



## **Technical Manual**

# **Innovation in Australian Business, Expanded Confidentialised Unit Record File**

**Australia**

**2003**



New  
Issue

## **Technical Manual**

# **Innovation in Australian Business, Expanded Confidentialised Unit Record File**

**Australia**

**2003**

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AUSTRALIAN BUREAU OF STATISTICS

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## CHAPTER 1 INTRODUCTION

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### OVERVIEW

This Technical Manual provides information on the release of microdata from the 2003 Innovation Survey. The data are available through an Expanded Confidentialised Unit Record File (CURF) released with the approval of the Australian Statistician. The 2003 Innovation in Australian Business Survey (IABS) Expanded CURF is accessible through the ABS Remote Access Data Laboratory (RADL). A Basic CURF product on CD-ROM has not been produced for the 2003 Innovation Survey because the risk of business disclosure is too high.

The RADL is a secure on-line database query service, under which microdata are held on a server at the ABS, to which users can submit programs to interrogate and analyse data, and access the results. Because the CURFs are kept within the ABS environment, the ABS is able to release more detailed data via RADL than can be made available on CD-ROM. Further information about the RADL facility and information about obtaining access to the file is available on the ABS web site <<http://www.abs.gov.au>> (see Services We Provide, CURFs Microdata).

### ABOUT THE SURVEY

This 2003 IABS Expanded CURF contains a subsample of the data collected during the 2003 Innovation Survey conducted by the Australian Bureau of Statistics (ABS). The survey collected details of innovative activities and expenditure. It was based on concepts and standard questions developed jointly by the Organisation for Economic Co-operation and Development (OECD) and Eurostat. The concepts have been published in *OECD Proposed Guidelines for Collecting and Interpreting Technological Innovation Data* (OECD, Paris, 1997), known as the Oslo Manual.

The survey was largely consistent with international frameworks outlined in the Oslo Manual on innovation and provides comparability with several international surveys, most notably the Eurostat Community Innovation Surveys. The central aspect of the Oslo Manual, and most innovation surveys conducted internationally, has been the measurement of technological innovation. While technological innovation has been one of the key drivers of economic growth over the past few decades, there is a growing realisation that non-technological innovation also contributes significantly. For the 2003 Innovation Survey, the ABS anticipated revisions that were likely to be made to the Oslo Manual in an attempt to separately identify non-technological innovation.

### DEFINING INNOVATION

For the purposes of this collection the ABS has defined the term Innovation as the process of developing, introducing and implementing a new or significantly improved good or service or a new or significantly improved process. New goods or services or new processes may involve the development of new technology, an adaptation of existing technology to a new use (e.g. electronic commerce), or may be non-technological in nature (e.g. organisational and managerial change, some changes in marketing). Innovation has been classified into three categories. These categories are defined as:

- A *new good or service* means any good or service or combination of these which is new to a business. Its characteristics or intended uses differ significantly from those previously produced.
- A *new operational process* is a significant change for a business in its methods of producing or delivering goods or services.

## CHAPTER 1 INTRODUCTION *continued*

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### DEFINING INNOVATION *continued*

- A *new organisational/managerial process* is a significant change in a business's strategies, structures or routines which aim to improve performance.



## CHAPTER 2 METHODOLOGY

### SCOPE AND COVERAGE

The scope of the 2003 Innovation Survey was based on a combination of factors including user requirements, resource and provider load constraints, and international standards. The scope was all businesses in Australia with employment recorded on the ABS Business Register of more than 4 employees, except those classified to:

- SISCA 3000 General Government
- SISCA 6000 Rest of the world
- ANZSIC Division A Agriculture, Forestry and Fishing
- ANZSIC Division M Government Administration and Defence
- ANZSIC Division N Education
- ANZSIC Division O Health and Community Services
- ANZSIC Division Q Personal and Other Services

The frame for the 2003 Innovation Survey, like most ABS economic collections, was taken from the ABS Business Register. Employing businesses are identified primarily based on registrations to the Australian Taxation Office's (ATO) Pay As You Go Withholding (PAYGW) scheme. Businesses which have ceased employing are identified when the ATO cancels their Australian Business Number (ABN) and/or PAYGW registration. In addition, businesses with less than 50 employees which did not remit under the PAYGW scheme in each of the previous five quarters are not included on the frame. An allowance for businesses that are registered after the frame is taken but before the end of the reference period has been applied (via adjustment to survey weights).

### SAMPLE DESIGN

The 2003 Innovation Survey was conducted by mail. It was based on a random sample of approximately 8,500 businesses which was stratified by industry, state/territory and number of employees. Of these, approximately 6,200 businesses contributed to estimates published in the *2003 Innovation in Australian Businesses* (cat. no. 8158.0).

### DATA COLLECTION METHODOLOGY

The main reference period for the 2003 Innovation Survey is the three year calendar period 2001–03. Some data from the survey relate to the calendar year 2003. Financial data relates to the most recent financial year ended on or before 30 September, 2003.

Businesses were not directly asked if they undertook any innovation in the three years ending December 2003. Instead, businesses were classified as innovating by at least one affirmative response to any one of three questions asked on the survey form. They were asked if:

- the business introduced any new or significantly improved good or services
- the business implemented any new or significantly improved operational processes
- the business implemented any new or significantly improved organisational/managerial processes.

### CLASSIFICATIONS

All businesses in the 2003 Innovation Survey were classified to employment and income ranges based on actual data reported. For industry and state/territory, the classifications are drawn from information held about each business on the ABS Business Register. The state/territory that a business was classified to was determined by the location of that business's head office.

### CONFIDENTIALISING THE DATA

The 2003 IABS Expanded CURF is released under the provisions of the *Census and Statistics Act 1905*. The Act allows for the release of data in the form of unit records where the information is not likely to enable the identification of a particular person or organisation. Accordingly, there are no names or addresses of survey respondents on the CURF, and other steps have been taken to protect confidentiality of respondents. These include:

- Subsampling of businesses that were selected in the 2003 Innovation Survey to ensure that each business on the CURF represents at least 3 businesses in the population. Businesses subsampled for inclusion on the CURF have been selected in a manner such that they are largely representative (in regards to their business and innovation characteristics) of the businesses excluded during subsampling.
- Reducing the level of detail shown on the CURF for some data items. For example, some data items collected in the survey have been omitted, collapsed with other data items, or presented in ranges.
- Perturbing (value adjustment) of expenditure data for all businesses.
- Changes to some other data item values of a very small number of businesses with rare characteristics.

Note that these treatments have been applied in such a way as to maintain as much as possible the comparability of estimates produced from the CURF with those in the *2003 Innovation in Australian Businesses* (cat. no. 8158.0). However, as a consequence of these treatments, in particular the subsampling, estimates obtained from the 2003 IABS Expanded CURF are unlikely to match the published data exactly. Comparability of estimates of expenditure totals will be the most impacted by the treatments.

Steps to confidentialise the data made available on the CURF are taken in such a way as to ensure the integrity of the dataset and optimise its content, while maintaining the confidentiality of respondents. Intending purchasers should ensure that the data they require, at the level of detail they require, are available on the CURF. Data obtained in the survey but not contained in the CURF may be available as statistics in tabulated form on request. For a complete list of all of the data items included on the 2003 IABS Expanded CURF, as well as data items omitted from the CURF, see the Appendix. Treatments of data items for confidentiality purposes are also noted in the list provided.

### WEIGHTING AND ESTIMATION

As the 2003 Innovation Survey was conducted on a sample of businesses in Australia, it is important to take account of the method of sample selection when deriving estimates from the CURF. This is particularly important as a business's chance of selection in the survey varied depending on the state or territory in which their head office is located, the industry of the business, and the business's number of employees. If these chances of selection are not accounted for, by use of appropriate weights, the results will be biased.

There are two types of weights included on the CURF for each record - a main sampling weight (SWEIGHT), and 100 replicate weights (RWGT\_1, RWGT\_2,..., RWGT\_100). The main sampling weight indicates how many population units are represented by the sample unit, and should be used to calculate population estimates from the CURF. The replicate weights should be used to estimate the sampling variability (see 'Sampling error' below) of the population estimates calculated.

## CHAPTER 2 METHODOLOGY *continued*

### RELIABILITY OF ESTIMATES

Estimates from the 2003 Innovation Survey are subject to non-sampling and sampling error.

### NON-SAMPLING ERROR

Inaccuracies in data may occur due to imperfections in reporting by businesses, form design, or in processing by the ABS. Such inaccuracies are referred to as non-sampling error. Every effort is made to reduce non-sampling error by:

- careful design and testing of questionnaires and data processing systems
- providing detailed instructions to providers on how to respond to questions
- detailed checking of reported data to ensure that it is logical, consistent and complete.

Caution should be exercised when using estimates of expenditure on innovation from the 2003 Innovation Survey. Many businesses were only able to provide an estimate of expenditure associated with innovation. Negligible amounts recorded against some expense items may be due to the unavailability of information rather than minimal spending.

An additional source of non-sampling error has been introduced to the CURF as part of the confidentialising process (i.e. as a result of value adjustment).

### SAMPLING ERROR

As the estimates produced from the 2003 Innovation Survey are based on information relating to a sample of businesses rather than a full enumeration, they are subject to sampling variability. That is, they may differ from the estimates that would have been produced if the information had been obtained from all businesses.

The difference between estimates obtained from a sample of businesses, and the estimates that would have been produced if the information had been obtained from all businesses, is called sampling error. The expected magnitude of the sampling error associated with any estimate can be estimated from the sample results. One measure of sampling error is given by the standard error (SE), which indicates the degree to which an estimate may vary from the value that would have been obtained from a full enumeration (the 'true' figure). There are about two chances in three that a sample estimate differs from the true value by less than one standard error, and about nineteen chances in twenty that the difference will be less than two standard errors.

An example of the use of standard error is as follows. From the table below, the estimated proportion of total businesses innovating was 34.9% and the standard error of this estimate was 1.4%. There would be about two chances in three that a full enumeration would have given a figure in the range 33.5% to 36.3%, and about nineteen chances in twenty that it would be in the ranges 32.1% to 37.7%.

## CHAPTER 2 METHODOLOGY *continued*

SAMPLING ERROR *continued*

INNOVATION IN AUSTRALIAN BUSINESS (a): 2001–2003

	<i>Proportion of businesses innovating</i>	<i>Standard error of proportion of businesses innovating</i>
	%	%
<b>Proportion of businesses which introduced or implemented:</b>		
Any new or significantly improved goods or services	16.7	1.1
Any new or significantly improved operational processes	23.0	1.3
Any new or significantly improved organisational/managerial processes	21.5	1.3
Any new goods, services or processes	34.9	1.4

(a) Proportions are of all businesses with more than 4 persons employed.

The relative standard error (RSE) is a useful measure of sampling variability in that it provides an immediate indication of the percentage errors likely to have occurred due to sampling, and thus avoids the need to refer also to the size of the estimates. Estimates with high RSEs (greater than 10%) should be used with caution.

CALCULATION OF  
SAMPLING ERROR

Each record on the CURF contains 100 replicate weights (RWGT\_1, RWGT\_2,..., RWGT\_100) in addition to the main sampling weight (SWEIGHT). The purpose of these replicate weights is to enable calculation of the sampling variability (measured by the SE and RSE) on each estimate produced. The basic idea behind the replication approach is to select subsamples repeatedly (100 times) from the whole sample. The sampling variability of a population estimate (which is calculated using the main sampling weight) is then estimated using the variability among the 100 population estimates calculated using each of the subsamples.

The 2003 Innovation Survey used a bootstrap method to assign replicate weights which simulates the subsampling. Therefore, the CURF user is not required to subsample the dataset. As well as enabling the sampling variability of estimates to be calculated relatively simply, replicate weights also enable unit record analyses such as chi-square tests and logistic regression to be conducted which take into account the complex sample design.

The formulae for calculating the SE and RSE of an estimate using the replicate weights are:

$$SE(\hat{Y}) = \sqrt{\frac{\sum_{r=1}^{100} (\hat{Y}_r - \hat{Y})^2}{99}} = \sqrt{\frac{1}{99} \left( \sum_{r=1}^{100} \hat{Y}_r^2 - \frac{1}{100} \left( \sum_{r=1}^{100} \hat{Y}_r \right)^2 \right)}$$

$$RSE(\hat{Y}) = \left( \frac{SE(\hat{Y})}{\hat{Y}} \right) \times 100\%$$

where  $\hat{Y}$  is the weighted estimate of a level, ratio or proportion using the main sampling weight (SWEIGHT)

$\hat{Y}_r$  (the replicate estimate) is the weighted estimate of a level, ratio or proportion using the replicate weight (RWGT\_r)

CALCULATION OF  
SAMPLING ERROR *continued*

$\hat{Y}$  is the average over all 100 replicate estimates

For the 2005 Innovation Survey, the ABS improved its methodology for calculating the RSEs for estimates of proportions. The formula used was as follows:

$$RSE(\hat{Y}) = \left( \frac{SE(\hat{Y})}{0.5} \right) \times 100\%$$

where  $\hat{Y}$  is an estimate of a proportion.

Please refer to the Technical Note in the Appendix of *2005 Innovation in Australian Businesses* (cat. no. 8158.0) for more details. It is the user's choice as to which method of calculating an RSE of proportion estimates they prefer to implement. Note that the original formula is the correct one to use for estimates of levels or ratios.

To enable CURF users to check that they are using the replicate weights correctly to estimate sampling error, SEs and RSEs of types of innovation undertaken by selected business characteristics have been calculated using the replicate weights on the CURF and are included in the tables below. The RSEs for proportion estimates have been calculated using the ABS' revised methodology.

## CHAPTER 2 METHODOLOGY *continued*

### STANDARD ERRORS OF TYPES OF INNOVATION UNDERTAKEN (a): 2001–2003

	Total		Number of innovating businesses	PROPORTION OF BUSINESS WHICH INTRODUCED OR IMPLEMENTED:		
	number of business	Proportion of innovators		Any new or significantly improved goods or services	Any new or significantly improved operational processes	Any new or significantly improved organisational/managerial processes
	no.	%		%	%	%
<b>Employment size</b>						
5–19 persons	1 516	1.8	1 879	1.4	1.5	1.5
20–99 persons	1 076	2.2	812	1.8	2.0	2.1
100 or more persons	274	3.1	234	3.3	3.1	2.9
<b>Income size</b>						
Less than \$100 000	1 008	3.5	339	2.0	3.4	3.0
\$100 000–less than \$1m	2 202	2.7	1 426	1.7	2.0	1.9
\$1m–less than \$5m	1 893	2.3	1 438	2.0	2.0	2.1
\$5m or more	1 088	2.3	734	2.1	2.4	2.2
<b>State/territory</b>						
New South Wales	904	2.8	1 386	2.3	2.5	2.4
Victoria	613	3.0	1 101	2.0	2.4	2.5
Queensland	496	2.9	705	1.8	2.8	2.6
South Australia	253	4.1	369	3.3	3.7	3.4
Western Australia	301	2.9	397	1.8	2.5	2.7
Tasmania	80	5.0	129	2.7	4.6	3.6
Northern Territory	64	6.6	69	3.0	3.8	5.7
Australian Capital Territory	111	5.8	137	3.2	5.7	4.5
<b>Industry</b>						
Mining	19	3.7	27	2.5	3.0	2.9
Manufacturing	157	1.5	296	1.4	1.3	1.2
Electricity, gas and water supply	2	5.0	9	4.8	5.2	4.4
Construction	291	3.9	498	2.4	3.3	3.5
Wholesale trade	304	3.7	505	3.1	3.3	3.5
Retail trade	800	4.3	1 294	2.5	3.7	3.1
Accommodation, cafes and restaurants	468	4.5	547	2.2	3.8	3.3
Transport and storage	156	3.8	195	2.7	3.7	3.4
Communication services	11	4.4	20	4.6	4.6	3.6
Finance and insurance	239	5.2	220	3.8	3.8	4.4
Property and business services	755	3.6	1 278	3.1	2.9	2.9
Cultural and recreational services	105	3.4	155	3.2	2.7	3.1
<b>Total</b>	<b>1 243</b>	<b>1.4</b>	<b>2 001</b>	<b>1.1</b>	<b>1.3</b>	<b>1.3</b>

(a) Calendar years

## CHAPTER 2 METHODOLOGY *continued*

### RELATIVE STANDARD ERRORS OF TYPES OF INNOVATION UNDERTAKEN (a): 2001–2003

	Total number of businesses	Proportion of innovators	Number of innovating businesses	PROPORTION OF BUSINESSES WHICH INTRODUCED OR IMPLEMENTED		
				Any new or significantly improved goods or services	Any new or significantly improved operational processes	Any new or significantly improved organisational/managerial processes
				%	%	%
Employment size						
5–19 persons	1.5	3.6	6.1	2.7	3.1	3.1
20–99 persons	3.8	4.4	6.2	3.6	4.1	4.2
100 or more persons	5.2	6.2	7.1	6.6	6.3	5.8
Income size						
Less than \$100 000	11.0	6.9	27.0	3.9	6.7	6.0
\$100 000–less than \$1m	4.2	5.5	11.2	3.5	4.0	3.9
\$1m–less than \$5m	3.6	4.5	6.6	4.1	4.1	4.3
\$5m or more	4.8	4.7	6.3	4.1	4.8	4.5
State/territory						
New South Wales	1.9	5.6	7.9	4.6	4.9	4.7
Victoria	1.8	6.1	9.1	4.0	4.8	5.1
Queensland	2.0	5.7	9.3	3.7	5.6	5.2
South Australia	2.9	8.2	9.1	6.6	7.4	6.9
Western Australia	2.2	5.9	9.0	3.5	5.0	5.4
Tasmania	3.1	10.0	19.0	5.5	9.2	7.2
Northern Territory	5.8	13.2	22.1	6.1	7.6	11.3
Australian Capital Territory	4.8	11.6	20.2	6.3	11.3	9.0
Industry						
Mining	2.7	7.4	12.1	4.9	6.0	5.7
Manufacturing	0.8	3.1	3.4	2.7	2.6	2.4
Electricity, gas and water supply	0.9	10.0	9.3	9.5	10.4	8.9
Construction	2.3	7.8	12.8	4.8	6.5	7.0
Wholesale trade	2.3	7.4	8.9	6.2	6.6	7.1
Retail trade	2.7	8.6	13.6	5.0	7.4	6.3
Accommodation, cafes and restaurants	3.9	8.9	17.2	4.5	7.5	6.6
Transport and storage	3.1	7.5	11.1	5.5	7.3	6.8
Communication services	2.5	8.8	9.1	9.1	9.2	7.2
Finance and insurance	6.3	10.3	13.0	7.5	7.7	8.8
Property and business services	2.2	7.3	11.7	6.3	5.8	5.9
Cultural and recreational services	2.4	6.8	9.6	6.3	5.5	6.3
<b>Total</b>	<b>0.9</b>	<b>2.8</b>	<b>4.2</b>	<b>2.2</b>	<b>2.5</b>	<b>2.5</b>

(a) Calendar years

## CHAPTER 3 USING THE CURF DATA

### STRUCTURE OF THE 2003 IABS EXPANDED CURF

The 2003 IABS Expanded CURF consists of 4,520 businesses (approximately 73% of businesses contributing to the 2003 Innovation Survey), and 298 variables. The variables consist of:

- data items from the 2003 Innovation Survey that have been treated as part of the confidentialisation process. The data items contain information about Australian businesses including new goods, services or processes; types of collaboration; sources of ideas or information; methods used to acquire knowledge; intellectual property; business drivers; barriers; staff skills, capabilities and recruitment; and some financial information.
- auxiliary variables - these include a randomly generated business identifier, business characteristics (e.g. industry, state/territory), weights, and some useful derived variables.

A complete list of variables included on the CURF is available in the Appendix.

Each of the non-financial data items are represented as categorical variables on the CURF. Except for the employment range classification, these categories are of the general form:

0 = box was not ticked on the survey form; or the 'No' box was ticked.

1 = box was ticked on the survey form; or the 'Yes' box was ticked.

9 = data was not collected (due to the business being a Key Data Item business; see below for more details).

Formats for the values of each categorical variable on the CURF are provided with the product release.

### FOR SAS USERS

By converting category values of 9 to a missing value ('.'), each categorical variable on the CURF becomes an indicator (0-1) variable which can be aggregated to calculate (weighted) count estimates. Furthermore, the variables can be used directly in regression models whereby SAS will automatically exclude businesses with one or missing explanatory variable values during the calculation of model parameter estimates.

### KEY DATA ITEM BUSINESSES

During the 2003 Innovation Survey, some businesses only reported on a few key data items. It was intended that this partial response approach would reduce non-response bias and the level of imputation for these data items. Such businesses are referred to as Key Data Item (KDI) businesses, and a subsample of these businesses are included on the CURF (as identified by the KDI variable). Categorical data items (i.e. all data items except expenditure data items) on the CURF have a coded value of 9 to indicate that data was not collected due to the business being a KDI business. For all expenditure items on the CURF, a coded expenditure value of 9999999 indicates that the expenditure data item was not collected due to the business being a KDI business. Careful use of KDI businesses in analysis is recommended to ensure that coded values do not incorrectly contribute to aggregate estimates calculated from the CURF.

Note that in the *2005 Innovation in Australian Businesses* (cat. no. 8158.0), there are revised 2003 estimates for total expenditure and innovation expenditure, primarily as a result of the inclusion of imputed data for KDI and other non-responding large businesses in the estimates. Total expenditure and innovation expenditure on the CURF include the imputed data for these businesses. Therefore, population estimates for these



## CHAPTER 3 USING THE CURF DATA *continued*

### KEY DATA ITEM BUSINESSES *continued*

data items will align more closely with the revised 2003 estimates provided in the 2005 publication, rather than with those provided in the *2003 Innovation in Australian Businesses* (cat. no. 8158.0).

### 2003 IABS EXPANDED CURF FILES

The 2003 IABS Expanded CURF contains the files listed below and is available through the RADL.

#### *Expanded CURF files*

The following file contains the data for the CURF in SAS for Windows format:

- IABS03E.SAS7BDAT

Furthermore, the following SAS format library is available for use with the CURF:

- formats.SAS7BDAT

The following file contains the data for the CURF in SPSS for Windows format:

- IABS03E.SAV

The following file contains the data for the CURF in Stata format:

- IABS03E.DTA

#### *Expanded CURF test files*

Test files are available which mirror the actual data, but have random data. The test files can be utilised to troubleshoot SAS, SPSS or Stata code prior to submitting RADL jobs. Data from the test files will not match data from the actual 2003 IABS Expanded CURF files. The names of the test files available are the same as those noted above.

#### *Information files*

- IABS03E Contents.TXT contains the contents of the CURF files including variable type (i.e. whether the variable is character or numeric), variable formats and variable labels. This file is in plain text format.
- IABS03E Frequencies.TXT contains, for selected variables on the CURF, the variable values (including formatted values) with the unweighted and weighted frequencies of each value. This file is in plain text format.
- 8158055002-Data\_Items.XLS is an Excel workbook containing a complete list of variables included on the 2003 IABS Expanded CURF, as well as data items omitted from the CURF. Treatments of data items for confidentiality purposes are also noted in the workbook.
- 8158055002.2003.pdf is an Acrobat file that contains the Technical Manual
- 81580\_2003.pdf is an Acrobat file that contains the *2003 Innovation in Australian Businesses*
- 81580\_2005.pdf is an Acrobat file that contains the *2005 Innovation in Australian Businesses*

## CHAPTER 4 CONDITIONS OF RELEASE

### RELEASE OF CURF

The 2003 IABS Expanded CURF is released in accordance with a Ministerial Determination (Clause 7, Statutory Rules 1983, No. 19) in pursuance of section 13 of the *Census and Statistics Act 1905*. As required by the Determination, the CURF has been designed so that the information on the files is extremely unlikely to enable the identification of the particular organisation to which it relates.

The Australian Statistician's approval is required for each release of the CURF. Prior to being granted access to the CURF, all organisations, and individuals within the organisations, who request access to the CURF will be required to sign an Undertaking which includes, among other conditions, that they will:

- use the data only for the statistical purposes specified
- not attempt to identify particular persons or organisations
- not disclose, either directly or indirectly, the data to any other person or organisation other than members of their organisation who have been approved by the ABS to have individual access to the information
- not attempt to match, with or without using identifiers, the information with any other list of organisations
- in relation to data made available via the Remote Access Data Laboratory (RADL) or the ABS Data Laboratory (ABSDL), access the data only in a manner specifically authorised in writing by the ABS
- not attempt to access the information after the term of their authorisation expires, or after their authorisation is rescinded by the organisation which provided it, or after they cease to be a member of that organisation.

Use of the data for statistical purposes means use of the content of the CURF to produce information of a statistical nature, i.e. the arrangement and classification of numerical facts or data, including statistical analyses or statistical aggregates. Examples of statistical purposes are:

- manipulation of the data to produce means, correlations or other descriptive or summary measures
- estimation of population characteristics
- use of data as input to mathematical models or for other types of analysis (e.g. factor analysis)
- providing graphical or pictorial representations of the characteristics of the population of subsets of the population.

All CURF users are required to read and abide by the *Responsible Access to the ABS Confidentialised Unit Record Files (CURFs) Training Manual* available on the ABS web site <<http://www.abs.gov.au>> (see Services We Provide, CURFs).

Use of the data for unauthorised purposes may render the purchaser liable to severe penalties. Advice about the propriety of any particular intended use of the data is available from the Microdata Access Strategies Section of the ABS via <[microdata.access@abs.gov.au](mailto:microdata.access@abs.gov.au)> or on (02) 6252 7714.

### SPECIAL RADL PROTECTIONS

Special protections (additional to standard protections) for data release with RADL have been applied to the 2003 IABS Expanded CURF. These include:

- The prevention of listing any unit records with a weight less than four;

## CHAPTER 4 CONDITIONS OF RELEASE *continued*

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SPECIAL RADL PROTECTIONS <i>continued</i>	<ul style="list-style-type: none"><li>■ The restriction of all output to 'keep secure' status - manual clearance will be required by the ABS before any output is published or shared with authorised users; and</li><li>■ 100% auditing (within 2 weeks of job being run) of CURF RADL jobs will be conducted by the ABS.</li></ul>
CONDITIONS OF SALE	All ABS products and services are provided subject to the ABS conditions of sale. Any queries relating to these Conditions of Sale should be referred to <intermediary.management@abs.gov.au>.
PRICE	The price of the 2003 IABS Expanded CURF individually on RADL as at August 2007 is \$1,320, including GST.
ACCESSING AND ORDERING OF THE CURF	All clients wishing to access the 2003 IABS Expanded CURF should refer to the ABS web site, < <a href="http://www.abs.gov.au">http://www.abs.gov.au</a> > (see Services We Provide, CURF and Microdata) and read the <i>Responsible Access to the ABS Confidentialised Unit Record Files (CURFs) Training Manual</i> and related information, before downloading the appropriate Application and Undertaking forms and applying for access.
AUSTRALIAN UNIVERSITIES	University clients should refer to the ABS website, < <a href="http://www.abs.gov.au">http://www.abs.gov.au</a> > (See Services We Provide, Services to Universities). The 2003 IABS Expanded CURF can be accessed by universities participating in the ABS/AVCC CURF agreement for research and teaching purposes.
OTHER CLIENTS	Other prospective clients should contact the Microdata Access Strategies Section of the ABS via < <a href="mailto:microdata.access@abs.gov.au">microdata.access@abs.gov.au</a> > or on (02) 6252 7714.
ORDERING TABLES	Access to the full details from the survey (including data items omitted from the CURF) is only available through tables produced by the ABS. Requirements for these tables should be discussed with the Innovation and Technology Business Statistics Centre on (08) 9360 5303 or email < <a href="mailto:innovation.technology@abs.gov.au">innovation.technology@abs.gov.au</a> >.
FURTHER INFORMATION	For further information about accessing the CURF, clients should contact the Microdata Access Strategies Section of the ABS at < <a href="mailto:microdata.access@abs.gov.au">microdata.access@abs.gov.au</a> > or on (02) 6252 7714.
IABS EXPANDED CURF FOLLOW-UP AND FUTURE RELEASES	As this is the first release, clients will be followed up for an assessment of the usefulness of the 2003 IABS Expanded CURF as input into decisions on future releases.

## APPENDIX DATA ITEMS

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### DATA ITEMS

For a complete list of data items on the 2003 IABS Expanded CURF please see the Excel workbook available as a data cube '8158055002-Data\_Items.XLS' on the ABS website <<http://www.abs.gov.au>>. The Excel workbook is also available under the same filename on the RADL.

## GLOSSARY

<b>Collaboration</b>	Active joint participation with other organisations which involves some sharing of technical or commercial risk. Straight fee-for-service arrangements are deemed to be collaborative and are therefore excluded.
<b>Expenditure</b>	Refers to the operating and capital expenditure as recorded in the Statement of Financial Performance and Statement of Financial Position for the business.
<b>Financial reference period</b>	Financial year ended 30 June 2003. Businesses with a different financial year were asked to report for a 12 month period which ended between 1 October 2002 and 30 September 2003.
<b>Innovation</b>	The process of developing, introducing and implementing a new or significantly improved good or service or a new or significantly improved process.
<b>Innovating business</b>	A business which, in the three calendar years to 2003, introduced any new or significantly improved good or service and/or implemented any new or significantly improved operational and/or organisational/managerial process.
<b>Intellectual property</b>	Refers to the ownership of ideas and control over the tangible or virtual representation of those ideas.
<b>New good or service</b>	Any good or service or combination of these which is new to the business. Its characteristics or intended uses differ significantly from those previously produced by the business. Examples of new goods include: change of materials in goods; inclusion of environmentally-friendly components; introduction of smart-card; new type of paper for specific printers; development of flexible customer software; introduction of Global Positioning System (GPS); supply of multimedia applications; and cleaning cloths that don't require detergents. Examples of new services include: introduction of an extended warranty; introduction of pick-up service for customers; introduction of sale via Internet (e-commerce); existing services combined in a new form; introduction of electronic clearing systems; new or significantly improved insurance services; introduction of automated voice-response system; and introduction of telephone or internet bill payments system.
<b>New operational process</b>	A significant change for the business in its methods of producing or delivering goods or services. For example: digitalisation of printing processes; introduction of computer-assisted/based methods for product development; introduction of digital product labelling; development and introduction of digital distribution channels; reconstruction or reorganisation of sales rooms, if this enables easier shopping for customers; implementation of call-centre solutions; training of skilled labour to offer specially trained consulting services to customers; new or improved software or PC networks; introduction of electronic data interchange; new software tools for supply chain management; and introduction of automated or electronic ticketing system.
<b>New organisational/managerial process</b>	A significant change in the business's strategies, structures or routines which aim to improve the performance of the business. For example: changed corporate directions; introduction of new management techniques; improved business diagnostics or performance measures; significant workplace reorganisation; and significant changes to communication and information networks.
<b>Non-innovating business</b>	A business which, in the three calendar years to 2003, did not introduce any new or significantly improved goods or services and did not implement any new or significantly improved operational and/or organisation/managerial processes.
<b>Non-technological innovation</b>	Non-technological innovation covers all innovations which are excluded from technological innovation. This means it includes all the innovations of firms which do not relate to the introduction of a technologically new or substantially changed good or service or to the use of a technological new or substantially changed process. The major types of non-technological innovation are likely to be organisational and managerial innovations. For example, the implementations of advanced management techniques

**GLOSSARY** *continued*

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<b>Non-technological innovation</b> <i>continued</i>	such as total quality management; the introduction of significantly changed organisation structures; and the implementation of new or substantially changed corporate strategic orientations.
<b>Research and experimental development</b>	Comprises creative work carried out systematically to increase the stock of knowledge and its use to devise new applications.



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