



## **Information Paper**

# **Upcoming changes to the Australian System of National Accounts**

**Australia**

**2010–11**



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## PREFACE

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This information paper describes changes being introduced to the 2010-11 issue of *'Australian System of National Accounts'* (cat. no. 5204.0) to be released on Friday 28th October 2011.

The compilation of the annual National Accounts in 2011 is a full historical revision cycle, where the benchmarks are revised through the time series for the purposes of putting through revisions from source data such as Australian Industry data, incorporation of source data such as such as Household Expenditure Survey 2003-04 and 2009-10, Retail Industry Survey 2005-06 and improvements to compilation.

In addition, this paper will describe methodological changes to productivity data and impacts.

Brian Pink  
Australian Statistician





# EXPECTED REVISIONS TO AUSTRALIAN SYSTEM OF NATIONAL ACCOUNTS 2010-11

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This information paper describes changes being introduced in the 2010-11 issue of Australian System of National Accounts (ASNA) (cat. no. 5204.0) to be released on Friday 28th October 2011.

The 2010-11 ASNA incorporates a full historical revision cycle, where annual benchmarks are revised through the entire time series. The 2010-11 ASNA incorporates updated input data from various sources including household surveys, retail commodity collections and the annual industry collections. This ASNA also incorporates a range of improvements to compilation methods which have generally improved the quality of data and the accuracy of industry allocations.

Significant revisions are expected through the annual time series in the ASNA. The following key revisions to the 2010-11 issue of ASNA are expected:

- Household Final Consumption Expenditure (HFCE) (table 42) will be revised due to the introduction of new source data. There are several sources of benchmark data for the HFCE estimates. One of the main sources is retail data from Retail and Wholesale Industries, Australia: Commodities (RIS) (cat. no. 8624.0) which is conducted about every seven years. RIS is an important source of commodity data and the latest RIS for the 2005-06 reference year will be incorporated. Another key data source is the Household Expenditure Survey, Australia (HES) (cat. no. 6530.0), which provides benchmark estimates for components such as 'Electricity, gas and other fuels', 'Transport', 'Communications', 'Hotels, Cafes and Restaurants', and 'Other goods and services'. Benchmark estimates from the 2003-04 and 2009-10 HES will be incorporated. Details regarding this are available in Chapter 14: Final consumption expenditure of the Australian National Accounts: Concepts, Sources and Methods (cat. no. 5216.0).
- ASNA Industry estimates of Industry Value Added and Gross Operating Surplus will be revised for most industries as a result of updated input data and a range of improvements to compilation methods:
  - ASNA Industry estimates will be revised for most industries as a result of revisions to source data in Australian Industry, 2009-10 (AIC) (cat. no. 8155.0);
  - ASNA Industry estimates for most industries, will be revised as a result of Off-June Adjustments using movements in the Business Indicators, Australia (QBIS) (cat. no. 5676.0). Previously, data sourced from AIC were based on data as reported, whether respondents had reported on fiscal year or calendar year basis. From 2011 onwards, National Accounts will apply an Off-June Reporting Adjustment to all industries based on matching respondents to those who have indicated as reporting for a non-June year with data in QBIS, deriving factors and applying adjustments;
  - Agriculture, Forestry and Fishing industry data (table 5 and table 50) will be revised due to correction of a backcasting issue in 'Total Intermediate Use' (TIU) during 2009 compilation;
  - Arts and Recreation Industry data (table 5) will be revised as a the result of improving compilation based on both non-market and market derivations. This change in methodology will only affect the manner in which supply is calculated, the TIU calculation would remain constant;

## EXPECTED REVISIONS TO AUSTRALIAN SYSTEM OF NATIONAL ACCOUNTS 2010-11 *continued*

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- Retail and Wholesale Industries (table 5), will be revised due to a combination of revised AIC data, including Off-June Year basis data and a correction of a compilation issue;
- Ownership of Dwellings industry and 'Income from Dwelling Rent' (table 5 and 49), will be revised as a result of updating the intermediate use allocation to reflect HES 2003-04 and 2009-10 data. The allocation of taxes on production and HFCE of actual rents have also been revised to reflect the latest Survey of Income and Housing and HES data;
- Finance and Insurance industry and Financial Corporations Sector estimates, will be revised as a result of improved methods of data compilation and the use of new source data for compilation and validation purposes. Revisions are expected in Finance and Insurance industry 'Gross Value Added', Financial Corporation 'Gross Operating Surplus', HFCE of Insurance and other financial services, and components of the primary and secondary income receivable and payable in the sectoral income accounts; and
- Taxes and Subsidies on Production industry allocation will be revised as a result of improved methodology.
- Compensation of Employees (COE) (table 46 and 48) will be revised for most industries as a result of updated input data and a range of improvements to compilation methods:
  - COE will be revised for most industries as a result of revisions to source data in Australian Industry, 2009-10 (AIC) (cat. no. 8155.0);
  - COE will be revised as a result of Off-June Adjustments using movements in the Business Indicators, Australia (QBIS) (cat. no. 5676.0);
  - COE industry allocation will be revised from using the General Government ANZSIC 06 industry allocation published in the Survey of Employment, Earnings and Hours (SEEH) (cat. no. 6306.0). Previously, an allocation was used to convert the industry estimates from ANZSIC 93 to ANZSIC 06 as updated SEEH data was not available at the time of the previous historical revision cycle; and
  - COE in the Finance and Insurance industry, will be revised as compilation for Financial Auxiliaries will now be sourced from AIC. Compilation was previously based on data from Labour Costs, Australia, 2002-03 (cat. no. 6348.0.55.001), Australian Prudential Regulatory Authority data as well as indicators such as the Labour Force Survey (cat. no. 6202.0) and QBIS.

'Gross Fixed Capital Formation' (GFCF) data (table 64) will be revised due to improved industry allocation as a result of research into data sources and compilation practices, including construction survey activity data from Building Activity, Australia (cat. no. 8752.0), the latest HES data, and other data sources. The revisions to GFCF will result in revisions to capital stock and consumption of fixed capital.

The updated source data has been confronted in a Supply-Use (SU) framework to ensure the consistency of statistics on the flows of goods and services obtained from a large number of data sources. Since financial year 1994-95, the ABS has compiled a time series of SU tables to generate balanced annual estimates of GDP to replace those generated by summing four quarterly estimates. This results in the 'Statistical Discrepancy' for all years between 1994-95 and 2009-10 inclusive being zero. Periods prior to financial year 1994-95 have a non-zero 'Statistical Discrepancy' as historical SU tables have not been compiled.

## EXPECTED REVISIONS TO AUSTRALIAN SYSTEM OF NATIONAL ACCOUNTS 2010-11 *continued*

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Similarly, estimates for the latest period (in this case financial year 2010-11) have a 'Statistical Discrepancy' until SU tables for these periods are constructed.

The September quarter 2011 issue of Australian National Accounts: National Income, Expenditure and Product (cat. no. 5206.0) to be released on 7 December 2011 will also incorporate the full historical revisions of the 2010-11 issue of the ASNA using an 'optimal' benchmarking procedure. For a more detailed discussion on the benchmarking procedure, see Chapter 13: Deriving annual benchmarks and quarterly estimates from supply and use tables of the Australian System of National Accounts, Concepts Sources and Methods (cat. no. 5216.0).

For further information about these expected revisions contact Jennifer Humphrys on Canberra (02) 6252 7506. Noting that details quantifying the magnitude of these revisions will not be available until the 2010-11 issue of the ASNA is released on the 28 October 2011.

## CHANGES TO PRODUCTIVITY AND RELATED MEASURES

A conceptual change in output valuation is being introduced to aggregate productivity measures for the 2010-11 issue of the ASNA.

The key output aggregate for productivity measures, 'GDP market sector' will be replaced by 'Gross value added market sector'. The difference between the two measures is that the former measure, 'GDP market sector' includes 'taxes less subsidies on products'. Changing the productivity output measure to 'Gross value added market sector' is a conceptual change in the valuation of output, from purchasers' prices to basic prices.

The previous approach of extending the concept of GDP to the market sector required an allocation of 'taxes less subsidies on products' to this industry subset. However, this allocation is not economically meaningful as it includes a significant share of GST incident on households. The conceptual change means that the concept of GDP will now refer exclusively to aggregate economy measures, where an allocation of 'taxes less subsidies on products' allows the valuation of the production based approach to GDP at purchasers' prices to align conceptually with the income and expenditure measures of GDP.

The change applies to all aggregate productivity measures over the entire time span. It impacts on the following key aggregates:

- 'GDP Market sector' will be replaced by 'Gross value added market sector' (table 1 and 13)
- 'GDP per hour worked market sector' will be replaced by 'Gross value added per hour worked market sector' (table 1).

Labour productivity, capital productivity and multifactor productivity, on both an hours worked basis and quality adjusted hours worked basis (table 13) are also impacted by this change.

The valuation of aggregate output measures and industry gross value added measures are aligned by this change. Basic price is the preferred valuation from a producer or seller's perspective, as it represents the amount retained and is the price most relevant to their decision making. Purchasers' prices, on the other hand, is the preferred valuation from a buyer's perspective. Basic price valuation of output complies with the international standard as described in the System of National Accounts 2008 handbook:

"The preferred method of valuation of output is at basic prices, although producers' prices may be used when valuation at basic prices is not feasible. The distinction is related to the treatment of taxes & subsidies on products. Basic prices are prices before taxes on products are added and subsidies on products are subtracted." (para 2.63)

Productivity measures were first introduced by the ABS in 1989 as aggregate measures for a grouping of 12 industries labelled as the market sector. The underlying framework for these measures was based upon the original Solow classical growth accounting framework (Solow, 1957)<sup>1</sup>. Output measures in this framework are valued at market or purchasers' prices. The field has developed considerably following major contributions by Dale Jorgenson, Zvi Griliches and Erwin Diewert. In particular, the growth accounting framework was fully articulated for industry level measures. These developments have formed the basis for internationally recommended practices with the release of the 2001

<sup>1</sup> Solow, R., Technical Change and the Aggregate Production Function, The Review of Economics and Statistics, Vol. 39, No. 3., pp 312-320

## CHANGES TO PRODUCTIVITY AND RELATED MEASURES *continued*

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OECD Manual- Measuring Productivity. Importantly, the manual is consistent with the SNA in its recommendation for the valuation of output at basic prices:

"From the perspective of productivity measurement, the choice of valuation should reflect the price that is most relevant for the producer's decision making; regarding both inputs and outputs. Therefore, it is suggested that output measures are best valued at basic prices..."

(OECD 2001, p. 77)

In 2007, the ABS introduced Experimental Estimates of Industry Multifactor Productivity (cat. no. 5260.0.55.002): industry-level measures in this data cube are consistent with the OECD handbook and therefore unaffected by the conceptual change. However, aggregations of industries in the next data cube release on 7 December 2011 will reflect the change in the valuation of outputs.

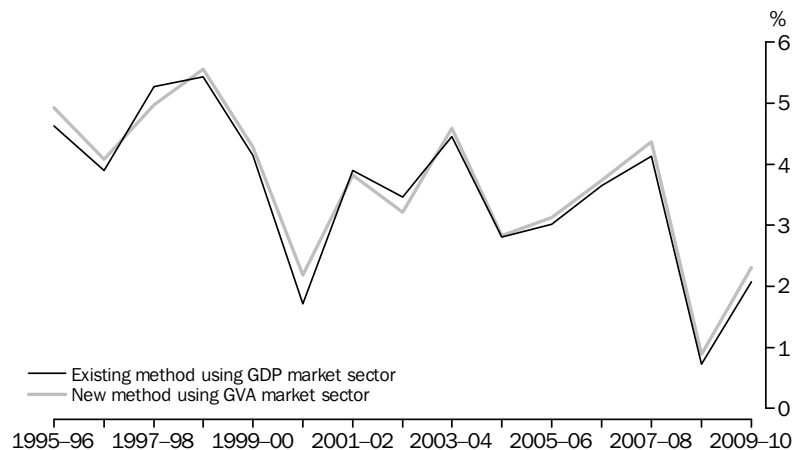
## IMPACT OF CHANGE ON PRODUCTIVITY AGGREGATES

The conceptual change results in a level shift to the key aggregate '*Gross value added per hour worked market sector*' (table 1). For recent years, this aggregate will be approximately 10 per cent lower than '*GDP per hour worked market sector*', due to excluding '*taxes less subsidies on products*' from the aggregate.

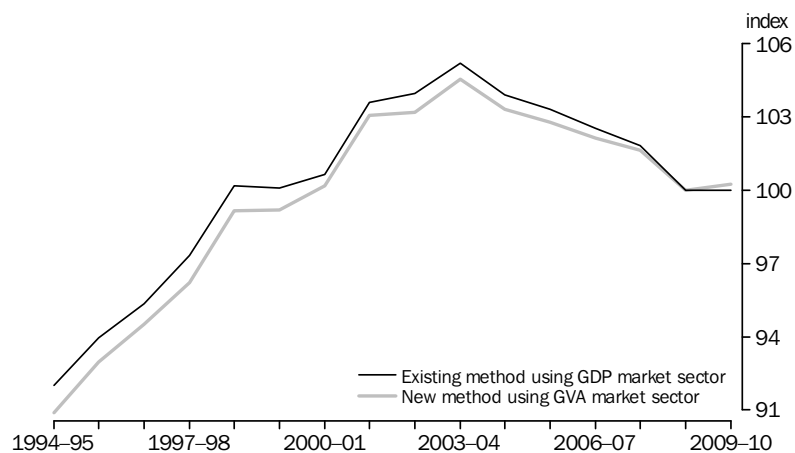
In real terms, the proportion of '*taxes less subsidies on products*' to GDP has trended lower over time. The charts below demonstrate the impact on the most recently released productivity measures, in respect of 2009-10 release of the Australian System of National Accounts. Real gross value added for the market sector grows slightly faster than GDP for the Market sector: average real output growth increases by 0.1 percentage points per annum (from 3.6% to 3.7% per annum). Average MFP growth increases by about 0.1 percentage point per annum (from 0.6 to 0.7 per cent). The timing of productivity growth cycles is unaffected.

The revisions to productivity aggregate measures in the 2010-11 issue of the ASNA will reflect both the conceptual change to gross value added based output measures and the full historical revision cycle described in part 1 of this article.

OUTPUT, Chain volume measures

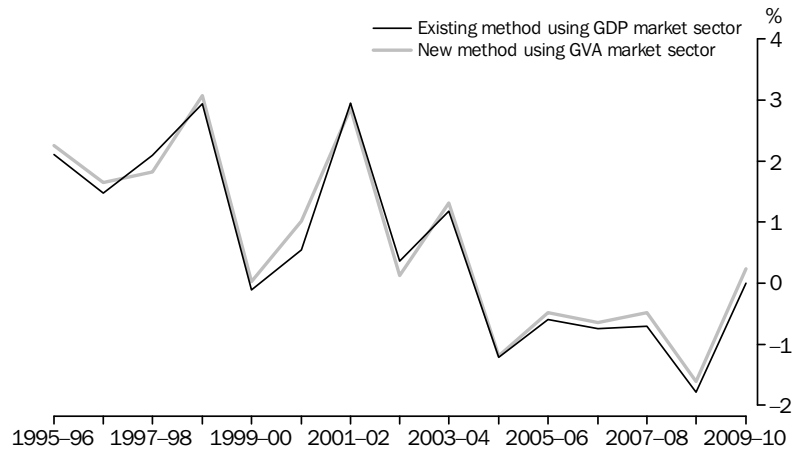


MULTIFACTOR PRODUCTIVITY



# IMPACT OF CHANGE ON PRODUCTIVITY AGGREGATES *continued*

## MULTIFACTOR PRODUCTIVITY



For further information about productivity measures contact Derek Burnell on Canberra (02) 6252 6427.

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