GREATER LONDON AUTHORITY

Data Management and Analysis Group

Measures of Income

A guide to the sources of income data for London

DMAG Briefing 2004/10
March 2004

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Contents

Introduction

The aim of this Briefing is to provide an introduction to the various sources of data on income, to describe the data that are available from each, the populations for which they are obtainable and other characteristics which may be available for more detailed analyses. The geographical disaggregation of each source is described and some assessment is offered of how robust the data are. Headline figures and some limited analysis are also included for each data source for comparative purposes or to give some indication of the types of analyses that can be produced.

A number of measures are available, each applicable for different purposes. Income is a term that is used with a variety of meanings. In this Briefing, we distinguish between Earnings, Personal Income (from a range of sources) and Family/Household Income. We also look at proxy information that may be available on sources of income.

Earnings

Earnings is the income from paid work and in all data sources this is provided as a gross figure. Some sources additionally ask questions about deductions for tax etc, but net or take-home pay is complex, since there is a range of deductions possible, so gross pay is normally used. Two major sources of earnings data are available, both of which collect a vast range of detail on associated labour market variables, such as occupation, industry, hours worked and overtime payments. These are the *Labour Force Survey (LFS)* and the *New Earnings Survey (NES)*. These two surveys can therefore give hourly rates, as well as weekly figures. A third source of earnings data is the *Survey of Personal Incomes (SPI)*, but this gives only the total annual income in broad bands from employment or self-employment. The fourth source is the *Family Resources Survey (FRS)*, which gives total weekly income from employment.

Personal/Individual Income

Personal Income differs from earnings in that it includes income from pensions and investments or social security benefits, for example, as well as earned income. The issue of social security benefits highlights one of the difficulties with income measures in that the total amount received would be counted as personal income even though two people receiving Income Support may get different amounts because the person claiming the benefit does so on behalf of all their dependants. The amount of benefit payable is decided according to the number and characteristics of all the people reliant on that benefit so that, for example, a lone parent with one child would receive less than a lone parent with two children in otherwise comparable situations.

Household Income

Household Income is taken as the combined income for all people in the household. In most cases this is given as a gross figure, which does not always reflect the money available for use by that household, for example, a gross household income of £20,000 for a one-person household would have a much greater deduction for tax etc than the same gross income earned equally by four adults, where the income tax liability would be very small. Similarly, an income of £20,000 will provide a better standard of living for a one-person household than for a household of four adults, and would also provide a better standard of living for a household where the home is owned outright and therefore housing costs would be relatively low, than for a household renting privately or buying with a mortgage. Household income is therefore a complex topic which should be treated with caution

when trying to make inferences about people's living standards or spending power without associated information on net income, household composition or housing costs.

Assets and Savings

Some sources also have information on assets and/or wealth which although not strictly income are likely to be relevant to research on income. Sources that include these topics are the *Family Resources Survey* and the *London Household Survey*.

Sources of Income

Information on income is difficult to collect for a number of reasons. In surveys, the inclusion of questions on income can lower response rates, since this is a highly sensitive topic in the UK. Indeed, despite a clear case being made for the need for small area level information on income levels, a question was not included in the 2001 Census due to fears that this would adversely affect response rates to the Census. In both surveys and administrative data information may be inaccurate (particularly at the higher end of the income distribution) or delayed due to availability of information, particularly for some groups such as the self-employed where income may fluctuate considerably on a weekly or monthly basis. Information on the sources of individual or household income is less sensitive than the actual levels of income, so might be considered to be more accurate. This type of information is more widely available through administrative sources, although it is collected in some surveys such as the *Family Resources Survey* and the *London Household Survey*. Information on sources of income is clearly not as accurate in providing information on living standards, but can give clues, for example families relying solely on state benefits are likely to be poorer than those with earned income and no state benefits.

Table 1 Sources of data and what income information each contains

Source	Earnings	Personal/ Individual Income	Household Income	Assets and Savings	Sources of Income	Other
Labour Force Survey	Yes	No	No	No	No	No
New Earnings Survey	Yes	No	No	No	No	No
Survey of Personal Incomes	Yes	Yes	No	No	Yes (very broad)	No
Family Resources Survey	Yes	Yes	Yes	Yes	Yes	Expenditure on housing
Households Below Average Income	Yes	Yes	Yes (equivalised)	Yes	Yes	Expenditure on housing
London Household survey	No	Yes – banded	Yes - banded	Yes	Yes	Whether household can afford certain items
London Area Transport Study	No	No	Yes - banded	No	No	No
PayCheck	No	No	Yes - banded	No	No	No
Small Area Income Estimates	No	No	Yes – average only	No	No	No
Family Expenditure Survey/Expenditure and Food Survey	Yes	Yes	Yes	Yes	Yes	Detailed expenditure
General Household Survey	Yes	Yes	Yes	No	Yes	Availability of consumer durables
British Household Panel Study	Yes	Yes	Yes	No	Yes	Expenditure
National Income Statistics Survey	Yes	No	No	No	No	No
Expenses and Benefits Survey	No	No	No	No	No	Expenses and benefits liable for tax
Benefits and Tax Credits data	No	No	No	No	Yes	No
Income Domain of IMD	No	No	No	No	Yes	No

Labour Force Survey

Coverage:	UK households
Type:	Sample survey of households
Size:	60,000 UK households per quarter & boost samples
Time series:	LFS started in 1973, earnings questions included since 1992, published since 1994/5
Frequency:	Annual & quarterly
Data provider:	Office for National Statistics
Area breakdown:	Local authority areas (lowest level)
Geographic basis:	Mainly residence-based but some workplace-based analysis possible

About the Labour Force Survey

The Labour Force Survey (LFS) is carried out by the Office for National Statistics (ONS) and is one of the largest regular household surveys in the UK. The survey is carried out on a quarterly basis and collects a range of data about the economic circumstances of individuals, including their earnings.

LFS datasets are available on a quarterly and on an annual basis. The LFS collects information from around 60,000 households in the UK each quarter, with each household being included on five successive quarters. The annual dataset is derived from the quarterly datasets plus boost samples for some areas. Due to its larger sample and its design, the annual sample is better suited to regional and borough level analysis. The 2001/02 sample comprised 156,000 UK households and 282,000 adults.

The size of the sample for earnings analysis

Earnings data is not collected from everyone in the household but is restricted to responding adults aged 16+ who are employees (ie not self-employed). The response rate for earnings questions is around 81%. The effective annual sample size is 108,000 UK adults (9,100 adults in Greater London).

What data is available on earnings

The LFS asks a range of questions (eg. gross pay, net pay, hours worked and patterns of working) to ascertain average earnings levels. The answers are used to construct summary earnings variables that are used on most LFS datasets for analytical purposes.

LFS earnings data relate to actual gross earnings of employees in the most recent period worked (in their main job), converted to a weekly and hourly basis. Overtime payments and hours are included. It is ONS convention to exclude very high earners from averages as their inclusion can distort the overall analysis. Currently, published data exclude employees who earn £100 or more per hour. Published LFS earnings data is usually presented on a residence basis – that is it relates to the earnings of employees who live (as opposed to work in an area).

Limitations of LFS earnings data

LFS earnings data have four key limitations.

- Estimates are considered to be underestimates of the true level of earnings because the employee not the employer supplies the information. This can lead to reduced accuracy, particularly when some earnings data is given by one household member on behalf of another. ONS research suggests that this tends to lead to estimates being on the low side.

- The survey data are also compromised in terms of the quality of coding to industrial sector, since employees or their proxies may be unaware of the exact nature of the business in which they are working.

- The other issue is sampling variability of estimates. As the LFS is a sample survey, all estimates are subject to a degree of sampling variability. This can cause difficulties when producing estimates for small groups within the population or for local areas (eg for ethnic groups or London boroughs). For this reason, when presenting data it is important to emphasise that data are estimates not precise measures.

- The LFS does not cover earnings of self-employed people.

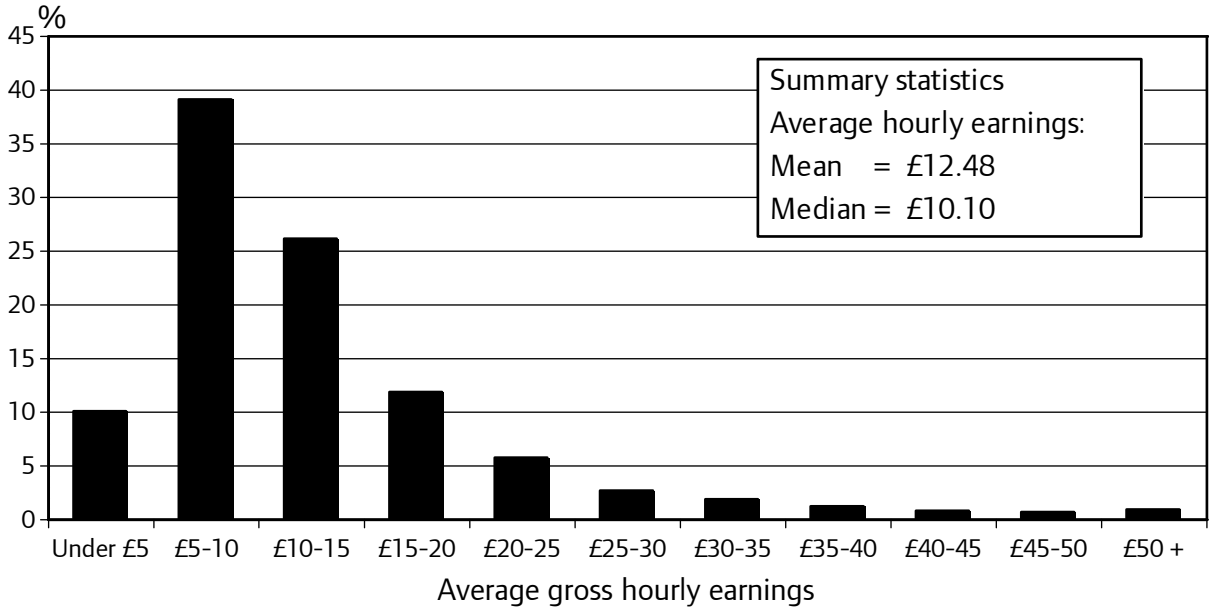
Key strengths of LFS earnings data

Despite the limitations, LFS earnings data have a number of strengths.

- First, unlike the New Earnings Survey (NES), which excludes employees under the income tax threshold, the LFS covers earnings of all employees across the entire earnings distribution and is considered to be better at measuring pay of part-time and low paid workers.

- Second, LFS earnings data can be linked to other information about the survey respondents. Earnings data can be analysed against a wide range of individual as well as workplace characteristics (eg ethnicity, disability, age, family status, industry). This is one of the main advantages of the LFS over employer-based surveys such as the NES, which only collects limited information about workers.

Figure 1 Hourly earnings distribution of London residents (working age employees)



Source: Annual Local Area Labour Force Survey 2001/02

Conclusion

While LFS earnings data are not the most accurate predictors of absolute levels of earnings, they are reasonably good at exploring relativities between groups, and particularly valuable for research on groups at risk of low pay.

New Earnings Survey

Coverage:	GB employers
Type:	Sample survey of employee records
Size:	161,000 employees
Time series:	Introduced September 1968
Frequency:	Annual
Data provider:	Office for National Statistics
Area breakdown:	Local Authorities (plus limited ward level data)
Geographic basis:	Workplace-based. From 2002 also available as residence-based

About the New Earnings Survey

The New Earnings Survey (NES) is a sample survey of employees in Great Britain and is carried out annually in April. The main purpose of the survey is to collect information about the levels, distribution, and make-up of the earnings of employees. Data is collected from employers, mainly via questionnaires. Response rates are around 65-70 per cent.

The survey is based largely on a 1 per cent sample of employees who are members of pay-as-you-earn (PAYE) income tax schemes. The sample is drawn on the basis of employee national insurance numbers and some of the same numbers are used in successive surveys – creating, in effect, a panel of employees. Those who were covered in successive surveys are said to form a matched sample, so enabling better estimates of changes in earnings levels. In 2003, around two thirds of the sample of full-time employees formed a 'matched' sample.

The data

The earnings data collected relates to gross pay before tax and other deductions, and mainly excludes payments in kind. Basic data relate to a pay-period in April and are usually converted into weekly equivalents.

Detailed information is available on the composition of gross earnings, including overtime, shift payments and PBR (payment by results, which includes piecework, bonuses, commission payments etc). In addition to earnings, the survey collects a range of other data. Some of these relate to the individual: full-time / part-time status; sex; age; occupation; whether they are temporary or permanent employees. Other items relate to the employer: industry; whether they are private or public sector.

Workplace and residence-based earnings NES data

Up till 2001, NES data was produced on the basis of where people work as opposed to where people live. This changed in 2002 and since then earnings estimates have been available on both workplace and residence bases. This is particularly useful for London, where the earnings patterns of residents and workers in some areas are quite different.

Limitations of data

- Coverage of part-time employees is not comprehensive. The sample frame is based on PAYE records, so those people earning below the tax threshold (currently £89 per week) are not covered. The excluded group are mainly women with part-time jobs and a small proportion of young people. Given that part-time jobs are low paid relative to full-time jobs, this means that

the NES cannot be used to explore the issue of low pay in any depth. This big gap in the sample frame is the main weakness of the survey.

- There is no coverage of self-employed earnings.

- The fact that some employers do not respond to the survey may introduce some bias through a clustering effect of non-response.

Key strengths of NES data

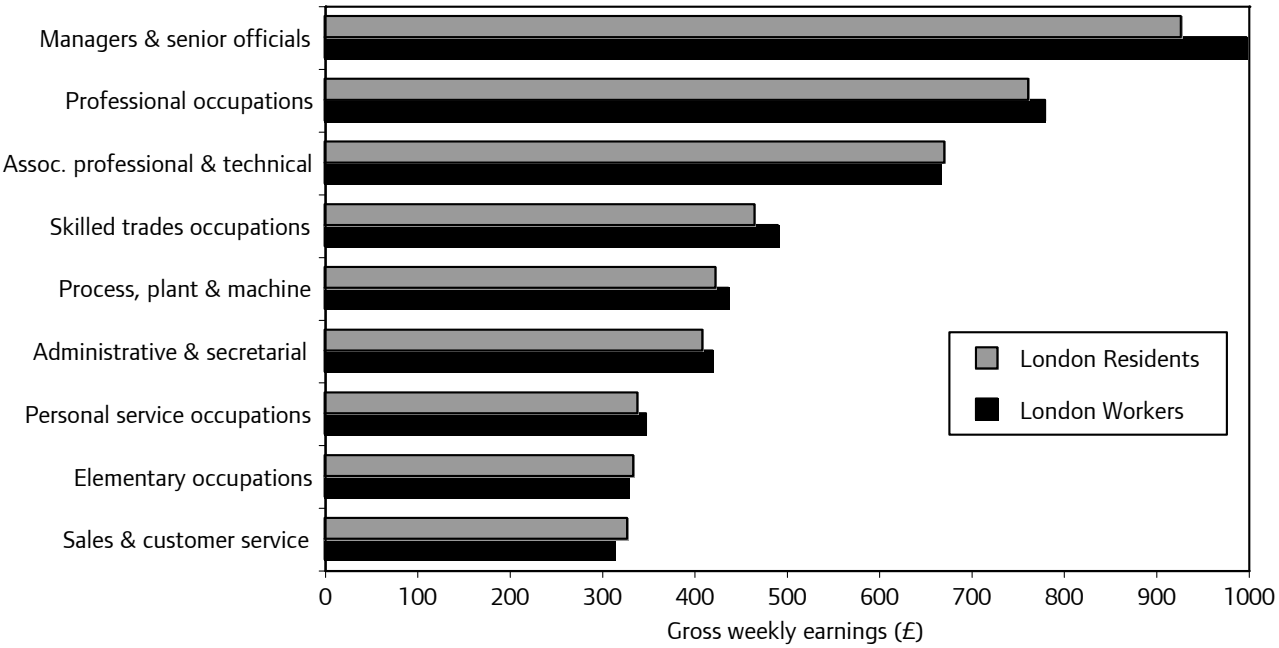
The NES has a number of strengths:

- NES produces good quality estimates [for full-time workers]. The data are collected from employers not employees, which improves its accuracy and reliability. This particularly improves the reliability of data on industry sector, which tends to be better when supplied by employers as they provide more accurate descriptions of the work of the company.

- The NES sample size is large enabling detailed analysis for local areas and groups.

- NES data are also good for time series analysis as the survey has been carried out in more or less the same form since 1970.

Figure 2 Gross weekly earnings by occupation for London full-time employees, workplace and residence based



Source: New Earnings Survey, 2003

Conclusions

The NES is considered one of the best sources of data on the level and distribution of earnings but it is recognised that it only provides good comprehensive coverage of full-time employees.

The move to publishing data on a residence basis as well as workplace has been welcomed and widens the applications of NES data. However for analysis of low pay and part-time pay, the LFS remains the preferred source of data on earnings, despite its own limitations.

Survey of Personal Incomes

Coverage:	UK taxpayers
Type:	Sample of administrative records
Size:	200,000 in 2000/1
Time series:	Has existed in some form since 1940s, but in its current form since 1996
Frequency:	Annual
Data provider:	Inland Revenue
Area breakdown:	UK Regions
Geographic basis:	Address given for tax purposes, which is usually the home address, but can include a range of situations

About the Survey of Personal Incomes

The Survey of Personal Incomes (SPI) is carried out each year by the Inland Revenue (IR). It presents a range of data on the annual incomes of United Kingdom taxpayers with some information on the income tax to which they are liable. The survey is based on a sample of records held by IR on persons who could be liable for income tax.

This sample frame includes employees, self-employed and higher-rate taxpayers and people claiming a tax rebate where too much tax has been deducted at source on, for example, investment income. Sampling fractions vary for each group of people, from 1 in 1 for very high income cases to about 1 in 3,000 for basic rate taxpayers on PAYE. Samples are extracted electronically from various operational systems.

The data

Variables available are: income band, tax rate, tax paid, age band, sex, income source, industry (of self-employed), and area (region/district). Limited information is published, but alternative tables may be commissioned subject to sample size (and possible charges).

Limitations of SPI data

- Individuals with income below the UK personal allowance (£4,385 per annum in 2000/01) are not included in the published data, and are not fully represented in the tax records collected, so this is not a source that can give a measure of people on very low incomes.

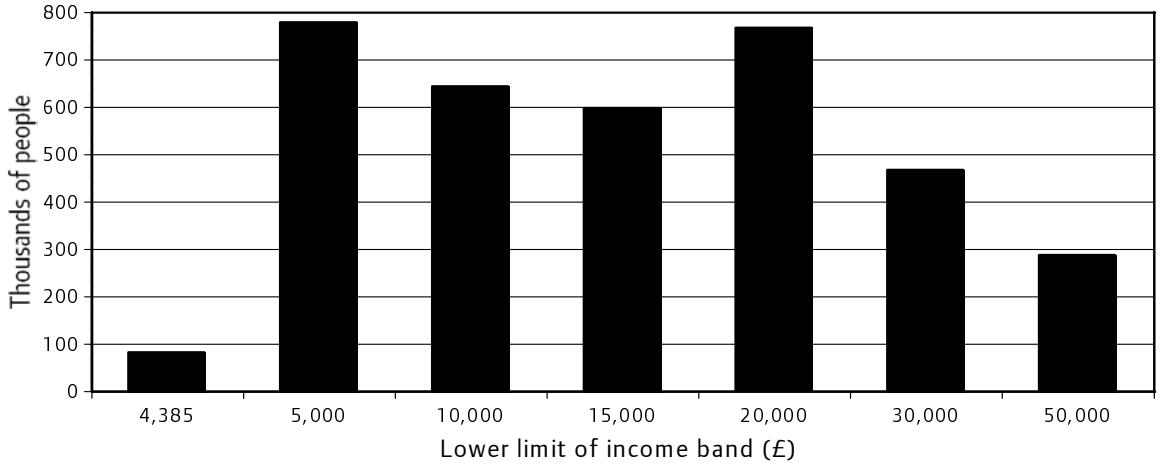
- The income figures exclude non-taxable income such as maintenance payments and gifts and any non-declared income for taxpayers.

- This survey includes all those who pay UK tax, including non-resident taxpayers. Some people pay tax but may be resident abroad, others pay tax registered to an address other than their usual residence, which might be an agent's address or a second home. For instance, the SPI shows 10,000 taxpayers in the City of London in 2000/01, but ONS population estimates give a total of only 7,400 residents (6,700 adults) in the City in 2001.

- The survey cannot give any clues to household income as personal tax records are not linked in any way, and can provide no idea of how many people are dependent on the income.

- Since the survey is based on tax records, there are no associated data on individual characteristics available for cross-tabulations other than age and sex, which are necessary for tax administration.

Figure 3 Annual gross income distribution of London's taxpayers



Source: Survey of Personal Incomes 2000/01 Table 3.11

Key strengths of SPI data

- The SPI is based on tax records so, at least theoretically, there is no bias due to non-response (other than non-declaration of income). The survey uses complex sampling and grossing to get good information across the range of incomes, whereas most sources are weak for higher incomes. This means that it is probably the best source of data on high incomes.
- The SPI covers all taxpayers, including those living in communal establishments, such as Armed Forces barracks, nurses homes and educational establishments.
- The data can be broken down by major income sources – employment, self-employment, pensions and investments.

Table 1 Average gross annual income of taxpayers by London borough

(£)

	mean	median		mean	median
City of London	137,000	65,000	Hounslow	22,400	16,600
Barking and Dagenham	18,100	15,600	Islington	30,000	17,600
Barnet	30,800	19,400	Kensington and Chelsea	86,500	25,200
Bexley	19,800	17,300	Kingston upon Thames	26,400	18,800
Brent	22,200	16,800	Lambeth	21,900	15,300
Bromley	26,400	19,500	Lewisham	19,400	15,300
Camden	40,000	19,700	Merton	27,900	18,400
Croydon	22,100	17,300	Newham	17,000	14,700
Ealing	23,800	17,000	Redbridge	21,700	16,900
Enfield	20,800	15,900	Richmond upon Thames	36,700	21,100
Greenwich	22,400	16,000	Southwark	22,500	15,400
Hackney	20,000	15,800	Sutton	21,900	17,000
Hammersmith and Fulham	35,400	19,300	Tower Hamlets	25,000	16,500
Haringey	24,500	16,600	Waltham Forest	19,600	15,100
Harrow	25,700	19,300	Wandsworth	36,300	21,000
Havering	21,400	17,000	Westminster	49,100	23,000
Hillingdon	20,900	17,100			

Source: Survey of Personal Incomes 2000/1

Family Resources Survey

Coverage:	GB Households (extended to UK from 2002/3)
Type:	Sample survey
Size:	44,700 adults in 25,300 households in 2001/2
Time series:	Since 1993/4
Frequency:	Annual
Data provider:	Department for Work and Pensions
Area breakdown:	UK Regions
Geographic basis:	Area of residence

About the Family Resources Survey

The Family Resources Survey (FRS) is voluntary and covers people in households, but not those in communal establishments. It uses a sample of addresses stratified by geographic area and Census figures on socio-economic group, economic activity and male unemployment rates. Computer assisted personal interviewing helps to achieve a response rate of 66 per cent fully co-operating households (ie those where information is collected for all adults in the household). The fieldwork for the FRS is currently contracted out to the Office for National Statistics (ONS) Social Survey Division and the National Centre for Social Research.

The data

The FRS collects very detailed information on the incomes and sources of income of individuals, benefit units and households, along with a range of other characteristics such as tenure, caring needs and responsibility, housing costs, employment, savings, age, sex, ethnic group and relationship of all people in the household.

Income information is available for each adult in the household on the amount of income from each source, including gross earned income and certain information on regular outgoings. This means that although individual or personal income is not included in the published reports it is possible to construct these measures and to include or exclude money from different sources as appropriate. For example, the user can decide whether to include child benefit or housing benefit as part of an individual's income or whether to deduct maintenance payments to people outside the household as well as tax and national insurance, to obtain a net income. Information on children's income such as from part-time jobs or from a trust, is also collected.

As the name suggests, however, families (and households) are the primary focus of this survey. A `family' is defined as a benefit unit, ie one person or a couple together with any dependent children. Non-dependent children are separate benefit units. This has implications for the treatment of income in the data. By combining the incomes of the constituent people, the FRS provides weekly income figures for benefit units and for households, which may be composed of more than one benefit unit, and whose members may or may not be related. The data are therefore essentially hierarchical, ie individuals make up benefit units, which in turn make up households, although in the case of one-person households, these would clearly all be the same. The income information is available for each level of the hierarchy, along with associated characteristics, such as age and caring responsibilities of individuals, tenure of benefit units, social security benefits received by individuals or benefit units, and access to consumer durables such as central heating, washing machine or home computer for households.

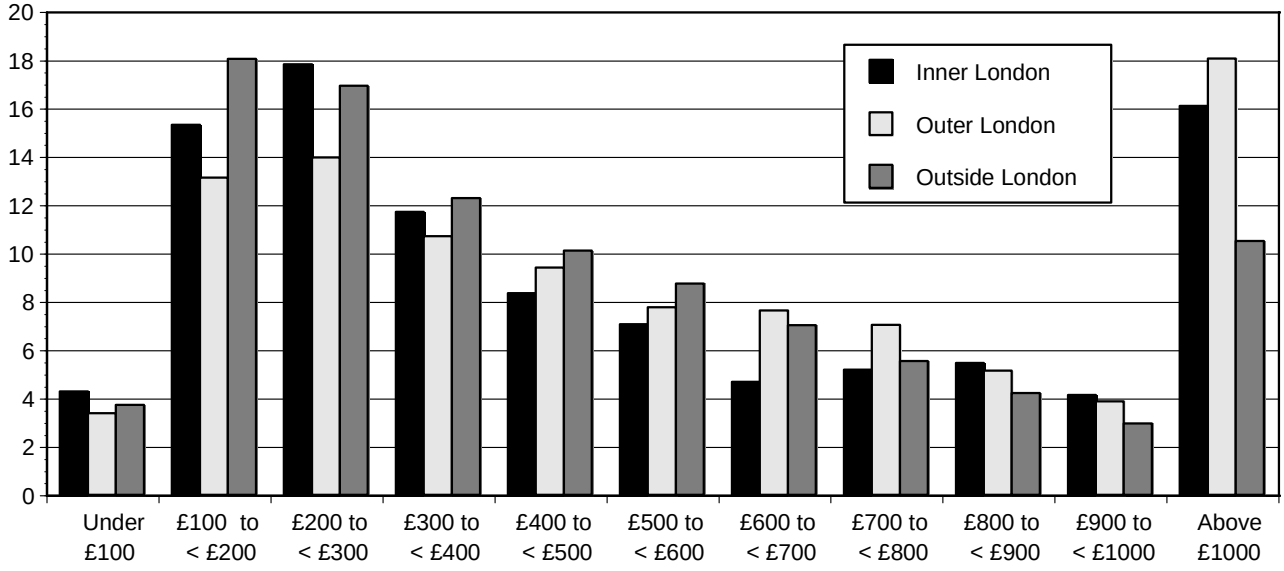
Limitations of FRS data

- The survey covers only household residents.
- The sample size is relatively small, so it is not generally possible to get estimates below regional level (although it is possible to get some estimates for Inner/Outer London). Even at the London level, cross tabulations can have large sample variability. Time series analysis is difficult due to sample variability.
- There is possible response bias, as research shows that lower response rates are often seen in inner-city areas (especially in London), one-person households and where the head of households was born outside the UK.
- Collecting accurate or timely income information from self-employed people does have particular difficulties due to the nature of their accounting processes and therefore the data may not be accurate in some cases.

Key Strengths of FRS data

- The detail of income from each source, together with the range of other characteristics makes this an exceptionally valuable source of income data.
- The flexibility of the data means that it is possible to look at individual, family or household income.
- The survey gives not only amounts of income, but also sources and some information on deductions such as tax and pensions and on housing expenditure.
- Information on savings and access to particular assets as well as income, when combined with household characteristics make the FRS particularly useful for analysing living standards.
- Because of the collection methods adopted (most amounts are checked from written records of bank statements, pay slips, bills etc), the data from this survey is generally of very good quality (with the possible exception for the self-employed, as noted above). Only a very small amount of information is collected from one adult on behalf of another.

Figure 4 Percentage distribution of gross weekly household income, London



Source: Family Resources Survey 2002/03

Households Below Average Income

Coverage:	GB Households (extended to UK from 2002/3)
Type:	Data series based on sample survey
Size:	25,300 households in 2001/2
Time series:	Since 1994/5
Frequency:	Annual
Data provider:	Department for Work and Pensions
Area breakdown:	UK Regions
Geographic basis:	Area of residence

About Households Below Average Income

The essence of the Households Below Average Income (HBAI) data series is that it provides information on comparable living standards of individuals based on the income of the households in which they live. Its primary focus is to look at the proportion and characteristics of people in low-income households.

The HBAI series is based on the Family Resources Survey (FRS), but also uses information from the Survey of Personal Incomes (SPI) to adjust for sample variability at high income levels. It includes much of the detailed income information available from the FRS, along with some individual, family and household characteristics, such as tenure and number of workers, so it is possible to get actual income figures. However, the main feature of this data series is that it includes a range of additional income measures. It does this by making adjustments to the actual income values. The first is that it uses net, or disposable, income rather than gross income. It does this in two ways, to give disposable income measures before and after housing costs. The second is that it adjusts the income to take account of household size and composition – a process called equivalisation. These adjustments are explained in more detail below.

Housing Costs

The costs of housing do not always reflect the value of the housing. For example, two households could have very different costs for comparable standards of housing. It can be argued, therefore, that housing costs should be deducted from income to give disposable income figures. However, this would understate the relative standard of living of those people who achieved a better quality of life by paying more for better accommodation. Conversely, not deducting housing costs would overstate the living standards of people in areas of high costs relative to the standard of their accommodation, such as much of London. The HBAI series provides measures of income on two bases: Before Housing Costs (BHC) and After Housing Costs (AHC).

The BHC measure of net income is taken as the total income from all sources (including earnings, all social security benefits, pensions, maintenance payments, educational grants and cash value of payments in kind such as free school meals) for all members of the household, less income tax, national insurance, pension contributions and maintenance or support payments made to people outside the household. The AHC measure is derived by deducting certain housing costs from the BHC measure. The housing costs include rent, mortgage interest payments, water charges and structural insurance premiums.

Equivalisation

Equivalisation is the process of adjusting income to take into account variations in the size and composition of households in which individuals live. This reflects the notion that a larger group of

people, such as a family with children, needs more income than a person living alone to enjoy a comparable standard of living. The process takes a couple living with no children as a reference point and adjusts the incomes of larger households downwards relative to this benchmark (ie assumes that a higher income would be needed for a larger household to have the same standard of living). The incomes of smaller households are adjusted upwards relative to the reference household type, recognising that the same income would allow smaller households a better standard of living. The equivalisation weights used for the BHC and AHC calculations are different.

The main data in the published report now include households with one or more self-employed people. This means that it is possible for a household to show a negative net income, as the income over the reference period may be less than the relevant outgoings. However, incomes reported for this group often do not reflect their living standards and there are difficulties obtaining timely and accurate information. It is possible to exclude people in households with self-employed people, using the "raw" data but overall, the differences are small.

The data

The purpose of this data series is to provide comparisons of living standards, so a key feature of the dataset is that it provides the mean and median equivalised incomes on both BHC and AHC bases. The report publishes data in terms of the proportion of population groups (children, working-age adults and pensioners) in households with incomes below a proportion of these figures, such as the proportion of children in households with equivalised income below 60 per cent of the national median income. These are broken down by some of the key characteristics such as family type, tenure, disability, ethnic group or region. Additional variables are available in the electronic data files.

Limitations of HBAI data (in addition to those given for FRS)

- The complexity of this data source makes it difficult to interpret for the casual user.
- The data series works on the assumption that all members of the household benefit to the same extent from the combined income of the household, but this is not necessarily the case.

Key Strengths of HBAI data

- The main purpose for most uses of income data is to make inferences about living standards. In this respect the HBAI data series enables comparisons to be made between income levels for different types of household.

Figure 5 Percentage of Londoners in households with equivalised income below 60 per cent of national median

Source: Households Below Average Income 2001/02

London Household Survey

Coverage:	London Households
Type:	Sample survey
Size:	8,100 households
Time series:	2002 only, but this can be regarded as a successor to the London Housing Survey carried out in 1985 and 1992
Frequency:	ad hoc
Data provider:	Greater London Authority
Area breakdown:	London boroughs
Geographic basis:	Area of residence

About the London Household Survey

The London Household Survey (LHS) was carried out between May and September 2002 and achieved over 8,100 interviews with households across London. The sample included households from each borough so that at least some figures are available for every borough. The survey covers a wide range of topics including demographic information and relationships of all household members, housing, moving intentions, health, neighbourhood, alcohol consumption, employment, poverty, wealth and income.

The data

The income questions cover sources of income, including details of which benefits the household receives, total (gross) household income, the personal incomes and savings of the household head and partner. In addition to income questions, the LHS includes a range of questions relating to poverty and access to particular items. These include:

- a subjective view of the household's financial circumstances
- whether the household can afford to heat their home
- whether people in the household have a selection of `essential' items, and if not, whether this is because they cannot afford them

The LHS also asks a range of questions about expenditure on housing, including mortgage or rent and for renters, the amount spent on utilities and services.

All of the questions are asked using showcards, so that the respondents are given a list of possible answers to sources of income, for example, or a list of income bands to say which they fit into.

Limitations of LHS data

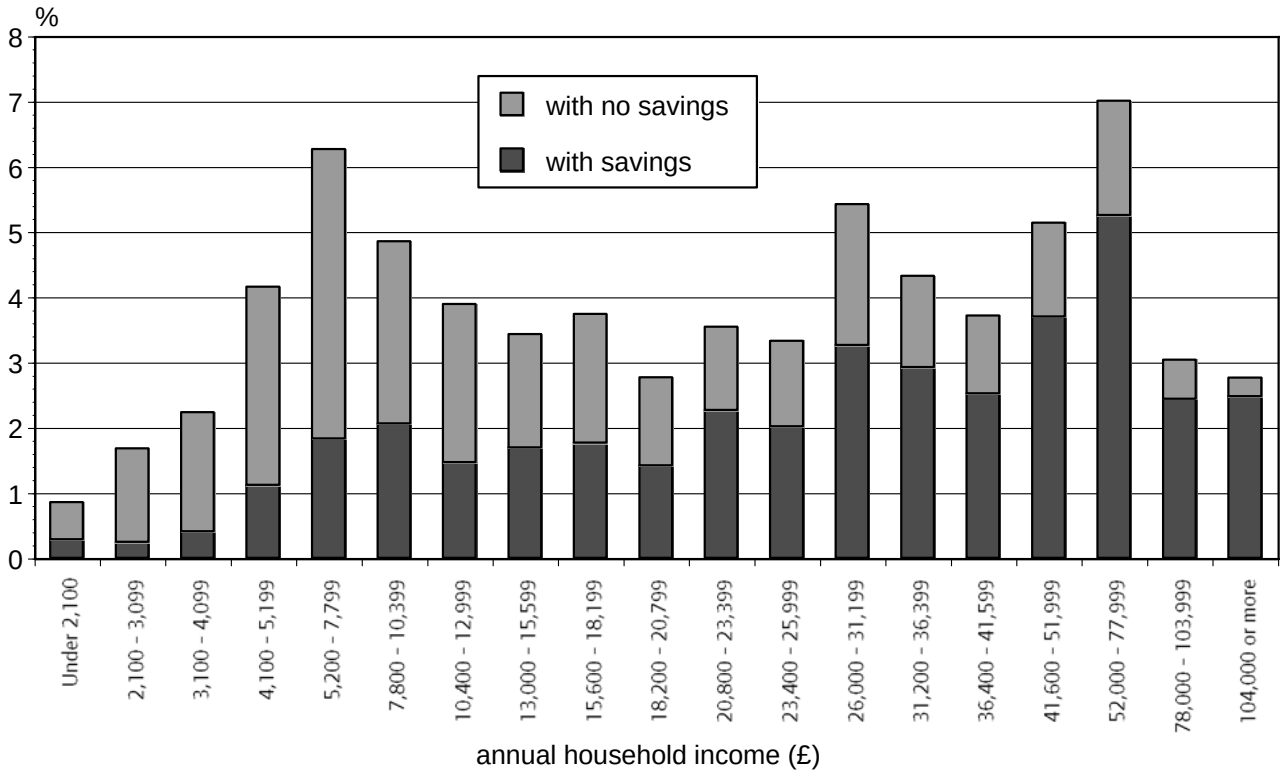
- The survey covers only household residents.
- As with all sample surveys, a level of response bias is likely, due to difficulty of contacting some groups of the population particularly. However, the weighting process has adjusted for this to a large extent.
- The income questions use ranges rather than actual figures and the respondent may also give an estimate of their partner's income. Both of these factors will tend to reduce the level of accuracy of the income data collected.
- Over a quarter of households who took part in the survey did not give an answer to the household income questions. Valid responses are given for fewer than half of respondents'

individual incomes. In particular, pensioner only households (including lone pensioners) were unlikely to have an answer recorded to this question.

Key Strengths of LHS data

- The survey collected information on sources of income in addition to amounts, although not the amount from each source.
- A wide range of other information was collected so that a variety of cross-tabulations is possible – for example, household composition, ethnic group and tenure can be cross-tabulated by household income.
- The sample size means that it is possible to get some estimates at borough level, although the full range of cross-tabulations is not robust at this level of geographical detail due to sample variability.

Figure 6 Percentage distribution of gross annual household income and savings, London



Source: London Household Survey 2002

London Area Transport Study

Coverage:	London Households plus the area outside London but inside M25
Type:	Sample survey
Size:	30,000 households
Time series:	Similar surveys carried out since 1971
Frequency:	Decennial
Data provider:	Transport for London
Area breakdown:	London boroughs
Geographic basis:	Area of residence

About the London Area Transport Study

The London Area Transport Survey (LATS) (and its predecessor the Greater London Transportation Survey) has been carried out to coincide the decennial Census of Population since 1971. It consists of a number of separate surveys, including roadside and public transport surveys as well as a household survey. This Briefing concentrates only on the last of these, since the others do not include questions on income. As its name suggests, the study concentrates on travel and transport issues, but the household survey includes questions on a range of demographic, housing and socio-economic topics. While the number of questions on these topics is limited, the large sample size does mean that it is possible to get good borough level estimates with some cross-tabulations.

The study area covers Greater London and the rest of the area within the M25 and uses stratified sampling to achieve appropriate borough sample sizes. LATS interviews are conducted in-home by interviewers, with a household questionnaire that may be completed by any adult member of the household, followed by individual interviews with all household members over age five.

The data

A single question on income is asked on the household questionnaire, and this relates to gross household income from all sources. As with the LHS, the respondents are asked which band their income falls into, rather than an actual figure. Among the variables available for cross-tabulation are household type, tenure and ethnic group in addition to questions about the use of public and private transport, access to cars and public transport and journeys made.

The sample is weighted to give total figures, controlled to the 2001 Census of Population distributions of car ownership, household structure and housing tenure, to represent the London household population. Where the income question was not answered, a response was imputed using a regression model.

Limitations of LATS data

- The survey covers only household residents.
- The income question uses ranges rather than actual figures and the respondent may not have detailed knowledge of other household members' incomes. Both of these factors will tend to reduce the level of accuracy of the income data collected.
- As with all sample surveys, a level of response bias is likely, due to difficulty of contacting some groups of the population. The weighting process has adjusted for this to a large extent.
- The only income question uses a relatively small number of bands rather than actual figures.

Key Strengths of LATS data

- The LATS household survey has a large and unclustered sample allowing for robust borough level estimates and even some smaller area estimates to be produced.
- The study allows a detailed look at all aspects of travel patterns in relation to income as well as some other socio-demographic information.

Table 2 Percentage distribution of gross annual household income, London boroughs

Borough	Under £5,000	£5,000 - £9,999	£10,000 - £14,999	£15,000 - £19,999	£20,000 - £24,999	£25,000 - £34,999	£35,000 - £49,999	£50,000 - £74,999	£75,000 or more
City of London	*	*	*	*	*	*	*	*	*
Barking & Dagenham	17.3	18.4	15.4	14.5	9.7	12.8	7.4	3.3	1.2
Barnet	12.5	14.2	10.1	10.4	10.0	12.2	13.2	9.7	7.7
Bexley	8.6	16.7	11.8	12.0	10.9	14.5	15.2	6.7	3.5
Brent	11.2	18.3	12.5	11.8	12.6	12.6	10.9	6.2	3.9
Bromley	9.8	15.2	10.4	9.2	9.1	12.9	12.9	12.8	7.7
Camden	18.1	14.8	11.5	10.5	9.9	12.7	9.7	7.0	5.8
Croydon	11.2	13.7	9.3	12.2	10.3	15.4	16.2	8.6	3.0
Ealing	12.4	13.6	13.2	13.7	9.3	10.3	11.3	8.3	7.8
Enfield	12.2	15.4	11.5	11.3	9.8	11.9	14.0	9.7	4.1
Greenwich	23.5	15.6	13.5	9.5	8.5	11.8	8.0	5.8	3.8
Hackney	24.1	18.0	13.1	9.7	8.7	10.3	7.9	5.7	2.6
Hammersmith & Fulham	14.3	16.0	11.8	7.9	7.8	9.7	9.5	9.7	13.3
Haringey	20.4	12.9	10.9	11.3	8.5	12.4	10.8	8.0	4.9
Harrow	5.5	16.6	14.8	16.5	8.7	13.2	11.1	8.3	5.3
Havering	10.0	16.7	11.5	12.7	11.0	13.8	10.9	9.1	4.3
Hillingdon	14.0	13.4	10.4	11.2	10.4	13.4	14.9	7.8	4.6
Hounslow	11.8	12.7	13.0	14.0	10.0	10.6	13.5	8.7	5.7
Islington	15.2	18.5	9.9	13.1	8.0	11.1	7.0	8.3	8.8
Kensington & Chelsea	10.1	15.8	8.9	9.3	9.0	8.1	9.3	9.0	20.5
Kingston upon Thames	9.2	10.5	9.9	10.4	8.2	16.0	16.8	10.1	9.1
Lambeth	19.8	19.3	11.9	10.3	7.7	9.6	9.0	6.7	5.7
Lewisham	17.3	15.8	10.4	12.6	10.3	12.1	10.3	7.0	4.3
Merton	10.1	11.8	11.5	9.3	10.2	15.8	14.3	8.5	8.6
Newham	20.9	21.3	11.0	13.2	8.7	13.0	6.7	3.7	1.4
Redbridge	9.0	13.4	10.9	9.5	10.6	16.6	16.8	8.2	5.1
Richmond upon Thames	6.7	11.2	7.6	11.3	7.3	12.2	13.2	14.6	15.9
Southwark	21.7	17.6	11.0	11.9	10.3	10.9	10.0	3.5	3.2
Sutton	8.4	13.5	9.1	13.2	10.3	14.4	17.6	9.8	3.6
Tower Hamlets	25.0	20.1	11.1	8.5	6.9	8.5	8.1	5.6	6.3
Waltham Forest	10.4	17.4	11.5	13.7	9.2	15.0	13.3	6.8	2.7
Wandsworth	12.2	12.7	7.6	11.5	11.8	11.5	13.5	7.8	11.4
Westminster	16.0	13.7	9.5	11.1	8.9	12.1	8.9	8.9	11.0
Greater London	**14.1**	**15.4**	**11.1**	**11.5**	**9.5**	**12.4**	**11.7**	**8.0**	**6.3**

Source: London Area Transport Survey 2001

Note: * Estimates for City are not reliable

PayCheck

Coverage:	GB Households
Type:	Modelled estimates
Size:	
Time series:	Since 1996
Frequency:	Annual
Data provider:	CACI
Area breakdown:	Individual postcodes
Geographic basis:	Area of residence

About PayCheck

PayCheck is the name given to modelled estimates of household income produced by the company CACI. The name is potentially misleading, since this is household income from all sources, rather than earnings, which might be assumed from the name. The model which produces the estimates uses market research statistics to generate the distribution of incomes, by broad geographic areas and for geodemographic categories of household. It then uses recent lifestyle records[1] – over 6 million records for the 2003 data to fit a statistical distribution to these distributions. Weighting factors are then used to ensure the data is representative of the UK, as defined by income distributions from the Family Expenditure survey. Regression models are built to estimate the mean and standard deviation of the income by household type and a range of geographic levels. The income distribution is then modelled again for individual postcode areas using the lifestyle data. As well as this huge lifestyle database, Census data, CACI population estimates, ACORN (CACI's geodemographic classification) and market research data are all used in the modelling process.

The data

The data is produced at unit postcode level, but should be aggregated to larger areas to improve the robustness of the data. It consists of a mean, gross household income figure, together with median and mode for each area in addition to the income distribution, that is, the number of households in each area in each of 22 £5,000 income bands from under £5,000 to £100,000 and over. While the data set has been produced for several years, it is not suitable for time series analysis, particularly with the 2003 dataset, because of a change in the methodology adopted.

Limitations of PayCheck data

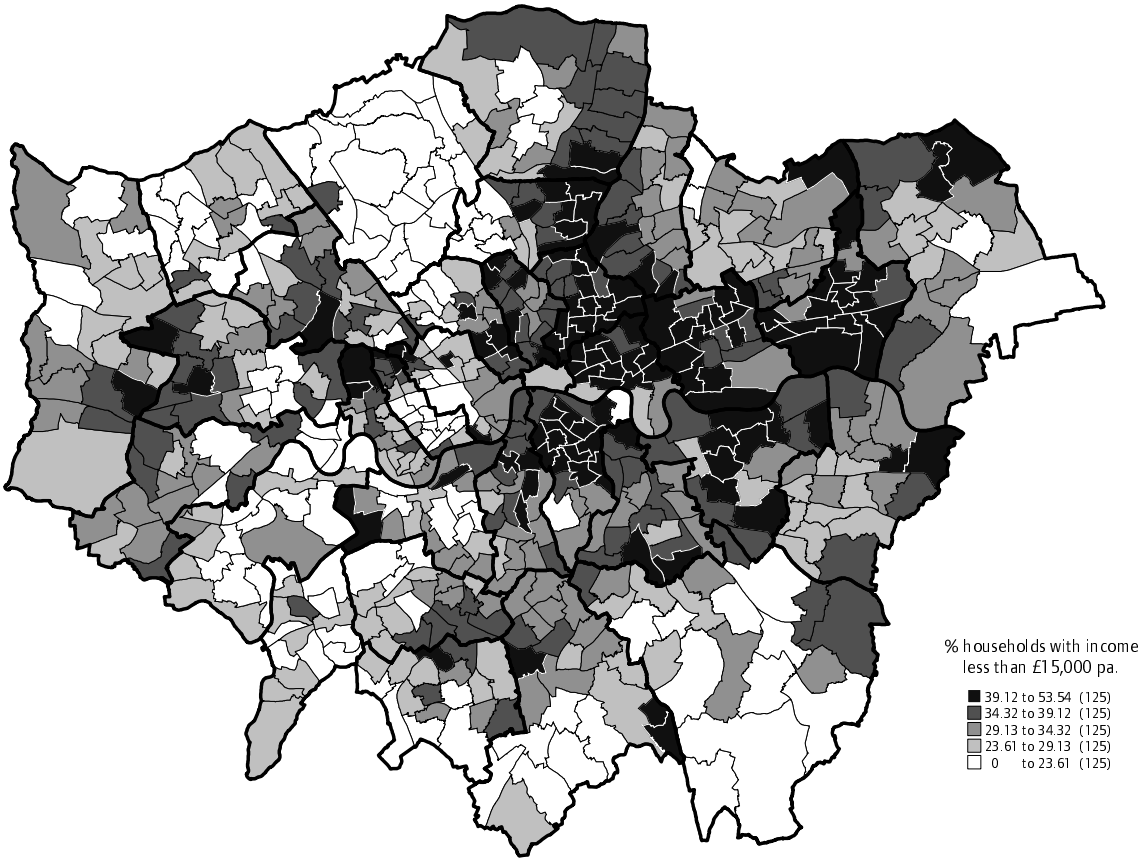
- The data has no information other than gross household income (for example, there is no information about household size or composition).
- The data is modelled rather than actual. For some areas this may mean that the model incorporates only a very small number of actual observations for that area – or even none.
- There is no indication of deductions such as tax or housing costs to give disposable income estimates.

[1] Lifestyle questionnaires are completed by a cross-section of the UK population. Many of these surveys have been returned alongside guarantee certificates for white goods for example, whilst many others have been completed as a result of direct mail to specific individuals.

Key Strengths of PayCheck data

- It is possible to get an estimate of household income distribution for very detailed geographies so they can be aggregated to whatever geography is required.
- The data is available for the whole country and so comparisons between incomes in different parts of the country are possible, using the detailed geographical breakdown.
- Average incomes are available as well as the income distribution.

Map 1 Percentage of households with gross annual income below £15,000, London wards



Source: PayCheck 2002, CACI

ONS Small Area Income Estimates

Coverage:	England and Wales Households
Type:	Modelled estimates
Size:	
Time series:	One-off
Frequency:	
Data provider:	Office for National Statistics
Area breakdown:	wards
Geographic basis:	Area of residence

About the Small Area Income Estimates

The project to produce some small area income estimates was started mainly as a consequence of the decision not to have an income question in the 2001 Census and to provide some estimates to fill the gap and meet the needs of data users throughout the public, academic and private sectors. This is also part of a wider project to produce small area estimates of a range of statistics, so the methodology adopted is designed for general use rather than specifically for estimating income. A set of experimental income estimates has been produced as the first output from this project. Essentially, the methodology combines survey data at high geographical levels with administrative data for lower geographical levels using regression models, as with the CACI PayCheck method, to produce the small area estimates.

The data

The experimental estimates produced are of average (mean) household income in 1998/99 on 1998 ward boundaries. Estimates are for four different income measures:

- Gross household weekly income (unequivalised)
- Net household weekly income (unequivalised)
- Net household weekly income before housing costs (equivalised)
- Net household weekly income after housing costs (equivalised)

Confidence intervals are given alongside each of these estimates for each area.

The gross household weekly income (unequivalised) is the sum of income from all sources for each member of the household.

The net household weekly income (unequivalised) is the gross income for the household less income tax, national insurance, pension contributions, council tax, maintenance and child support payments to people outside the household and parental contributions to students living away from home.

The net household weekly income before housing costs (equivalised) is composed of the same elements as the net household weekly income but equivalised to give a similar measure to that used in the HBAI series.

The net household weekly income before housing costs (equivalised), again is comparable to that used in the HBAI series and is composed of the same elements of net income as the before housing costs measure, but is subject to deductions for mortgage interest payments and structural insurance

payments, rent, together with any ground rent and service charges, and water charges, before being equivalised.

The models used for these estimates are entirely separate, using some different 'predictor' variables. Figures for an area are therefore not always consistent. For example, it is possible for the estimate of average net income to be higher than the estimate of average gross income for the same area.

Limitations of the Small Area Income Estimates

- The estimates are of average incomes only – there is no information about the ranges or distributions of incomes in an area.
- The data is modelled rather than actual and the models for the four estimates are separate and the outcomes may not be consistent.
- The estimates are available for wards as at 1998 only, and are not available for some areas at all, for example no data is available for wards in the City of London, nor even for the City as a whole.

Key Strengths of the Small Area Income Estimates

- The estimates give for different types of income measure, including equivalised incomes, so that comparisons between incomes in different areas can be made after taking account of the different types of household.
- The estimates are produced for small areas, and working is being carried out to look at producing updated estimates for new boundaries.
- The data is available for the whole of England and Wales and so comparisons between incomes in different parts of the country are possible.
- Confidence intervals are provided so that users can assess the relative accuracy of estimates for different areas.

Table 3 London wards with the lowest and highest gross weekly household income

Ward	Borough	£	Ward	Borough	£
Somers Town	Camden	330	Chiswick Homefields	Hounslow	950
St. Dunstan's	Tower Hamlets	330	Royal Hospital	Kensington and Chelsea	950
Ordnance	Newham	340	Ruskin	Southwark	950
Liddle	Southwark	340	St. James's	Westminster	970
Lansbury	Tower Hamlets	340	Northcote	Wandsworth	980
Redcoat	Tower Hamlets	340	Hampstead Town	Camden	990
Spitalfields	Tower Hamlets	340	Campden	Kensington & Chelsea	1000
Carlton	Brent	350	Garden Suburb	Barnet	1030
St. Mary's	Greenwich	350	East Sheen	Richmond upon Thames	1040
Friary	Southwark	350	Brompton	Kensington and Chelsea	1050
St. James'	Tower Hamlets	350	Cheam South	Sutton	1060
Weavers	Tower Hamlets	350	Knightsbridge	Westminster	1090
			Village	Merton	1160
			Courtfield	Kensington and Chelsea	1200

Source: Office for National Statistics Model-Based Estimates of Income for Wards 1998/99

Family Expenditure Survey and Expenditure and Food Survey

The Family Expenditure Survey (FES) was carried out continuously from 1957 to 2001. It was a UK-wide survey carried out by ONS. It collected income as well as expenditure information data for households, along with other socio-economic characteristics. However, it was a relatively small survey with an annual sample of around 6,500 households, which would be around 750-800 for London. While some information is available at London level, the sample size means that it is less reliable than the data from other surveys such as the FRS, so for income questions the FRS is recommended. However, if detailed expenditure data is required beyond the housing expenditure collected in the FRS, this survey is available. The FES has been amalgamated with the National Food Survey and replaced by the Expenditure and Food Survey (EFS) from April 2001. In addition to the income, expenditure and socio-economic aspects of the FES, the EFS records information about food consumption. The EFS sample is a little larger than the FES (7,850 instead of 6,500 nationally). The income questions are detailed and cover sources of income and the amount from each source for all individuals in the household, including irregular payments such as bonuses. Information on all deductions is also asked, as well as benefits such as health insurance cover, free or concessionary travel, free meals or tea/coffee provided by employer.

General Household Survey

The General Household Survey (GHS) is a multi-purpose survey carried out by ONS and covering GB. It started in 1971 and except for breaks in 1997 and 1999/2000 has been continuous. It is quite wide ranging in its questions, covering most of the demographic and socio-economic topics included in other surveys, but with, for example, less detail on employment issues than the LFS. The GHS does include some quite detailed questions on health and related issues not asked in other surveys. As well as income, the GHS also includes questions on consumer durables not widely available elsewhere. The income questions cover the sources of income and the amount from each source for all adults in the household. The household income is then derived by totalling the income for all adults. The sample size is 13,250 households nationally – around 1,600 for London, so although larger than the FES, it is still quite small for London and again there are larger samples and therefore more reliable income data available from other sources. The GHS is therefore only recommended where specific analyses using income with questions not available elsewhere, such as the consumer durable availability or health-related questions are needed.

British Household Panel Study

The British Household Panel Study or Survey (BHPS) is a multi-purpose study following a sample of people over several years to look at change at an individual and household level. The questions cover housing and neighbourhood, demographic and household characteristics, employment and earnings, health and caring, values and opinions and household finances. The last includes detailed information on income from sources other than earnings and a range of information on expenditure. The first survey year was academic year 1991/2 and the original sample size was 5,500 households (about 600 in London). Since households move and divide and change, and some leave the study, the current sample is different to the original, although the basic sample size is similar to the original, but has been enhanced by additional samples taken in Wales, Scotland and Northern Ireland. Of the total of 10,500 households in the latest wave of the study, just 400 are in London. This is a very small sample, and not very reliable for income estimates for London.

The following sources of data are not strictly income data in the same sense as for earlier data sources, but may be relevant to research based on income.

National Income Statistics Survey

The Inland Revenue compiles data on wages and salaries arising from employment for inclusion in the National Accounts. The data are derived from end of year Pay-As-You-Earn (PAYE) tax documents and have been collected annually since 1976-77. Data are available on the amount of pay from employment, tax and National Insurance contributions (primary & secondary), by industry (SIC92) and sector. There are no personal characteristics attached to the statistics. While published data cover the UK, and are available at regional and county level, additional analysis can also be prepared at district level if requested.

Expenses and Benefits Survey

The Inland Revenue also compiles data on expenses and benefits, the most common benefits including company cars, free fuel and private medical insurance. While this is not strictly income, it may be relevant to some income and particularly earnings analysis. Data cover the United Kingdom and analysis is also possible at regional level, but subject to large standard errors because of small sample sizes.

Benefits and Tax Credits data

The Department for Work and Pensions produces statistics on numbers and characteristics of people receiving various state benefits, including means tested benefits such as Income Support, health related benefits such as Attendance Allowance and age related benefits such as Retirement Pension. Similarly, the Inland Revenue publishes data on the numbers and characteristics of people receiving Tax Credits. There are two main types of data published – the quarterly statistics, which are based on a five per cent sample of claimants and are published down to regional level – and the annual statistics, which are a snapshot of all claimants at one particular date in the year for each benefit or tax credit. These are published down to small area level – ward level up to 2002, but they are scheduled to be produced for Super Output Areas in future years.

Income domain of the Index of Multiple Deprivation

The income domain of the Index of Multiple Deprivation (IMD2000) is again a relevant, but indirect measure. Put simply, the domain gives figures for the proportion of people living in families dependent on means-tested state benefits in each ward of England (boundaries as at 1998). It is therefore used as a measure of low income in an area.

Where to get the data

Source	Publications	Aggregate data	Microdata
Labour Force Survey	LFS data contributes to a wide range of publications	Various available via Web	Available through ESRC Data Archive
New Earnings Survey	A range of reports published annually by ONS	Included in publications	Available through ESRC Data Archive
Survey of Personal Incomes	Annual web-based publication only	Additional tabulations available by request from IR	Not available
Family Resources Survey	Titled: Family Resources Survey, published annually by DWP	Included in publications	Available from DWP team.frs@dwp.gsi.gov.uk
Households Below Average Income	Titled: Households Below Average Income, published annually by DWP	Included in publications	Available from DWP team.hbai@dwp.gsi.gov.uk
London Household survey	None	Can be produced by request from GLA	Available from GLA rachel.leeser@london.gov.uk
London Area Transport Study	None	Can be produced by request from TfL mikecollop@tfl.gov.uk	Not available
PayCheck	Wealth of the Nation	Available from CACI	Not produced
Small Area Income Estimates	None	Available via Web	Not produced
Family Expenditure Survey	Titled: Family Expenditure Survey, published annually to 2000-2001 by ONS	Various available via Web	Available through ESRC Data Archive
Expenditure and Food Survey	Title: Family Spending, published annually by ONS	Various available via Web	Available through ESRC Data Archive
General Household Survey	Title: Living in Britain, published annually by ONS	Included in annual report and various other publications, such as Social Trends	Available through ESRC Data Archive
British Household Panel Study	Various books and articles have been published based on the study	Various, example	Available through ESRC Data Archive

Information, hyperlinks and e-mail addresses correct as at March 2004

Abbreviations:

DWP	Department for Work and Pensions
ESRC	Economic and Social Research Council
GLA	Greater London Authority
IR	Inland Revenue
ONS	Office for National Statistics

Regular Briefings from the GLA Data Management and Analysis Group

Recent *DMAG Briefings*:

DMAG 2004/1	2003 Round Ward Population Projections	Georgia Hay
DMAG 2004/2	London's Workers Part 1: 2001 Census results	Eileen Howes
DMAG 2004/3	Borough Demographic Profiles	Georgia Hay
DMAG 2004/4	DMAG Annual Review 2003	Jackie Maguire/ Rob Lewis
DMAG 2004/5	2003 Round Demographic Projections	John Hollis
DMAG 2004/6	Londoners' Qualifications: Analysis of 2001 Census data	Gareth Piggott
DMAG 2004/7	The Parliamentary General Election, 2001	Michael Minors/ Dennis Grenham/ Jackie Maguire
DMAG 2004/8	Constituency Demographic Profiles	Georgia Hay
DMAG 2004/9	Measuring Unemployment	Lorna Spence

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