

## APPENDIX A: PARAMETERS AND FURTHER INFORMATION

This appendix provides information on the parameters used in producing this Budget Paper.

*Statement 2: Economic Outlook, Budget Paper No. 1, Budget Strategy and Outlook 2010-11* provides information on the forecasting approach used in the 2010-11 Budget as well as estimates and projections of GDP and CPI.

### POPULATION

Population is an important parameter in federal finances. It is used extensively to distribute funding between the States and in the calculation of annual growth factors.

#### Estimates of state populations

Table A.1 sets out the state population series used in this Budget Paper.

**Table A.1: Population by State, at 31 December**

| million    | NSW   | VIC   | QLD   | WA    | SA    | TAS   | ACT   | NT    | Total  |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 2000-01    | 6.527 | 4.770 | 3.592 | 1.888 | 1.508 | 0.471 | 0.317 | 0.196 | 19.270 |
| 2001-02    | 6.605 | 4.833 | 3.671 | 1.914 | 1.517 | 0.472 | 0.321 | 0.198 | 19.531 |
| 2002-03    | 6.649 | 4.892 | 3.765 | 1.938 | 1.526 | 0.475 | 0.324 | 0.199 | 19.768 |
| 2003-04    | 6.689 | 4.952 | 3.857 | 1.968 | 1.536 | 0.481 | 0.326 | 0.201 | 20.009 |
| 2004-05    | 6.729 | 5.014 | 3.946 | 1.999 | 1.546 | 0.485 | 0.328 | 0.204 | 20.250 |
| 2005-06    | 6.786 | 5.086 | 4.044 | 2.037 | 1.559 | 0.488 | 0.332 | 0.208 | 20.542 |
| 2006-07    | 6.859 | 5.171 | 4.140 | 2.085 | 1.576 | 0.492 | 0.337 | 0.212 | 20.871 |
| 2007-08    | 6.955 | 5.269 | 4.247 | 2.141 | 1.594 | 0.496 | 0.342 | 0.217 | 21.261 |
| 2008-09    | 7.076 | 5.382 | 4.366 | 2.212 | 1.613 | 0.501 | 0.349 | 0.223 | 21.720 |
| 2009-10(a) | 7.192 | 5.498 | 4.477 | 2.274 | 1.635 | 0.506 | 0.355 | 0.228 | 22.164 |
| 2010-11(a) | 7.283 | 5.595 | 4.580 | 2.332 | 1.651 | 0.510 | 0.360 | 0.233 | 22.543 |
| 2011-12(a) | 7.368 | 5.686 | 4.681 | 2.386 | 1.666 | 0.515 | 0.365 | 0.238 | 22.905 |
| 2012-13(a) | 7.448 | 5.774 | 4.779 | 2.439 | 1.680 | 0.519 | 0.370 | 0.242 | 23.252 |
| 2013-14(a) | 7.527 | 5.861 | 4.876 | 2.492 | 1.695 | 0.523 | 0.375 | 0.247 | 23.596 |

(a) Treasury estimates.

The state populations for 2000-01 to 2008-09 are the population of each State on 31 December, as determined by the Commonwealth Statistician in June of the respective year.

The state populations for 2009-10 to 2013-14 are estimates of the population of each State on 31 December in the respective year. They are constructed using the latest demographic data available from the Australian Bureau of Statistics and Treasury assumptions. Broadly, these assumptions are in respect of fertility, mortality, net overseas migration and interstate migration.

## Fertility

Treasury's assumptions about the total fertility rate are based on the medium fertility assumptions used in the Australian Bureau of Statistics *Population Projections, 2006-2101* (ABS cat. no. 3222.0).

For 2009 the total fertility rate is projected to be 1.905, followed by a gradual decline to 1.8 by 2021, equivalent to 1.9 in 2012 and staying at that level for the remainder of the projection period.

The assumed fertility rate includes a continuation of later child bearing trends in the age specific rates, although at a lesser rate than the historic trend due to recent signs that this may be slowing.

## Mortality

Treasury's estimates are based on the medium assumption used in the Australian Bureau of Statistics *Population Projections, 2006-2101* (ABS cat. no. 3222.0), and assume a continuing decline in mortality rates across Australia, with state differentials persisting. Overall, mortality is assumed to decline to the year 2013, at the rate observed over the period 1971-2005, from the level observed in the latest death registration data for 2008-09.

## Net overseas migration

Net overseas migration is the difference between permanent and long-term arrivals, and permanent and long-term departures.

Net overseas migration has departed significantly from historic averages in recent years, reaching historically high levels. This has been associated with increasing levels of fee paying foreign students and high levels of skilled long-term temporary and permanent migration due to strong economic conditions and low unemployment.

Improved methods for estimating net overseas migration introduced by the Australian Bureau of Statistics, increased volumes of international movements across Australia's borders, changes to the composition of international visitors and their duration of stay behaviour and international travel patterns of Australian residents (including duration of absence and frequency of travel) make estimates of net overseas migration difficult. This is exacerbated by the economic downturn which removes some of the support for the historic high levels of immigration.

Table A.2 shows the net overseas migration estimates used in this Budget Paper.

**Table A.2: Net overseas migration**

|                                   | 2009    | 2010    | 2011    | 2012    | 2013    |
|-----------------------------------|---------|---------|---------|---------|---------|
| Net overseas migration, Australia | 290,000 | 222,000 | 201,000 | 185,000 | 180,000 |

State and territory shares of net overseas migration are estimated by using a weighted average of the three most recent observed years – 2007, 2008 and 2009 – with weights of 1, 2 and 4 respectively.

### Interstate migration

Treasury's estimates of net interstate migration are based on a weighted average of the three most recent observed years – 2007, 2008 and 2009 – with weights of 1, 2 and 4 respectively.

**Table A.3: Net interstate migration**

|      | NSW     | VIC  | QLD    | WA    | SA     | TAS | ACT  | NT  | Total |
|------|---------|------|--------|-------|--------|-----|------|-----|-------|
| 2010 | -21,400 | -700 | 21,000 | 4,900 | -4,500 | 400 | -300 | 600 | 0     |
| 2011 | -21,400 | -700 | 21,000 | 4,900 | -4,500 | 400 | -300 | 600 | 0     |
| 2012 | -21,400 | -700 | 21,000 | 4,900 | -4,500 | 400 | -300 | 600 | 0     |
| 2013 | -21,400 | -700 | 21,000 | 4,900 | -4,500 | 400 | -300 | 600 | 0     |

### AGE/GENDER-WEIGHTED POPULATIONS

Treasury's estimates of state population have been used to calculate the population weighted for hospital utilisation for different age/gender cohorts. The weighted hospital utilisation forms part of the growth factor for the National Healthcare SPP.

**Table A.4: Age/gender-weighted population**

| million                        | 2009   | 2010   | 2011   | 2012   | 2013   |
|--------------------------------|--------|--------|--------|--------|--------|
| Weighted population, Australia | 22.320 | 22.834 | 23.348 | 23.854 | 24.351 |

### SCHOOL ENROLMENTS

Student enrolment projections are based on a 99 per cent grade progression ratio model and take into account movements between government and non-government sectors. Student enrolment data do not take into account future economic, migration or policy changes. They are used in calculating estimates of the growth factor for the National Schools SPP.

**Table A.5: School enrolments**

|                                    | 2009      | 2010      | 2011      | 2012      | 2013      |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|
| FTE enrolments, government schools | 2,270,774 | 2,285,960 | 2,299,609 | 2,317,732 | 2,345,055 |

### LOCAL GOVERNMENT

The Commonwealth provides a financial contribution to local governments to enhance their capacity to provide services to the community. The financial assistance grants are increased annually based on an escalation factor which the Treasurer determines with

reference to population growth and the consumer price index. Estimates of the population growth factor, as defined in section 5 of the *Local Government (Financial Assistance) Act 1995*, and consumer price index, as defined in section 8 of the *Local Government (Financial Assistance) Act 1995*, are presented in Table A.6.

**Table A.6: Local government parameters**

| per cent                | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|-------------------------|---------|---------|---------|---------|---------|
| Consumer price index(a) | 3       | 2 1/2   | 3       | 3 1/4   | 2 1/2   |
| Population(b)           | 2 1/4   | 2       | 1 3/4   | 1 1/2   | 1 1/2   |

(a) Defined in section 8 of the *Local Government (Financial Assistance) Act 1995*.

(b) Defined in section 5 of the *Local Government (Financial Assistance) Act 1995*.

## WAGE AND COST INDICES

Table A.7 shows the wage and cost indices used in this Budget Paper, rounded to the nearest quarter.

**Table A.7: Wage and cost indices<sup>(a)</sup>**

| per cent                    | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|-----------------------------|---------|---------|---------|---------|---------|
| Average government schools  |         |         |         |         |         |
| recurrent costs             | -       | 6       | 6       | 6       | 6       |
| Health specific price index | -       | 3 1/2   | 3 1/2   | 3 1/2   | 3 1/2   |
| Health technology index     | -       | 1 1/4   | 1 1/4   | 1 1/4   | 1 1/4   |
| Wage cost index - 1         | -       | 1 1/2   | 1 1/2   | 2       | 2       |
| Wage cost index - 6         | -       | 2       | 2       | 2 1/2   | 2 1/2   |

(a) Amounts for National SPPs are indexed from 1 July 2010 onwards.

## GST RELATIVITIES

Table A.8 sets out the GST relativities used in this Budget Paper.

The GST relativities for 2000-01 to 2008-09 are the relativities recommended by the Commonwealth Grants Commission to distribute a combined pool of GST payments and health care grants, as provided for in the *Intergovernmental Agreement on the Reform of Commonwealth State Financial Relations* of 1999.

The GST relativities for 2009-10 and 2010-11 are the relativities recommended by the Commonwealth Grants Commission to distribute GST payments only, as provided for in the *Intergovernmental Agreement on Federal Financial Relations*.

Treasury's projections of GST relativities for 2011-12 to 2012-13 assume that the States' fiscal capacities in 2009-10, 2010-11, 2011-12 will be broadly consistent with the Commission's assessment of their relative fiscal capacities in 2008-09.

## Appendix A: Parameters and Further Information

The projections are adjusted to account for changes in GST revenue, population and the distributions of the National SPPs.

**Table A.8: GST relativities since 2000-01<sup>(a)</sup>**

|            | NSW     | VIC     | QLD     | WA      | SA      | TAS     | ACT     | NT      |
|------------|---------|---------|---------|---------|---------|---------|---------|---------|
| 2000-01    | 0.90913 | 0.87049 | 1.01830 | 0.98365 | 1.18258 | 1.51091 | 1.11289 | 4.16385 |
| 2001-02    | 0.92032 | 0.87539 | 1.00269 | 0.97516 | 1.17941 | 1.50095 | 1.14633 | 4.02166 |
| 2002-03    | 0.90631 | 0.86824 | 1.01174 | 0.97592 | 1.19447 | 1.55419 | 1.15216 | 4.24484 |
| 2003-04    | 0.89117 | 0.87010 | 1.01902 | 0.96946 | 1.21215 | 1.59948 | 1.14979 | 4.38638 |
| 2004-05    | 0.86750 | 0.86534 | 1.05504 | 1.03054 | 1.20407 | 1.55939 | 1.12930 | 4.26538 |
| 2005-06    | 0.86846 | 0.87552 | 1.04389 | 1.02500 | 1.20325 | 1.55299 | 1.14300 | 4.26682 |
| 2006-07    | 0.87332 | 0.89559 | 1.02387 | 1.00480 | 1.18862 | 1.54931 | 1.14575 | 4.32755 |
| 2007-08    | 0.89079 | 0.90096 | 1.00607 | 0.94747 | 1.20791 | 1.54465 | 1.16293 | 4.36824 |
| 2008-09    | 0.91060 | 0.92540 | 0.96508 | 0.88288 | 1.20856 | 1.52994 | 1.17205 | 4.51835 |
| 2009-10    | 0.93186 | 0.91875 | 0.91556 | 0.78485 | 1.24724 | 1.62040 | 1.27051 | 5.25073 |
| 2010-11    | 0.95205 | 0.93995 | 0.91322 | 0.68298 | 1.28497 | 1.62091 | 1.15295 | 5.07383 |
| 2011-12(b) | 0.98015 | 0.93954 | 0.86766 | 0.66499 | 1.29451 | 1.61873 | 1.14351 | 5.23592 |
| 2012-13(b) | 0.98838 | 0.95888 | 0.83349 | 0.66171 | 1.29262 | 1.63261 | 1.17525 | 5.16175 |
| 2013-14(b) | 0.98976 | 0.95817 | 0.84082 | 0.67891 | 1.28367 | 1.60214 | 1.15943 | 4.97868 |

(a) Relativities for years to 2008-09 were used to distribute a combined pool of GST payments and health care grants. Relativities for 2009-10 and forward years are calculated to distribute GST payments only.

(b) Treasury projections.

## DATA SOURCES

The information in Part 5 and Appendix D of this Budget Paper is consistent with the Australian Bureau of Statistics Government Finance Statistics reporting framework for the public sector.

Commonwealth data are sourced from Australian Government Final Budget Outcomes, the Australian Bureau of Statistics, and Australian Government Consolidated Financial Statements. See *Statement 10: Historical Australian Government Data, Budget Paper No. 1, Budget Strategy and Outlook 2010-11*, for more information. State data for 2009-10 onwards are sourced from States' 2009-10 mid-year financial reports, with the exception of Victoria, the Australian Capital Territory and the Northern Territory which are sourced from 2010-11 Budgets.

Australian Government budget aggregates have been backcast to 1999-2000 (where applicable) for recent accounting clarification changes that require revisions to the historic series, ensuring that data are consistent across the accrual period from 1999-2000.

The 2010-11 Budget also includes revisions to Australian Government budget aggregates that improve the accuracy and comparability of the data through time. See *Statement 10: Historical Australian Government Data, Budget Paper No. 1, Budget Strategy and Outlook 2010-11*, for more information on these revisions.

## **FURTHER INFORMATION**

Several publications of the Australian Bureau of Statistics also provide information that is relevant to analysing federal financial relations, including:

- *Australian Demographic Statistics* (cat. no. 3101.0);
- *Population Projections, 2006-2101* (cat. no. 3222.0);
- *Taxation Revenue, Australia* (cat. no. 5506.0);
- *Government Finance Statistics, Australia* (cat. no. 5512. 0);
- *Australian System of Government Finance Statistics – Concepts, Sources and Methods* (cat. no. 5514.0);
- *Information Paper: Developments in Government Finance Statistics* (cat. no. 5516.0); and
- *Information Paper: Accruals-Based Government Finance Statistics* (cat. no. 5517.0).

Several publications by the Commonwealth Grants Commission can also provide information relevant to the analysis of federal financial relations relating to the distribution of GST revenue. In relation to the 2009-10 financial year, the relevant publications are:

- *Report on GST Revenue Sharing Relativities – 2010 Review.*