	4.89	4.82	4.50	4.21	4.15	4.42	4.13	3.86
12.10	4.10	1.80	0.40	0.30	1.20	1.60	3.70	5.20	4.00	4.10	6.20
2,120	3,492	−670	886	−2,360	1,548	−224	−235	2,715	5,350	−157	−374
868	305	146	35	27	116	168	416	631	509	563	916
1,252	3,187	−816	851	−2,387	1,432	−392	−651	2,084	4,841	−721	−1,290

Bank did give some information for the composition of lending in 1927.[12] Based on this, we have assumed that 43 percent of lending was to the personal sector.

The assumption that the ratio is stable appears reasonably satisfactory. In 1956 lending to the three categories shown amounted to 36.9 percent of all lending. As a further check, in December 1963, when the first breakdown by institutional sector is available, total lending to the personal sector by all banks amounted to 38.3 percent of advances by the domestic banks.

3.11. *Consumer Credit*

No data exist for this before 1946. The data for 1946–56 are taken from *The British Economy: Key Statistics, 1900–70* (1971).

4. A TIME-SERIES OF PERSONAL SECTOR WEALTH

Table 6 shows our estimates of personal sector wealth for the period 1920–56. It compares the estimates excluding consumer durables with those calculated from estate-duty figures using a multiplier of 37 for the period 1920–29 and 35 for the period 1930–38.[13] Our estimates should be expected to exceed the estate-duty figures because the personal sector includes charities, trusts etc. which never die and therefore do not face estate duty. Our estimate is 19 percent above the estate duty estimate in the 1920s and 29 percent above the figure in the 1930s. In 1937 the excess is 40 percent.

The behaviour of the estate duty figures in the mid-1930s is surprising. The 1936 figure is not much higher than the 1928 figure. However our stock market index rose from 100 to 144.8 over the same period. The price index of loan stocks and debentures rose from 100 to 126.2 and the price of 2.5 percent Consols rose by over 50 percent. Since there is no reason to believe that these variable price securities were mainly in the hands of investing institutions, there is the obvious implication that, if the estate duty figures are accurate for 1928, they must be too low for 1936.

After the Second World War it is not possible to produce a meaningful comparison with the estate duty figures. The value of estates on which tax was paid rose from £533m in 1938/9 to £656.6m in 1946/7, an increase of only 23.2 percent in nominal terms. Given the magnitude of the increase in the national debt during the war, it seems inconceivable that the personal wealth should have increased by no more than this. However, it has not been possible to find post-war estimates of the estate multiplier in order to come up with a plausible independent estimate.

The table includes a number of memoranda items. Personal disposable income is shown and the ratio of wealth including and excluding consumer durables is identified. We also include estimates of current saving and this makes

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[12]For example, in the estates on which probate was granted in the year to March 31, 1938 £29.1m was invested in dominion and foreign government and municipal securities, while only £15.9m was invested in company securities. All of the former and some of the latter would have been fixed-interest securities rather than equities.

[13]Mr B. Pease reported in *The Economist Banking Supplement*, p.6 on May 14, 1927.

it possible to produce an estimate of aggregate capital gains by deducting current the net acquisition of financial assets. Since we do not have asset by asset estimates of these it is not practical to decompose these estimates of capital gains on an asset by asset basis.

TABLE 7

ESTIMATES OF PERSONAL WEALTH EXCLUDING
CONSUMER DURABLES COMPARED (£m)

(Excluding Furniture on Private Basis)

	Campion	Stamp	Table 6
1926–28	21,330		20,518
1928		23,045	21,381
1932–34	21,945		22,626
1935		27,350	25,786

Table 7 compares our inter-war estimates with those of Campion and Stamp. Stamp's figures for national wealth have been converted to an estimate of private wealth to make comparison possible. This was done by deducting his estimates for government and local property and private and movable property from the total shown gross of debt charges but net of his deduction of £500m for government stock owned by foreigners. Our figures are satisfactorily close to Campion's and Stamp's estimates.

5. RELIABILITY OF THE ESTIMATES

Table 6 evaluates the reliability of the data. Each aggregate is given an estimate of the percentage standard error associated with the data. Other authors have used letter codings to indicate a range of possible standard errors, but, while the standard errors are, like the data themselves, uncertain, there is not a great deal to be gained by departing from a point estimate, and indeed such a point estimate is needed if the resulting variances are to be aggregated to give an indication of the reliability of the overall data.

The standard errors are purely subjective. For items on which complete annual returns were compiled, the main sources of error are that some holdings may belong outside the personal sector, such as to emigrants or to the company sector. There is no reason to believe that such holdings are large, and holdings of various types of public debt (except local authority debt) and savings bank deposits are therefore given a standard error of 2 percent. Mortgages and consumer credit are also given standard errors of 2 percent. Holdings of equities and debentures are plainly more uncertain. Feinstein (1965) goes into considerable detail in assessing dividends paid, but there is a strong element of uncertainty surrounding the yield figures used to gross up the dividend payments. It seems reasonable to attribute a standard error of 7 percent to these data.

A standard error of 7 percent is also given to the value of local authority debt at market value, since we were unable to find any information about how the prices of local authority debt related to that of national debt. Bank deposits and overdrafts and insurance company mortgages and other loans are given standard errors of 10 percent and the values of dwellings and each type of farming

capital are treated in the same way as is the value of consumer durables. The estimates of the value of non-farm business capital and the holdings of foreign assets of the personal sector and foreign holdings of U.K. debt are assumed to have standard errors of 20 percent. Holdings of notes and coin are also given this standard error. Despite these errors, the aggregate standard error of net personal wealth is shown to be relatively small, at around 3–4 percent. The variations arise from year to year as the importance of different types of wealth changes.

6. CONCLUSIONS: PERSONAL WEALTH, 1920–95

Finally we assess the movement of personal wealth over the period since 1920, combining our series with the figures produced by Roe (1971) for 1957–65 and the official series produced since 1966.[14]

Figure 5 shows how the ratio of net personal wealth excluding consumers' durable goods to income has changed since 1920. The personal sector savings ratio is also plotted.
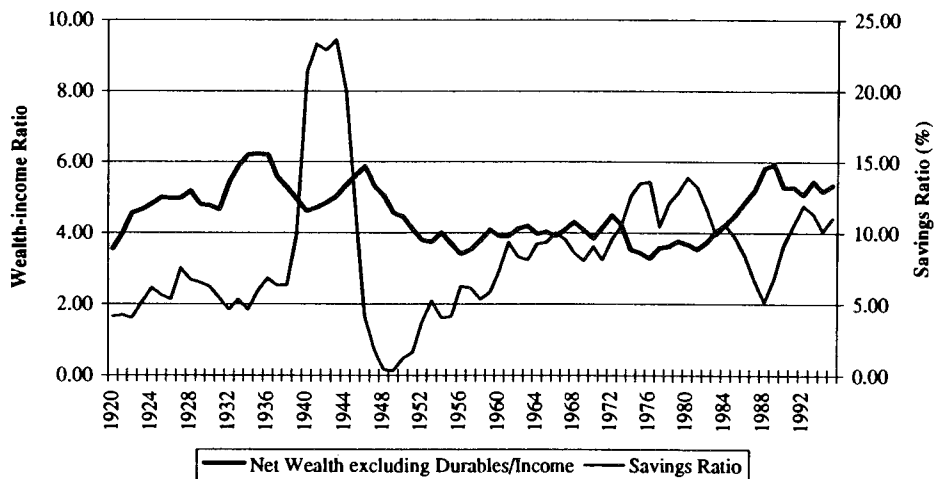

Figure 5. Personal Saving and Wealth, 1920–95

The composition of wealth has changed markedly. Figure 6 shows portfolio composition by broad category. Consumer durables are excluded since official estimates are not available beyond 1987. Housing has expanded from 20 percent of net wealth in 1920 to over 40 percent by 1995. As a counterpart of this, the mortgage debt has increased from an insignificant level in 1920 to around 15 percent of net wealth by 1995. The rise in the importance of housing has been offset by a fall in the importance of privately held national debt (including national savings). This has declined from over 30 percent to only 8 percent in the same period. The incorporation of the economy has meant that, while the total value of unincorporated and incorporated businesses was stable at 36 percent of net

[14] As we discussed in section 3.9 the estate duty estimate of consumer durable holdings is likely to be severely affected by evasion.
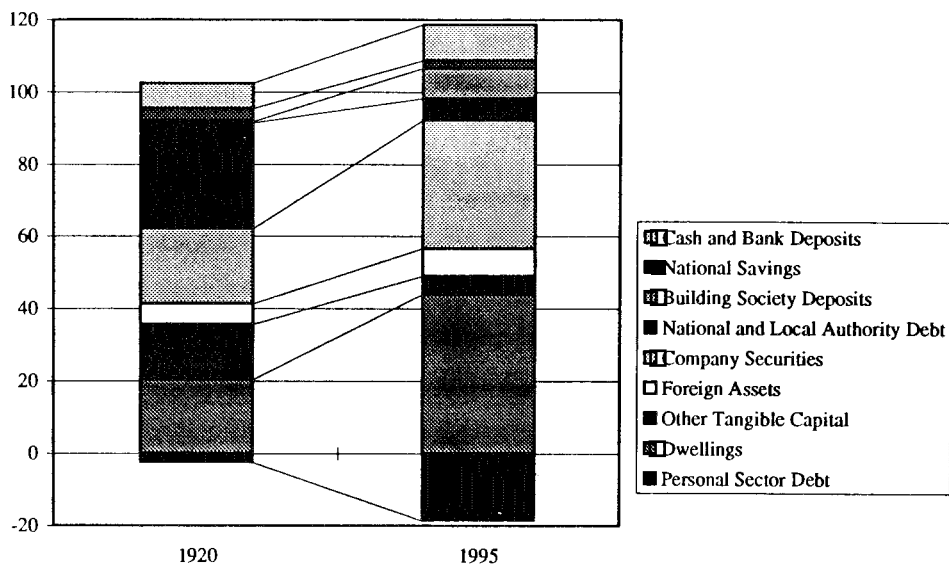
Figure 6. Asset Holdings as a Percentage of Net Wealth, 1920 and 1995

wealth in 1920 and 40 percent in 1995, the importance of unincorporated capital has fallen from 15 percent to 5 percent of net wealth over the period. Probably the main explanation of this is much reduced importance of farming.[15]

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[15]In these calculations holdings of life assurance and pension funds are consolidated into the personal sector in order to make the 1995 figures comparable with the 1920 figures.

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