# Living with the 2008 SNA: Four Years down the Track
# Lessons Learnt and the Way Ahead

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**Abstract**

The 2008 SNA and related standards represented a significant step forward in macroeconomic statistics standards. The Australian Bureau of Statistics (ABS) implemented the standards early and has found them to be a good base for coherent, comprehensive macroeconomic statistics over the last four years. Changes to Australian macroeconomic statistics since then have been responses to a changing economy and changes in behaviour related to this, increasing awareness of the role of the finance sector in the real economy, emphasising the household perspective and answering new questions. Nevertheless, there are still quite a few loose ends in the concepts and methodologies of the SNA framework. The ABS has dealt with some of these by diverging from the SNA. The divergences from the SNA are mainly driven by the ABS' strict interpretation of basic SNA concepts. The ABS believes that a comprehensive, coherent set of accounts can be assembled only if all stocks and flows are recorded on an accrual basis at market value. The ABS did not diverge in all cases and believes that there are several areas where the SNA can be improved. The ABS is keen to work with other countries in this work and looks forward to the countries of the EU finding a way to make an appropriate contribution unfettered by the constraints imposed by the need to have the framework serve administrative purposes.

**The Implementation of the 2008 SNA Family of Standards in Australia**

The Australian Bureau of Statistics (ABS) implemented the System of National Accounts 2008 (2008 SNA) and the Balance of Payments and International Investment Position Manual version 6 (BPM6) with the release of statistics for September quarter 2009. The ABS was the first national statistical agency to implement the revised standards. The implementation coincided with the introduction in 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 was a major challenge that involved many different parts of the organisation. The timing of the implementation coincided with the global financial crisis, which placed significant strain on existing statistical sources and methods and complicated the introduction of the new standards.

In planning the implementation, the ABS decided that a clean, once-off change-over would minimise instability in macroeconomic series induced by standards changes. The alternative approach of incremental implementation would have resulted in instability over a period of several quarters, or even years. Once this key decision was made, the work programs of a large number of statistical operations had to be coordinated, and a user consultation and communications program had to be developed. The approach came to be known as the "big bang" approach. It was recognised that this approach could be risky if not managed appropriately.

This approach was able to be managed in Australia as the ABS is responsible for the national accounts, the balance of payments and many of the data collections that feed into the macroeconomic accounts. An internal ABS governance body was created and charged with the coordination of the SNA and BPM implementation: the Macro Economic Steering Committee (MESC).

MESC was established to consider methodological changes in the macroeconomic accounts. As the standards had not been finalised, it participated in the revision of the SNA and BPM by providing input into ABS submissions to the update process. It signed off, at a detailed level, on methodological and conceptual changes across the macroeconomic accounts following finalisation of the standards. MESC included both senior and operational staff to ensure that the full implications of changes were understood and taken into account.

MESC determined a set of principles for implementing the changes in standards, reviewed proposals to depart from the standards, ensured that user communications plans were adequate, and reviewed implementation progress.

At the end of the implementation process the need for MESC ended. However, it was recognised that one of the roles of MESC, namely to oversee the introduction of new methodologies into the compilation of macroeconomic accounts, was needed on an ongoing basis. A Macroeconomics Methods Board was set up to undertake this role and has operated well.

Unfortunately, the implementation coincided with the onset of the global financial crisis. User reactions to the release of data compiled to the new standards were coloured by this coincidence. Analysts had to cope with new or significantly different series and interpreting their behaviour by attributing movement to economic phenomena or statistical phenomena. This was also a problem for the compilers of the national accounts.

In addition to the turmoil in the economy due to the global financial crisis and the Government's reaction to it and the change in standards, there was another impact of the changes in standards. Given the number of data collection and compilation systems that had to be revised to accommodate the standards, the opportunity was taken to improve data sources or methods to address known deficiencies. These quality improvements were impossible to separate out from the standards changes, and made the task of users forecasting or anticipating results more difficult.

Setting aside the coincidence of the release of accounts to the new standards in a time of turmoil, a more considered user view of elements in the new standards was formed:

- The new standards were an improvement on the previous standards, resulted in higher quality output, and were welcomed broadly by users. Of special mention here is the ANZSIC06, which is closely aligned with ISIC rev 4. The systematic allocation of industrial activity based on production function attributes is technically superior to the predecessor standards. The level of industry detail presented in the ASNA better supports economic analysis, particularly productivity analysis. Also worth mentioning are improved economic data about migration and the treatment of reinvested earnings of investment funds.
- Some of the standards changes that attracted some controversy internationally during the revision of the standards were not controversial in Australia. These included the recognition of unfunded employee pension liabilities of government, and the capitalisation of defence weapons platforms. Both of these new features in the standards had been implemented in government accounts in Australia since 1998, when Australian governments adopted accrual accounting standards. Not only were these features uncontroversial, the government accounting systems generate most of the data required for their implementation, and the ABS has included government employee pension scheme liabilities in the ASNA since 1998. More details on pensions is provided in Appendix 4 .
- There was scepticism by some users about the utility of capitalising research and development expenditure. It did not seem to explain some of the productivity puzzles (as suggested in the literature about unaccounted for intellectual property) while at the same time made forecasting capital formation more difficult. However, the capitalisation was subsequently accepted as a routine part of the compilation of capital and productivity measures.
- Australia implemented a reasonably complete set of national accounts when implementing the 1993 SNA and BPM5. Therefore there was little catch up in moving to the 2008 SNA and BPM6 by comparison with countries that may have omitted certain 1993 SNA features such as FISIM. Users were familiar with most 1993 SNA concepts and by and large attributed volatility in series during the global financial crisis to measurement difficulties rather than standards changes.
- There were some user concerns about the shift in the level of GDP due to 2008 SNA and ANZSIC06 implementation. Some agencies that relied on ratio based performance indications, such as business R&D to GDP (downgrade) and debt to GDP (upgrade), GDP per capita (upgrade), move up or down international comparison lists depending on the formulation of the ratio.

In summary, most users were more concerned with interpreting data in the context of the global financial crisis than issues to do with the new standards.

One issue that arose from Australia's early adoption of the new standards was how to report to international organisations. There is tension between publishing statistics to the new standards by the national statistical agency and the publication of statistics by international organisations for international comparability purposes, where not all countries report to the same standards. There are both policy and practical questions that arise.

The policy question is the desirability of an international agency publishing key indicators different to those published by the national agency. Two sets of key indicators for a country confuse the economic debate, especially in the country concerned. Informing the domestic economic policy debate is the main reason for producing macroeconomic statistics by the national agencies. International comparability is the main reason for international agencies publishing macroeconomic indicators for countries. Adjustment of one set of key indicators to a different standard will compromise one of the two objectives.

Even when there are no standards changes, similar issues arise when a country departs from the standards for domestic policy reasons. For example the ABS seriously considered estimating a return on capital for non-market producers (mainly general government) as discussed in the 2008 SNA revision process but not included in the final manual. Some domestic users were enthusiastic about this proposal. Discussion with one international organisation suggested that if Australia included such an estimate, then that agency would adjust our data to exclude it.

The ABS believes that management of reporting when the standards change needs improvement. There are some things that international agencies might be able to do to cope with the almost inevitable differences between reporting countries short of publishing a different set of key aggregates. This view developed into a firm view that there should be only one set of official statistics for a country: those published by the country itself. The ABS does not support the practice of international organisations adjusting national data and publishing alternative estimates.

While the road was rocky, the implementation was successful and the ABS has been using the new standards for four years.

**Changes to Macroeconomic Statistics since the Introduction of 2008 SNA**

The ABS has introduced several changes to its macroeconomic accounts since the introduction of the 2008 SNA standards. Some examples are:

- Estimating consumer purchases online.
- Publishing additional detail in growing components related to mining. For example, further disaggregation of mining GVA; focus on BOP and GFCF alignment for major capital projects.
- Reflecting the impact of commodity price fluctuations - developing measure of current price quarterly GVA.
- Aligning financial and other accounts on a quarterly basis: ensuring that stocks in the financial account are coherent with measures of FISIM in the production account and with measures of interest in the income account.
- Developing a full set of quarterly institutional sector accounts; further articulating links between income, savings, lending and wealth.
- Articulating measures of distribution of household income, consumption and wealth within the SNA framework.
- Developing a quarterly Household balance sheet.
- Separating NPISH out from the Household sector.
- Increasing commitment to IO tables, now produced on an annual basis.

- Facilitating the analysis of externalities (e.g .carbon emissions) within production using IO tables.
- Facilitating the analysis of supply chains, of relevance both internationally (globalisation, TiVA, etc.) as well as domestically (impact of mining boom on rest of economy, role of agriculture within wider economy, etc), using IO tables.

While these changes have been made since the introduction of the 2008 SNA, they were not dependent on the 2008 SNA framework. Similar changes would have been made had we had the 1993 SNA still in place.

The changes have been responses to a changing economy and changes in behaviour related to this, increasing awareness of the role of the finance sector in the real economy, emphasising the household perspective and answering new questions.

Nevertheless, there are contradictions and inconsistencies in the 2008 SNA. These are conceptual and methodological recommendations which are inconsistent with the basic concepts of the SNA or aspects which are not sufficiently developed to allow a coherent interpretation and implementation.

The ABS has dealt with some of these by diverging from the SNA, as described above. The divergences from the SNA are mainly driven by the ABS' strict interpretation of basic SNA concepts. The ABS believes that a comprehensive, coherent set of accounts can be assembled only if all stocks and flows are recorded on an accrual basis at market value. These are described in Appendix1.

While the ABS has diverged from the SNA in some cases , we have not diverged in all cases where there are contradictions and inconsistencies in the 2008 SNA or there are conceptual and methodological recommendations which are inconsistent with the basic concepts of the SNA or aspects which are not sufficiently developed to allow a coherent interpretation and implementation. There are quite a few loose ends in the 2008 SNA which need further work. These are described in Appendix 2.

Many of these loose ends in SNA 08 are recognised internationally and are reflected in the ISWGNA research agenda for the SNA (see Appendix 3).

Details of most of these topics are in the papers referenced at the end of this paper.

**Working with Europe**

The ABS believes that improvements to the SNA are likely to involve stricter application of the basic concepts of market value and accrual accounting. This will make the accounts more coherent and more useful for macroeconomic policy making. They may also involve more imputation. We have noted that European countries who are members of the EU tend to favour conservative book value and cash accounting. Given this, we understand that European Union countries may be uncomfortable with these improvements to the SNA because of the use of macroeconomic statistics for administration, for example in applying the Maastricht Treaty.

The European approach was evident in the positions taken by EU countries in the discussions on FISIM, the treatment of emissions trading schemes and of government liabilities for pensions.

If this interpretation is correct, there are several possible solutions. One is for the EU to have two sets of accounts, one for macroeconomic purposes and one for administration. The administrative set could be tailored to meet these needs, for example it could exclude the highly volatile current price FISIM and include a less volatile measure of bank output. The macroeconomic set could follow an improved SNA, with full application of market valuation and accrual accounting.

In any case, the international debate must go ahead based on the concepts of the SNA, not on non-SNA considerations of whether the value of a transaction equals the cash which changed hands or whether a particular valuation method will increase government liabilities.

## Conclusion

The 2008 SNA and related standards represented a significant step forward in macroeconomic statistics standards. The ABS implemented the standards early and has found them to be a good base for coherent, comprehensive macroeconomic statistics over the last four years. Nevertheless, there are still quite a few loose ends in the concepts and methodologies of the framework. The ABS is keen to work with other countries in this work and looks forward to the countries of the EU finding a way to make an appropriate contribution unfettered by the constraints imposed by the need to have the framework serve administrative purposes.

## Appendix 1.

### Contradictions, Inconsistencies and Unfinished Business in the 2008 SNA.

### ABS divergences.

#### Recording interest on debt securities

The international statistical community has long debated the most appropriate way to record interest in the SNA. This debate has centred on the two main approaches for recording interest, the debtor and creditor approaches. While the international statistical community is divided between these approaches, the 2008 SNA recommends the debtor approach be applied for recording interest accruing on tradable securities.

The ABS has diverged from the 2008 SNA recommendation for recording interest on debt securities by adopting the creditor approach for recording interest. This divergence is consistent with the ABS's emphasis on the consistent recording of all stocks and flows at market values. The creditor approach is considered to be consistent with the the market value of the underlying instrument and the interest that accrues over its life.

#### Margins and the definition of basic prices

The 1993 SNA altered the definition of basic prices with regard to the treatment of transport margins. This was maintained in the 2008 SNA. The 1968 SNA definition excluded the transport component of basic prices whether separately invoiced or not, whereas only those transport charges which are separately invoiced are excluded from the basic price of the product being transported under the 2008 SNA treatment.

The ABS has diverged from the 2008 SNA definition of basic prices for the compilation of input-output tables. Users of these tables have a strong preference for the 1968 SNA definition of basic prices as this definition provides more useful statistics for detailed economic analysis. For all other national accounts statistics, including the supply-use tables which constitute benchmarks for the annual and quarterly GDP accounts, the ABS has adopted the 2008 SNA definition of basic prices.

**Repurchase agreements**

The 2008 SNA treats repurchase agreements (repos) as collateralised loans or as other deposits if repos involve liabilities classified under national measures of broad money. During the latest revision of this international standard, consideration was given to whether this treatment should be revised to reclassify repos as security trades rather than loans. However, the 1993 SNA treatment was reaffirmed and the issue was placed on the international long-term research agenda.

The ABS has diverged from the 2008 treatment of repos as it is not considered an accurate statistical representation of the nature of these instruments. The ABS maintains that the best statistical representation of a repo is that of a sale of securities, with the obligation to sell/buy-back similar securities recorded as a forward contract (i.e. a form of derivative). This treatment has the advantage of unduplicated recording of securities assets whereas the 2008 SNA treatment requires the recording of negative security assets to maintain equality between total securities' asset holdings and total securities' liabilities on issue.

**Recording of emissions reduction schemes**

In February 2012, the United Nations Statistical Commission (UNSC), made a decision on treatment of emissions reduction schemes which effectively updates the 2008 SNA. Following lengthy international debate, a split asset approach was adopted whereby an asset (a permit or credit certificate) issued by government is considered to have two components in the hands of the holder: a financial asset valued at historic cost, and a market valuation component to accommodate secondary market price variations.

The ABS has diverged from the 2008 SNA treatment of emissions reduction schemes by applying fundamental market valuation and accrual principles to these schemes. This divergence is consistent with the ABS's emphasis on the consistent recording of all stocks and flows at market values. The ABS considers that the historic cost treatment distorts the real impact of such schemes which operate by placing a market price on emissions.

**Valuation of loans and placements**

The 2008 SNA recommends valuation of loans in the balance sheet at nominal value, with non-performing loans identified and two memorandum items concerning them included in the balance sheet of the creditor. The first is the nominal value of the loans so designated, including any accrued interest and service charges. The second is valued at the market equivalent of these loans.
The ABS has diverged from the 2008 SNA treatment of loans and placements by applying fundamental market valuation principles to these instruments. Specific loan loss provisions are taken into account in valuing loan portfolios and their counterparts, and as a result the closest approximation to market value or fair value is recorded. The ABS does not take account of general loan loss provisions. The valuations of loans at nominal values are produced by the ABS in supplementary tables according to the 2008 SNA valuation.

**Appendix 2.**

**Contradictions, Inconsistencies and Unfinished Business in the 2008 SNA.**

**Loose Ends.**

While the ABS has diverged from the SNA in the cases described above, we have not diverged in all cases where there are contradictions and inconsistencies in the 2008 SNA or there are conceptual and methodological recommendations which are inconsistent with the basic concepts of the SNA or aspects which are not sufficiently developed to allow a coherent interpretation and implementation. There are quite a few loose ends in the 2008 SNA which need further work. Details of most of these topics are in the papers referenced at the end of this paper.

The ABS is conducting research into a number of these conceptual and methodological issues and the key priorities of this work are described below. These priorities are generally consistent with the priorities of the ISWGNA's long-term SNA research agenda (see Appendix 3).

**The definition of income**

The ABS considers the definition of income to be a priority for research because of the absence of clarity about this concept. The ABS is mainly focussed on the relationship between holding gains and losses and the national accounting definition of income.

**Reinvested earnings**

The ABS is researching the treatment of reinvested earnings on both methodological and conceptual levels. Although methodological issues were the focus of this research during 2008 SNA implementation, the ABS has more recently shifted its priorities towards conceptual issues associated with reinvested earnings.

In implementing the 2008 SNA, the ABS overcame a range of new measurement issues involved with the expansion of the recording of reinvested earnings from undistributed foreign direct investment income to include undistributed earnings in both resident and non-resident investment funds.
The ABS has researched the development of the conceptual treatment of reinvested earnings and its expansion to other types of units to improve the consistency of the system. The potential exists for domestic income to be misstated as some retained earnings of corporations are distributed and remitted to investors while other retained earnings are held by domestic corporations in the form of net saving. Initial research demonstrates that, at least in an Australian context, domestic income is not significantly misstated due to this inconsistency.

**Financial intermediation services indirectly measured (FISIM)**

The measurement of FISIM remains a challenge for the ABS. Research has focused on a number of existing measurement issues and the results of this work have highlighted outstanding issues with the concept of FISIM. More recent efforts by the ABS have further explored these conceptual matters and the broader issue of income measurement in the national accounts.

**The definition and measurement of capital services**

Research into the definition and measurement of capital services by the ABS has highlighted the need for clarification to allow the full integration of the contribution of capital into the core national accounts. Returns to capital and entrepreneurship are embodied in the concept of gross operating surplus. By deducting consumption of fixed capital to derive net operating surplus, some of the contribution of capital to production is recognised. However, further clarification is necessary regarding the capital services produced by certain assets such as inventories as well as assets that take a long time to produce.
The ABS has furthered this research into capital services by examining the contribution of subsoil assets to Australian mining industry productivity. This research highlights the

significant contribution of this non-produced asset which is largely ignored by conventional productivity measures

**Appendix 3:**

**Intersecretariat Working Group on National Accounts (ISWGNA) SNA research agenda**

http://unstats.un.org/unsd/nationalaccount/research.asp

Research Issues – Long-term agenda

1. Reverse transactions.
2. Debt concessionality.
3. Clarification of income concept in the SNA - should holding gains be included?
4. Final consumption of corporations.
5. The relationship of SNA and IASB.
6. High inflation.
7. Accrual interest in the SNA - the debtor or creditor approach?
8. Equity valuation and its implications.
9. Provisions.
10. Distinction between current maintenance and capital repairs.
11. Broadening the fixed asset boundary to include other intellectual property assets.
12. Treatment of Private-Public Partnerships.
13. Consolidation, both for government and private enterprise groups.
14. Wider use of fair value for loans.
15. Recognition of social security entitlements as liabilities.
16. Leases to exploit natural resources such as mineral deposits.
17. Reinvested earnings.
18. Output of central banks: taxes and subsidies on interest rates applied by central banks.
19. Inclusion of international organisations in the SNA.
20. Government social services.

Current Research

1. FISIM.
2. Emission Permits.

**Appendix 4.**

**The Measurement of Pensions in Australia**

The ABS believes that a comprehensive, coherent set of accounts can be assembled only if all stocks and flows are recorded on an accrual basis at market value. This has driven us to diverge from some SNA recommendations. It also led us to adopt certain treatments consistent with basic SNA concepts while we were still using the 1993 SNA. One area we did this is in the recording of stocks and flows relating to pensions. We have been pleased to be able to share our experience on this front with colleagues from other countries in recent discussions on this topic.

Pensions are an important policy issue and recording them within the system of national accounts has proven to be very challenging. In most industrial countries, the issue of the growing aging population has put a keen focus on how governments formulate retirement policies to meet the living standard of this cohort. Within this, there is the politically sensitive issue for many governments of government employee pension liabilities, their valuation, and recognition of these liabilities and subsequent impacts on overall government debt measures. The political sensitivities seem to be a driving force in the contentious international debates around conceptual and measurement issues of pensions. Currently there is international debate around the existence of pension entitlements and their valuation; and the associated income flows which may require imputations.

Since 1992 Australia has had a mandatory contributions pension regime for all employees. The regime is aimed at improving self-funding of retirement benefits rather than reliance on government pay-as-you-go old age pensions. In addition to the compulsory aspects of the regime there are also significant tax incentives available on contributions, benefits and investment earnings. These incentives also apply to non-compulsory schemes. Beside funds that rely on compulsory and voluntary contributions, there are also public sector schemes that are unfunded, although most of these are now closed to new membership and are being replaced by funded arrangements. Because of the high degree of policy interest in the progress of retirement income funding schemes, measurement of the schemes has had a high priority. The Australian Bureau of Statistics (ABS) and the relevant regulatory authorities have a long history of collaboration on gathering statistics, with the presentation of pension schemes both from a regulatory and economic statistical basis, with the latter published by the ABS on an SNA basis. Measurement of public sector employee unfunded arrangements that are not subject to regulation was controversial until all Australian government jurisdictions adopted accrual accounting principles in 1998. Included at the time was the need to disclose liabilities relevant to public sector unfunded schemes, which the ABS included in the core national accounts from 1998.

The ABS has been involved in measuring pension fund and scheme operations in an SNA context for many years and has accumulated conceptual, methodological and practical experience as a result. The rest of this Appendix briefly discusses some of the practical lessons learnt and some of the measurement challenges Australia and many other countries still face in measuring pensions.

*Accrual versus cash accounting*

The 2008 SNA addresses treatment for the recognition of income of investors, and for pension funds this was mostly related to estimation of change in technical reserves. The 2008 SNA suggested measurement of “change in technical reserves” is straightforward for defined contribution schemes where the value of the change in technical reserves is a residual derived from measurable components. However, for defined benefit schemes the change in technical reserves is dependent on contractual obligations, and the components need to be recorded on an accrual basis in the national accounts.

Particular cases in Australia are the unfunded schemes, historically important for public sector employees, which are funded on a “pay as you go” basis (contractual benefits paid as they fall due), and there are no assets, contributions, income or borrowings. Other defined benefit schemes may be under-funded (change in technical reserves less than the contractual obligation), over-funded (the contractual obligation less than the change in technical reserves). In the case of an over-funded scheme, the excess technical reserves are attributed to the funds sponsor, usually the employer. For under-funded and unfunded schemes there needs to be accrual recording of both of the contractual obligations and the attribution of earnings to members and sponsors.

The contractual obligations, at least in Australia, are most often estimated by actuaries employed or contracted by scheme sponsors. For example, in Australia since 1998 central and state governments have been accounting for their unfunded and under-funded contractual obligations as part of the requirements of accrual accounting standards by governments. The public sector accounting standards are generally consistent with those of the 2008 SNA, and the ABS has not produced alternative estimates for national accounting purposes. For the public sector defined benefit schemes, data is obtained for the imputed employer contribution (current service increase) and imputed property income (past service increase). However, for both these items, data is not available separately for the unfunded and under-funded DB schemes; the ABS hopes to obtain these data separately from the data providers in the near future. For private sector defined benefit schemes, data about the value of over- or under-funding is not available from the prudential regulator, something the ABS hopes is remedied by the current pension statistical collection review.

As mentioned above, over-funding should be allocated to fund sponsors technical reserves assets. However, recent experience in Australia suggests that when over-funding occurs it is because actual investment earnings are in excess of expected (actuarial) earnings. Quite often the sponsor's reaction to such over-funding is to take a "contributions holiday", which requires imputation of contributions and reduction in the sponsor's share of technical reserves.

*Actuarial modelling*

The ABS strongly believes that best practice is to use estimates from actuaries/supervisory authorities wherever possible for the measurement of unfunded/under-funded/over-funded items required to measure defined benefit schemes on an accrual basis, rather than statistical agencies developing their own estimates. Actuaries have been trained and employed to undertake these tasks and so are best placed to compile these estimates. National accountants should be trained to understand the different actuarial concepts and to disseminate the relevant metadata on pension entitlement estimates within the national accounts compilation process.

*Data requirements of 2008 SNA Table 17.10 - Implication for international comparable data*

At the OECD/ABS workshop on pension entitlements (held in Canberra, Australia from 22-24 April 2013) discussions revealed some difference in the prioritisation of policy questions across OECD countries, and hence the information data set required to answer these questions. The discussions emphasised that there are two broad priorities that are related but distinct and that respectively correspond to EU and to non-EU countries concerns:

- The ability of general government to meet its obligations leading to a focus on the liabilities of the general government sector; currently captured in the supplementary SNA Table 17.10 ( ESA Table 29); and
- The ability of households to fund their lifestyles in retirement leading to a focus on the assets of the household sector; currently not adequately captured in SNA Table 17.10 ( ESA Table 29).

The workshop agreed that Table 17.10 as prescribed by the SNA should be kept unchanged, but acknowledged that Table 17.10 does not allow for a number of schemes which are designed to encourage household savings for retirement which are not part of social insurance and therefore does not present a complete picture of household preparedness for retirement and consequently of households financial wealth after retirement. For example, private savings schemes taken out by households solely on their own initiative and not linked to employment but which provide tax incentives for retirement savings.

The workshop recommended the design of an additional Table 17.xx "Household Retirement Resources" to capture all retirement resources (both funded and unfunded) available to households in order to understand their 'preparedness' for retirement. The intended design of Table 17.xx is to record all pension schemes, including schemes articulated in Table 17.10. A preliminary Table 17.xx "Household Retirement Resources" was discussed at the Advisory Expert Group on National Accounts (AEG ) meeting in May 2013 and Table 17.xx (including recommendations from the AEG) were populated with data for the USA (from the Bureau of Economic Analysis and the Board of Governors of the Federal Reserve System) and presented at Working Party on Financial Statistics (WPFS) and Working Party on National Accounts (WPNA), in early October 2013. It is hoped that a final version of this table will be approved by AEG, so as to enable the full recording of internationally comparable data on pensions.

*Policy Implication*

It is important to accurately measure pensions within the context of the fully integrated set of national accounts; the associated financial flows, positions and sectoral breakdown are equally important. To assess the efficiency and effectiveness of government pension policies requires that the impacts of pensions policies be measured on government debt, compensation of employees, household property income, household assets, and household savings.

**Published papers**

Release of macroeconomic accounts data
ABS Cat. No. 5204.0, Australian System of National Accounts, 2008-09,
http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/5D5846E18D54CB5CCA2577CA0013978C?opendocument

ABS Cat. No. 5206.0, Australian National Accounts: National Income, Expenditure and Product, Sep 2009,
http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/72C8D550C68B28FACA2576DA0012B2DA?opendocument

ABS Cat. No. 5220.0, Australian National Accounts: State Accounts, 2008-09,
http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/C10E2EEFA1D5705CCA2577DF001554A3?opendocument

ABS Cat. No. 5232.0, Australian National Accounts: Financial Accounts, Sep 2009,
http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/88103B01DD3D6BC7CA2576F10015413D?opendocument

ABS Cat. No. 5302.0, Balance of Payments and International Investment Position, Australia, Sep 2009,
http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/6DF804E645F4AA5DCA2576D60012B6E2?opendocument

ABS Cat. No. 5368.0, International Trade in Goods and Services, Australia, Aug 2009,
http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/EBE9BD5D7B723C0CCA2576640011592A?opendocument

ABS Cat. No. 5310.0.55.001, Information Paper: Introduction of revised international standards in ABS economic statistics in 2009, (2007), http://www.abs.gov.au/AUSSTATS/abs@.nsf/ProductsbyCatalogue/AAACCFDC646DD1AFCA25734D00127EC2?OpenDocument

ABS Cat. No. 5310.0.55.002, Information Paper: Implementation of new international statistical standards in ABS National and International Accounts, September 2009, http://www.abs.gov.au/AUSSTATS/abs@.nsf/ProductsbyCatalogue/FBD636304CF0ACF7CA25765C0019CE40?OpenDocument

ABS 2010, "A progress report on ABS investigations into FISIM in international accounts, consumer price index and balance of payments", *OECD working party on National Accounts*, November 2010, <http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=STD/CSTAT/WPNA(2010)3&doclanguage=en>.

ABS 2011, "Reinvested earnings of investment funds in the Australian national accounts", *OECD working party on Financial Statistics,* October 2011, <http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/STD/DAF(2011)9&doclanguage=en>.

ABS 2012a, "The definition and measurement of capital services", *OECD working party on National Accounts*, October 2012, <http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=STD/CSTAT/WPNA(2012)11&docLanguage=En>.

ABS 2012b, "Real income and its allocation", *OECD working party on National Accounts*, October 2012, <http://search.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=STD/CSTAT/WPNA(2012)24&docLanguage=En>.

ABS 2012c, "On the convergence of theory and practice in the measurement of FISIM", November 2012, Sydney, <http://www.asb.unsw.edu.au/research/centreforappliedeconomicresearch/Documents/A.%20Maritz%20-%20On%20the%20Convergence%20of%20Theory%20and%20Practice%20in%20the%20Measurement%20of%20FISIM.pdf>.

ABS 2013, "Australian valuation of subsoil natural resources and their inclusion in productivity statistics", *OECD working party on National Accounts*, September 2013, <http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=STD/CSTAT/WPNA(2013)6&docLanguage=En>.