

Managing the implementation of the SNA, BPM and related international standards in a national statistical office context¹

Derick Cullen² and Bernard Williams³

Introduction

The Australian Bureau of Statistics (ABS) is scheduled to implement the BPM6 and SNA 08 with the release of statistics for the September quarter 2009. The ABS will be one of the first national statistical agencies to implement the revised standards. The implementation will coincide with the introduction into the Australian national and financial accounts of an update to the industrial classification used by the ABS and Statistics New Zealand. Managing two concurrent significant changes to Australia's macroeconomic statistics is a major challenge that involves many different parts of the organisation.

This paper outlines the processes used and issues faced by the ABS in this implementation. In particular, the paper presents a number of principles which the ABS adopted to guide the implementation and mentions some particular issues that created difficulties. It is hoped that this paper will provide insights to other national statistical organisations as they prepare to implement the new standards.

The standards

The international framework for economic statistics centres around two key documents, the System of National Accounts (SNA) and the fifth edition of the Balance of Payments Manual (BPM5), both of which were released in 1993. Since the release of these key standards, a number of new economic phenomena have arisen or assumed greater importance as economies continue to develop in their complexity. In response to this, relevant international organisations and a range of national statistical agencies, including the ABS, have reviewed a series of conceptual and measurement issues that either were not clarified completely at the time of the release of the SNA 93 and the BPM5, or that have emerged as important measurement issues since that time. These issues are described in the information paper "Introduction of revised international standards in ABS economic statistics in 2009" (catalogue no 5310.0.55.001).

The international standards for national and international accounts were updated concurrently and the standards are compatible. The new standards are presented in the 2008 System of National Accounts (SNA 08) and the sixth edition of the Balance of

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² Australian Bureau of Statistics, Macroeconomics Accounts Research Section, ABS House, 45 Benjamin Way, Belconnen ACT 2617, Australia. E-mail: d.cullen@abs.gov.au.

³ Australian Bureau of Statistics, International Accounts and Financial Statistics Branch, ABS House, 45 Benjamin Way, Belconnen ACT 2617, Australia. E-mail: bernard.williams@abs.gov.au.

Payments Manual (BPM6). The Government Finance Statistics Manual is expected to be revised in the future.

The other major changes to the Australian System of National Accounts (ASNA) are due to the implementation of the Australian and New Zealand Standard Industrial Classification (ANZSIC 2006), which is compatible with the International Standard Industrial Classification of All Economic Activities, Revision 4 (ISIC Rev 4), and to changes in the Standard Economic Sector Classifications of Australia (SESCA 2008).

Management of change process

ABS management decided that a clean, single transition would minimise instability in macroeconomic series releases induced by changes in standards rather than by real world events and normal revisions. The alternative approach would have resulted in instability over a period of quarters or even years. Once this key decision was made, it was evident that the work programmes of a large number of statistical operations had to be coordinated, and that a user consultation and communications programme was needed.

These tasks were more straightforward in Australia, in comparison with countries that have more decentralised statistical systems, as the ABS is responsible for national accounts, the balance of payments and many of the data collections that feed into the macroeconomic datasets. Two major governance structures, in addition to line management, were charged with coordination: the ANZSIC Implementation Board and the Macroeconomic Steering Committee. There is some overlap in the membership of these bodies that ensures additional coordination.

The role of the ANZSIC Implementation Board was to ensure that the implementation of the new classification was coordinated across the many data collections and datasets. This was achieved by establishing implementation work programmes and periodic monitoring of progress against those plans.

The Macroeconomic Steering Committee was established to consider methodological changes in the national and international accounts. It also participated in the revision of the SNA and BPM by briefing participants in international conferences and reviewing drafts of the standards. Its role was extended to detailed approval of methodological and conceptual changes across the national and international accounts that resulted from the firming up of the standards. This committee included both relatively senior and operational staff to ensure that the full implications of changes were understood.

The Macroeconomic Steering Committee determined a set of principles for implementing the changes in standards, reviewed proposals for departing from the standards, ensured that user communications plans were adequate and reviewed the progress made in implementation, while continuing to monitor international developments.

Principles behind the implementation

Building on the experience of implementing previous upgrades to the international standards and other significant changes, the ABS identified the following principles to guide the implementation.

(a) Standards

Departures from standards should:

- be few in number; demonstrate a significant benefit or avoidance of an unwarranted cost (eg harmonisation with Australian financial reporting standards or businesses' inability to report the information within a reasonable cost)
 - be carried through all accounts/statistics (ie no "local" departures), bearing in mind that some related standards, like government finance statistics, are updated on a different timetable
 - enable a straightforward reconciliation with the standard where feasible
 - be implemented only after extensive consultation and publicity.
- (b) Timing of implementation
- Changes affecting gross domestic product (GDP) should be implemented at the same time (as far as is feasible) and in conjunction with the introduction, for the 2008–09 annual national accounts, of ANZSIC 2006. This meant that data changes were required in ABS annual business data collections for the 2006–07 reference year.
 - Other changes should be made as is practicable.
- (c) Coordination and consultation
- Implementation must be centrally coordinated so that there is consistent treatment across the ABS and clients receive a consistent message about plans.
 - Clients must be provided with sufficient opportunity to consider the changes being introduced and all clients must have equal access to this information.

Methods boards

ABS has established change management processes to support the implementation of changes in methods and data sources in macroeconomic accounts. Details of the proposed changes are approved by methods boards or referred for consideration by the Macroeconomic Steering Committee. The key methods board for the SNA and BPM implementation is a joint body consisting of national accounts and balance of payments operations personnel. The record of proposals for changes in methods and decisions made about them forms a key body of documentation about the national accounts and the balance of payments.

Backcasting, bridging, parallel runs, seasonal adjustment

The ABS maintains a long time series for national accounts, the balance of payments and the international investment position. A large proportion of these series is maintained in original, seasonally adjusted and trend variations. The introduction of changes like the SNA 08 and BPM6 can result in a shift in the level of components and total series. If the shift in level is sufficient to distort the seasonally adjusted time series (if available), the ABS revises the historical series to make the time series of estimates as continuous as possible.

With some changes, such as moving repairs from goods to services, it is relatively easy to adjust the time series. However, in some cases there is insufficient detail available to directly adjust the historical series (eg the separate identification of technical reserves in the international investment position and the requirement for more detailed industry classes in the property and business services division). In these cases the ABS estimates the shift in the level of the series by comparing estimates at one point in time for both the current and

the new basis (although comparison with additional periods is desirable). The historical series are revised to take account of this shift in the level.

Ideally, any change in the level of a series would be measured over a sufficient period to enable any seasonal patterns to be observed. This may be possible for some modelled estimates, but for estimates based on surveys, the cost of producing two estimates for one or more time periods can be expensive both in terms of processing costs and of provider burden. For example, for the Survey of International Trade in Services and the International Investment Survey, differences between estimates on a BPM5 and BPM6 basis will be measured for one quarter and the differences used to revise the level of historical series. One quarter is used for measurement because of the cost and complexity of compiling estimates on both bases, the lead time necessary to change questionnaires and systems, and because the changes generally add further detail to the information currently being collected rather than introducing completely different requirements.

To ensure consistent treatment of time series, the ABS has established a standard approach to measuring shifts in the level of series. The size of the level shift induced by a methodological or measurement change is assessed using regression analysis techniques on the ratios between the current published estimates and actual or simulated estimates produced by the revised methodology. If the level shift is found to be significant in the seasonally adjusted series, the historical series are backcast to make the time series of estimates as continuous as possible while maintaining, as far as possible, the integrity of the period-to-period seasonally adjusted movements.

Where it is not possible or necessary to maintain a long time series, the ABS adopts an approach of “bridging” the current published estimates and the estimates produced by the revised methodology. This means that estimates on both the current and the new basis are produced for one point in time and both sets of estimates are released along with analysis to help clients understand the differences between the series. This approach is often used for the annual economic surveys.

Because of the large number of changes being implemented concurrently, together with normal revisions, the impact of the different changes cannot be interpreted with any precision. This is not only a difficulty for users, but also an issue for quality assurance of ABS output.

Timing of implementation

Changes to the ASNA resulting from revised international standards will be implemented with the 2008–09 issue (catalogue no 5204.0), which will be released on 8 December 2009. The new standards will also be reflected in the September quarter 2009 issue of *Australian National Accounts: National Income, Expenditure and Product* (catalogue no 5206.0) and the 2008–09 issue of *Australian National Accounts: State Accounts* (catalogue no 5220.0), which is consistent with the timing of the new standards being implemented in the Australian international accounts. The September quarter publication of *Australian National Accounts: Financial Accounts* (catalogue no 5232.0) will be released on 24 December 2009.

Changes to the international accounts and the indicator series related to the national and international accounts will also be implemented in respect of the 2008–09 or the September quarter 2009 reference periods. For example, the changes were implemented in the June 2009 issue of *Retail Trade* (catalogue no 8501.0) and the August 2009 issue of *International Trade in Goods and Services* (catalogue no 5368.0) and will be implemented in the September quarter 2009 issue of *Balance of Payments and International Investment Position, Australia* (catalogue no 5302.0).

To accommodate the additional processing required to compile the national and international accounts according to the revised standards, the release of key series will be delayed. The September quarter 2009 issue of *Balance of Payments and International Investment Position, Australia* will be delayed one week, until 8 December 2009, and the September quarter 2009 issue of *Australian National Accounts: National Income, Expenditure and Product* will be delayed two weeks, until 16 December 2009. Future issues of these publications will be released according to the standard timing.

Communicating with users

Consistent with the policy that the changes will be implemented only after extensive consultation and publicity, a comprehensive communication plan was developed. The main features of this plan include:

- Early presentation of the implementation plans to the Australian Statistics Advisory Council, which is the key advisory body to the Statistician on statistical services;
- Early presentation of the implementation plans and updates on progress to the Economic Statistics User Group, which is the key advisory body on economic statistics;
- The release in 2004 of an information paper on ANZSIC 2006 development, followed by a paper in 2006 on ANZSIC 2006 implementation plans with an update on those plans in 2008;
- Consultation, beginning in 2007, with the key government agencies using macroeconomic statistics;
- Following this consultation, the release to all stakeholders in 2007 of an information paper outlining the key SNA and BPM changes and the implementation plans;
- The release from June to September 2009 of an information paper for each of the affected publications, describing the main changes affecting that publication, the timing for implementing the changes, the impact on time series in the publication and the impact on the presentation of statistics in the publication; this included the provision of mock-ups of the publication and time series spreadsheets as they would appear after the implementation of the changes;
- The release in October 2009 of an information paper summarising the main changes and quantifying, to the extent possible, the impact on key aggregates; for some of the more significant changes, detailed methodological information will be provided;
- The inclusion, in the first release of each publication, of the statistical impact of the changes.

The October 2009 information paper "Implementation of new international statistical standards in ABS national and international accounts, September 2009" (catalogue no 5310.0.55.002) is available from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/5310.0.55.002?OpenDocument>.

The communication plan will provide clients with the opportunity to obtain as much detail as they consider necessary. Even more information on statistical impact could be provided to clients if each series (eg the quarterly national accounts) was fully released on the current and the new basis for a point in time. The ABS attempted this when implementing the SNA 93 and decided that it was not feasible this time owing to the cost, complexity, risk and undue pressure it places on staff to fully process two sets of accounts simultaneously.

The ABS produces a range of manuals describing the underlying concepts and structure of key accounts such as the ASNA, the balance of payments and the international investment position. These manuals outline the sources, methods and terms used in compiling the accounts. The current versions of these publications reflect SNA 93 and BPM5 concepts and

a number of references to data sources and methods are, or will be, out of date. Revised publications on concepts, sources and methods are scheduled for release in late 2010.

The SNA and BPM changes

The revised international standards have changed the measurement of a number of components of the national and international accounts, although there has been no major change to the structure of the accounts. The changes include:

- The introduction of research and development as capital formation
- The movement of some types of defence expenditure to capital formation
- The inclusion of reinvested earnings of investment funds
- Supplementary market valuation measures for loans and deposits
- Changes to the measurement of costs of ownership transfers
- Improvements in the recording of mineral exploration expenditure
- A change to the definition of economic territory
- Changes to allocation of transactions between goods and services in the balance of payments current account
- Changed concepts with regard to wealth transferred by migrants
- Clarification of recording of transactions resulting from activation of guarantees
- A more detailed sectoral classification for financial corporations, including separate identification of investment funds
- A more detailed disclosure of components of international reserves
- A revised treatment for unallocated gold accounts.

Ongoing research and divergence

The ABS reviewed all the changes in the standards and also reviewed instances in which current practices did not comply with previous standards that remained unchanged in the new standards. In a small number of instances, the ABS is not complying with standards in the SNA 08 or BPM6. These instances, which will not have a significant impact on GDP or the current account, are as follows:

- The continued treatment of repurchase agreements as security trades
- The continued treatment of interest on debt securities on the creditor principle
- The treatment of transactions between non-residents in Australian securities
- The treatment of holding companies
- A shorter version of the classification of financial instruments.

In a number of instances, the ABS is continuing to investigate issues with the intention of implementing the standards if appropriate methodologies and data sources can be identified. These include recommendations with regard to software originals and copies, databases, employee pension schemes, employee stock options, and goodwill and other non-produced intangibles.

Further explanations concerning these areas of non-compliance can be found in the information paper “Implementation of new international statistical standards in ABS national and international accounts, September 2009” (catalogue no 5310.0.55.002).

Additional changes

ANZSIC was revised in 2006 (the previous version being the 1993 revision), and is compatible with ISIC Rev 4. The revision involved a systematic supply side approach: categories are based on common attributes of the activities of the producers of goods and services, ie the production function. The following table demonstrates the scope of the changes. In addition, a number of activities were moved to different divisions, subdivisions or groups.

Table 1
ANZSIC 1993 and ANZSIC 2006 Structure

	ANZSIC93	ANZSIC06	Difference
Divisions	17	19	+2
Subdivisions	53	86	+33
Groups	158	214	+56
Class	465	506	+41

In terms of workloads in the ABS, the change in industry classification has more impact than the SNA 08 or BPM6. The industry classification is a fundamental component of most economic statistics collection and processing systems. A new classification requires changes to the fundamentals of systems and also raises challenges for the interpretation of results.

In addition to the industry classification, the ABS will implement a number of changes that it did not implement when moving to the SNA 93 in 1998, or changes that are an improvement on existing practices, including:

- The implementation of orchard growth in the capital account
- The transfer of financial auxiliaries to the financial sector
- The inclusion of non-employed companies within the scope of the Quarterly Business Indicators Survey and Capital Expenditure Surveys
- The new scope of the “market” sector for productivity analysis
- The new scope of “farm” and “non-farm” GDP (“farm” no longer includes services to agriculture)
- The sectoral classification has an expanded number of subsectors for the financial sector and a revised definition of market activity.

The changes to the SNA, BPM and particularly the ANZSIC in some cases required system re-engineering, creating additional change management workloads.

Changes to data collections

Apart from changes to data collections consequent on the ANZSIC changes, there have been some changes in data sought to support the SNA 08 and BPM6. While the changes to the ABS Annual Integrated Collections were minor, the International Investment Survey and Financial Statistics Surveys required significant modifications. Although most of the SNA 08 and BPM6 changes required a changed interpretation of existing administrative data, eg tax data, some additional data items are required in datasets compiled by the Australian Prudential Regulation Authority, the financial institution regulator.

Future developments

The International Monetary Fund's Government Finance Statistics Manual will be updated from the 2001 edition, consistent with the SNA 08, but the timing is to be confirmed. This may result in some additional changes for some economic categories.

It appears that Canada and the United States will probably convert to the SNA 08 in 2012, and the European Union countries in 2014. This may result in the emergence of best methodological practice closer to these dates as these countries consider their implementation in detail.

Conclusion

The decision of the ABS to implement concurrently two major changes to macroeconomic statistics was taken with a view to best outcomes for users of the statistics. The alternative of progressive implementation with instability in data series over a possibly protracted period was not acceptable. However, the decision created a significant management and coordination task in order to ensure:

- The multiplicity of changes
- An ambitious timetable
- The interpretation and quality assurance of ABS output.

Furthermore:

- The alignment of SNA and BPM implementation with that of the ANZSIC required the SNA and BPM work to be undertaken before the standards were finalised and, more importantly, without the benefit of other countries' experience. Best practice with regard to a number of standards is still emerging.
- The changes to the SNA, BPM and particularly the ANZSIC in some cases required system re-engineering, creating additional change management workloads.

The already ambitious timetable has been subject to additional pressure because of the measurement issues raised by the global financial crisis and the response of government.