COLLECTING AND USING SURVEY INFORMATION ON HOUSEHOLD ASSETS: SOME LESSONS FROM IRISH EXPERIENCE

Brian Nolan

July 1997

Working Paper No. 86

Paper for Conference on Wealth, Inheritance and Intergenerational Transfers
University of Essex, 22-23 June 1997

Working Papers are not for publication and should not be quoted without prior permission from the author(s).

Collecting and Using Survey Information on Household Assets: Some Lessons from Irish Experience

1. Introduction

Collecting data on assets in household surveys is notoriously difficult. This means that researchers often rely where they can on other sources of data, such as estate duty or wealth tax records, when seeking to measure the degree of concentration of wealth or trends in wealth distribution over time. Estate duty records provide the basis for long-term time-series wealth concentration estimates for the USA (Smith 1987, Wolff and Marley 1989) and the UK (Atkinson and Harrison 1978, Shorrocks 1987) and wealth tax records have been used for Sweden for the same purpose (Spant 1987). In the case of Ireland, Lyons (1972, 1975) used estate duty records to measure the concentration of wealth in the 1960s, and Sandford and Morrissey (1985) explored the very limited data published from the short-lived Wealth tax which operated in the early 1970s.

Aside altogether from the problems associated with wealth data from tax records, (discussed at length in the studies just mentioned), generally very little is known about the characteristics of the individuals to whom they refer, and even less about the families or households in which they live. Since it is very often the interrelationships between wealth and a variety of those characteristics which we wish to analyse, this is a major limitation. With household surveys, on the other hand, the value of data on assets is greatly enhanced by the wide range of other information on individuals and households which can be gathered. Some studies have sought to combine the strengths of the two sources by merging and matching tax data onto household surveys in various forms (Wolff 1983, Greenwood 1983), though this too poses particular problems. Here then the focus is on what one can hope to achieve by gathering wealth data in household surveys, discussed in the context of our efforts to do so in Ireland.

The difficulties faced when trying to gather information on assets in a household survey are well-known. The information provided by respondents may often be partial and inaccurate, and the upper tail of the wealth distribution, holding much of aggregate wealth, may be significantly underrepresented. It may in some circumstances

be possible to use stratified samples based on independent information (usually from tax records) to oversample the rich, as in the 1983 and 1989 US Survey of Consumer Finances (Avery, Elliehausen and Kennickel, 1988, Wolff, 1994). Much can be learned from such enhanced samples, although even then response error and non-response rates appear to be particularly high among the wealthy. More often however one has to rely on a random sample, and work within the constraints of a general household survey where wealth is only one of a considerable range of topics to be covered. This has certainly been the case in Ireland, where a serious effort to gather data on assets and debts was made in the general household survey carried out by the Economic and Social Research Institute (ESRI) in 1987. The aim of this paper is to draw some general lessons from that experience.

Section 2 describes the 1987 Irish household survey and the questions on wealth it included, and discusses response and coverage. Section 3 looks at the results, in terms asset holding patterns. Section 4 illustrates how valuable the wealth data has been, despite its undoubted limitations, in a variety of different contexts. Section 5 has some cautionary tales about data on inheritance from the 1987 survey as well as information produced by a more limited set of wealth questions in a survey carried out in 1994. Section 6 summarises the main points.

2. Assets Information in the 1987 ESRI Survey

In 1987 the ESRI carried out the Survey of Income Distribution, Poverty and Usage of State Services. The sampling frame was the Register of Electors and the survey was designed to provide a national sample from the population resident in private households. Responses were obtained from 3,294 households, with a response rate of 64% of valid addresses contacted. The sample has been reweighted to correct for non-response and the individual nature of the sampling frame, on the basis of a cross-tabulation of number of adults in the household, urban/rural location, age and socio-economic group of household head using external information from the much larger Labour Force Survey. The overall representativeness of this sample has been validated by comparison with a variety of external information (from the Census of Population, Labour Force Survey, income tax and social security administrative statistics), and it has been used extensively in research on

poverty and tax and social welfare policy in Ireland. (A full description of the survey is in Callan, Nolan *et al.*, 1989, and an overview of that research is in Nolan and Callan 1994).

The survey covered a wide range of topics on respondents and their households, including age, sex, marital status, education, labour force participation and career, income from different sources, attitudes, style of living indicators, social support and psychological distress, and nature of the accommodation and tenure type. It also sought information on the following types of property, assets and savings:

- (i) The value of the house in which the household lived, their tenure status, and details of mortgage if any;
- (ii) For the self-employed, the value of the business;
- (iii) For farmers, the value of the farm;
- (iv) The value of any houses, land or other property, apart from the house/land occupied by the household or included in the farm, together with details of any mortgage outstanding on that property;
- (v) Financial assets: a detailed set of questions sought separate information on each of the following:

the level of balances in bank deposit accounts or credit unions;

the level of balances in building society accounts;

the level of balances in Post Office Savings Bank or Trustee Savings Bank accounts

the level of savings in (State-backed) Savings Certificates or Index-Linked Savings Bonds;

the level of savings in National Instalment Savings;

the value of Prize Bonds owned;

the value of government stocks owned;

the value of shares or securities owned;

the level of savings held in deposit or investment bonds, guaranteed income bonds, growth bonds or other unit linked funds.

The market value of the house was estimated both by a household member and by the interviewer. All the other assets questions were on a personal questionnaire asked of each adult in the household, with the financial assets covered in a separate section at the end of the questionnaire (reproduced as Annex 1 to this paper). In asking

about deposit accounts, joint accounts with other household members were distinguished. respondents were asked their own estimate of the current value of stocks, shares and investments in various types of bonds; where they could not put a value on the latter, details of amounts invested and timing of those investments were sought. While this data provides an opportunity to look at asset-holdings at individual level, here we concentrate on household-level aggregates.

Where some but incomplete information was provided by respondents, imputations of asset values were made where possible. For example, some self-employed did not give a value for their business but did annual profit and/or turnover, and the approximate value of the business could be estimated assuming a profit/value relationship similar to that observed for full-responding cases. Similarly a small number of farmers did not give a value for their farm, but this could be estimated on the basis of acreage, activity, output etc. Out of 3,294 households responding to the survey, 102 or 3% refused to respond to the entire section on financial assets (though most of these did provide house value and, where relevant, value of farm or business). A further 103 or 3% did not or could not respond to at least one of the questions on financial assets, although responding to some. Table 1 shows the position of these refusing or non-responding households in the household income distribution.

This shows that those refusing the entire section are disproportionately drawn from the upper income deciles, with about 34% in the top two deciles and 61% in the top half of the distribution, though they are by no means simply concentrated at the top. Those failing to respond fully to the financial assets questions are more evenly distributed throughout the income distribution, with 26% in the top two deciles and 51% in the top half, though 17% are in the second decile from the bottom which has a high proportion of elderly people.

¹ Where one spouse provided information on financial assets and the other did not, a judgement was made on a household-by-household basis as to whether the information provided could reasonably be taken to represent the position of the household.

Table 1: Position in the Income Distribution of Households Refusing of Failing to Respond to Questions on Financial Assets

Refused entire financial assets section % 5.7 10.9	Refused/Didn't know on one or more questions % 3.2
5.7	
•	3.2
10.0	
10.7	16.6
5.2	8.4
6.0	9.5
10.9	11.7
4.3	8.7
11.6	5.4
11.7	10.2
20.2	10.7
13.5	15.6
100.0	100.0
102	103
	5.2 6.0 10.9 4.3 11.6 11.7 20.2 13.5

Source: Nolan (1991) Table 2.3, p. 15.

Assessing the reliability and representativeness of the survey responses on property and savings/financial assets is difficult because of the paucity of external information against which it can be validated. Beginning with the data on house values provided by respondents, the percentage of house-owners in the survey is similar to that in other surveys and in the Census of Population - with almost 80% of households owner-occupiers. Comparing respondent's valuations with those made by interviewers the two are generally quite close: respondents on average gave estimates which were about 6% higher, but much of this difference was at very high values where respondents should be better informed than interviewers. For farm land, the distribution of farms by size in the sample can be compared with external information from a national farm survey and is very close. The very largest farms are however underrepresented in the survey, with only 0.5% of sample farms being over 100 hectares compared with 1.5% in the national statistics. No external information exists against which the value of non-farm businesses can be assessed.

Table 2: Distribution of Farms by Size, ESRI 1987 Sample and National

size (hectares)	(hectares) 1987 ESRI sample %	
< 10	20.1	% 18.4
10 < 20	26.0	28.0
20 > 30	18.0	16.3
30 < 50	14.5	13.6
50 < 100	6.7	6.9
> 100	0.5	1.4
hill farms	14.1	15.3
All	100.0	100.0

Source: Nolan (1991) Table 2.1, p. 9.

Turning to financial assets, external information on total household holdings is available only for bank deposits. Central Bank statistics show that 40% of bank deposits are held by the personal sector, most of which will be households. It is believed that a higher proportion of deposits in building societies and the Post Office and Trustee Savings banks are personal rather than corporate sector. On the basis of published data on aggregate deposits, taking 40% of bank deposits and making assumptions about the proportion of other deposits attributable to households, a figure of about IR£5,000 million appears to represent a reasonable estimate of total personal deposits at the time of the survey. Grossing up the sample responses to the implied totals for all households produces a figure of IR£ 2060 million, about 41% of the external total as shown in Table 3. There may be some imprecision in the definition of

Table 3: Comparison of Grossed-up 1987 ESRI Sample Survey Aggregates for Holdings of Financial Assets with External Totals

Financial asset type	Grossed-up sample total	External total	sample as % of external
	£m	£m	%
Bank, building society, Post Office	2060	5000°	41
and Trustee Savings Bank deposits			
Savings Certificates and Index-	200	901	22
linked Savings Bonds			
National Instalment Savings	38	108	35
Prize bonds	25	78	32
Government securities	94	340°	28
total	2417	6427°	38

note: shares and investment bonds etc. not included

Source: Nolan (1991) Table 2.2, p. 11.

personal versus business accounts, but even taking such factors into account the sample appears to cover less than half of all household savings in the form of bank/building society deposits.

External totals are published for amounts in Government savings schemes, namely Savings Certificates, Index-linked Savings Bonds, National Instalment Savings and Prize Bonds, most of which are likely to be held by the personal sector. As Table 3 shows, grossed-up sample totals represent a smaller fraction of these savings than they did of bank deposits. The only other asset type which can be validated in this way is government securities. Published data shows the breakdown of total domestic holdings of gilts by sector, and as Table 3 shows the grossed-up sample figure for the value of gilts held by households is about 28% of total personal sector holdings. No such published data is available on the value of personal sector holdings of stocks and shares, or of investments by the personal sector in unit linked funds and similar savings media. Some downward bias in sample respondents' valuations could be expected due to failure to take accrued interest or increases in values over time into account. However, the fact that the data has been obtained through a general household survey is clearly the primary reason for the low coverage, and it is not particularly surprising in the light of experience elsewhere.

Without attempting an in-depth survey, some comparative figures from experience internationally help to illustrate the point. Avery, Elliehausen and Kennickel (1988) document that in the 1983 US Survey of Consumer Finances, when carried out as a standard general household survey, grossed-up sample totals for deposits in savings accounts came to 44% of independent totals, stocks ad shares to 47%, and Government Savings Bonds and other Government bonds to 31% of independent totals. Similar findings were produced by surveys of asset-holdings in the US and UK during the 1950s (see Ferber 1965, Hill, Klein and Shaw 1955, Lydall and Tipping 1969, Atkinson and Harrison 1978). For example, the 1953 Oxford Savings Survey produced grossed-up estimates of bank and Post Office deposits which came to 52% of external totals, building society deposits came to only 24%, and National Savings Certificates came to 50% of external totals.

This under-representation comes about first because of the concentration of wealth, particularly certain forms of wealth, in the hands of a very small number right

at the top of the distribution. A general sample survey will have difficulty adequately representing any small group. Secondly, non-response appears to be relatively high among the self-employed, the retired and the wealthy, compounding the problem of adequately capturing the upper wealth groups. There is also considerable evidence of under-statement and mis-statement of wealth holdings by those who do respond. This may arise from a deliberate desire to withhold information, or from genuine difficulties which arise in remembering accurately and making an accurate valuation. Ferber (1965) compared survey responses with external information on the households surveyed, and found that failure to report holdings entirely was a much more significant problem than understatement or errors by those who do report holdings of particular asset types.

The study by Avery et al (1988) was able to shed valuable light on the factors leading to under-representation of wealth holdings in household surveys by oversampling in the 1983 Survey of Consumer Finances those at the very top of the distribution, on the basis of data from income tax files. The resulting sample was then reweighted so that those high-income households were attributed their appropriate weight in the population as a whole, and the wealth holdings of this enhanced sample compared with the standard survey without enhancement. The results showed that the enhanced sample captured a substantially greater proportion of external totals for those assets concentrated towards the top. Enhanced and standard samples gave very similar estimates of the total value of housing wealth which actually exceeded external totals, and the enhanced sample continued to under-represent deposits very substantially. However, the enhanced sample provided an estimate of total household holdings of stocks and shares which was 70% higher than the standard sample and quite close to the external total. Holdings of Government stock were 38% higher in the enhanced sample, and State and local government bond holdings were over twice as high as in the standard sample. A slightly higher proportion of the value of businesses of the selfemployed was captured in the enhanced sample, though here much of the problem appears to be the inherent difficulty in valuing such businesses and distinguishing personal from business assets. Avery et al conclude that their survey with enhancement at the top of the distribution generates adequately representative totals and distributions of household wealth, but that without such enhancement the survey

would seriously underestimate total wealth and give a misleading picture of its distribution, significantly underestimating its concentration at the top.

This evidence needs to be kept to the forefront in using and interpreting wealth data from a general survey such as the 1987 ESRI one, which did not have any oversampling at the top. Information on some types of asset data will be more reliable and these assets will be more adequately represented in the survey than others, with housing and land a good deal more reliable than financial assets, and with the substantial proportion of aggregate wealth held by those at the very top very seriously underestimated. With this in mind we now discuss briefly the asset-holding patterns show by the 1987 survey. The aggregate wealth concept employed is gross assets minus principal residence debt (as in Nolan 1991). Some additional data not described here was also obtained on non-mortgage debt, life assurance-related assets and occupational pension entitlements, which has allowed alternative wealth concepts to be analysed elsewhere (Honohan and Nolan 1992).

3. Asset Holdings in the 1987 ESRI Survey

Table 4 shows first the composition of the wealth holdings reported by households in the 1987 survey, and the percentage of households reporting holdings of each asset type. The value of housing wealth is calculated net of outstanding mortgage, with that debt estimated on the basis of details provided about the amount originally borrowed, repayments and term. With almost 80% of Irish households purchasing rather than renting, the value of investment in their principal residence comprises 55% of total wealth reported in the survey. Farm land is held by 15% and constitutes 26% of total reported wealth. About 5% of households had a self-employed member with a business, and the reported value of these businesses comprised 7% of total reported wealth. Other property, such as housing other than the principal residence and land other than that being farmed by the household, was reported by 5% of households and comprised 4% of the total in value.

Financial assets in total came to 8% of total reported wealth. Just over half of all households reported having bank or other deposits, and 43% reported some form of state-backed savings scheme but with the average amount held being much lower than the average deposit. Less than 2% of all households reported holding gilts, 4%

reported holding equities, and 2% reported having investment bonds etc. Despite having relatively high mean value for holders compared with deposits, stocks, shares and investment bonds etc. accounted for only 2% of total reported wealth in the survey. Overall, just under 90% of sample households reported some form of asset holding.

Table 4: Composition of Reported Wealth and Percentage of Households Reporting Holdings, by Asset Type, 1987 ESRI Sample

Asset type	% of households reporting holding	mean value for those reporting IR£	% of total reported wealth
Property			***
Principal residence	78.5	26,221	55.0
Business	5.2	50,520	7.0
Farm land	15.2	63,154	25.7
Other property	5.5	28,074	4.1
Financial Assets	53.2	3,838	
deposits	42.7	605	5.4
government savings	1.7	5,035	0.7
gilts	4.2	8,301	0.2
equities	2.0	15,654	0.9
investment bonds, etc.	5.0	930	0.8
Total	88.5	42,310	100.0

Source: Nolan (1991) Tables 3.1 and 3.2, p. 21-22.

Table 5 shows the way in which wealth holdings differed across the income distribution, categorising households by disposable income decile (without any adjustment for household size etc. via equivalence scales). The absence of an upward trend in the share of total wealth held as one moves up the income distribution, at least until the third decile from the top, is striking. The lowest share of total wealth, 5%, is held by the third decile from the bottom, with the bottom two deciles having as great a share as the fourth and fifth deciles. The top decile does however hold 22% of total wealth.

The table also shows the composition of the wealth held by the different deciles. Housing (i.e. principal residence) is the most important form of wealth holding for all the deciles, and accounts for over half the total wealth of the decile for all

except the top. Farm land is the next most important form of wealth holding throughout the distribution, but accounts for a larger share of the wealth of the bottom decile than any other. Taken together, owner-occupied housing and farm land account for 93% of the wealth held by the bottom decile and 80% or more of that held by each of deciles 2-8. For the top two deciles these forms of wealth holding, though dominant, account for only 76% and 65% of total reported wealth.

Wealth held in the form of businesses is most important at the top, accounting for almost 20% of the wealth of the top decile. Savings in the form of bank and other deposits or government small savings media account for 5-8% of total wealth throughout most of the income distribution. Gilts, equities and investment-linked funds are more important in the top two deciles than elsewhere, but even there account for only 3.5-4.5% of total reported wealth.

Table 5: Distribution of Reported Wealth and Its Composition by Income Decile, 1987 ESRI Sample

income decile	mean wealth	% of total		compositi	cile's wealth:	%	
IR£			business	farm	deposits, govt. savings	gilts, equities	
Bottom	32,484	8.7	54.5	3.1	38.3	3.0	0.1
2	29,983	8.0	57.0	0.5	27.5	7.5	0.6
. 3	20,066	5.4	65.3	1.2	23.3	4.9	0.9
4	25,575	6.8	58.2	0.9	32.7	5.8	0.2
5	31,699	8.5	53.1	6.4	31.2	5.4	1.9
6	35,371	9.4	57.4	3.8	23.1	5.7	2.0
7	32,922	8.8	66.4	4.4	20.3	5.6	0.8
8	39,983	10.7	60.1	3.3	25.5	6.6	1.7
9	46,155	12.3	58.5	5.9	17.9	8.4	4.6
top	81,713	21.8	41.0	19.6	23.8	6.7	3.4
all	37,441	100.0	55.0	7.0	25.7	6.1	1.9

Source: Nolan (1991) Tables 3.3 and 3.4, p. 24 and 25.

The weakness of the income/wealth relationship may be surprising. Income here is being measured over the past week or month, except for income from self-employment and investments where the average over a year is taken. Wealth holdings will be influenced by many other factors over a long period, and the implications of the observed income/wealth relationship for current living standards are among the issues

discussed in the next section. First, though, it is useful to look at the pattern of wealth holding by age and social class, and at the overall concentration of reported wealth.

Table 6 shows mean wealth rising sharply with the age of the household head, peaking in the 45-64 age groups, and then declining sharply. As a result, households with a head aged between 45 and 74 have 60% of reported wealth though they account for half of all households. In terms of composition by asset type, housing makes up about 55% of wealth for all age groups except 75 and over, where it accounts for more than two-thirds of reported wealth. Farm land is least important for that elderly group, wealth in the form of businesses is most important for the 25-54 age range, and financial assets are most important for the older age ranges.

Table 6: Distribution of Reported Wealth and Its Composition by Age Group, 1987 ESRI Sample

age category	mean wealth	% of total wealth	C	composition	of age gr	oup's wealth	: %
	IR£ (% of sample in	(% of sample in brackets)	home	business	farm	deposits, govt. savings	gilts, equities
under 25	12,024	0.6 (2.0)	55.6	eriteria. Terregi	25.7	7.8	
25-34	23,333	13.9 (22.3)	52.2	10.3	23.7	5.7	1.0
35-44	39,790	19.7 (18.5)	52.7	8.8	27.9	4.7	2.4
45-54	47,314	21.1 (16.7)	55.4	8.4	25.2	4.3	1.1
55-64	46,687	22.2 (17.8)	54.7	6.6	27.2	7.1	2.0
65-74	42,053	17.2 (15.3)	55.7	3.0	25.0	8.6	3.7
75 or over	26,651	5.2 (7.3)	67.8	1.3	20.0	8.0	1.3
all	37,441	100.0	55.0	7.0	25.7	6.1	1.9

Source: Nolan (1991), Tables 3.5 and 3.6, p. 28.

As far as the relationship between wealth and social class is concerned, Table 7 shows the pattern with the six-category social class schema adopted by the Irish

Central Statistics Office.² Mean wealth rises steadily as one proceeds up the class hierarchy, with the highest class having about five times the mean wealth of the lowest one. The semi-skilled and unskilled manual classes do have significant reported wealth, but the top two classes, with 22% of sample households, hold 40% of the reported wealth. The table also shows substantial differences in the composition of wealth holdings across classes. Wealth in the form of housing forms 84% of the wealth of the unskilled manual class and 62-67% for the semi-skilled and skilled manual classes, but only about 46% for the top three classes. Businesses make up a much higher proportion of the wealth of the highest class than any others, and gilts and equities are also most important for that class. Farm land is most important for the lower professional and intermediate non-manual classes. (This reflects the way farmers are classified by social class on the basis of farm size, with only farmers owning over 200 acres placed in the highest class).

Table 7: Distribution of Reported Wealth and Its Composition by Social Class, 1987

social class	mean wealth	% of total wealth	COI	nposition o	f social	class's weal	ealth: %	
:	IR£ (% of sample in brackets)	home	business	farm	deposits, govt. savings	gilts, equities		
unskilled manual	75,347	6.8 (9.9)	84.3	1.4	5.6	4.4	0.7	
semi-skilled manual	60,928	12.5 (12.0)	66.8	6.8	18.4	5.7	0.9	
skilled manual	48,308	18.7 (17.7)	62.3	7.0	21.8	5.7	0.4	
intermediate non-manual	29,582	22.7 (23.8)	47.3	1.8	40.2	5.6	1.3	
lower professional	22,980	19.5 (20.5)	44.9	4.8	38.2	6.5	2.2	
higher professional	15,949	19.8 (16.1)	48.0	18.4	14.3	6.5	5.6	
all	37,441	100.0	55.0	7.0	25.7	6.1	1.9	

Source: Nolan (1991) Tables 3.8 and 3.9, p. 30-31.

² Very similar results are seen with the class schema developed by Erikson and Goldthorpe and widely used in cross-country comparative class analysis.

We will not attempt to summarise here the results of detailed analysis of the inter-relationships between wealth and income, age and class, and of the patterns by asset type (see Nolan, 1991). It is of interest though to look at the overall distribution of wealth in the sample. When households are ranked by level of reported wealth, Table 8 shows that the bottom 70% of households hold 28% of total wealth, the next 20% hold 12%, and the top decile by wealth holds 42% of all reported wealth. Looking within the top decile to the top 1% of wealth-holders, these have 10% of total wealth. The composition of wealth varies very substantially with level of wealth itself, as the table also shows. For the bottom 70% of households their house accounts for 87% of total wealth. For the top decile, by contrast, only 27% of wealth is in the form of owner-occupied housing, with farm land significantly more important at 45%. For the top 1% of wealth holders, the net value of their house accounts for only 16% of total wealth, farm land still makes up 46%, but businesses now account for 23%. Even for these top wealth holders in the sample, reported financial assets only make up about 9% of total wealth.

Table 8: Distribution of Reported Wealth and Its Composition by Wealth Quantile, 1987 ESRI Sample

wealth decile	% of total					
	wealth home	business	farm	deposits, govt. savings	gilts, equities	
bottom 7 deciles	28.5	86.7	1.1	3.9	6.2	0.5
deciles 8 and 9	11.9	64.5	4.2	18.7	7.4	1.3
top 10%	42.3	27.0	12.9	45.2	5.3	3.5
top 1%	10.4	15.5	23.0	45.9	2.9	5.6

Source: Nolan (1991) Tables 9.1 and 9.2, p. 69-70.

In terms of the degree of concentration of different asset types, this means that the top 1% of wealth holders hold 19% of all sample wealth in the form of farm land, 33% of business assets, and 29% of gilts, equities and investment bonds etc., though only 5% of total reported deposits and 3% of wealth in the form of housing.

It is clear both from experience elsewhere and the validation of the 1987 survey against external aggregates (where possible) that the distribution of wealth in the survey cannot be relied on, but it could perhaps serve as a point of departure in assessing the likely degree of concentration of wealth. One can for example make extreme assumptions about the missing wealth, on the basis of the limited information available. Suppose for example that the survey was reasonably accurate in measuring wealth held in the form of housing and farm land and their distribution, and that it missed one-third of the value of businesses, half of total deposits, and two-thirds of government-backed savings schemes, gilts, equities and investment bonds. If all this missing wealth was held by the top 10%, then the share of that group in total wealth would rise from 42% to about 50%. If it was all (less realistically) attributed to the top 1%, the share of that group would rise from 10% to about 20%. If on the other hand one assumes that the "extra" wealth of each asset type is no more concentrated than the observed wealth of that type in the sample, then the share of the top 10% still rises to about 18%, because this group already hold a high proportion of the asset types which are most heavily under-represented. The share of the top 1%, on the other hand, now rises to only 14%. Although the share of the top 10% is not very sensitive to the assumption about where the "missed" wealth is attributed, it does vary with the scale of that "missed" total, which is based on extremely patchy evidence. It would also be sensitive to the possibility that some wealth in the form of housing and farm land right at the top has been missed.

This highly speculative exercise leaves the share of the top 10% in Ireland at about 50%, and the share of the top 1% in the range 15-over 20%. It is extremely difficult to make meaningful comparisons with results for other countries, because of differences in concepts, coverage, etc., but some household-based estimates may serve some purpose in providing a broad background. Avery et al's estimates for the distribution of gross assets minus principal residence debt -closest to the wealth concept measured in the Irish survey - among US households in 1983 show the top 10% with 65% of total wealth and the top 1% with about 30%. Kessler and Masson (1987) show the top 1% of French households in 1977 holding 13-19% of net worth. They also quote figures for the share of the top 1% of households in the early 1970s as 32% for the UK, 28% for Belgium and Germany, 25% in Denmark, 20% in Canada and 16% in Sweden. Wolff (1991) quotes other estimates for the same period as 24%

for the UK, 29% for the USA, and 21% for Sweden, and notes that the share of the top 1% appeared to stabilise or rise in those countries from then to the early 1980s, with rising stock markets a contributory factor. Apart from anything else, differences in timing can therefore be important.

While the illustrative figures on wealth distribution do not look wildly implausible, then, the survey evidence clearly does not provide a firm basis in itself for assessing Ireland's degree of concentration in comparative terms. Although a topic of great interest, that is of course not the only purpose for which wealth data can be employed, and it was not the objective we had in mind in seeking to measure household wealth holdings in the ESRI survey. In the next section we describe some of the areas of research where the survey information on wealth holdings, with all its limitations, has proved very valuable.

4: Using the Wealth Data

In this section we give three examples of uses to which the wealth data gathered in the 1987 ESRI survey has been put. The first is in studying portfolio choice, the second in looking at property tax options, and the third is in analysing household living standards and deprivation levels.

Modelling Portfolio Choice

The wealth data in the 1987 survey was used to analyse the structure of Irish household portfolios and how this varies with household characteristics in Honohan and Nolan (1993). Basing such analysis on a single cross-section has limitations, of course, in particular in being unable to incorporate the impact of changing asset prices, but the value of such exercises has been demonstrated in Uhler and Craggs (1971), Friend and Blume (1975) and Feldstein (1976) using US survey data, and Shorrocks (1982) using estate duty data. The household characteristics included as potential explanatory variables were total wealth, income, age, urban/rural location, sex, socioeconomic group and labour force status. The allocation between financial and non-financial wealth, the allocation within financial assets between deposits and "sophisticated" or risky assets, and within "sophisticated" assets between equities and other assets were all studied.

A Tobit equation explaining the share of financial assets in total wealth suggested that share declines as total wealth increases, and is positively related to income, urban location, and membership of the higher socio-economic groups. The apparent effect of income was however related to tax effects; when the marginal income tax rate was entered income itself became insignificant, with higher tax rates associated with a higher share of financial assets.

As far as the share of "sophisticated" assets in total financial assets was concerned, similar Tobit results suggested that share declines with wealth but rises as the size of the total financial assets holding increases. Older households tend to have relatively more "unsophisticated" deposits, controlling for other characteristics, as do the self-employed.

Total portfolio size was also found to influence the share of equities in sophisticated assets, with a larger portfolio of financial assets associated with a lower share of equities except for very large portfolios where the effect was reversed. Total wealth was found to have an independent effect, with wealthier households tending to have a lower equity-to-other-sophisticated-assets share, and the same was true of younger households and the professional and managerial group. The highest marginal tax rate was associated with a higher share of equities in financial assets.

Property Tax

The issue of how best to tax property has been a live one in Ireland in recent years. "Rates" raised by local authorities on domestic dwellings were abolished in 1977 (though commercial property remained liable). In 1983 a Residential Property Tax (RPT) was introduced, but throughout its life it has had what Callan (1991) calls a high controversy to revenue ratio. The RPT is levied as a percentage of (self-assessed) house value, applying only to the amount over a ceiling, and with in addition an income exemption limit. The tax has raised very little revenue - only £11 million at its peak in 1996- because not many people have houses valued in excess of the ceiling, a significant proportion of those are below the income limit, and even those with a liability pay only on the amount over the ceiling. Despite this, it has generated enormous resistance and the parameters have been altered on a number of occasions in response.

The data on house values gathered in the 1987 ESRI survey allowed Callan (1991) to carry out a microsimulation analysis of the operation of the RPT and options for a property tax raising serious revenue. Using respondent's own valuations, or interviewers valuations where respondents gave none, he looked first at the relationship between (gross) house values and current reported incomes. This showed for example that only 13% out of the top 20% of households in terms of house value were in the top two quintiles by gross household income. A range of options were then simulated, including

taxation of imputed income from owner-occupation (assumed to be 5% of the capital value per annum in real terms);

a tax on all residential property with no exemptions, allowances or waivers; such a tax with an income exemption limit and marginal relief for those just over it;

As illustrated in Table 9, the results showed that taxing imputed rent as part of income would raise substantial revenue, very little of which would come from the lowest income groups (about 7% of the revenue would come from the bottom three deciles by equivalent income). A straight tax on house property raising about the same revenue, on the other hand, would impact much more on the lowest income groups. (with about 20% of revenue coming from the bottom three deciles). Introducing a low income exemption limit at the same point as the one operating in the income tax code sharply reduces the proportion of revenue coming from the lower income groups, (only 4% comes from the bottom three deciles) but also cuts total revenue by one-third.

All these options raise substantial revenue, but the study goes on to demonstrate why having a house value allowance cum exemption limit with tax levied only on the excess, as in the RPT actually in operation, so greatly reduces the tax take. It also shows how revenue from a serious property tax could be used to reduce income tax rates - a reform regularly advocated by economists in Ireland as elsewhere - and where the gainers and losers from such a shift from taxing income to taxing property would be. In the illustration chosen, a reduction in the standard and top income tax rates of 5-6 percentage points could be financed, with the upper middle parts of the income distribution losing on average but the top decile gaining. This is a good

Table 9: Simulated Effects of Alternative Residential Property Taxes Using 1987 ESRI Survey

Decile	% of revenue coming from decile						
	imputed income in income tax base	simple property tax	property tax with income exemption limit				
		%					
bottom	0.8	6.2	0.2				
2	2.8	6.9	1.0				
3	3.5	6.5	1.7				
4	4.3	7.6	3.3				
5	6.9	8.4	7.3				
6	11.0	10.9	10.9				
7	11.7	11.5	14.5				
8 9 - Harris Harris	14.3	11.9	15.9				
9	19.4	14.0	20.4				
top	25.3	16.1	24.9				
()							
Total revenue IR£ million per annum	392	372	235				

Source: Calculated from Callan (1991) Tables 5.1, 5.2 and 5.3, p. 48, 50 and 52 respectively.

example of the added value of having information on asset values together with income and other household characteristics. the study itself was very valuable in clarifying the nature of the available options, but the direction taken by policy has been rather different: rather than a fully-fledged property tax being introduced, the existing RPT is being abolished.

Measuring and Understanding Deprivation and Poverty

One of the primary uses to which the data obtained in the 1987 ESRI survey has been put has been in measuring and understanding poverty. Poverty in industrialised countries is most commonly measured using income poverty lines. There are a number of well known problems with the use of income, including the inherent difficulties in measuring it accurately, but the fundamental issue is whether income tells us what we want to know when we set out to measure poverty. Poverty is now widely conceptualised in terms of exclusion from the life of society due to lack of resources, and being "excluded" in this context is generally taken to mean experiencing various forms of what that society regards as serious deprivation, material and social. It cannot be simply taken for granted that those falling below a specified income poverty line are experiencing such deprivation,

and in a programme of research based on the 1987 survey we have looked in some depth at the relationship between current income and non-monetary indicators of deprivation (see especially Callan, Nolan and Whelan 1993, Nolan and Whelan 1996b).

In the survey, respondents were given a list of 20 items or activities and asked which ones they believed were "Necessities, that is things which every household (or person) should be able to have and that nobody should have to do without". They were then asked which items they did not themselves have/avail of, and which of these they would like to have but had to do without because of lack of money. The responses are shown in Table 10. Together with 4 other items on which information was obtained in a different format, this was used to first construct a summary 24-item deprivation index, counting as deprivation only the situation where an item is lacked and this is said to be because it cannot be afforded. The mean scores on this index by equivalent income decile are shown in Table 11. The mean score does not vary much across the bottom three deciles, then falls steadily as one moves up the distribution. However, the table also shows that there is a good deal of variability within each decile, with some low-income households having very low scores and some high-income ones with high scores.

Table 10: Indicators of Actual Style of Living and Socially Defined Necessities

Item	% lacking	% enforced lack	% stating necessity
Refrigerator	5	3	92
Washing machine	20	10	82
Telephone	48	31	45
Car	38	22	59
Colour TV	20	11	37
A week's annual holiday away from home	68	49	50
A dry damp-free dwelling	10	9	99
Heating for the living rooms when it is cold	3	2	99
Central heating in the house	45	30	49
An indoor toilet in the dwelling	7	6	98
Bath or shower	9	7	98
A meal with meat, chicken or ish every second day	13		84
A warm, waterproof overcoat	13	8	93
wo pairs of strong shoes	16	11	88
To be able to save	57	55	88
A daily newspaper	45	16	39
A roast meat joint or equivalent nce a week	24	13	64
hobby or leisure activity	33	12	73
lew, not second-hand, clothes	10	8	77
resents for friends or family nce a year	24	13	60

Source: Nolan and Whelan (1996b), Table 4.1, p. 75.

Table 11: Scores on 24-Item Enforced Lack Index by Household Equivalent Income

Equivalent Income decile	Mean score on index	% with score of 10 or higher	% with score of 5 or less
bottom	5.8	34.8	30.7
2	6.3	36.0	31.0
3	5.5	29.8	27.5
4	4.5	20.6	42.9
5	3.6	15.9	52.7
6	3.6	11.9	65.4
7	2.5	4.8	75.3
8	2.2	7.6	72.5
9	1.6	3.2	87.3
top	0.9	1.7	92.3

Source: Nolan and Whelan (1996b), Table 4.7, p. 85.

The information available for the sample on a wide range of potentially relevant variables was used to explore the determinants of household life-style/deprivation patterns through regression analysis. The explanatory variables employed included equivalised current disposable household income, number of children, urban location, labour force status, marital status, education, social class and social class origin of household head, and a number of others, most importantly in the current context the level of savings in the form of deposits and the value of the house net of outstanding mortgage debt. Table 12 shows the results from ordinary least squares regression of household scores on the summary deprivation index on these explanatory variables.³

³ A total of 2,400 households are included, the remainder being excluded because of missing information on one or more of the variables.

Table 12: Determinants of Scores on 24-Item Enforced Lack Index

Indonesia	/4\	A	40.		
Independent variable	(1)	(2)	(3)	(4)	(5)
constant	12.53 (29.86)	10.80 (19.03)	10.88 (19.26)	7.92 (14.02)	6.96 (12.46)
equivalent income	-2.10 (21.60)	-1.59 (15.01)	-1.31 (12.62)	-0.69 (6.80)	-0.60 (6.07)
number of children		0.80 (9.44)	0.78 (9.63)	0.47 (6.18)	0.39 (5.23)
income*children		-0.53 (10.05)	-0.52 (10.22)	-0.25 (5.09)	-0.20 (4.10)
age		-0.02 (3.04)	-0.01 (2.78)	-0.01 (2.42)	-0.02 (2.84)
ill		1.11 (6.90)	1.08 (6.93)	0.55 (3.65)	0.51 (3.43)
deposits		^	-0.00008 (9.65)	-0.00005 (5.99)	0.00005 (5.50)
support from relatives etc.			-1.37 (9.04)	-1.17 (8.44)	-1.04 (7.65)
unemployed				1.84 (8.70)	1.39 (6.18)
sick				1.39 (4.61)	1.22 (4.16)
home duties				1.98 (8.63)	1.72 (7.52)
retired				0.57 (2.59)	0.48 (2.22)
farmer				0.88 (4.82)	0.68 (3.73)
spouse at work				-0.64 (4.23)	-0.56 (3.78)
upper working class				0.66 (5.23)	0.43 (3.41)
lower working class				1.74 (8.81)	1.27 (6.38)
house value				-0.00004 (13.12)	0.00004 (11.36)
no qualifications					0.59 (4.26)
lifficulties growing up					0.77 (6.18)
separated/ livorced/widowed					1.94 (5.84)
proportion of time memployed					3.38 (5.55)
adjusted R ²	0.163	0.218	0.274	0.409	0.438

Although current income is highly significant, it falls very far short of exhausting our ability to predict deprivation scores. The measures of wider resources add significantly to predictive power, as do variables related to permanent income and background. In particular in the current context, the level of deposits and the net value of the house are highly significant, even when one controls for current income and a variety of other factors. (See Nolan and Whelan 1996a,b for a full discussion of this analysis). When a wide range of explanatory variables are included with income, the surprise is how much rather than how little of the variance in deprivation scores can be explained. (See also Desai and Shah, 1988, Mayer and Jencks, 1988). It is therefore important that current income not be taken as the sole indicator of current living standards and/or command over resources in measuring poverty. Rather than discarding it entirely, it is possible to combine income and direct measures of deprivation to improve the way poverty is measured, as demonstrated in Callan, Nolan and Whelan (1993), Nolan and Whelan (1996b).

It is argued there that the overall 24-item index is not suitable for this purpose because it does not take into account the fact that different items may reflect different dimensions of deprivation. Having analysed their inter-relationships via factor analysis, three underlying dimensions of deprivation were identified:

- i) basic life-style deprivation consisting of basic items such as food and clothes;
- ii) secondary life-style deprivation consisting of items such as leisure activities;
- (iii) housing deprivation consisting of items related to housing quality and facilities.

Eight items are taken to be indicators of basic deprivation, and these were considered to be most appropriate as indicators of generalised underlying inability to participate due to lack of resources. The households both below relative income poverty lines and experiencing basic deprivation were then identified as the sub-set of the "income-poor" also experiencing generalised deprivation. This has proved extremely valuable in identifying the core set of households towards which priority should be given, and has been the measure adopted in the global poverty reduction target set out in Ireland's recently announced National Anti-Poverty Strategy (1997).

Without going into a detailed discussion of the value of this approach here, it is worth simply illustrating how the data on deposits and wealth in the form of owner-occupied housing again help in understanding the current position of households. Table 13 shows the mean deposits and mean net house value for households below a 60% relative income poverty line, by labour force status of head, distinguishing those experiencing

versus not experiencing basic deprivation. We see that those not experiencing basic deprivation have net housing value almost twice as high as those reporting deprivation, and deposits almost six times as high. Those on low income and experiencing deprivation are not a homogenous group, however: the lowest levels of resources are available to the households headed by an unemployed person or someone working full-time in the home.

Table 13: Households below 60 per cent income line experiencing/not experiencing basic deprivation by labour force status of head: deposits and house property

		Below 60 pe	er cent income line	
Labour force status	Experiencing basic deprivation	Not experiencing basic deprivation	Experiencing basic deprivation	Not experiencing basic deprivation
	mean c	leposits	mean ne	et house value
	IR£	IR£	IR£	IR£
Employee	204	1,342	9,398	14,655
Farmer	790	2,208	19,677	27,060
Self-employed	397	2,681	22,537	29,284
Unemployed	45	442	5,335	16,460
Sick/disabled	360	1,741	12,481	19,222
Retired	832	3,052	11,034	22,364
Home duties	27	1,200	14,719	18,047
All	260	1,720	10,974	20,990

Source: Nolan and Whelan (1996b), Table 6.12, p. 142.

In-depth analysis reveals that, controlling for a wide range of other factors, these wealth variables are significant in multinomial logit regression equations explaining whether a household is 1/ poor in terms of both income and deprivation, 2/ poor in terms of income only, 3/ poor in terms of basic deprivation only, 4/ non-poor by both income and deprivation (see Nolan and Whelan 1996b Chapter 6). The implications cannot be brought out fully here, nor is this the place for an in-depth discussion of the relationship between income and wealth. It is however worth concluding this section by looking at the incomes of the top wealth-holders in the 1987 sample. Table 14 shows the position in the household income distribution of the top 10% and the top 1% of wealth holders (using the aggregate wealth concept defined earlier). Those at the very bottom of the income distribution are often farmers or self-employed reporting losses, but the proportion of top wealth-holders in the remainder of the bottom half of the income distribution is not insignificant. Again, this

illustrates the value of having wealth, income and a range of other information about the same households.

Table 14: Top Wealth Holders by Income Decile, ESRI Survey 1987

Income Decile	Top 10% of wealth holde	ers Top 1% of wealth holders
• .	%	%
Bottom	7.4	11.9
2	7.3	3.3
3	2.7	3.2
4	7.7	1.6
5	8.4	7.9
6	9.3	
7	5.9	6.5
8	9.6	6.9
9	13.2	8.3
Тор	28.4	50.5
A11	100.0	100.0

5. Cautionary Tales

Having discussed in some detail the value of the wealth information obtained in the 1987 ESRI general household survey, despite all the caveats about wealth data obtained in that way, the paper concludes with two cautionary tales. The first relates to information on inheritance also obtained in the 1987 survey, and the second relates to efforts to obtain wealth data "on the cheap" in the most recent 1994 survey also carried out by the ESRI.

Inheritance

In the 1987 survey, along with the series of questions on financial assets respondents were also asked whether they had ever inherited or received a gift of a house or other property, or all or part of a business or farm; those who said they had were then asked when, and what the market value of the inheritance was at that time (see Annex 1, question 7.10). Nolan (1992) found that 15.5% of sample households contained an individual who said they had received such an inheritance, and analysed the characteristics of these individuals, such as age when interviewed and when the inheritance was received. However, a separate household questionnaire was also completed by one respondent for each household, and included a question to owner-occupiers as to whether they had the accommodation built specially, purchased it, or came to own it "without purchasing it (e.g.

inheritance or gift)". A further 10% of households, not containing an individual reporting receipt of a house, farm or business by gift or inheritance, were seen by the responses to this question to have come by their house without building it or purchasing it.

This could reflect deliberate mis-reporting or non-reporting of inheritances, or misunderstanding of the questions. It could be, for example, that in farm households (which do account for a substantial proportion of the 10%) the farm and house have been in the family for many years, perhaps effectively passed on from one generation to another prior to the death of the owner, and respondents may not necessarily consider this relevant when asked about gifts or inheritances. Whatever the explanation, the responses to the direct individual question about gifts and inheritances alone clearly do not provide a complete picture of the extent of such transfers. This is of interest in that some studies have relied on such direct questions about inheritance in surveys - for example Hamnet (1991) in analysing patterns of housing transfer in the UK. He found only 9% of households reporting receipt of an inheritance of over £1,000 and including house property, and does note that this was considerably lower than the percentage one would expect on the basis of Inland Revenue figures on estates assessed at death and containing residential property. At a minimum, a question focusing specifically on how the current dwelling came to be owned may be needed to complement one directed at inheritance.

The experience with the 1987 ESRI survey suggests that may not be sufficient, however, since there were also some curious features of the inheritance pattern shown by combining both direct responses and houses apparently obtained via gift or inheritance. For example, households in the lowest two social classes had the highest probability of having received a house through gifts or inheritance, although rates of owner-occupation are lowest for those classes. It is possible that house property in the higher social classes may more often be sold at time of death and the proceeds passed on as inheritance, and thus be missed by questions about a house per se, but this would need to be confirmed before one could place much weight on the pattern of house inheritance shown.

Wealth Data in the ESRI's 1994 Survey

The second cautionary tale relates to the efforts made in a more recent household survey carried out by the ESRI in 1994 to obtain assets data but in a much more summary fashion than in the 1987 survey. The 1994 survey, the Living in Ireland survey, was the first wave of the Irish element of the European Community Household Panel introduced by

Eurostat. The ECHP itself (in that or subsequent waves) contains no questions about levels of financial assets, but additional questions on a range of topics were included in the Irish survey, including financial assets. These were necessarily much more restricted than in 1987, comprising simply one question about the total balance "in the bank, Post Office, the Savings Bank etc. or in the savings certificates, savings bonds or in prize bonds", and one about the amount "currently invested in stocks, shares, in investment bonds or in other linked funds?". Respondents were also asked whether these were jointly held with another household member.

The average reported holding of savings in the form of deposits etc. in the 1994 survey is similar to that in the 1987 survey. Since external aggregates indicate that the total savings held in these forms by the personal sector approximately doubled over the period, this represents a sharp fall in the coverage of these deposits between the 1987 and 1994 surveys. As far as stocks, shares and investment bonds etc. are concerned, the mean reported holding in the 1994 survey was up about 40%: there are no reliable external totals against which to compare this rate of growth, but it may well have been more rapid. The evidence on deposits etc. certainly suggests that the prospects of capturing those financial assets in a general household survey are even poorer when a single summary question rather than a detailed series of questions is employed: the more you ask, the more you get.

6. Conclusions

This paper has described the data on wealth obtained in a general household survey carried out by the ESRI in 1987, and the uses to which it has been put. The results show the familiar limitations of such surveys if the aim is to accurately measure the distribution of wealth and the extent to which it is concentrated at the very top. However, the data has proved very valuable in a number of different contexts, in particular as a complement to income in analysing and understanding household living standards. Some examples of problems which can arise with data on assets and inheritance obtained from simple summary questions in such a household survey were given. If useful information on wealth and wealth transfers is to be obtained in a general household survey, it takes more than a few extra questions. Given the fact that the European Community Household Panel is on-going, perhaps the most pressing issue is what can be achieved by questions included in successive waves, or in a once-off module, aimed at obtaining useful information on wealth and wealth transfers but without jeopardising response rates.

REFERENCES

ATKINSON, A.B. and A.J. HARRISON (1978). The Distribution of Personal Wealth in Britain, Cambridge: Cambridge University Press.

AVERY, R.B, G.E. ELLIEHAUSEN and A.B. KENNICKELL (1988). "Measuring Wealth with Survey Data: An Evaluation of the 1983 Survey of Consumer Finances", *Review of Income and Wealth*, 34, 339-69.

CALLAN, T. (1991). *Property Tax: Principles and Policy Options*, Policy Research Series Paper No. 12, Dublin: The Economic and Social Research Institute.

CALLAN, T. and B. NOLAN, (1991). "Concepts of Poverty and the Poverty Line: A Critical Survey of Approaches to Measuring Poverty", *Journal of Economic Surveys*, Vol. 5, No. 3, pp. 243-62.

CALLAN, T., B. NOLAN, and, C.T. WHELAN, (1993). "Resources, Deprivation and the Measurement of Poverty", *Journal of Social Policy*, 22 (2), 141-172.

CALLAN, T., B. NOLAN, B.J. WHELAN, D.H. HANNAN, and S. CREIGHTON (1989), *Poverty, Income and Welfare in Ireland*, General Research Series Paper 146, Dublin: The Economic and Social Research Institute.

DESAI, M., and, A. SHAH, (1988). "An Econometric Approach to the Measurement of Poverty", *Oxford Economic Papers*, 40, 505-522.

GREENWOOD, D. (1983). "An Estimation of US Family Wealth and its Distribution from Microdata, 1973", *Review of Income and Wealth*, Series 29, March, 23-43.

FELDSTEIN, M. (1976). "Personal Taxation and Portfolio Composition: An Econometric Analysis", *Econometrica*, 44 (4), 631-650.

FERBER, R. (1965). "The Reliability of Consumer Surveys of Financial Holdings: Time Deposits", *Journal of the American Statistical Association*, 60, 148-63.

FRIEND, I. And M. BLUME (1975). "The Demand for Risky Assets", American Economic Review, 65 (5), 900-922.

HILL, T.P., L.R. KLEIN and K.W. SHAW (1955). "The Savings Survey 1953: Response Rates and Reliability of Data", *Bulletin of the Oxford University Institute of Statistics*.

HONOHAN, P. and B. NOLAN (1994). The Financial Assets of Households in Ireland, General Research Series Paper 162, Dublin: The Economic and Social Research Institute.

KESSLER, D. and A. MASSON (1987). "Personal Wealth Distribution in France: Cross-Section Evidence and Extensions", in E. WOLFF ed. 1987, 141-76.

LYDALL, H. and D. TIPPING (1969). "The Distribution of Personal Wealth in Britain", Bulletin of the Oxford Institute of Economics and Statistics.

LYONS, P.M. (1972). "The Distribution of Personal Wealth in Ireland", in J.A. BRISTOW AND A.A. TAIT eds., *Ireland: Some Problems of a Developing Economy*, Dublin: Gill and Macmillan.

LYONS, P. (1975). "Estate Duty, Wealth Estimates and the Mortality Multiplier", *Economic and Social Review*, 6, 337-52.

MACK, J. and, S. LANSLEY, (1985). Poor Britain, London: Allen and Unwin.

MAYER, J. and C. JENCKS, (1988). "Poverty and the Distribution of Material Hardship", *Journal of Human Resources*, Vol. XXIV, No. 1, 88-113.

NOLAN, B. (1991). The Wealth of Irish Households, Dublin: Combat Poverty Agency.

NOLAN, B. (1992). The Pattern of Inheritance in Ireland: Household Survey Evidence, Working Paper 35, Dublin: The Economic and Social Research Institute.

NOLAN, B. and T. CALLAN eds. (1994). *Poverty and Policy in Ireland*, Dublin: Gill and Macmillan.

NOLAN, B. and C.T. WHELAN, (1996a). "The Relationship Between Income and Deprivation: A Dynamic Perspective", *Revue Economique*, 3, 15-39.

NOLAN, B. and C.T. WHELAN, (1996b). Resources, Deprivation and the Measurement of Poverty, Oxford: Clarendon Press.

SANDFORD, C. and O. MORISSEY (1985). The Irish Wealth Tax: A Case Study in Economics and Politics, General Research Series Paper 123, Dublin: The Economic and Social Research Institute.

SHORROCKS, A. (1982). "The Portfolio Composition of Asset Holdings in the United Kingdom", *Economic Journal*, 92, 268-84.

SHORROCKS, A. (1987). "U.K. Wealth Distribution: Current Evidence and Future Prospects", in E. WOLFF ed. 1987, 29-50.

SMITH, J., (1987). "Recent Trends in the Distribution of Wealth in the USA: Data, Research Problems and Prospects", in E. WOLFF ed. 1987, 72-89.

SPANT, (1987). "Wealth Distribution in Sweden: 1920-1983" in E. WOLFF ed. 1987, 51-71.

TOWNSEND, P. (1979). Poverty in the United Kingdom, Harmondsworth: Penguin.

UHLER, R.S. and J.A. CRAGG (1971). "The Structure of the Asset Portfolios of Households", *Review of Economic Studies*, 241-57.

WOLFF, E. (1983). "The Size Distribution of Household Disposable Wealth in the United States", *Review of Income and Wealth*, Series 29, 125-46.

WOLFF, E. (1987). International Comparisons of the Distribution of Household Wealth, New York: Oxford University Press.

WOLFF, E. (1991) "The Distribution of Household Wealth: Methodological Issues, Time Trends, and Cross-Sectional Comparisons", in L. OSBERG ed. *Economic Inequality and Poverty: International Perspectives*, New York: Sharpe.

WOLFF, E. (1994). "Trends in Household Wealth in the United States, 1962-83 and 1983-89", Review of Income and Wealth, Series 40, 143-74.

WOLFF, E. and MARLEY, (1989). "Long-Term Trends in US Wealth Inequality: Methodological Issues and Results", in R.E. LIPSEY and H. TICE, eds., *The Measurement of Saving, Investment and Wealth*, Studies in Income and Wealth, vol. 52, Chicago: Chicago University Press.

Annex 1: The Questionnaire

That part of the questionnaire dealing with savings and assets is reproduced in this Annex.

ASK ALI	7. SAVINGS AND ASSETS
is very includi prefer,	t few questions deal with various forms of savings. This information important for the accuracy of the survey. Everything you tell me, ng this information, is, of course, strictly confidential. If you you can complete this section of the questionnaire separately, and into an envelope which you can seal.
[INTV:	DID RESPONDENT CHOOSE TO COMPLETE SEPARATE "CONFIDENTIAL SECTION 7"?
Yes	. 1 Fill in Interviewer Number, Area Code, Household Code and Person Number on the "Confidential Section 7" and give it to respondent to fill out.
No	. 2 Ask Q.7.1.]
7.1	First, could you look at this card [show Card H] and say which category corresponds to the total interest and dividends paid or credited to you in the last 12 months from all bank, building society, post office, and other accounts, and any national savings, government loans, stocks and shares?
	[Category: a letter from A to N, or O]
7.2(a)	Now thinking just of building society accounts, could you say which category corresponds to the total balance in your building society accounts at present?
	[Category: A to N, or 0]
(Ъ)	Thinking now of Post Office Savings Bank or Trustee Savings Bank accounts, which category corresponds to your total balance in these accounts at present?
	[Category: A to N, or 0]
(c)	Now thinking of all other accounts, excluding cheque book accounts, but including all other accounts with banks, ACC, ICC, credit unions etc. which category corresponds to your total balance in these accounts at present?
	[Category: A to N, or O]
(d)	Looking again at the card, could you say which category corresponds to the usual total balance in all your accounts taken together, over the last 12 months?
	[Category: A to N, or O]
· (e)	Are all of these accounts your own personal accounts, or is any of them a joint account?
	All own accounts 1 Go to Q.7.3 One or more joint accounts 2
	Thinking just of your joint account(s), which category corresponds to the total balance in the joint accounts at present?



[Category: A to N, or O]

THE FINANCIAL ASSETS OF HOUSEHOLDS IN IRELAND

7.3					e last 12 months, any Savings Bonds?
		Yes		No 2	
		When did you p these savings cer savings bonds? (those cashed in	tificates/ including	How much did they cost at that time?	How much did you receive by cashing in some or all of these certs/bonds during the past 12 months?
		the last 12 m		£	£
•	Savings Certs			<u> </u>	
	Index-linked Savings Bonds				
7.4	Do you have a money in Nati				last 12 months, any No 2
(a)	How much have (i.e. how muc			ional Instalme	nt Savings at present
(ь)	How much did	you pay in o	ver the 1	last 12 months	? £
(c)	How much, if Instalment Sa	anything, divings Agreem	d you red ents in (ceive from cas the last 12 mo	hing in National
7.5	Do you have a			nds at present	? Yes 1 No 2
		<u>. </u>		 	
7.6(a)		d in governme	ent or ot	her official	
ſ	r rl	Yes		No 2	
	what is your	estimate or 1	tne value	e of the stock	s you hold at present?
	How much did	you receive b	by way of	dividends in	the last 12 months?
L				· · · · · · · · · · · · · · · · · · ·	
(b)	Do you, or di		last 12		ny shares or securities
	What is your hold at pres		the valu	No e of the shar	es and securities you
	How much did 12 months?		by way o	of interest or	dividends in the last
7.7					ducation, is there more included with your
r		Yes 1		No 2	
	IF YES Ho		ested in	their names	at present?
L		£			

ANNEX 1



(a)		Yes 1 No 2 Go to Q.7.
ν=,	Can you tell me worth at the mo approximate rep	approximately how much your investment is ment (encashment value)? [NOTE: Probe for ly]
	£	Go to (b) Don't Know DK
	When did you pu	rchase the bond(s)? How much did you inves
	Month	Year at that time?
		£
		£
(b)	Do you get a re	gular payment from this scheme?
	<u> </u>	Yes 1 No 2
	How much is thi	s regular payment?
	£	in last 12 months
	OR	% of the value of the investment
		· · · · · · · · · · · · · · · · · · ·
	any other houses	y houses or land included in your business/farm, do you own , land or other property?
	(b) (Ail others) Apa own any houses, Yes 1 do you estimate to Total value	, land or other property? art from the accommodation your household occupies, do you land or other property? No 2 Go to Q.7.10 is the present market value of the property.
	(b) (Ail others) Apa own any houses, Yes 1 do you estimate i Total value ou have a mortgage	A land or other property? art from the accommodation your household occupies, do you land or other property? No 2 Go to Q.7.10 is the present market value of the property f e on any of this property? Yes 1 No Go to
	(b) (Ail others) Apa own any houses, Yes 1 do you estimate i Total value ou have a mortgage	, land or other property? art from the accommodation your household occupies, do you land or other property? No 2 Go to Q.7.10 is the present market value of the property? f e on any of this property? Yes 1 No
Do yo	(b) (All others) Apa own any houses, Yes 1 do you estimate : Total value ou have a mortgage	A land or other property? art from the accommodation your household occupies, do you land or other property? No 2 Go to Q.7.10 is the present market value of the property f e on any of this property? Yes 1 No Go to to to f mortgage f Year taken out
Do yo	(b) (All others) Apa own any houses, Yes 1 do you estimate : Total value ou have a mortgage	A land or other property? art from the accommodation your household occupies, do you land or other property? No 2 Go to Q.7.10 is the present market value of the property f e on any of this property? Yes 1 No Go to t of mortgage f Year taken out d or received a gift of Yes No
Do yo	(b) (All others) Apa own any houses, Yes 1 do you estimate in the first transfer of the first transfer of the first transfer of the first transfer or the first transfer o	A land or other property? art from the accommodation your household occupies, do you land or other property? No 2 Go to Q.7.10 is the present market value of the property f e on any of this property? Yes 1 No Go to to to f mortgage f Year taken out d or received a gift of Yes No other property 1 2 of a business or farm 1 2
Do yo	(b) (All others) Apa own any houses, Yes 1 do you estimate is Total value ou have a mortgage Original amount you ever inherited (a) a house or (b) all or part lid you inherit the	A land or other property? art from the accommodation your household occupies, do you land or other property? No 2 Go to Q.7.10 is the present market value of the property f e on any of this property? Yes 1 No Go to to of mortgage f Year taken out d or received a gift of Yes No other property of a business or farm 1 2 his property/business? Month Year
Do you	(b) (All others) Apa own any houses, Yes 1 do you estimate in the first transfer of the first transfer of the first transfer of the first transfer or the first transfer o	A land or other property? art from the accommodation your household occupies, do you land or other property? No 2 Go to Q.7.10 is the present market value of the property f e on any of this property? Yes 1 No Go to to of mortgage f Year taken out d or received a gift of Yes No other property 1 2 of a business or farm 1 2 his property/business? Month Year lue of your f
Do you	(b) (All others) Aparown any houses, Yes 1 do you estimate is Total value ou have a mortgage Original amount You ever inherited (a) a house or (b) all or part lid you inherit the cast the market valuance at that the	A land or other property? art from the accommodation your household occupies, do you land or other property? No 2 Go to Q.7.10 is the present market value of the property f e on any of this property? Yes 1 No Go to to of mortgage f Year taken out d or received a gift of Yes No other property 1 2 of a business or farm 1 2 his property/business? Month Year lue of your f

THE FINANCIAL ASSETS OF HOUSEHOLDS IN IRELAND

or copurpo	ou have a current (i.e. cheque book) account for personal use ombined business and personal use (i.e. not solely for business)? personal 1 Yes, combined business/personal 2 No. ne usual balance on your cheque book account (or the net
Is th	ne usual balance on your cheque book account (or the net
balan	
one)	nce on your cheque book accounts, if you have more than in credit, or overdrawn?
	In credit 1 Overdrawn 2
say w	Could you look at this card and which category corresponds to the usual balance in your corresponds to the usual overdraft in your cheque book account(s)? [Show Card H] (category A-N, or 0) [Show Card H] (category A-N)
Tea	joint current account included in this usual balance?
15 6	Yes 1 No 2
Γ	Is the joint account usually in credit or overdrawn?
	In credit 1 Overdrawn 2
	What is the usual balance/overdraft? [Show Card H]
	(category A-N, or 0)
L.	

END OF INTERVIEW: Thank respondent for co-operating.