

COOPERATIVE ANALYTICAL PROJECTS AND MICRODATA RELEASE

Executive Summary

One of the key messages from the Allen Consulting Group review of the ABS was that the ABS should find ways to be more responsive to clients' needs. A key part of increasing responsiveness is to make more and better use of existing data sources, particularly microdata.

The ABS has been releasing population survey microdata for research and analysis since the 1980s, and procedures for doing so are well-established. However, because of confidentiality restrictions, economic survey microdata cannot be released following the same procedures, so there has been little analysis of business microdata.

In 2005, the ABS entered into trial cooperative analytical projects to explore the costs and benefits of making business survey microdata more widely available. Under strict legislative provisions, select staff from four government agencies and one university were given access to de-identified business survey microdata on ABS premises for projects to assist the Statistician.

A review of these trial projects found that there were benefits to both the ABS and the project partners, and strong support that cooperative analytical projects should continue. However, the review also found there were considerable costs to the ABS, largely ABS staff time, and ABS capacity to undertake such projects would be limited. The ABS will need to further develop and implement policies and closely assess the benefits of potential projects, which must be to assist the Statistician. Project partners will be required to enter into up-front agreements and may be required to contribute to costs.

The review report, along with a number of recommendations will be discussed at the ABS May Management Meeting (16-17 May 2006). The outcomes of that discussion will be reported orally to ASAC at its 30 May meeting.

Issues for discussion

1. Does Council see cooperative analytical projects as a valuable option to increase the ABS's responsiveness to user needs and extend the use of ABS data for research and informed decision making?
2. Does Council support the broad approach suggested in the paper for cooperative analytical projects, in particular, in relation to:
 - entering into cooperative analytical projects, but being selective about which projects to engage in;
 - requiring potential partners to demonstrate benefits for both them and the ABS from the project;
 - usually asking partners to contribute to the costs incurred by the ABS;
 - requiring partners to enter into an agreement up front, outlining the arrangements and conditions; and
 - consulting with businesses providing data that might be used for research and analysis in this way?

Australian Bureau of Statistics
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Background

The ABS has custody of rich data sources. With this comes the responsibility to ensure that these are used as fully as possible, while protecting the confidentiality of the respondents who provided the information. The ABS releases data through publications and standard products (including confidentialised unit record files), and produces customised outputs on a consultancy basis. However, these avenues do not meet all the potential uses of data, and users often request access to more detailed data. In addition, the ABS is constrained in the amount of analysis it can do of the data available, through limited resources and expertise.

2 The ABS has been looking at strategies to improve its support to researchers, following one of the key messages from the review of the ABS by the Allen Consulting Group: that the ABS should find ways to be more responsive to clients' needs. Council has previously agreed that this is important, and that the ABS could improve in this area. A key part of increasing responsiveness is to make more and better use of existing data sources.

3 There are a range of initiatives that ABS is pursuing to improve access to data for research and analysis purposes. For example, for the 2006 Population Census, researchers will be able to generate their own tables remotely using a special system being developed by the ABS. Also, ABS is developing an input data warehouse of data about businesses which, among other things, can be used to satisfy special requests for tables or analysis.

4 Another approach, which ABS has used over the years, is to enter into cooperative arrangements with users to enable additional analysis of data. Examples of this include the Australian Census Analytical Program, established for the 2001 Census, and the recent trial projects involving access to de-identified (but not confidentialised) data from business surveys, for work that will assist the Statistician.

Trial projects

5 In terms of research and analytical work, one of the areas of most concern to clients is access to data, particularly access to microdata. This was specifically mentioned in the Allen Consulting Group report, where 'more access and less cumbersome access to confidentialised microdata' was included as an area to which ABS should give high priority.

6 Under provisions of the *Census and Statistics Act 1905*, the ABS has been releasing Confidentialised Unit Record Files (CURFs) since the 1980s. However, these have generally been produced only for household surveys (with the one exception of small businesses in the Business Longitudinal Survey). There is considerable difference in the size and magnitude of businesses, making it very difficult to produce a useful file where it is not possible to identify any particular business. As a result, there has been little analysis of microdata from business surveys.

7 Two legislative options exist to potentially provide greater access to business survey microdata, under strict conditions. Five trial collaborations were entered into under these provisions, to explore the issues involved in making business survey microdata more available to researchers.

8 The following table summarises the five projects:

External Agency	ABS dataset	Focus of analysis	Legislative provision
Australian Bureau of Agricultural and Resource Economics	Agricultural Census and Surveys	Identify changes to farm management behaviour as a result of the 2002-03 drought	Secondment
Bureau of Transport and Regional Economics	Survey of Motor Vehicle Usage (SMVU)	Investigate the disparities of SMVU data, compared with other assessments of transport activity and recommend improvements to survey methodology	Disclosure
Productivity Commission	Agricultural Census	Examine the link between water use, salinity, land management and farm performance, to assess the effectiveness of water use in agricultural activity	Secondment
Department of Industry, Tourism and Resources	Innovation Survey	Increase knowledge of the dataset and the techniques and tools best applied to analyse the data	Disclosure
University of South Australia	Innovation Survey	Examine the causes of business innovation in Australia	Disclosure

9 The two legislative provisions used were:

- i. Clause 7A of the *Statistics Determination*, which allows disclosure of information relating to an organisation where:
 - o the Statistician has given approval in writing
 - o the disclosure is to assist the Statistician, and
 - o the Statistician has been given a relevant undertaking that the information will be used only as specified.

ii. Section 16A of the *Australian Bureau of Statistics Act 1975*, which allows secondment from a governmental agency to assist in carrying out the functions of the Statistician.

10 Note that these provisions can only be used to assist the Statistician (eg in the production of a statistical output). Hence, before entering into a project, the ABS must determine whether the outputs of the project meet this threshold.

11 For all projects, partners could access the data only on ABS premises. Unit record files were set up specifically for the research, removing all identifiers and data items that were not needed - however, the files were not confidentialised, and may have contained identifiable data.

12 For the trial projects using the disclosure provision, access was under the supervision of ABS staff. However, under secondment, partners were treated more like ABS staff, and had unsupervised access to ABS premises (although limited access to the ABS computing environment). They were required to make an undertaking of fidelity and secrecy, and were subject to the same penalties as ABS staff who divulged confidential information. In all cases, no results of analyses could be taken from the ABS without being checked by ABS staff to ensure that no unit record data or potentially identifiable information was removed.

Review of trial projects

13 An independent review of the trial projects was proposed around the time that the first projects were established. As these trial projects used ABS legislative provisions in a new way, a full assessment was needed of any issues arising and what policies and procedures need to be in place to govern these arrangements.

14 While the review started by focusing on the trial projects involving business survey data, the focus broadened to include the range of cooperative arrangements for analysis that the ABS may be involved in. As a result, many of the findings of the review apply more generally than to use of microdata for analysis of business surveys - in particular, they apply to some aspects of collaborative work in the social statistics area.

15 The review was conducted by staff in the Office of the Statistician, which had provided advice regarding the use of the legislative provisions. The review process involved gathering information about the projects and other examples of partnerships, attending a workshop where ABS staff involved in the trial projects discussed the processes, holding more indepth discussions with the ABS staff involved, and meeting with some of the partners in the projects.

Costs and benefits

16 A clear finding from the review was that there were potentially many benefits to researchers, the users of the information and the ABS from entering into cooperative analytical projects, and strong support for ABS to continue to use this

approach. The benefits from the trial projects included increasing users' understanding of the data, enabling complex analyses that would otherwise not be possible, producing publications that address key policy issues, increasing ABS's knowledge of the datasets and user interests, and improving survey methodology.

17 The review also found that the costs involved may be considerable (largely ABS staff time, but also computing facilities), and the ABS capacity to take on these projects will be limited. It also identified ways in which some of these costs might be reduced. The demand from users to be involved in cooperative analytical projects is likely to be greater than can be supported by the ABS. Selection of high priority, valuable and feasible projects will be important to ensure ABS resources are used wisely.

Procedures and protocols

18 The review also found that the trial projects experienced some difficulties, particularly in the early stages, through the lack of established procedures and protocols. If ABS is to continue to enter into cooperative analytical partnerships, it will be important to develop policies, procedures and protocols. One option being considered is establishing a central unit to provide assistance for these projects.

Proposal for cooperative analytical projects

19 Given the support found for cooperative analytical projects in the review, one recommendation will be that the ABS includes these projects as part of the range of ways of engaging with users and enhancing the use of ABS data. Often projects will be initiated by potential partners approaching the ABS with a proposal. However, in some cases, users will be invited to submit proposals for projects, as is the case with the Australian Census Analytical Program. In other cases, the ABS may approach the potential partner.

20 The review will also recommend that procedures be established to cover a wide range of projects where the ABS enters into a partnership with another organisation to undertake research and analysis. These procedures will cover data access through the disclosure or secondment provisions previously discussed, and other procedures where it is important to have a mutual understanding of the arrangements.

21 The following principles will apply to cooperative analytical projects:

- a. The ABS has a limited capacity to enter into partnerships, and will only agree to proposals that are of mutual benefit, that are of high priority objectives from the point of view of national statistics, and that can be accommodated within the ABS work program. Where they involve use of legislative disclosure or secondment provisions, they must be demonstrably assisting the Statistician perform his functions, such as resulting in an ABS publication, a joint publication with the ABS, or a methodological report to the ABS.
- b. The project must be consistent with the mission and values of the ABS - that is, to

inform decision making, while remaining independent and objective in analysis and interpretation.

- c. The ABS will require partners to enter into an agreement outlining the arrangements and conditions governing the project (the only exception to this is for projects where a separate agreement exists, such as Australian Research Council linkage grants).

22 In assessing the costs and benefits of a proposal, the priority we can give to it will increase if the costs to the ABS decrease. Thus, partners in cooperative analytical projects will generally be required to contribute to costs, with the amount of the contribution varying depending on the nature of the project. The availability of additional funds may enable the ABS work program to be expanded to include new analytical projects. This is similar to the situation where additional funding enables ABS to undertake some additional surveys. Consideration will need to be given to the options for those who may not be able to meet these costs.

23 In identifying benefits, direct policy relevance will be important. That is, the topic should be of benefit to the community, demonstrating a genuine policy or business benefit, beyond general research.

Next Steps

24 The report from the review is scheduled for discussion at the ABS May Management Meeting, to be held 16-17 May 2006, and we will update ASAC orally on the results of that discussion.

25 Before finalising the proposals, ABS will ensure that business data providers are comfortable with these arrangements. This will be done through consulting with the relevant industry associations, and possibly conducting focus group sessions with businesses.

26 It is planned that a statement about the ABS approach will be put on the ABS website later in the year. Users wishing to find out more about the potential for putting forward a proposal for a cooperative analytical project should contact the area responsible for their subject of interest.