

The exercise yielded data for around 60 per cent of these 'non-respondents', but only 40% of businesses. The purpose was to establish the degree to which the characteristics and earnings of non-respondents differ from those in the main NES. Initial analysis of the data obtained for the employees shows that the average wage is different (even after accounting for different occupation, age etc distributions) to that in the main survey set. The ONS will take this into account when the results for the ASHE for 2004 are being produced.

Tasks 6 & 7: **A survey to be conducted to assess whether data for employees changing employers is likely to be available for the survey reference period.**

Action

ONS should address the issue of survey exemptions. In particular the extent to which those employees exempt from the survey are atypical when compared with respondents. The number of employees reported as having changed employers between the sample selection and survey reference date has grown substantially in recent years and accounted for around 30,000 of the non-response to the NES 2002. Task 6 conducted a 'pre-pilot' survey to assess whether data for employees changing employers is likely to be available for the survey reference period. Following this task 7 involved a pilot survey at the same time of the NES 2003 to obtain data for employees exempt from the survey because they had changed their employer (data was sought from the new employer).

Overview of approach

This aspect concerns employees that leave the employer identified in the PAYE extract between the sample identification and survey reference periods. This happens because the Inland Revenue file is taken in February but the forms are printed in March and despatched in April. These employees are referred to as exemption category 3s (EC3s). These EC3s account for nearly 30,000 of the total NES response each year. It is likely that the characteristics of these people will be different from those for whom we do receive a response (for example, they may be people who move jobs more frequently than an average employee may).

The pre-pilot work was conducted with 20 'EC3' employees' employers, but the response to the telephone survey was poor (only 6 companies were prepared to provide information).

The pre-pilot was followed by a larger pilot in July 2003 when the EC3 employees were matched to an extract of the Inland Revenue's file taken in May. This pilot consisted of 3,000 employees in the 2003 NES from whom an EC3 response had been received and who appeared in the May IR sample file as being with a new company. The new employer was sent a questionnaire for the employee and their data captured. While the analysis of the data for these employees is ongoing, initial results show that the employees are typically paid below the level of the 'non-EC3 employees', even after

controlling for occupation and age. As with the intensive follow-up exercise for non-response, the ONS will take these findings into account when it produces the results from the ASHE for 2004.

Tasks 8 & 9:

A quality assured methodology for weighting the business survey results will be developed. The final weighting method will be applied to NES results for 2001- 2003 prior to being used for the ONS's business survey of employees' earning and hours of work in 2004.

Action

ONS should address the issue of inadequate weighting procedures. Task 8 requires a quality assured methodology for weighting the business survey results to be developed and applied to the NES results for 2001 and 2002 to generate consultative data sets. Task 9 applies the final weighting method, which will draw on the outcome of Task 5 (enhanced response chasing to evaluate the non-response bias) to the output from the 2002 and 2003 NES prior to being used for the ONS's business survey of employees' earnings and hours of work in 2004. Further work will include the issue surrounding the population frames, the estimation of standard errors for survey outputs, including growth estimates.

Overview of approach

It is proposed that weighted estimation be adopted for the survey. Responses will be calibrated to estimated population totals of employees obtained from the Labour Force Survey. Weighting the survey in this way takes account of non-response and the uneven coverage present in the current NES. The number of calibration cells is dictated by the variables chosen, namely sex, age, occupation and location and the need to keep the number of cells that have no or very small numbers of entries to a minimum. This uses nine single digit occupation classes, two sex categories, two location categories (split between London and the South East and elsewhere) and three age categories. This results in a model with 108 calibration cells. Other calibration models were considered, for example using greater detail in occupation, region and age, but ultimately this resulted in unacceptably large numbers of cells that were empty of data.

This weighting method has been applied to data for 2002 and 2003 and early results assessed. Final data have yet to be produced because of the need to include the data obtained in the pilot surveys discussed above. When this process is complete the ONS intends to produce weighted data for all years back to 1992.

The preliminary weighted estimates produce slightly higher estimates for mean and median gross weekly pay when compared to the un-weighted estimates. Investigations show that the increase in the estimate because of weighting can be attributed to a disproportionately low response from employees within high paying occupations.

Hours paid but not worked information was also not easily available, as few businesses record all leave information.

The main areas of difficulty centred on businesses not recording at a single point, the amount of time employees are absent for reasons such as sickness or holidays. Similarly, unpaid overtime information is almost universally unavailable from businesses.

Tasks 12, 13 & 14: **ONS will review the quality of earnings and hours data obtained in the LFS with a view to improving their quality, taking into account the survey changes that will arise as a consequence of the NS quality review of the LFS, including the documentary evidence, the impact of proxy responses and the use of 'donor data'. ONS will publish a plan for increasing the quality of classification - by public/private sector - of the existing employment and jobs data available from LFS, will review the issue of exclusion of employees in communal establishments and investigate poor/falling response rates.**

Action

ONS will review the quality of earnings and hours data obtained in the LFS with a view to improving their quality. The review, conducted as Task 12, will be conducted with due cognisance for the redevelopment of the Continuous Population Survey (CPS) that is currently under development and take account of survey changes that will arise as a consequence of the NS Quality Review of the LFS. The issues include the quality of earning and hours data that are provided without recourse to documentary evidence, the impact of proxy responses on earnings and hours estimates and the estimation process whereby hourly rates are produced using 'donor data'. As regards the classification of occupation and industry, this issue was addressed by task 13 in the NS Quality Review of LFS. The Implementation Plan for that review notes that "ONS will publish a plan for increasing, to the extent possible, the quality of classification - by public/private sector - of the existing employment and jobs data available from the LFS. Task 14 adheres to the Implementation Plan for the NS Quality Review of the LFS, which states that "ONS will publish an article setting out a proposed plan for extending the coverage of the LFS to communal establishments. The issue regarding the poor/falling response rates is detailed with under section 5.3.2 of the NS Quality Review of the LFS and its associated implementation plan.

Overview of approach

The LFS development plan notes that several proposals have been made in the context of improving the outputs. One development is to rethink the balance between the main LFS panel and the enhancement samples that build up over the year to produce a minimum number of economically active adults in each region. Furthermore the LFS panel comprises five separately sampled cohorts each with their own pattern of non-

method will yield a single source for the estimate. However, user requirements dictate that the existing method should also be applied to data in 2004 to allow a comparison of the impact of the change in the methodology to be made. The work will be taken forward using the weighted data for historical data sets that are set to be produced as part of Task 9.

Tasks 16 & 19: **The ONS will develop a stratification system that best meets the output needs, while minimising respondent burden.**

Action

The review found that the current survey designs are sub-optimal and can be improved. ONS should assess whether a new sample design for the NES would improve efficiency while maintaining robust estimates of the required outputs. A project will be established to consider the methodological redesign of the business survey of employees' earnings and hours of work. Task 16 asks how, while retaining its current sampling base of specific national insurance numbers to yield the benefits of data linkages, the representativeness and efficiency of the NES sample can be improved in terms of sample efficiency and respondent load distribution, using stratification. Task 19 tackles the issues of how the load on small businesses should be managed when the unit of selection is the employee.

Overview of approach

Initial work on this focussed on determining which variables were best associated with pay. Finding these meant that strata could be defined that would form the basis of the weighting structure. The NES 2000 response file was used for this analysis, and both hourly and weekly pay was examined. Analysis of Covariance (ANCOVA) was used, and a wide range of possible prediction variables were tested for inclusion in the model, including sex, age, occupation, workplace employment, industrial classification, region, full-time/part-time markers and so on. Many of these variables can be grouped in different ways.

Many different combinations of variables were tried, and stepwise techniques were employed. The findings of the ANCOVA show that occupation is by far the best single predictor of pay. Combinations of other variables with occupation were tried, and though some others explained earnings relatively well on their own, were found to be superfluous when combined with occupation.

This work yields an approach to stratifying the survey, but in light of the pressures on the survey design in 2004 and the need to ensure that all user requirements can be met from the new survey, stratification for the ASHE will not be introduced until 2005 at the earliest. Work to investigate how to minimise respondent burden is planned in the coming months.

Task 17: ONS to investigate what alternative sampling frames might be available for a supplementary business survey, and how these alternatives might be linked to other sources, for example through personal identification numbers, to improve accuracy and coherence and minimise burdens.

Action

The review found that the current survey designs are sub-optimal and can be improved. ONS should assess whether a new sample for the NES would improve efficiency while maintaining robust estimates of the required outputs. A project will be established to consider the methodological redesign of the business survey of employees' earnings and hours of work. Task 17 will be considered as part of the development of the weighting method to be produced as a consequence of the review of the inadequate weighting procedure (recommendation 9).

Overview of approach

A project was established shortly after the release of the final report of the National Statistics Quality Review of the Distribution of Earnings. The project team considered alternative sources for a business survey of employees' earnings. This process included looking at the survey designs in other leading National Statistics Institutes. The project team concluded that the use of the sample obtained from the Inland Revenue's systems in conjunction with an adequate weighting system should allow ONS to produce high quality estimates of the distribution of earnings. The decision to retain the Inland Revenue extract as the main sample for the survey, supplemented by a sample of businesses selected from the VAT-only section of the business register, allows ONS to retain some of the significant benefits that pertained to the NES. These include the ability to build a longitudinal dataset, which has been identified as an important user requirement, and to identify individual employees within a business rather than relying on or requiring businesses to identify the sample of employees themselves. This latter point reduces the burden on the business and enhances the degree of randomness obtained in the sample.

Task 18: The ONS needs to agree the level at which multi-way analyses are required, can be produced, and their frequency (for example, are occupation by industry data required less frequently than annually? are sector level data more important than industry in the context of assessing pay?).

Action

Task 18 will be considered as part of the development of the weighting method to be produced as a consequence of the review of the inadequate weighting procedure (recommendation 8). That process will yield estimates of the quality of the survey estimates and when accompanied by an assessment of the range of the current survey outputs will allow the ONS to redefine the content of the survey publications.

Task 25: **The ONS will establish a project to consider whether there is scope for more responses to be obtained directly from employers' payroll systems. If appropriate the project will recommend how to amend the data collection processes.**

Action

The review recommended that ONS considers whether there was scope for collecting earnings data from businesses in a better way.

Overview of approach

This Task is now underway as part of the ASHE 2004 survey. It involves the ONS contacting all businesses with more than 3,000 employees and inviting them to participate in the survey electronically. This allows the business to provide data in a way that is most suitable for them. The task will further be developed as part of the ONS's electronic data collection initiative, which ultimately should allow users to provide data via an internet connection using electronic survey questionnaires.

Tasks 27-32: **The review found that one of the top priorities for earnings statistics was the provision of a monthly estimator of inflationary pressures emanating from the labour market. In this respect the Average Earnings Index (AEI) is currently used, but was found to be short of the ideal. The review also found that the presentation of the AEI including bonuses as the "headline rate" placed too great an emphasis on this more volatile measure. Similarly, the reliance on growth estimates that compare periods 12 months apart means the signalling of turning points may be delayed. There are a number of complementary indicators that might be developed to augment the short-term data currently available, and these should be explored further.**

Action

Task 27: The ONS will establish a project to develop a quarterly Labour Cost Index.

Task 28: The ONS will establish a project to assess the feasibility of developing annual labour price indicators from existing sources.

Task 29: The ONS will develop an index of gross wages and salaries, an Average Earnings Ratio.

Task 30: Using the current monthly wages and salaries survey, from which the AEI is produced, the ONS will develop a new indicator of growth in pay excluding bonuses and arrears, which will ultimately form the basis for the 'headline rate' of growth.

Task 32: The ONS will review the use of comparative estimates for points 12 months apart as the basis for its indicator of growth in the AEI.

Overview of approach

Task 27:

The ONS has developed a methodology to produce a quarterly Labour Costs Index (LCI). The index uses the data obtained in the MWSS as its primary input set for the numerator. The denominator takes data on employment, again obtained in the MWSS, and combines them with hours worked information captured in the LFS. The pay data in the numerator is supplemented with information on other non-wage labour costs that is derived from existing sources, to produce a total LCI. While the methodological development has concluded, data issues remain to be addressed before an experimental series can be released. In light of this, the ONS expects to have an experimental LCI ready for release in Spring 2004. The LCI will be produced in three forms, each available at the SIC section level and for the public and private sectors separately:

Labour Costs Index for Wages and Salaries, including bonuses, per hour worked (LCI (WAG));

Labour Costs Index for Other Labour Costs, primarily national insurance contributions and occupational pensions, as well as sickness and maternity pay, per hour worked (LCI (OTH))

Total Labour Costs Index (LCI (TOT)).

Task 28:

This work is going forward under the aegis of a programme agreed with Eurostat (the European statistics agency). As part of the preliminary work, the ONS contacted a sample of large (>500 employees) businesses within the aerospace sector that were providing data to the Monthly Wages and Salaries Survey (MWSS). This yielded a sample of businesses willing to participate in a pilot project. The companies are currently providing data on a sample of their employees and the ONS is compiling these data prior to assessing the feasibility of constructing a LPI on a larger scale. The pilot will continue to run until the summer of 2004.

Work on developing a LPI using both hedonic and classification methods is continuing. This approach involves using the existing data available to the ONS, primarily from the NES, to assess the value, viability and resulting quality of an annual LPI. The approach is limited by the available data but the ONS expects to be able to make significant progress by the first quarter 2004.

Task 29:

The Average Earnings Ratio (AER) differs from the AEI in that its target statistic is the average weekly earnings for all current employees whereas the AEI's target statistic is the growth in average earnings for a fixed distribution of employees by industry. The data source used to calculate the AER is the same as for the AEI (the MWSS) but, as the AER does not use a matched pairs approach, all the data received in a month are used to produce the AER. As well as using a ratio methodology, of wages and salaries to number of employees, the AER also incorporates new imputation and outlier methodology.

The development of the AER methodology has concluded and once some remaining data issues have been addressed it will be released as an experimental National Statistic. The ONS anticipates that the AER will be released alongside the experimental LCI.

Task 30:

The AEI is National Statistics' key short-term indicator of how levels of pay are changing within the economy of Great Britain. There has been considerable interest from users of the AEI in a seasonally adjusted series that excludes both bonus payments and arrears of pay, which some users see as changes in the level of "basic pay". A not seasonally adjusted AEI series excluding bonus payments and arrears of pay has been available since March 1996, the first month that data on bonuses became available. However, it is only recently that a long enough data span (without any discontinuities in data excluding bonus payments) suitable for seasonal adjustment has become available.

From November 2003, the ONS has released a seasonally adjusted excluding bonus payments and arrears of pay series in the Labour Market Statistics First Release. It is also available on the National Statistics website, www.statistics.gov.uk.

Task 32:

This issue is being taken forward as part of a wider ONS initiative to look at the presentation of indicators of change. That work includes the AEI and once it reports its recommendations will be considered as part of the process of presenting the AER and LCI.

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