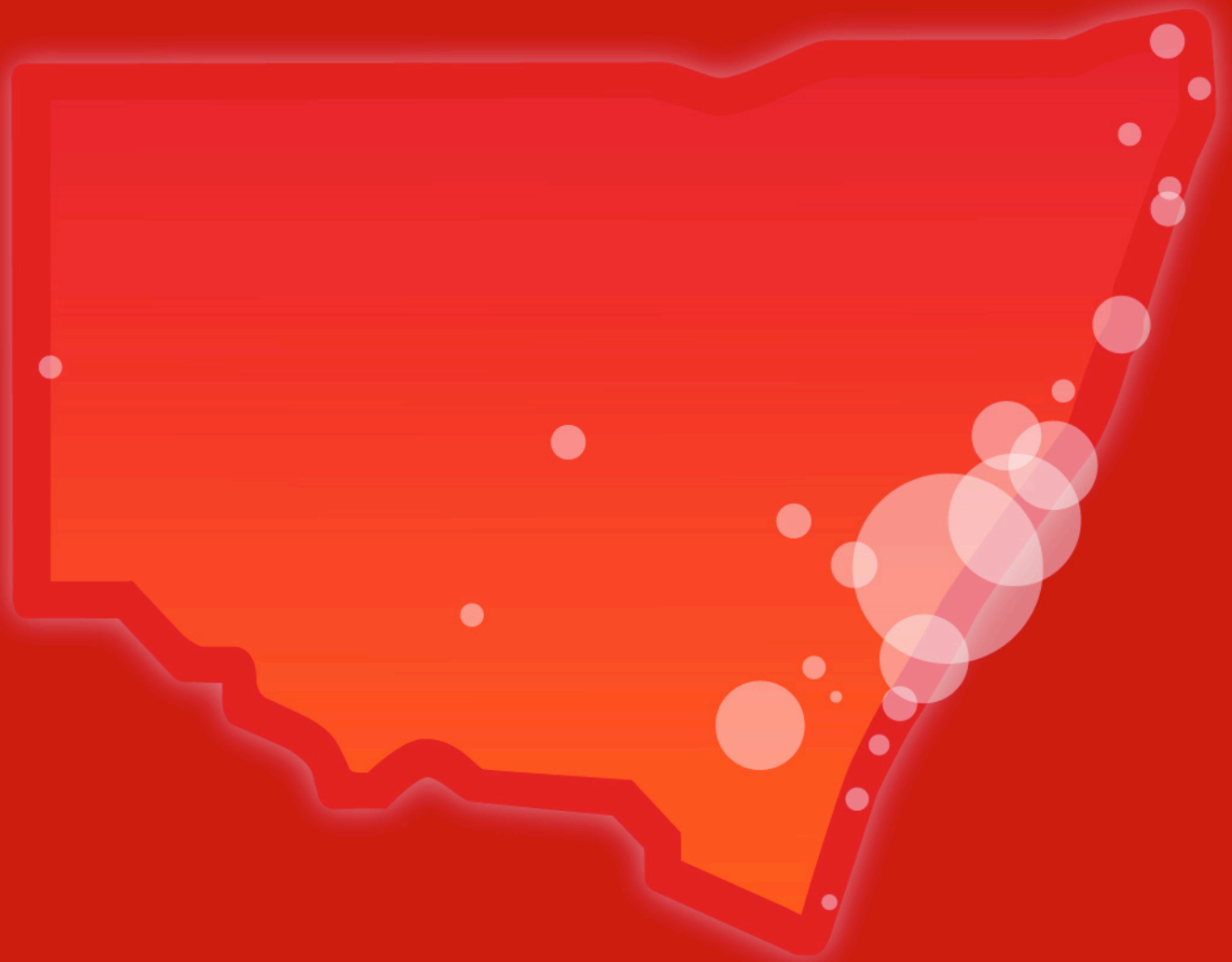


Keeping Pace: The impact of Population Growth on NSW Public Services

By Eureka Economics for the Public Service Association of NSW



Executive Summary

The Public Service Association of NSW commissioned Eureka Economics to measure the growth in NSW state public sector employment and to project the number of public servants required to maintain growth in real terms as a proportion of the state's population.

The report also analysed the distribution of employment between various sectors of the state economy.

The report utilised population projections and data sourced from the Australian Bureau of Statistics (ABS) using a methodology described in the report.

The main findings of the study are:

- NSW state public sector employment has declined as a proportion of the NSW population since 1987 when it recorded 6.7 public servants per 100 residents;
- Currently, there are expected to be 435,000 NSW state public sector employees in 2010 or 6 public servants per 100 NSW residents. In order to maintain the current ratio out to 2030 will require an additional 95,000 employees or an increase of 4,700 a year over this period;
- The NSW population is projected to be 8.8 million in 2030 based on the ABS's medium growth rate projections for NSW;
- Restoration of the 1987 ratio of 6.7 public sector employees per 100 residents implies an increase of 7,000 per annum. This might occur if there was a reduction in outsourcing or limits to future reliance on outsourcing for example in health, aged care and gas and electricity;
- The NSW population is also projected to age over the next twenty years which will significantly increase demand for aged care and health services. Whether the public sector funding growth in these sectors is sufficient to keep up with demand is the key challenge facing policy makers;
- In an environment of growing demand with limited resources there is less scope for further efficiency dividends from the existing NSW state public sector without reducing overall productivity.

Prediction of the number of NSW state government employees

At 30 June 2009, there were 430,000 NSW state public sector employees, the equivalent of 6 public sector employees per 100 NSW residents. As of 30 June 2010 the number of NSW state public sector employees is estimated to be 435,000. Therefore the number of public sector workers required to maintain the sector in real terms is projected to reach 530,000 in 2030, an increase of 95,000 public sector employees. This represents an estimated average annual increase of 4,700 public sector employees in NSW.

Table 1 presents the historical and projected numbers (shaded area) required to maintain the sector in real terms. In 20 years (2030) the NSW resident population is projected to increase to 8.8 million. Population projections apply long term trends to the current population so projected numbers have been rounded so as not to appear to have too high a degree of precision.

Table 1:

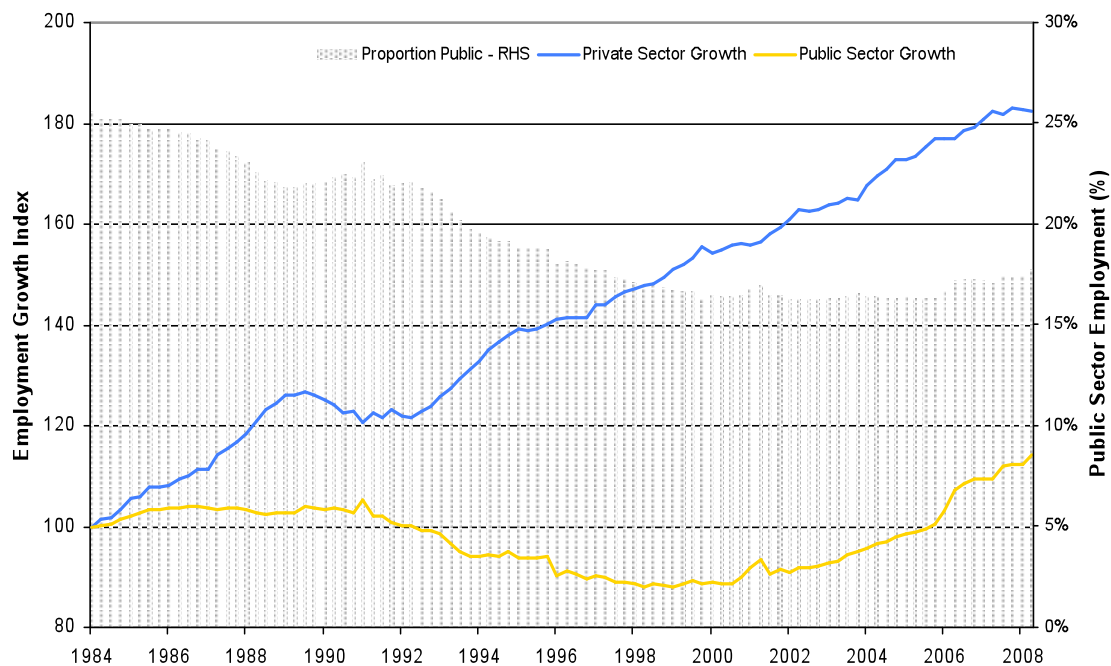
Year ended 30 June	NSW Population	NSW state public sector employees	NSW state public sector employees per head of population
1985	5,464,512	355,400	0.065
1990	5,834,021	366,100	0.063
1995	6,126,981	362,000	0.059
2000	6,486,213	355,500	0.055
2005	6,756,457	378,600	0.056
2010	7,228,948	435,000	0.060
2015	7,600,000	460,000	0.060
2020	8,000,000	480,000	0.060
2025	8,400,000	510,000	0.060
2030	8,800,000	530,000	0.060

Sources: Commonwealth Treasury Intergenerational Report, 2009 Australian population projections, official Australian Bureau of Statistics (ABS) NSW demographic statistics, NSW Department of Planning, NSW Department of Health and BIS Shrapnel.

The number of NSW state public sector employees was the same in 1985 and 2000, representing a significant decline in real terms. The ratio of NSW public sector employees per 100 persons peaked at 6.7 in 1987 then declined to 5.4 in 2001. This decline has been in line with broader national trends in public sector employment. Chart 1 (below) shows the relative strength of private sector employment between 1984 and 2009, as well as the contraction in the public sector over the 1990s.¹

¹ Do the UK and Australia have sustainable business models? John Buchanan, Julie Froud, Sukhdev Johal, Karel Williams, Serena Yu. Paper prepared for the International Labour Process Conference, 15 – 17 March 2010, Rutgers University, New Jersey, USA
John Buchanan Workplace Research Centre, Faculty of Economics and Business, University of Sydney

Chart 1:



Source: ABS cat.no 6202.0 Labour Force Survey; ABS cat.no 6248.0.55.001 Wage and Salary Earners, Public Sector

The projections assume that the ratio of NSW state public sector to population remains at 2009 levels. In Australia public sector employment has stabilised at around 17 per cent of total employment. This compares to an OECD average measure of total public employment, around 18 per cent in 2000, although the trend has been increasing over time and ranges from 8.4 per cent in Japan to 31.2 per cent in Norway (Algan, Cahuc and Zylberberg, 2002). In NSW public sector employment is around 16 per cent of total employment with the NSW state public sector employees comprising 12.6 per cent in 2009. Based on these broader ratios the current assumption could be viewed as conservative. It is worth noting that a slight increase in the ratio to 1987 peak levels will increase the projected growth in NSW state public sector employees to nearly 7,000 per annum compared with the projected 4,700 per annum.

Industry projections

The number of NSW state public sector employees is surveyed annually by the Australian Bureau of Statistics (ABS). Estimates of the number of employees engaged in different industries are based on a survey sample of public sector institutions. Due to the sample redesign, the sample size has decreased from about 2,500 employer units for the 2007-08 survey to about 2,000 units for 2008-09. The reduced sample size has resulted in increased standard errors for the 2008-09 estimates, in particular by level of government.

Each statistical unit is classified to an industry that reflects the primary activity of the organisation in the state or territory. Industry is classified according to the Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat. no. 1292.0). The 2006 edition of ANZSIC replaces the 1993 edition, which has been in use since 1994. The 2006 edition of ANZSIC was developed to provide a more contemporary industrial classification system taking into account issues such as changes in the structure and composition of the very large and diverse Property

and Business Services Division in ANZSIC 1993, together with some other services. This has been rearranged into three new divisions in ANZSIC 2006: Rental, Hiring and Real Estate Services; Professional, Scientific and Technical Services; and Administrative and Support Services.

Table 2 represents the additional growth in numbers of public sector employees to maintain the 2009 industry (ANZSIC 2006) staffing level in real terms. Projections are made assuming the same population and overall employment growth presented in Table 1. The share of total public sector employment of each industry is based on the average industry employment share across all state governments at June 2009. Only the largest industries are presented. NSW State Government employment in the Finance and Insurance and Construction industries has declined steadily over the last twenty years representing only 3,000 workers in 2008, Employment in the Electricity, Gas and Water Supply has also declined remaining at around 13,000 employees during the last decade.

Table 2:

	NSW public sector	Electricity, gas, water and waste services	Transport, postal and warehousing	Public administration and safety	Education and training	Health care and social assistance	Professional, scientific and technical services
Year ended 30 June	Employees '000						
2008	423	13	19	140	131	95	6
2009	430	14	20	142	133	97	7
2010	435	14	20	144	135	98	7
2015	459	15	21	151	142	104	7
2020	483	15	22	159	150	109	7
2025	507	16	23	167	157	114	8
2030	529	17	24	174	164	119	8

Source: ABS Catalogue 6248.0.55.002 - Employment and Earnings, Public Sector, Australia, 2008-09

The Public Administration and Safety Division will experience the greatest projected employment growth up from 140,000 workers in 2008 to 174,000 in 2030. This division includes units mainly engaged in State Government legislative, executive and judicial activities; in providing physical, social, economic and general public safety and security services; and in enforcing regulations.

The skills of public sector employees make it difficult to accurately assign a divisional classification. The ABS states that units engaged in a combination of public administration and service delivery activities should be classified according to the predominant activity of the unit. However, units engaged in a combination of public administration and service delivery activities where a predominant activity cannot be determined, should be classified to the appropriate class in the Public Administration and Safety Division.

The Health Care and Associated Social Services Division would include employees in the Department of Ageing, Disability and Home Care. However the types of skills employees require maybe more focussed on public administration and service delivery rather than health qualifications. A method of estimating future employment maybe to use figures published in government reports where service activities are more accurately described. For example the NSW budget papers contain forward estimates of the Department of Ageing, Disability and Home Care programs. The Ongoing Community Support program describes its service as covering services that assist older people and people with a disability to live in their own home environment and to participate in the community with some ongoing support.

Table 3 identifies employment levels that are expected to continue beyond the estimate and the budget papers describe in detail the types of activities undertaken.

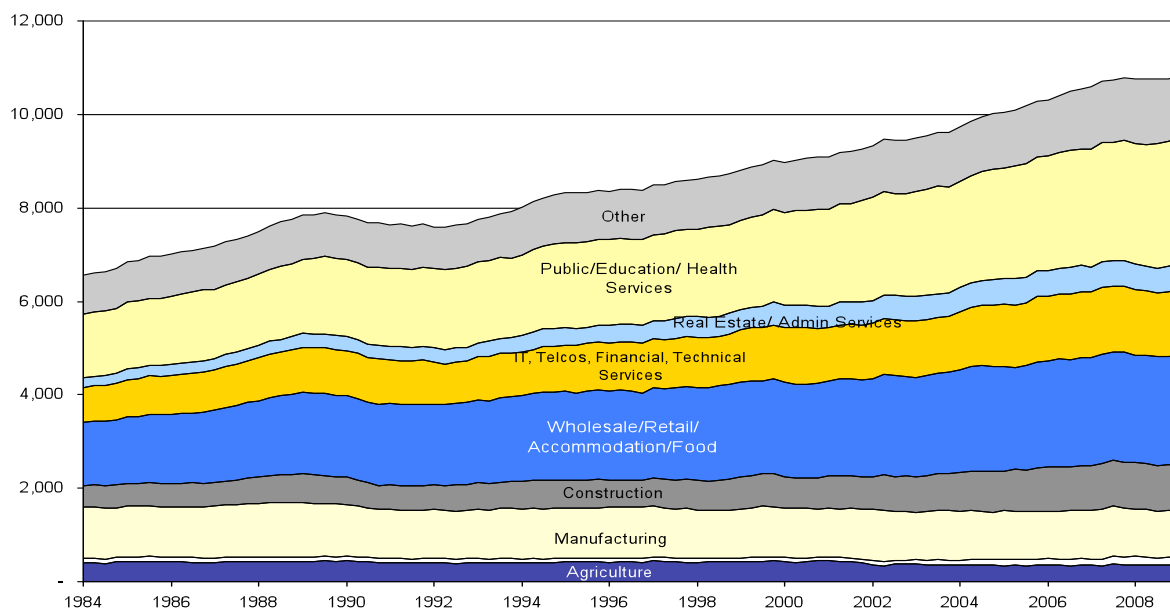
Table 3:

<u>Service Measures:</u>	Units	2006-07 (Actual)	2007-08 (Actual)	2008-09 (Forecast)	2008-09 (Revised)	2009-10 (Forecast)
People in post-school programs	no.	4,450	5,220	5,600	5,600	6,100
People receiving respite services	no.	33,200	48,600	50,500	50,500	52,500
People receiving personal assistance	no.	140,020	183,000	188,500	188,500	194,000
Employees	FTE	657	659	639	640	664

The projected numbers presented in this paper assume everything else is held constant. For example the projected increase in population is also associated with population ageing. The proportion of population aged 85 years and over is projected to increase from 1.9 to 2.9 per cent in 2030. Not only will population growth increase demand for government services but in particular in aged care, disability and health services. Chart 2 (below) demonstrates that employment growth in these areas is already stronger than in other sectors.

The strong employment growth in areas, which are publicly funded, has not been matched by growth in public sector employment because of outsourcing. Employment in private firms that are publicly funded known as 'para-state' has replaced direct employment with the state government. Recent growth in public sector employment may indicate that the rate of privatisation of services is being outpaced by the increase in demand for them.

Chart 2: Employment growth by industry, 1984 - 2009



Source: ABS cat.no 6291.0.55.003 Detailed Labour Force Survey

Population projections

The official measure of the population of Australia is based on the concept of usual residence. It refers to all people, regardless of nationality or citizenship, who usually live in Australia, with the exception of foreign diplomatic personnel and their families. It includes usual residents who are overseas for less than 12 months. It excludes overseas visitors who are in Australia for less than 12 months.

June quarter 2009 estimates of the NSW resident population were used as starting population for projections (September quarter estimates were available but not used). Projected population numbers were derived by assuming total migration, fertility rates and overall growth rates published by the ABS Series B (medium growth rate) and consistent with the Intergenerational Report. Very high recent population growth rates driven by NOM and birth rates meant that historical data has moved well in excess of ABS high side population projections Series A which is based on June 2007 data. Treasury projections are still based on Series B projections in the medium term 2050 (Matthew ABS pers. com. 10/4/2010 (02) 6252 6487).

Annual population projections from 2009 to 2030 are represented by the following equation:

$$P_{t+1} = P_t + B - D + \text{NOM} + \text{NIM}$$

P_t = the estimated resident population at time point t

P_{t+1} = the estimated resident population at time point $t+1$

B = the number of births occurring between t and $t+1$

D = the number of deaths occurring between t and $t+1$

NOM = net overseas migration occurring between t and $t+1$.

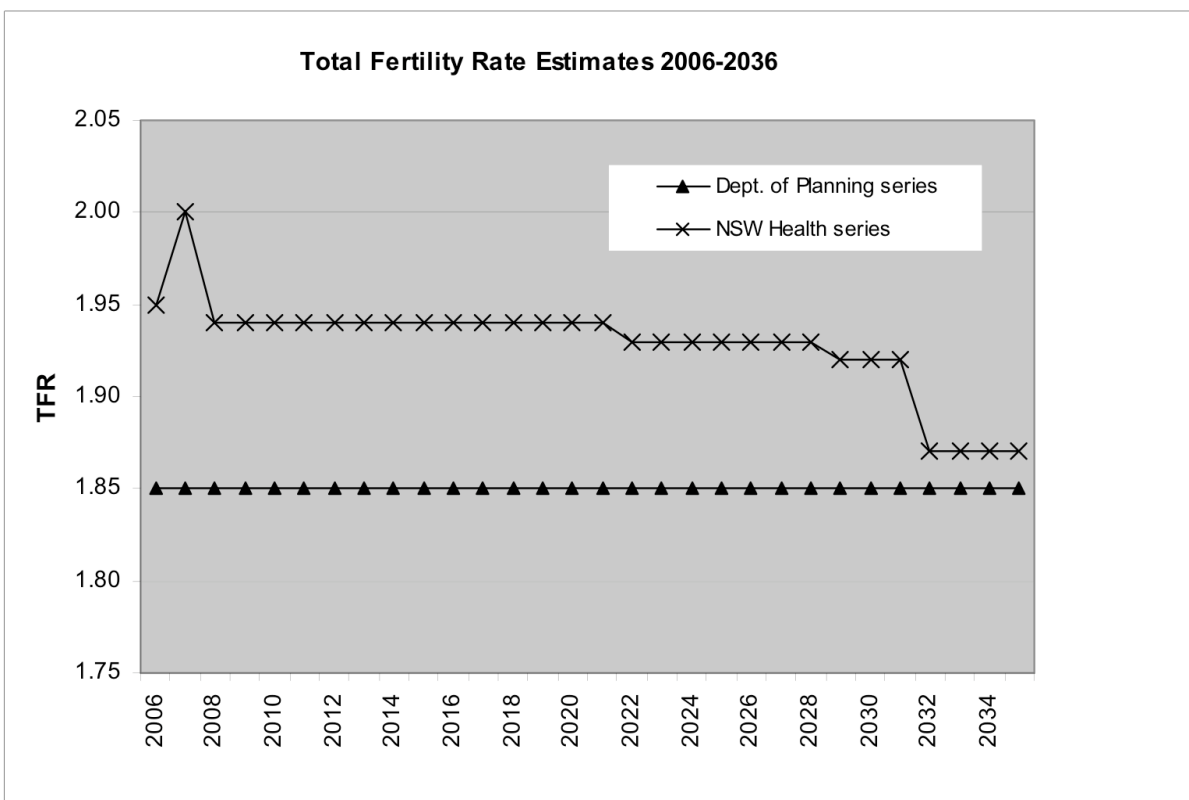
NIM = net interstate migration occurring between t and $t+1$.

The population growth projection assumes NSW’s annual population growth will decline gradually from 1.7 per cent in 2008-09 to 0.84 per cent in 2029-30. This is an annual average growth rate of 1.01 per cent consistent with the Treasury Intergenerational Report which assumes Australia’s annual rates of population growth are projected to slow gradually, from 2.1 per cent in 2008-09 to 0.9 per cent in 2049-50. Australia’s projected average annual rate of population growth of 1.2 per cent over the next 40 years is slightly lower than the average annual rate of 1.4 per cent over the previous 40 years.

Growth rates for NSW are assumed to remain lower than the national average. A smaller proportion of migrants are expected to settle in NSW due to the higher cost of housing and better job opportunities elsewhere.

Population growth is a function of natural increase and net overseas migration. Fertility rates, along with mortality rates, are the determinants of the natural rate of increase in the population. Over the past forty years, the fertility rate declined from 2.9 to 1.7 before recovering to nearly 2.0. Fertility rates are assumed to decline gradually from NSW current levels of 1.98 births per woman and are based on NSW Department of Health planning projections.

Chart 3:



Source: NSW Dept of Planning & Statewide Services Development Branch NSW Health

Net overseas migration is mainly comprised of permanent migration (including skilled and family) and temporary migration (including temporary skilled and students). Net overseas migration has risen sharply in the last few years. In NSW net overseas migration peaked at 0.98 per cent of the total population in June 2009. Most of the rise in net overseas migration over the past three years has been the result of a surge in the number of long-term visitors, not permanent migrants. The increase was greatest in 2008-09, when the net population gain from long-term visitors accounted for 74 per cent of the national net overseas migration gain of 298,000 persons.

Consistent with Series B NOM is assumed to be 30,000 per annum (-20,000 net interstate migration; 50,000 net overseas migration) over the projection period.

In its report "Building in Australia 2010" BIS Shrapnel² says annual net migration from overseas - which includes permanent migration and longer-term but temporary stays - will fall from 298,900 over the year to June 2009 to 240,000 over the year to June 2010, then to 175,000 in 2010-11 and 145,000 in 2011-12. The rate of decline implied by these 2010 and 2011 forecasts is used to smooth the NSW NOM projections to the lower rate of migration of 30,000 per annum.

The Intergenerational Report assumes Australia's net overseas migration will decline from 0.9 per cent of the total population to 0.7 per cent in 2020 and 0.6 per cent of the total population per annum on average in 2030, a similar rate as a proportion of the population to the past 40 years on average. In this NSW projection the growth in the total migration rate is assumed to decline faster than the national average to 0.5 per cent in 2020 with continuing significant negative interstate migration.

Description of public sector employment data

The 6248.0.55.002 - Employment and Earnings, Public Sector, Australia, 2008-09 released on 17/12/2009 is the major source of data. This publication contains estimates of public sector employees and cash wages and salaries obtained from the annual Survey of Employment and Earnings (SEE). Prior to 2007-08 the survey was undertaken on a quarterly basis. Estimates from the quarterly SEE were published in Wage and Salary Earners, Public Sector, Australia (cat. no. 6248.0.55.001). Unfortunately there has been no historical revision of this data series so May quarterly estimates were used as a proxy for June for data prior to 2008.³

The ABS hold unpublished data available on request and for a charge. This includes NSW state government employees by industry.⁴ We applied Australian industry shares of state government employees to NSW. This is a reasonable approach because states are similar in services they provide and NSW constitutes more than one third of this total. In addition the standard errors are high at this level of disaggregation and as discussed above the classification by industry may not be meaningful because business units do not necessarily reflect occupation.

² Source: The Sydney Morning Herald Jessica Irvine Economics Writer May 17, 2010 The federal budget last week froze the overall permanent migration intake at 168,700. An increase in skilled places of 5750 was offset entirely by a decrease in family places. The BIS Shrapnel economist Jason Anderson said net migration was likely to slow in coming years as people left after their stay of three or four years and fewer arrived on temporary programs. More Australians would also move abroad as global job prospects picked up.

³ 4/05/2010 Telephoned ABS series compatible historical annual data not available until end 2010

⁴ COLIN FALLOWS 08 93405184 quoted \$700. However we discussed and decided state level data is a reasonable proxy,

Sources:

Australian Bureau of Statistics Catalogue 3222.0 Population Projections, Australia, 2006 to 2101 Released September 2008.

Australian Bureau of Statistics Catalogue 3101.0 Australian Demographic Statistics September 2009 Released March 2010.

Australian Bureau of Statistics Catalogue 6248.0.55.002 - Employment and Earnings, Public Sector, Australia, 2008-09 Released Dec 2009. Break in series 2007, revised historical annual data not available until end 2010.

Australian Bureau of Statistics Catalogue 3301.0 Births, Australia, 2008 Released Nov 2009.

Australian Bureau of Statistics Catalogue 3302.0 Deaths, Australia, 2008 Released Nov 2009.

NSW Health Department Statewide Services Development Branch June 2009 NSW Health Population Projection Series 1. 2009.

Commonwealth Treasury of Australia Intergenerational Report 2009 Released January 2010.