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Implementing *BPM5* and *SNA93* in Australia's International Accounts

Prepared by the Australian Bureau of Statistics

IMPLEMENTING BPM5 AND SNA93 IN AUSTRALIA'S INTERNATIONAL ACCOUNTS

Introduction

1 The Australian Bureau of Statistics (ABS) places considerable emphasis on the compilation and presentation of statistics that conform with the prevailing international statistical standards. Most of the macro-economic statistics produced by the ABS are based on the standards and frameworks developed by international agencies such as the United Nations and the International Monetary Fund. The ABS also places great store in providing integrated and/or harmonised statistics so that they can be used as related sets of information with, as far as practicable, common concepts, definitions, classifications and methodologies.

2 The ABS therefore welcomed the development in the early 1990s of harmonised international standards for the balance of payments and international investment position statistics (*BPM5*) and the national accounts (*SNA93*) so that the long held ABS objectives of both meeting international macroeconomic statistical standards and presenting integrated BOP, IIP and national accounts statistics could be targeted. Both of these objectives were fully realised with the September quarter 1998 issues of the national and international accounts.

3 The ABS is looking forward to the release of standards for monetary and financial statistics and government finance that are harmonised as far as is practicable with the overarching standards promulgated in *SNA93*.

4 This paper notes the consultation arrangements that were followed, comments on some of the related systems and management issues that were addressed along the way, and summarises the main impacts on the international accounts resulting from implementing the new standards.

Consultation arrangements

5 There is a very strong user preference in Australia for integrated BOP, IIP and national accounts statistics. And there is a very strong requirement for long term, consistent time series to support analysis of the major macroeconomic series. For these reasons, and because substantial changes in business collection arrangements can only be introduced with sufficient warning to business to prepare for the changes, the ABS embarked on a coordinated user consultation program to canvass options for change almost before the ink was dry on the new, harmonised 1993 international standards.

User consultation

6 In mid 1994 a paper was presented in New Zealand to the Conference of Commonwealth Statisticians outlining the conceptual changes likely to be needed to meet the new standards, identifying the timetable to allow the conceptual review work to be undertaken, source data collections modified, revised, users consulted, time series revised and new standards implemented in ongoing publications.

7 In November 1994 a discussion paper was provided to the key economic policy departments (Treasury, Prime Minister and Cabinet, Foreign Affairs and Trade, and Industry) and to the Reserve Bank of Australia:

. outlining the implications of the new standards for the international accounts in terms of content and presentation;
. identifying new information that would be created if the standards were met in full, and what information was supplementary, recommended but not required, or suggested as memorandum items;
. identifying existing Australian information that was not required under the new standards, to gauge support for maintaining alternative views or additional dissections of domestic relevance;
. identifying some areas of inconsistency in application or level of detail between *BPM5* and *SNA93*; and
. to check on key users views on simultaneous implementation of the new standards in both national and international accounts.

8 Discussions were then held with these users to make them aware of the broad costs involved in the transition to the new standards, including the ongoing costs of wider data collection efforts, and therefore of the need to prioritise all information that was mandatory under the new standards, and decide on what additional information would be collected, compiled and disseminated.

9 Those consultations reaffirmed the strong user preference for fully harmonised, and preferably simultaneously revised, Australian national and international accounts. While some departments preferred some pre-BPM5 Australian practices (for example, in regard to the measurement of external debt), all were adamant that Australia should change to the new standards. Where the standards were inconsistent in application, such as in regard to including estimates of financial intermediation services indirectly measured (FISIM), the departments were unanimous in wanting Australian statistics harmonised. In other words there couldn't be two measures of external contribution to growth - one on a *BPM5* basis and one on an *SNA93* basis.

10 In December 1994 the ABS published a discussion paper that canvassed the broad implications of both *SNA93* and *BPM5* for Australian statistical practice, provided some rough indicators of the impacts on major aggregates, and sought user input on the process of implementation. That publication was sent to all subscribers to ABS national or international accounts statistics, and made freely available to the press,

academic institutions and others interested in subject matter. Public information seminars were arranged to promote discussion. At that time simultaneous implementation in the national and international accounts was proposed. The changes in the national accounts included moving to chaining volume estimates and to basing the national income, expenditure and product accounts on balanced supply/use tables.

11 Based on the feedback from both the key policy departments and from other users responding to the published discussion paper, a revised *BPM5*/*SNA93* implementation proposal for the international accounts was prepared and distributed in mid 1995 and follow-up seminars were held with interested users, again including the major policy departments but also involving a wider range of government, academic and industry clients. The proposals included consolidating the BOP and IIP publications into one integrated set in line with the conceptual integration achieved with BPM5.

12 In September 1997 the ABS published another information paper which advised of the final decisions taken for BPM5 implementation, and included table formats for all of the international accounts publications so that users could familiarise themselves not only with the new standards, but also the new presentations, and find the detail relevant to their analyses.

13 In November 1997 another information paper was released which provided revised, back cast *BPM5* quarterly time series up to the June quarter 1997 and monthly goods and services time series up to September 1997. The paper also summarised the main impacts on the aggregates. Full electronic time series were also released on the BPM5 basis so that clients could update their own databases and be ready for the first live issue of BPM5 based accounts for the September quarter 19997, which were published on 1 December.

14 The changes were announced in advance in a number of forums such as conferences of economists, and in press releases and press articles. The users of the statistics were very supportive of all of the efforts of the ABS towards a successful implementation of the new standards, and appreciative of the consultation arrangements that were adopted.

Data provider consultation

15 The feedback from the user consultations provided sufficient support to take the consequently revised collection proposals to businesses, industry representative groups and industry regulators in mid 1995, providing about 12 months advance warning of changing data requirements before BPM5-based collection forms were issued for the September quarter 1996. A detailed process of consultation followed with a wide range of data providers, particularly those reporting international trade in services and international investment activity.

16 The providers were given examples of how their information would be reported on the new forms, and were provided with default mappings of data items from the old

forms to the new forms if companies' systems changes could not be made in time for the initial live collection of data under the new standards. Many individual company visits were undertaken to talk businesses through the changes.

Systems and management processes

17 A technical committee was established in the ABS to ensure that all conceptual and methodological developments associated with *BPM5/SNA93* implementation were coordinated, consistent, agreed and not duplicating effort in the different compilation areas. The committee also coordinated the wider implementation of changes in all of the partial indicators that contribute to the national accounts compilation.

18 At the same time as a very considerable level of intellectual activity was being targeted towards the implementation of the new standards, systems redevelopments were also being undertaken. Some systems change was necessary simply because of the changes in framework. However, the ABS was also in the process of changing its time series system, changing its publications platforms, and changing its seasonal analysis programs.

19 By mid 1996 both the ABS and a peak consultative group of users - the Economic Statistics User Group - concluded that proceeding with SNA93 implementation in parallel with all the other systems changes was a high risk strategy that should not proceed. The work involved in finalising the balanced supply/use tables in current price and volume terms, in developing the chaining methodology and back casting all series, and the rebuilding of all aspects of national accounts compilation and dissemination systems could not be achieved simultaneously without appreciable risk of error.

20 It was therefore decided to implement *BPM5* in the international accounts according to schedule in 1997 and delay the SNA93 revisions until 1998 when much of the systems work would have been bedded down (or so we thought at the time!).

21 Proceeding with *BPM5* ahead of the *SNA93* revisions had a number of distinct advantages. First, the *BPM5* changes were in part already being made in IMF presentations of the Australian data, and confusion was developing in the user community about which set of BOP statistics were correct. The sooner the ABS released a *BPM5* dataset the sooner that confusion would be resolved. Staggering the *BPM5* and *SNA93* implementations also enabled the spreading of some of the load on ABS staff and amongst users who could absorb the changes in chunks. For users of the external accounts in particular, they could become comfortable with the *BPM5* changes before being faced with revised volume estimates and price indexes (chained Laspeyres measures) and the consequent significant revisions to measures of the terms of trade.

22 And some of the *BPM5* changes actually moved the balance of payments closer to the national accounting treatment (such as the adoption of the new capital account, foreign exchange trading margins measured as services), although others did increase the differences (such as the reclassification of royalties from income to services).

23 To help users manage the separate implementations, a new table was included in the BOP publications reconciling the new *BPM5* aggregates with the *SNA68*-based national accounts.

24 *SNA93*-specific changes to the international accounts (FISIM, chaining, sectorisation of State government owned borrowing authorities) were deferred until the September quarter 1998 and implemented at the same time as all other *SNA93* changes were made to the national accounts. At that time, and for the first time in Australia's history, the international and national accounts were fully consistent.

Backcasting

25 Many of the *BPM5* changes were reclassifications that could be applied to the entire quarterly time series from September quarter onwards. Others were developed from new data collections, such as for financial derivatives, and could not be back cast. Some could be reestimated using existing information such as the purpose of travel (business/personal travel) that had always been possible but not attempted.

26 Backcasting the financial account and IIP proved most difficult, in part because the changed collection arrangements unearthed a number of deficiencies in business reporting in terms of both coverage and valuation, for which it was very difficult to ask businesses to revise a decade or so of reporting. Over time, the deficiencies have been and are being addressed in some measure by "confronting" the reported international investment information with the full balance sheet information that had been reported in other ABS or regulatory collections, both at the individual business and at the sector level. More importantly, now that the detailed instrument data collection is in place for international investment, the confrontation exercises can be maintained to help ensure against future problems in business reporting.

27 Prior to the *SNA93*-specific changes being implemented in the international accounts in the September quarter 1998, the back cast data, and an explanation of the changes, were published as appendixes to the June quarter 1998 BOP and IIP statistics. This enabled users to revise their databases well in advance of the changes.

Main impacts of BPM5

28 Implementing the new *BPM5* and *SNA93* standards in the Australian BOP and IIP statistics had the following major implications for the content and presentation of the statistics.

29 From implementing *BPM5* the following changes resulted:

(i) New structure and classification of the accounts - particularly for the capital and financial accounts.

(ii) New details:
. more detailed financial instrument classifications, including the introduction and separate identification of financial derivatives;
. more detailed sectoring throughout much of the financial account;
. an increased range of international services transactions; and
. a maturity dissection, based on original contractual maturity, for much of the other investment category in the financial account.

(iii) New concepts:
. introduction of a concept of capital transfers and cross-border transactions in the ownership of non-produced, non-financial assets such as trademarks;
. a changed boundary between income flows and the provision of goods and services;
. the adoption of accrual accounting for income;
. redefinition of direct investment transactions to exclude normal banking transactions between affiliated financial intermediaries; and
. a concept of gross debt that now includes all non-equity liabilities.

30 The main impacts of BPM5 on the measurement of key balance of payments and IIP aggregates, as measured at the time the changes were introduced in 1997, are summarised below.

Current account

31 The two major impacts on the overall measure of the current account balance arose from:

. the creation of a new capital account for the recording of ‘capital’ transfers that previously had been included within the current account; and
. adoption of accrual accounting for the measurement of investment income flows.

32 The following table summarises the magnitude of these impacts on the current account deficit over the 5 years to 1996-97.

1 MAJOR BPM5 IMPACTS ON THE CURRENT ACCOUNT DEFICIT ($A billion)

	1992-93	1993-94	1994-95	1995-96	1996-97
Current account deficit					
BPM4 basis	-14.3	-16.1	-27.0	-20.3	-15.9
Less					
Net capital transfers	0.6	0.3	0.7	1.0	1.1
Plus					
Income accrual adjustments	-0.3	0.0	-1.3	-0.7	-1.0
Equals					
BPM5 current account deficit	-153	-16.5	-28.9	-22.1	-17.9
Difference from BPM4 estimate	**-1.0**	**-0.4**	**-1.9**	**-1.8**	**-2.0**
BPM5 current account deficit as a % of GDP	-3.8	-3.8	-6.3	-4.5	-3.5

Goods and services

33 In addition to the BPM5 presentation of goods and services requiring many additional services categories to be identified, the major impact on the balance on goods and services reflected the reclassification, from income into services, of royalties and licence fees. This reclassification increased the deficit on goods and services by over $A1 billion per annum in recent years, with consequential impact on the net exports contribution to growth.

34 Another significant impact on the balance on goods and services arose from an improved method under BPM5 for measuring international insurance services. Under BPM4, insurance services were measured, by and large, in Australia's balance of payments, as the difference between premiums and claims in each year. Because the claims series are quite volatile, the derived services estimates were also volatile, not related to the level of service provision but rather to the volatility in risk transfers made between insured and insurer.

35 Under BPM5, the insurance service charge is more directly measured as a component of the premiums being charged, where claims are averaged, generally over a 5 year period, and "extraordinary" claims on catastrophes are averaged over a 20 year period, in deriving the service measures. Allowance is also made for the investment income accruing on unearned premiums and unsettled claims in estimating the insurance service charge.

2 MAJOR BPM5 IMPACTS ON THE BALANCE ON GOODS & SERVICES ($A billion)

	1992-93	1993-94	1994-95	1995-96	1996-97
Balance on goods and services					
BPM4 basis	-0.9	-0.8	-8.6	-0.8	2.8
Plus					
Net royalties and copyrights	-1.2	-1.4	-1.4	-1.4	-1.4
Revised net insurance service charges	0.1	-0.2	0.1	0.0	-0.1
Equals					
BPM5 balance on goods and services	-2.0	-2.4	-10.0	-2.1	1.4

Income

36 The major changes in income measurement under BPM5 are:

. the reclassification of royalty and copyright payments from income to services (discussed above);
. the exclusion of extraordinary insurance claims from income and including them in transfers under a revised methodology for measuring insurance transactions;
. the inclusion of imputed investment income on unearned premiums and outstanding claims; and
. the change from a due for payment basis to an accrual measure of investment income.

3 MAJOR BPM5 IMPACTS ON INVESTMENT INCOME ($A billion)

	1992-93	1993-94	1994-95	1995-96	1996-97
Investment income credits					
BPM4 basis	5.3	4.9	6.0	6.4	7.2
Plus					
Insurance income credits	0.1	0.2	0.1	0.1	0.1
Accrual adjustments credit	0.2	0.2	0.3	0.0	0.2
Equals					
BPM5 investment income credits	5.6	5.3	6.4	6.6	7.6
Investment income debits					
BPM4 basis	-18.0	-19.0	-23.3	-25.8	-26.0
Plus					
Insurance income debits	-0.1	-0.1	-0.1	-0.1	-0.1
Accrual adjustments debit	-0.5	-0.2	-1.6	-0.7	-1.2
Equals					
BPM5 investment income debits	-18.6	-19.3	-25.0	-26.6	-27.2

Current transfers

37 The changes in current transfers measurement for Australia under BPM5 were:
. the reclassification of migrants' transfers from the current account;

. the identification of certain of Australia's foreign aid transfers as being capital in nature, relating to or financing the formation of fixed assets for the recipient of the aid, and their reclassification to the new capital account;
. the reclassification to current transfers abroad of some of Australia's routine aid contributions to a range of international organisations, which had been previously recorded as acquiring claims on those organisations; and
. the gross recording as current transfers of insurance premiums (less the service charge) and claims.

The table below summarises the impact of BPM5 implementation on current transfers.

4 MAJOR BPM5 IMPACTS ON CURRENT TRANSFERS ($A billion)

	1992-93	1993-94	1994-95	1995-96	1996-97
Current transfers credits					
Unrequited transfers credits - BPM4 basis	3.0	2.7	3.1	3.8	3.9
Less					
Migrants' transfers credits	-1.3	-1.1	-1.4	-2.0	-2.0
Plus					
Net premiums receivable on inward insurance	0.7	0.8	0.7	0.8	0.8
Claims receivable on outward insurance	0.8	0.7	0.6	0.6	0.7
Equals					
BPM5 current transfers credits	3.2	3.1	3.0	3.2	3.4
Current transfers debits					
Unrequited transfers debits - BPM4 basis.	-2.4	-2.6	-2.7	-2.7	-2.7
Less					
Migrants' transfers debits	0.5	0.5	0.5	0.5	0.6
Capital transfers as aid	0.3	0.3	0.3	0.4	0.3
Plus					
Net premiums payable on outward insurance	-0.8	-0.8	-0.7	-0.6	-0.7
Claims payable on inward insurance insurance	-0.8	-0.5	-0.8	-0.8	-0.8
Contributions to international organisations	-0.1	-0.2	-0.2	0.0	0.0
Equals					
BPM5 current transfers debits	-3.3	-3.3	-3.6	-3.2	-3.3

Financial account

38 Adopting the BPM5 financial account for the ABS meant significantly different structure and detail. The hierarchical changed:

. from a sector/direction of investment/type of investment/instrument split;
. to type of investment/direction of investment/asset or liability/instrument of investment/sector/original maturity.

39 The presentation of debt statistics also changed with BPM5. Previously Australia's debt transactions and IIP information adopted a concept of "borrowing" or debt that excluded accounts payable and prepayments received which were instead

classified as "other" than equity or debt. In addition, in deriving "gross" debt statistics for borrowing and lending, non-equity direct investment liabilities to affiliated enterprises abroad were offset within lending, and non-equity direct investment claims on foreign direct investors were offset within borrowing. The change to BPM5 (and to adoption of the core definition of gross external debt agreed by the IMF, Bank for International Settlements, OECD and World Bank) raised both gross foreign debt levels and the transactions in the financial account identified as debt transactions.

40 As *BPM5* does not recognise the concept of "net foreign debt", the ABS practice of identifying this aggregate to support the requirements of analysis is not based on international standards for classifying asset transactions in the financial account (or for compiling IIP statistics). However, for purposes of symmetry with the *BPM5* concept of gross external debt, the ABS definition of net foreign debt was widened to include all non-equity assets and non-equity liabilities. The changes to the classification of transactions to debt, together with the grossing up of these flows is shown in table 5 below, which also includes the impact of including financial derivatives as debt instruments.

5 MAJOR BPM5 IMPACTS ON DEBT ENTRIES IN THE FINANCIAL ACCOUNT ($A billion)

	1992-93	1993-94	1994-95	1995-96	1996-97
Transactions in debt assets					
Lending - pre BPM5	0.9	-5.1	1.5	-11.7	-2.2
Plus					
Gross direct investment assets -					
Borrowing liabilities netted in AIA#	0.3	1.9	0.7	1.6	-4.8
Lending claims netted in FIA#	-0.2	-0.2	-1.1	-0.6	-1.4
Expanded scope of debt assets -					
Account assets	-0.4	-1.4	1.1	-0.8	-1.7
Financial derivative assets	n.a.	n.a.	3.7	1.9	0.9
Equals					
BPM5 debt asset transactions	0.6	-4.8	5.9	-9.6	-9.2
Transactions in debt liabilities					
Borrowing - pre BPM5	6.6	6.9	11.1	24.6	15.9
Plus					
Gross direct investment liabilities -					
Borrowing liabilities netted in AIA#	-0.3	-1.9	-0.7	-1.6	4.8
Lending claims netted in FIA#	0.2	0.2	1.1	0.6	1.4
Expanded scope of debt liabilities -					
Account liabilities	0.6	0.9	1.4	0.2	-1.0
Financial derivative liabilities	n.a.	n.a.	-3.2	-1.8	1.1
Equals					
BPM5 debt liability transactions	7.1	6.1	9.7	22.0	22.2
Net debt transactions	**7.7**	**1.3**	**15.6**	**12.4**	**13.0**

AIA: Australian investment abroad; FIA: Foreign investment in Australia

International investment position (IIP)

41 Apart from the changes affecting net measures within the *BPM5* financial account, and which also affect the IIP, the main change affecting aggregate measures within Australia's IIP results from the revised definition of (gross) debt adopted under *BPM5* which now includes all financial liabilities other than equity. The impact on gross and net debt levels is shown below in Table 6.

Sign convention

42 One of the first things you will note in Table 6 below is the minus signs attached to levels of debt assets. The ABS considers that it is important to maintain, throughout the IIP, the sign conventions delineated for the BOP statistics so that the fully articulated accounts are readily understood. So many balances are struck in BOP presentations and analysis that signage is important. With the integrated presentation of the BOP and IIP data it was decided to apply the sign convention consistently throughout the statistics. All debit entries, whether in the BOP or IIP will be shown with a minus sign. By extension, this uniform application of sign convention required that sign be applied to the stocks of assets and liabilities. The debit entries are noted with a minus sign for asset holding in the IIP, and the credit entries for liabilities continue to be shown as positive (without sign).

43 Adopting the BOP sign convention uniformly meant that:

. financial transactions appear with consistent sign throughout
. users need learn only one sign convention, not two, when dealing with international accounts
. the accounts are readily summed - from opening to closing level, and from assets and liabilities to net IIP.

44 This convention means that Australia's net IIP, while it remains in a net liability position, will continue to be shown as a positive number.

6 MAJOR BPM5 IMPACTS ON THE LEVEL OF DEBT IN THE IIP ($A billion)

	1992-93	1993-94	1994-95	1995-96	1996-97
Debt assets					
Lending - pre BPM5	-39.8	-43.7	-43.3	-49.9	-53.7
Plus					
Gross direct investment asssets -					
Borrowing liabilities netted in AIA#	-9.2	-9.2	-9.8	-7.8	-15.1
Lending claims netted in FIA#	-3.9	-3.8	-5.1	-4.6	-5.6
Expanded scope of debt assets -					
Account assets	-7.6	-9.2	-8.5	-8.6	-10.1
Financial derivative assets	n.a.	-10.7	-11.6	-10.2	-9.3
Equals					
BPM5 debt assets	-60.5	-76.6	-78.3	-81.1	-93.8
Debt liabilities					
Borrowing - pre BPM5	210.9	207.0	226.2	240.1	259.2
Plus					
Gross direct investment liabilities -					
Borrowing liabilities netted in AIA#	9.2	9.2	9.8	7.8	15.1
Lending claims netted in FIA#	3.9	3.8	5.1	4.6	5.6
Expanded scope of debt liabilities					
Account liabilities	9.1	11.1	13.5	13.5	12.1
Financial derivative liabilities	n.a.	9.6	9.5	9.6	10.2
Equals					
BPM5 debt liabilities	233.1	240.7	264.1	275.6	302.2
Net debt	**172.6**	**164.0**	**185.8**	**194.5**	**208.4**
Difference from BPM4 basis	**1.5**	**0.7**	**2.9**	**4.3**	**2.9**

AIA: Australian investment abroad; FIA: Foreign investment in Australia

Main impacts of SNA93

45 From the implementation of *SNA93* in the international accounts in September quarter 1998, the following changes resulted:

. the introduction of annually-reweighted chain volume measures to replace 5-yearly rebased constant price estimates of goods and services;
. the introduction of estimates for FISIM; and
. the reclassification of State government borrowing authorities from the general government sector to the "other financial corporations" subsector of the public sector.

46 The biggest impact from chaining volume measures of exports and imports of goods and services was in the measured terms of trade (TOT). The TOT now derived from the chain volume measures shows quite different results from that derived from the

1989-90 based constant price estimates. For example, over the 12 years to June 1998, the TOT derived from 1989-90 base year implicit price deflators (IPDs) for goods and services rose by 19%. The TOT generated from IPDs derived using chain volume measures rose by 10%. The difference is due to the use of up-to-date weights in the IPDs derived from chaining compared with the IPDs derived with 1989-90 prices used in the weighting, especially for computers and telecommunications equipment imports.

47 Cross-border FISIM estimates are small, of the order of $0.1 billion per annum in recent years.

48 The reclassification of borrowing authorities has implications for the analysis of general government debt, but does not affect the more widely used public/private dichotomy of external debt that the ABS publishes.

Lessons learned

50 The task is always bigger than at first imagined. A strong management team is essential in driving the work program and timetable. However, the efforts to keep users informed about both the process and the outcomes was very useful in gaining support for the changes, tolerance for the delays and a more informed discussion and application of the resultant, revised statistics.

51 Coincident redevelopment of major elements of ABS technology infrastructure over the course of the statistical redevelopments complicated the task of the subject matter statisticians implementing the new standards. But again, clients have understood and in large measure accepted the difficulties along the way, especially with the SNA93-based changes, because of the better measured and integrated statistics that have resulted.

Australian Bureau of Statistics
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