Ipsos MORI
Social Research Institute

Maximising value from business research

A business panel feasibility study for HMRC

August 2010

Disclaimer

Contents

1. Background

1.1 Context

HM Revenue and Customs (HMRC) has commissioned Ipsos MORI to look at the feasibility of conducting a longitudinal panel survey among businesses. This report sets out the proposed design based on findings from this study.

A longitudinal business panel survey is a survey that collects data from the same businesses on multiple occasions over time. This approach differs from a cross-sectional business survey, which draws a new sample of businesses on each occasion, and which is a format currently adopted by HMRC business surveys.

The feasibility study comprised consultation with stakeholders from HMRC and other organisations, as well as a literature review of relevant surveys. In the rest of this report, we will discuss the rationale for our proposed approach and its main features, key design issues and potential questionnaire coverage.

1.2 Drivers

In recent years, the benefits of longitudinal surveys over cross-sectional surveys have increasingly been recognised. Longitudinal surveys are better at tracking and explaining change in a population compared with cross-sectional surveys. Specifically, gross change can be measured - so if 10% of businesses say they have used a service at both years one and two, it is possible to tell whether it is the same set of businesses on both occasions, or there are equal flows into and out of the service. In addition, longitudinal surveys may enable a better understanding of causality compared with cross-sectional surveys. While cross-sectional surveys allow us to establish an association between two factors, a longitudinal survey can also tell us if one factor precedes the other.

Most existing longitudinal surveys in the UK are with individuals, rather than businesses, though there are some notable exceptions such as the Workplace Employment Relations Survey (WERS) and the Cambridge National SME Survey.

The Business Tax Social Research team, in HMRC's analytical function (Knowledge, Analysis and Intelligence) first explored the potential and methodological considerations

of conducting an HMRC business panel in 2008, as part of its Methodological Review of Research with Large Businesses[1]. This sought to examine best practice in research with this population with the aim of identifying strategies for minimising the burden of research whilst maximising large businesses' participation.

There is also increasing demand for HMRC to provide evidence on the impact key policy and programme changes have within the business population, which cross-sectional surveys cannot deliver. HMRC has therefore recognised it could use longitudinal data to do this, for example by exploring the links between customer experience and compliance behaviour. Moreover a business longitudinal survey could enable HMRC to judge the effect of improvements to services businesses receive more quickly, and therefore prioritise and redesign policy and operational processes in a timelier manner.

Another driver of a business panel approach is HMRC's desire to deliver a more coherent and strategic approach towards research with its customers. Businesses are important customers for HMRC and other Government departments, which is why their views are regularly sought through different channels, including surveys. If a longitudinal survey were to become the main vehicle for HMRC large business research, it could potentially reduce the number of ad hoc research requests made to this population.

1.3 Objectives

Following consultation with HMRC stakeholders and a literature review, it was agreed that the panel must fulfil the following objectives:

- Provide information that is at least equivalent to the current HMRC Large Business Customer Survey (LBCS) [2], e.g. it must cover the same questions so results can be tracked over time; including those required for HMRC performance indicators, and the robustness of data must be maintained if not improved;

- Offer advantages in the type of information obtained, in comparison with existing HMRC research (e.g. gross change and better understanding of the causality

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[1] NatCen and NIESR, Methodological Review of Research with Large Businesses, Her Majesty's Revenue and Customs, Research Report 60. http://www.hmrc.gov.uk/research/index.htm#60
[2] HMRC Large Business Customer Survey is an annual survey that explores large business customers' experiences of their relationship with HMRC.

between policy and programme changes and the attitudes and behaviour of the business population);

- Have a high quality research design, in which the best possible response rate is achieved, in order to give the panel credibility and make it sustainable over time;

- Provide a more coherent and strategic approach towards research with its customers;

- Aim to minimise the overall research burden on businesses; and

- Deliver efficiency savings for HMRC through reducing the number of surveys that have to be commissioned otherwise and increasing the value of statistical outputs through providing richer longitudinal data.

2. An HMRC business panel

2.1 Main features

Three panel options were developed following initial consultation with HMRC policy customers and data users in Business Tax. The options varied in terms of the frequency of fieldwork, the size of the panel and the recruitment approach. The options were tested at a reconvened workshop, and the final preferred panel option was **an analytical panel**[3] **with two different telephone surveys (core survey and second survey) per year with large businesses**[4]. Specific details of this option we developed are as follows.

- Each telephone survey will last 20 minutes on average.

- Each year, there will be c. 1,000 achieved interviews in the core survey and c. 700-750 achieved interviews at the second survey. The same businesses that are sampled for the first survey would be approached to take part in the second due to the finite nature of the population and to maximise opportunities for longitudinal analysis.

- Business will be sampled at the UK ultimate parent level.

- The sample will be disproportionately stratified by the three HMRC large business customer groups[5], to ensure that there will be at least 200 interviews achieved with each group in both the core and second surveys.

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[3] An **analytical panel** enables the observation of change over time, enhances understanding of the dynamics and causes of change, allows analysis of gross change and measures stability and instability. Yet, it requires a longer lead time, a longer interval between surveys, and minimal changes in the questionnaire, meaning that it is less responsive to policy needs. Moreover, given that the focus is to measure change among the same population over time, more emphasis is placed on the reduction of attrition. It differs from a **consultative panel**, which allows questionnaire changes to reflect topical concerns, requires a shorter lead time and can be used to examine reactions to individual policies and initiatives. A consultative panel is therefore not as robust as an analytical panel in terms of measurements of behavioural change.
[4] Defined according to European Union criteria, which is a business that employs 250 or more people, or has both an annual turnover at or in excess of 50 million Euros and an annual balance sheet total of 43 million or more Euros.
[5] They are: (i) Large Business Service (LBS) (population = c. 770); (ii) Local Compliance Large and Complex with Customer Relationship Manager (LC L & C with CRM) (population – c. 1,200) and; (iii) Local Compliance Large and Complex without Customer Relationship Manager (LC L & C without CRM) (population = c. 8,500).

- The sample at waves[6] two and three will include non-responders from earlier waves and a refreshment sample.

- The sample will be drawn from HMRC's internal databases if possible.

- Interviews will be with the Head of Tax, finance director or equivalent.

- The target response rate will be 45-50% (based on the total number of in-scope businesses) for the first survey in year one, and higher at subsequent surveys (based on the total number of respondents in year one).

- Our proposed measures to boost participation rates include:

  - Thorough telephone number look up (automatic and manual);

  - Short telephone survey to build the sample (i.e. to check eligibility and to identify an appropriate individual to act as respondent); and

  - Summary of findings as feedback at the end of each survey.

Given the methodological issues involved in changing from a cross-sectional to a longitudinal approach, it is recommended that an initial development phase should be included to test the recruitment and survey process, and to pilot the first wave questionnaire. Moreover, qualitative research, such as cognitive and depth interviews, will be included as appropriate.

Given the fact that business behaviour such as compliance behaviour will take time to change, it is recommended that the panel should last for a minimum period of three years, and that there should be an option of extending it for further years.

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[6] Each iteration of a panel survey is referred to as a 'wave'.

2.2 Benefits

The above approach was chosen as the preferred option because it offers a number of benefits:

- It would fit well with HMRC's policy cycles: Pre-Budget Report and the Budget.

- There would be more space for questions with two surveys a year, e.g. additional questions on attitudes to compliance and risk, compared with HMRC's current annual LBCS

- While the panel will largely be an analytical one that aims to measure changes over time, there may be room to include some 'consultative' questions that reflect topical policy needs in the second survey.

- The burden on businesses should still be acceptable, as HMRC will only be contacting them twice a year, apart from a small number of businesses (around 30), who may be invited to take part in ad hoc qualitative research.

- The predicted rate of attrition (i.e. businesses dropping out of the panel) is acceptable, meaning that the robustness of data should not be compromised.

2.3 Outside the scope of the panel

At the beginning of the feasibility study, the possibility of including businesses of all sizes on the panel was reviewed, as there are some intrinsic differences in survey and questionnaire design for interviewing large businesses and SMEs, which is reflected in HMRC's current survey approaches.

After balancing the pros and cons of including SMEs and consultation with HMRC stakeholders, it was decided that the focus of the panel should be on large businesses only. However, as will be discussed later in this report, there will be the option of adapting or augmenting the sample to include medium-sized businesses, as and when appropriate for the second survey.

To avoid overburdening businesses, which was the original aim of HMRC's Methodological Review of Research with Large Businesses, we propose that businesses should only be contacted twice a year via the panel, and the interview length should be

20 minutes on average, the maximum length we would generally recommend for a telephone survey with this audience.   Also, to maximise the value of the panel and to track changes over time, most of the questions should stay the same year-on-year. This may mean that there may not be enough room for accommodating all of HMRC stakeholders' information needs.

Finally, as Lynn (2009) has pointed out 'longitudinal surveys are often not as good as cross-sectional surveys at providing cross-sectional estimates' [7] as the sample may become less representative over time as a result of attrition (please refer to the 'Sample design' section in chapter 3).   However, this limitation will partly be mitigated by using a sample refreshment approach, where businesses that have dropped out of the survey will be replaced with businesses that share similar characteristics.

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[7] Peter Lynn, 'Methods from Longitudinal Surveys' in *Methodology of Longitudinal Surveys* (ed. Peter Lynn) (2009), p. 8.

3. Key design issues

As part of this feasibility study, we have conducted a thorough methodological review of design issues for conducting an HMRC business panel. Here, we present a summary of findings on key design issues related to sampling and data collection.

3.1 Sample population

As discussed above, the current proposal assumes that only large businesses will be included in the business panel. However, medium-sized businesses could potentially be included in individual survey waves or modules, rather than as part of the 'core' panel sample.   Effectively, a sample of medium-sized businesses would be tagged on to the core panel sample, as appropriate. This would allow the panel to address issues that are relevant to the wider business population (e.g. businesses' responses to a particular initiative or product).   This could either be done on a one-off basis or as a more co-ordinated addition to the panel design; for example, medium-sized businesses could be included in the second survey only.

At this stage, we assume that the panel will include businesses in all sectors and the sampling unit will be the UK ultimate parent level.   The interview will be conducted with the Head of Tax in the organisation, which will help maintain consistency over time.

3.2 Sample frames

The Methodological Review of Research with Large Businesses (2008) recommended that HMRC should develop an in-house database using permanent random numbers (PRNs) so research burden will be spread out evenly across businesses[8]. HMRC's own databases are used for the LBCS, so this approach should be feasible for the panel (assuming the target population is the same). A major advantage of using HMRC's own databases is that they easily allow the identification of HMRC customer groups.

If the sample needs to incorporate SMEs at any wave, an alternative frame will need to be used. We would recommend supplementing HMRC databases with a sample of

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[8] Forth, J, *Methodological review of research with large businesses, paper 6: methods for longitudinal panel surveys*, 2008 (HM Revenue and Customs), p.11.

medium-sized businesses drawn from the Inter-Departmental Business Register (IDBR). IDBR is believed to cover 99% of UK economic activity and is generally regarded as being the most comprehensive and accurate database of businesses in the UK, apart from perhaps the very small ones.

3.3 Sample size

The overall sample size would be dependent upon the available budget, the types of sub-groups (in particular, HMRC customer groups) for which separate estimates are required, the size of the population and the level of precision required for overall and sub-group estimates.   At this stage, we have assumed a similar sample size to the 2009 LBCS, with a minimum of 1,000 achieved interviews in total, and the sample will be disproportionately stratified so there will be at least 200 interviews in each HMRC large business customer group at each survey.

When analysing change, longitudinal datasets have statistical advantages – that is, statistically significant levels of change across waves can generally be identified from smaller sample sizes than with cross-sectional studies. In other words, longitudinal surveys are generally more sensitive to change than independent cross-sectional samples of the same size.   As a result, an achieved sample size of 1,000 per wave will give a better level of statistical confidence than is currently obtained from the LBCS.

3.4 Sample design

We envisage that two of the HMRC customer groups (LBS and LC with CRM) will need to be over-represented using a disproportionate stratification approach, given the relatively small number in the population of large businesses. This is the approach currently taken in the LBCS.

Over time, simple panels[9] may become less representative of the survey population: (i) because members of the survey population which become eligible for the survey (sometimes termed "births") after the initial sample was selected are excluded from the sample while some that are within the initial sample become ineligible (though this is less of an issue for the HMRC Large Business Panel as the large business population is

fairly static over time compared to the SME population) and; (ii) because of the cumulative effects of non-response[10] .

In order to mitigate this, we propose the use of a refreshed panel design, which involves re-interviewing a proportion of the initial sample at subsequent waves and conducting the remaining interviews with freshly drawn sample members, and keeping the sample size at a similar level for each wave. The alternative would be not to have sample refreshment but interview a larger sample at wave one, to allow for sample attrition in subsequent waves. Apart from the costs involved, there is also the issue of whether such a large sample size is achievable given the finite population of two of the HMRC customer groups (LBS and LC with CRM), making this a less viable option for the HMRC panel.

3.5   Data collection mode

After balancing advantages and disadvantages of different modes of data collection and their respective costs, we believe that the most appropriate approach is Computer Assisted Telephone Interviewing (CATI), which is also the method that the LBCS adopts. CATI would enable HMRC to achieve a higher response rate than a self-completion survey and is significantly cheaper than a face-to-face approach.

It may be possible to offer some respondents a face-to-face interview as an alternative to a telephone interview. While this will have cost implications, it may help to include those who would otherwise not take part in the survey. If this approach was adopted, we recommend that the same version of the questionnaire program is used (i.e. with lists read out rather than used in showcards/on screen) to minimise mode effect and maximise comparability with the telephone interviews.

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[9] By simple panels we mean ones in which no attempt is made to provide "refreshment" sample (i.e. add new businesses) after the initial sample was selected.
[10] For example, if a survey is implemented three times with a panel, the cumulative response rate is calculated as the product of the three individual implementation response rates (e.g. 40% at wave 1, of which 70% interviewed at wave 2, of which 70% interviewed at wave 3 represents a cumulative response rate of 20%).

3.6 Hard or soft recruitment

In recruiting businesses to the panel, there is the specific issue of hard or soft recruitment. With hard recruitment, the full requirement of participation over time is explained to businesses, who are then asked to 'buy into' the panel as a whole, as well as the first interview. With a soft recruitment approach, businesses are recruited for the first interview (as with any survey), and then asked for their permission for further contact at the end of the first interview.

The Methodological Review of Research with Large Businesses suggests that a soft recruitment approach is more prevalent, though there is no direct evidence as to the relative success of the two approaches, or the criteria that make hard or soft recruitment more appropriate[11].

However, given the close relationship HMRC has with large businesses, a hard recruitment approach may be preferable. The advantages would be that:

- respondents will be informed in advance of what is required (a common request from business respondents) and can therefore plan ahead for the survey; and

- the hard recruitment approach can also be used to sell participation to respondents, as it is part of the more general move by HMRC to engage with businesses and form long-term relationships.

However, we would recommend that the hard recruitment approach is not used as a way of trying to obtain a *formal* commitment of businesses or individual respondents to take part. Trying to press a commitment on business respondents may discourage participation, and in any case will not guarantee actual participation over time. Rather, the initial contact should be used to explain the benefits of the panel and encourage participation, and businesses will not be required to agree to join the panel at that point.

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[11] Forth, J, *Methodological review of research with large businesses, paper 6: methods for longitudinal panel surveys*, 2008 (HM Revenue and Customs), p. 12.

4. Questionnaire design

4.1 Questionnaire content

A number of key themes were identified as priorities for inclusion in the panel, based on the likely questionnaire space available in the two annual surveys:

- a better understanding of the relationship between customer experience (HMRC Strategic Objective 2[12]) and its impact on compliance (HMRC Strategic Objective 1[13]);

- a better understanding of compliance behaviour;

- evaluating policies and services and getting initial responses to Budget measures; and

- an opportunity to examine the administrative burden on businesses.

In addition, we would note that, where there is pressure on questionnaire space, it makes sense to focus on issues that are most appropriate to a panel survey and where longitudinal analysis will be most useful, i.e.:

- where the aim is to measure change (in attitudes or behaviour) over time, and in particular where the aim is to understand the nature of change; and

- to help understand reasons and drivers of change.

As discussed above, it may be possible to cover questions on topical issues or policies that are more suited to a consultative panel. However, given the limited questionnaire space, we propose that the panel should mainly cover issues that are appropriate to its core design, with additions or variations included only on an occasional or exceptional basis. One such area may be how well large businesses perceive their tax performance to be. For example, businesses could be asked whether they are confident that their

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[12] SO2: "improve customers' experience of HMRC and improve the UK business environment", http://www.hmrc.gov.uk/about/csr/spend-review.htm

[13] SO1 is to "improve the extent to which individuals and businesses pay the tax due and receive the credits and payments to which they are entitled", http://www.hmrc.gov.uk/about/csr/spend-review.htm

records and control systems enable them to meet their tax obligations properly, and whether the amounts of tax they are paying are in line with their business results[14].

4.2 Pre-populated questionnaire

The Methodological Review of Research with Large Businesses15 discusses the possibilities for pre-populating questionnaires or 'dependent interviewing'. Data can be merged into the interview, either from sample data or answers given at previous waves of the panel. This approach can save time in the interview and also help to reduce seam bias, which is the over-estimation of the degree of change between waves because of reasons such as a change of respondent or poor questionnaire wording.

4.3 Linking survey data with HMRC administrative records

As part of this feasibility study we looked at the possibility of linking HMRC administrative data with longitudinal survey responses. The advantage of data linking is that additional data from administrative sources can be used to enhance the analysis; these data are often more reliable than equivalent information given by respondents during an interview.   This approach can also avoid the need for respondents to provide this information in the interview (reducing burden and interview time).

HMRC has a considerable amount of data in its administrative system (e.g. Corporation Tax records, VAT Register, etc). HMRC is currently considering the practical issues involved in linking data, as well as the legal requirements.

Specific issues to be resolved are the extent to which an individual respondent can be considered as giving consent for the business as a whole (though this has been done in other business-to-business surveys such as WERS and National Employers Skills Surveys), who is qualified to give consent, and whether written (rather than verbal) consent is required (this would inevitably reduce the successful proportion in a telephone survey). A more practical concern may be that less compliant businesses may be less likely to give their consent.

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[14] This is adopted from 'Large Business and Tax Compliance 2006' by the Australian Taxation Office, http://ato.gov.au/content/downloads/LBI82560.pdf
[15] Hales, J and O'Connor W, Methodological review of research with large businesses, paper 3: data collection, 2008 (HM Revenue and Customs), p. 19.

5. Next steps

Given the potential benefits of a longitudinal approach in terms of the richness of the dataset and the opportunity to better engage with businesses, there are strong arguments for moving the existing LBCS to a longitudinal approach. However, it does mark a departure from its existing cross-sectional design, and there are a number of issues, as outlined in this report, that will need to be considered carefully.

If our proposed approach is adopted by HMRC, it will need to be preceded by a development phase to ensure that all the potential issues will be ironed out before main fieldwork   We propose a comprehensive development and pilot phase comprising: consultation with large businesses, Customer Relationship Managers (CRMs) and other HMRC stakeholders to inform the questionnaire content and approach to recruitment; cognitive testing of new questions; and piloting of the questionnaire.

If HMRC proceed with the business panel, it will replace the current LBCS, which takes place in the Autumn of each year. To ensure continuity, we recommend that the core survey should take place from Autumn 2010, and the second survey from Spring 2011, subject to agreement.