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BRIEFING NOTE

BN 13/5 'Go West, Young Man...':

Recent interstate and internal migration to
Western Australia

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“Go West, Young Man...”

Recent interstate and internal migration to Western Australia

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Key points

- Internal migration is a critical component of labour market flexibility.
- This report explores internal migration patterns in Australia, particularly over the last decade.
- Specifically, trends relating to East to West migration patterns are examined.
- Data from the latest Census (2011) is used together with previous Censuses data to analyse internal migration patterns and the characteristics of those who migrate.
- NSW and Queensland are the main source of interstate arrivals to WA.
- Differences in internal migration across regions in WA are evident.
- In the last five years, younger cohorts are now more likely to be moving to WA rather than leaving the state.
- Those educated at certificate level are more likely to move to WA from the Eastern states than individuals holding any other education level.
- Upon moving to WA, individuals are more likely to work as trades and technicians and be employed in the mining and construction sectors.
- Greater employment opportunities including higher wages are clear incentives for internal inflows into WA from other states and territories.

Internal Migration

Internal migration flows provide important information about the gains and losses to populations in particular areas, and together with natural population changes (births and deaths) and overseas migration, form one of the key elements for measuring population growth or decline. It also serves as a key indicator of the economic sustainability of areas, providing a critical component of labour market flexibility and the main channel through which the population adjusts to regional labour and housing market conditions.

Internal migration may also be a marker of community resilience; any substantial out-flows risk depleting social capital. Because social capital is strongly related to personal, social and economic wellbeing, its depletion could leave communities vulnerable to unwanted outcomes.

On the other hand, substantial inflows can reflect areas of growth and economic activity, but also areas under pressure to deliver services and housing relatively quickly.

A product of the minerals and energy boom - a large number of interstate migrants moved to Western Australia from all other states across the last Census period. Internal migration flows to, from and within Western Australia have important policy implications for governments attempting to promote and sustain regional development. Using the latest ABS Census data, this research report explores East to West migration flows in Australia and analyses the characteristics of those moving West.

Definition

Both interstate – that is, movement from one Australian state or territory to another - and internal migration are examined in this BCEC Briefing Note.

Internal migration is defined as movement from one Local Government Area (LGA) to another.

State of Origin

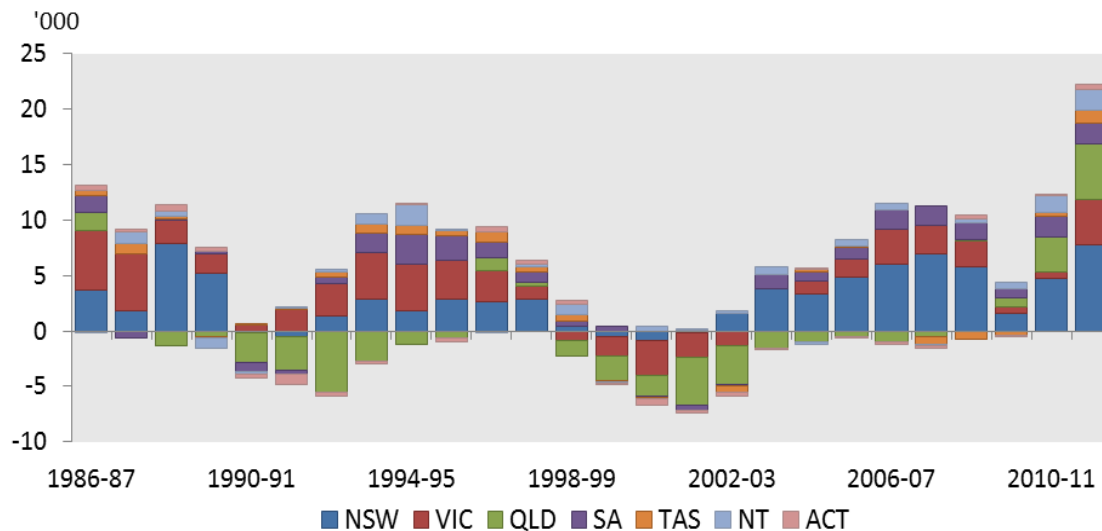
New South Wales has been the largest source of interstate migrants to WA since 2000, while most arrivals in WA in the mid-80s and early 90s were from Victoria (see

Figure 1). For departures Queensland was the main destination for two decades.

This trend has recently changed, with Queensland becoming the second largest source of arrivals to WA over the past couple of years.

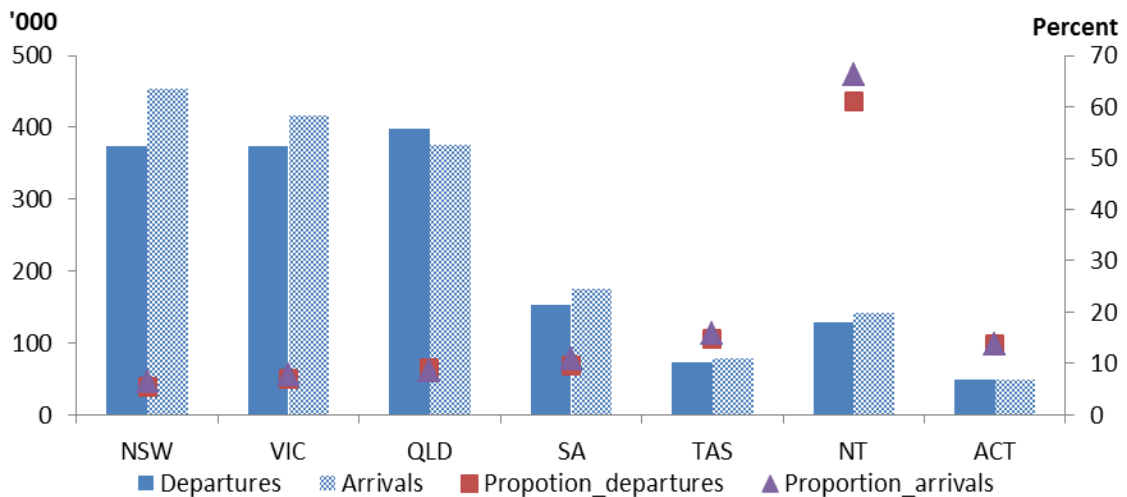
The remaining states and territories account for a much smaller share of arrivals, which is not surprising given the distribution of Australia's population. Examine average migration rates to Western Australia from each source region – adjusting for different population sizes – then it is clear that residents in the Northern Territory have the highest propensity to settle in the West (Figure 2).

Figure 1: Net Interstate migration in Western Australia by state of origin, 1986-2011



Source: Authors' calculations from ABS 3101.0 - Australian Demographic Statistics, Dec 2012

Figure 2: Total departures and arrivals in WA, 2006-2011



Source: Authors' calculations from ABS Census 2011

Note: Proportions in Figure 2 are total departures and arrivals divided by state population in 2011.

Geographic patterns

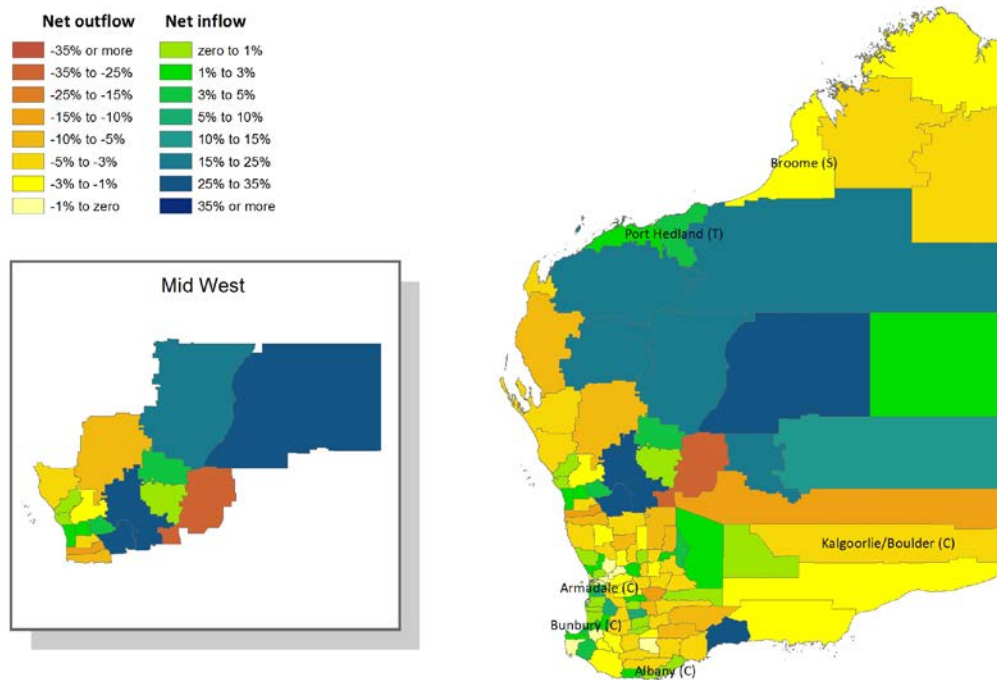
Examining net inflows and outflows by LGAs throughout Western Australia, distinctive patterns can be observed. Figure 3 depicts areas with net inflows as those shaded from green to blue; and areas with net outflows shaded red through to yellow.

Mining areas throughout Western Australia, including the Pilbara and Wiluna have experienced high net increases from internal migration between 2010 and 2011 increasing by more than 15 per cent of the population in 2006.

The Mid West region of Western Australia (see inset), has a combination of areas with net inflows and outflows, relatively close to each other, illustrating that both the most and least attractive LGAs in terms of internal migration are neighbours.

Looking closely at internal migration movements for Perth, small net outflows in inner city areas are noticeable (Figure 4). The outskirts of Perth (Cockburn, Rockingham, Kwinana, Wanneroo and Armadale) have gained from internal migration.

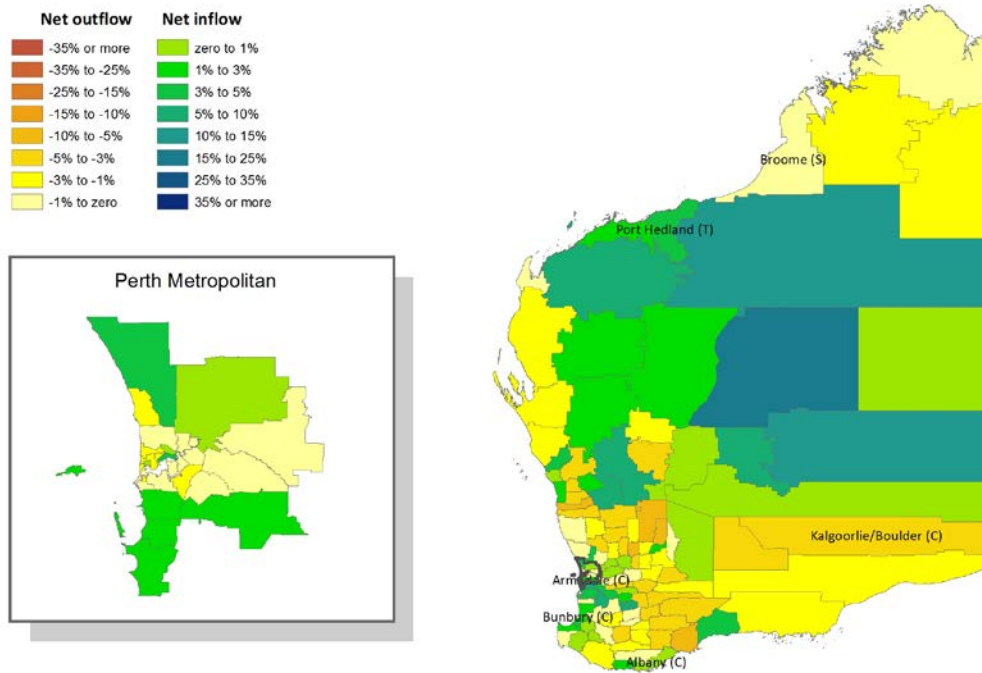
Figure 3: Net annual outflows and inflows by LGA, 2010-2011 – Mid West



Notes: 1. Total internal migration is calculated by summing net internal migration from all LGA's. For example, net migration for Albany is the total number of people who moved to Albany from any other LGA in Australia subtracted by the number of people who moved from Albany to any other LGA in Australia.
 2. A positive number for net migration implies a larger inflow than outflow, and vice versa.
 3. The inflow/outflow proportion is net migration normalised by the population stock, that is, the number of people who remained in the same LGA.

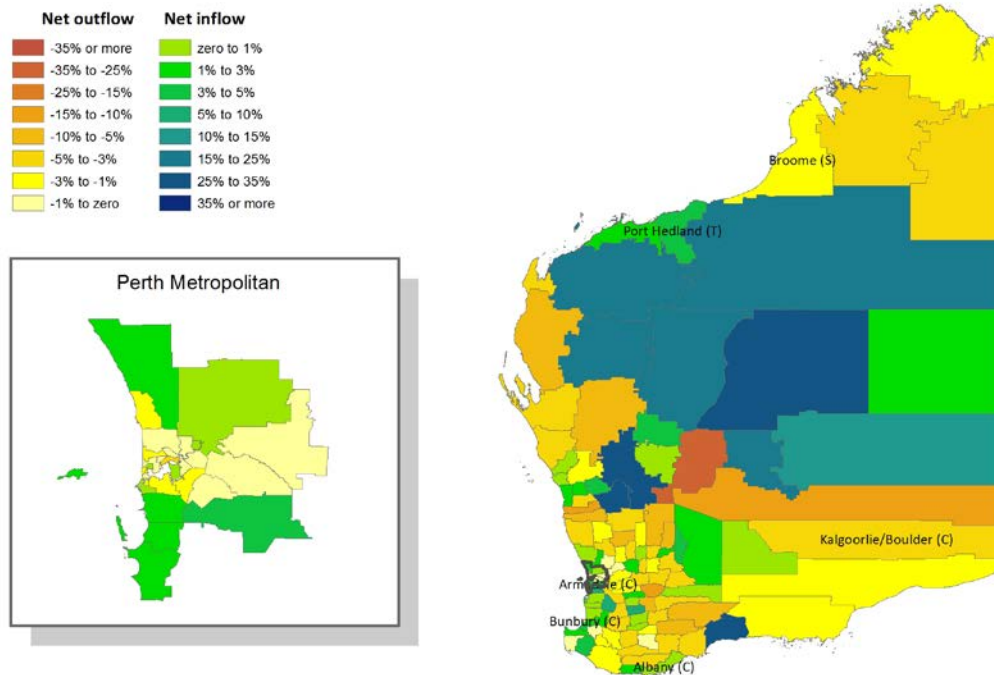
Source: Authors' calculations from 2011 Census

Figure 4: Net outflows and inflows by LGA, annual average (2006-2011) – Perth



Notes: As for Figure 3.
Source: Authors' calculations from 2011 Census

Figure 5: Net outflows and inflows by LGA, 2010-2011 - Perth



Notes: As for Figure 3.
Source: Authors' calculations from 2011 Census

Age-specific migration

The age pattern of interstate migration is clear. In the 25-29 year age bracket, the probability of moving is the highest, while for people aged over 45 the propensity to move is very low.

Table 1 lists net interstate migration for Western Australia from 1996 to 2012 by age groups. The colour varies with the numbers, green for large positive numbers and red for small negative number. Looking from left to right, the columns for adults aged between 20 to 34 years are very strong, with large net outflows of this age group up until the mid-2000s, followed by considerably strong net inflows from 2006-07.

Patterns of migration are similar for those aged between 35-59 and children from 0-19, denoting the parent-child relationships between these groups. hat movements are progressive decline across the

Over the latter half of the 2000s, older age cohorts have become more likely to leave than enter Western Australia, possibly seeking a comfortable retirement elsewhere.

The high propensity of young adults to move interstate is highly related to the pursuit of education and employment opportunities. This pattern has reversed largely since 2003-04, highlighting the strong economic pull factors that are drawing young people into WA.

Table 1: Age-specific net interstate migration, Western Australia, 1996-2012

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	≥75
1996-1997	388	362	302	171	1463	584	429	413	288	82	15	19	38	28	18	60
1997-1998	200	326	230	164	514	449	354	349	308	142	63	37	33	-4	18	44
1998-1999	39	75	61	-166	509	23	92	-40	-26	-98	-127	-59	-3	-5	-7	28
1999-2000	-158	-134	-141	-79	-83	-569	-314	-269	-133	-152	-117	-104	10	-21	34	43
2000-2001	-336	-297	-132	-232	-103	-691	-454	-320	-219	-118	-131	-80	-4	-6	-17	30
2001-2002	-217	-137	-225	-470	-657	-562	-426	-336	-279	-188	-101	-89	-28	10	42	81
2002-2003	42	-4	-110	-261	-464	-507	-252	-78	-107	-70	-117	-119	2	-6	26	53
2003-2004	406	248	172	-95	-217	184	267	314	225	96	104	103	13	59	64	152
2004-2005	269	177	94	37	95	129	410	328	161	163	120	-8	82	75	39	70
2005-2006	509	443	216	11	482	595	618	597	317	282	62	-8	-122	-73	-24	28
2006-2007	396	240	204	276	1531	1261	774	503	419	125	-37	-106	-145	-139	-48	-66
2007-2008	282	90	77	241	1591	1687	655	276	106	157	66	-94	-140	-163	-15	-8
2008-2009	342	207	72	107	1502	1693	701	434	108	75	26	-62	-158	-143	-46	-33
2009-2010	94	137	142	31	642	723	209	238	178	96	1	-115	-226	-105	-46	-37
2010-2011	534	401	366	232	1323	1338	837	594	366	349	179	-6	-139	-167	-61	17
2011-2012	1113	653	429	470	2024	2120	1566	1157	694	532	402	149	-124	-62	-28	-10

Source: Author's calculations from ABS 3101.0 - Australian Demographic Statistics, Dec 2012.

Education, industry and occupation

As noted earlier, one of the key drivers of migration to Western Australia has been to leverage from the mining boom. This has led to demand for particular skills – primarily certificate level. According to the census data, almost half of all interstate migrants held a certificate level education and WA is by far the greatest recipient of this population group when compared with all other states.

As shown in Figure 6, a positive inflow of Certificate level qualified internal migrants can be observed from all other states and territories to WA. Arrivals have primarily stemmed from the most populated states - NSW, Vic and Qld.

Between 2006 and 2011 Western Australia gained more than 5,000 individuals with a Certificate level. Those educated at Year 11 or below were the second highest internal migrant group to WA, followed by Year 12 or equivalent. While internal migration trends

were positive across all education levels, it is the lower levels that have been drained away from the East coast to the West. This trend is also reflected in the type of industries and occupations these workers are employed in – with many requiring physicality within the work place and these roles typically dominated by men.

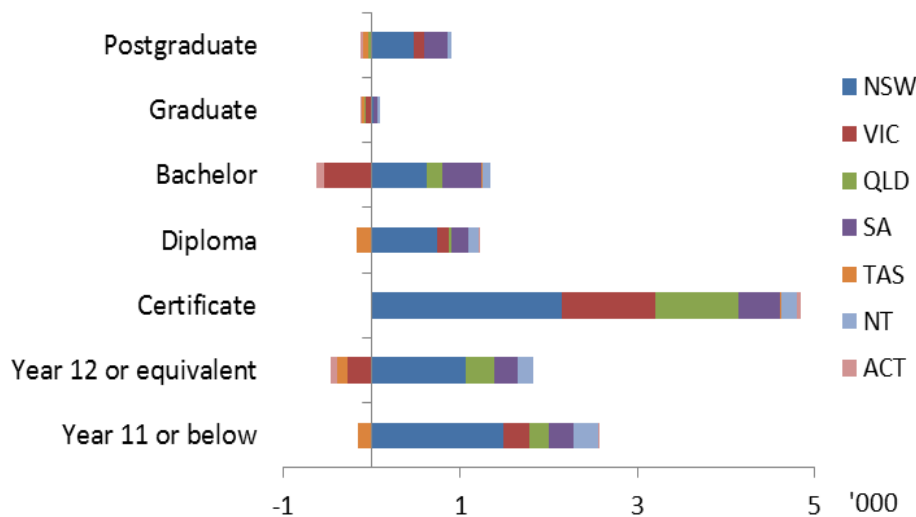
More than 60 per cent of those certificate holders that moved to WA are working in the mining and construction industry. WA is also a net recipient of 783 postgraduate internal

migrants, the highest education group. About one quarter of these individuals work directly

in the mining industry, one quarter in professional and technical services, and another quarter in trade and manufacturing.

On the other side, the largest loss is a group of more than 500 people with a bachelor degree, who moved from Perth to Victoria between 2006 and 2011. This finding is likely to reflect those recent university graduates moving elsewhere for employment opportunities.

Figure 6 Net interstate migration, Western Australia, by education level and state of origin, 2006-2011



Source: Authors' calculations from 2011 Census

Reflecting the education trends in internal migration, a net interstate migration gain across most occupation groups in Western Australia between 2006 and 2011 is apparent.

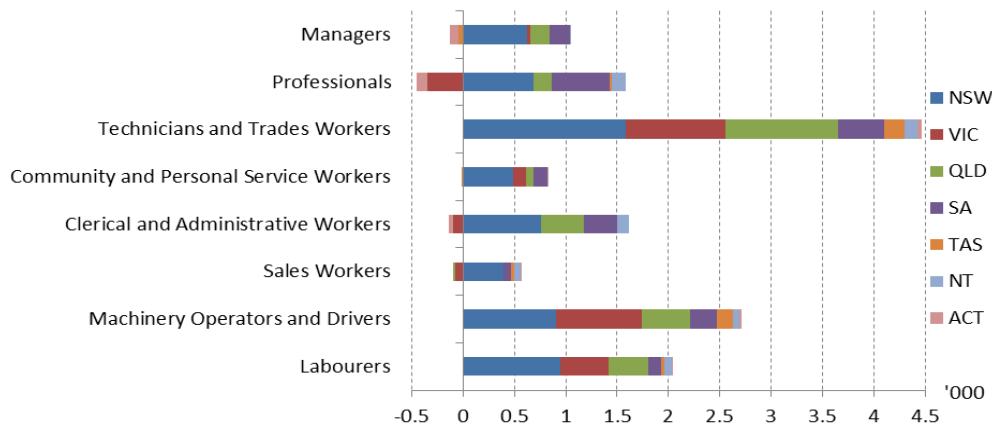
The greatest net inflow occurred in the 'Technicians and Trades Workers' occupation category (Figure 7), which aligns with the trends observed in Certificate level qualifications. The Sales Workers category accounted for the least gain across the period. The 'Machinery Operators and Drivers' occupation group experienced the second largest net inflow of employees from 2006 to 2011. The largest net outflow is in the "Professionals", which aligns with patterns shown for those with a Bachelor degree.

While NSW contributed the most to inflows of technicians and trade workers to WA, Victoria and Qld followed close by.

For those moving to WA, they are most likely to be employed in the mining or construction industry. Figure 8 compares the number of migrants work in the ten main industries between 2006 and 2011. Indeed, mining is the only sector that has consistently recorded positive net migration in each census since 1981.¹

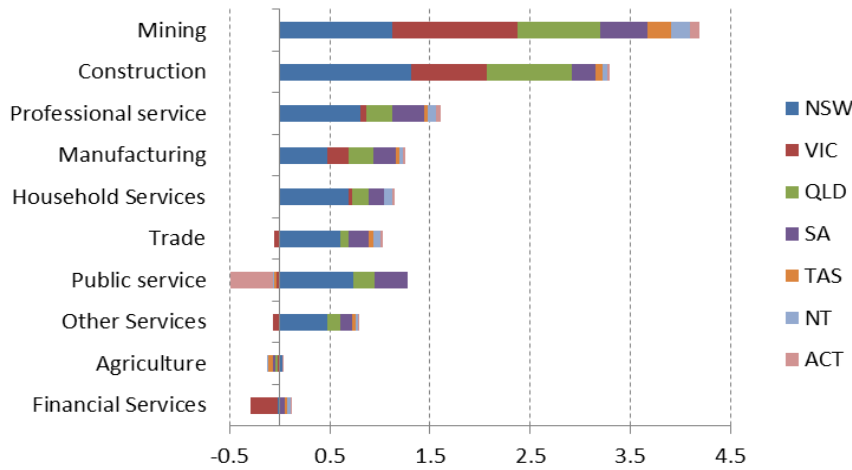
¹For details, see WA Department of Treasury (2006).

Figure 7: Net interstate migration, Western Australia, by occupation levels, 2006-2011



Source: Authors' calculations from 2011 Census

Figure 8: Net interstate migration, Western Australia, by selected industries, 2006-2011



Source: Authors' calculations from 2011 Census

Notes: For simplicity, industries have been grouped as follows: Professional service: Transport, postal and warehousing, professional, scientific and technical services, and information media and telecommunications; Public service: Health care and social assistance, public administration and safety, education and training, arts and recreation services; Household service: accommodation and food services, rental, hiring and real estate services, electricity, gas, water and waste services. Other services: administrative and support services, Trade: retail and wholesale trade.

This is not surprising given the strong growth of the mining industry over the past few decades, and the size of the Western Australian mining industry relative to other states. Consistent with the state's robust mining sector, Census data also suggest that the local construction industry has received a relatively large net inflow of migrants since 1981.

Net interstate migration in Western Australia's service sectors has also been

generally positive. For instance, net migration by those employed in most of the service sectors, such as professional services, public service and household services, appears to follow broader trends in state migration flows; that is, periods of positive net interstate migration in Western Australia are generally associated with a net inflow of employees in the service sector, and vice versa. However, financial services and to some extent agriculture have recorded a negative migration flows.

Employment

As a higher level labour mobility leads to greater labour market efficiency, improving job matching, reducing friction, and resulting in lower overall levels of unemployment (Bill and Mitchell 2006²), labour migration is commonly regarded as a highly micro-efficient process.

People from the eastern states are often reluctant to move to WA because of significant financial costs and network lost, while following a rise in local unemployment rates and the chance of getting a well-paid job in WA, the opportunity costs of moving decrease, and the net present value of potential moves increase, and consequently the high expected utility leads to greater likelihood of a move.

Studies at a macro-level have found migration emerging as a strong adjustment mechanism equalising unemployment rates (see for example Blanchard and Katz, 1992; Decressin and Fatas, 1995, Debelle and Vickery, 1998³). Therefore, a negative correlation can be observed between net migration and the unemployment rate.

This relationship is demonstrated in Figure 9, which shows net interstate migration against unemployment rates for Australian states and territories. A negative correlation is evident across most of the states and territories – that is, as unemployment increases net internal migration is more likely to be negative, as people look to leave the state for employment opportunities elsewhere.

This occurred in the economic downturns of the mid 1980s and early 1990s, in particular in the states of Victoria, Tasmania and South Australia.

Queensland has not always followed this same pattern, with high net inflows even during poor economic times, suggesting that other factors are driving movements towards this state, including as a haven for retirees.

For WA, interstate migration movements have been less pronounced as other Australian states. The strong economic growth of WA over the last decade has been accompanied by a sustained positive interstate migration, which has picked up momentum post-GFC.

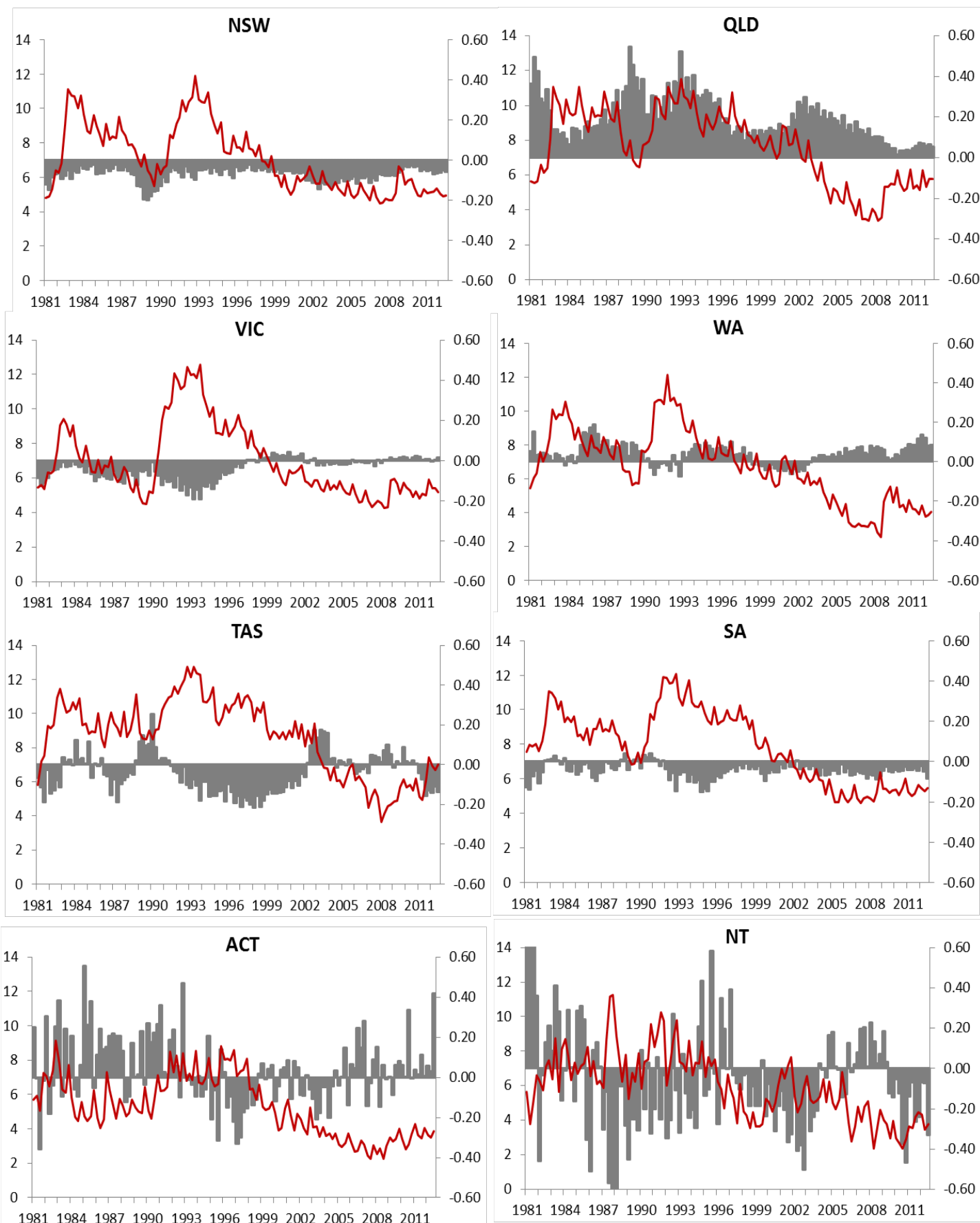
² Bill, A. and Mitchell, W.F. (2006), 'Great Expectations – Migration and Labour Market Outcomes in Australia', Working Paper No. 06-08, Centre of Full Employment and Equity, University of Newcastle, Australia.

³ Blanchard, O. and Katz, L. (1992) 'Regional Evolutions', *Brookings Papers on Economic Activity* 1, 1-75.

Decressin, J and Fatas, A. (1995) 'Regional Labour Market Dynamics in Europe', *European Economic Review*, 39, 1627-1665.

Debelle, G. and Vickery, J. (1998) 'Labour Market Adjustment: Evidence on Interstate Labour Mobility', *Research Discussion Paper*, Economic Research Department, Reserve Bank of Australia.

Figure 9 Interstate migration by unemployment rate, 1981-2011



Source: Authors' calculations from ABS Cat No. 3101.0 - Australian Demographic Statistics, Dec 2012 and ABS Cat No. 6202.0 Labour Force Jul 2013.
Note: The right axis represents interstate migration as a percentage of total population in each year, the left axis represents the quarterly unemployment rate.

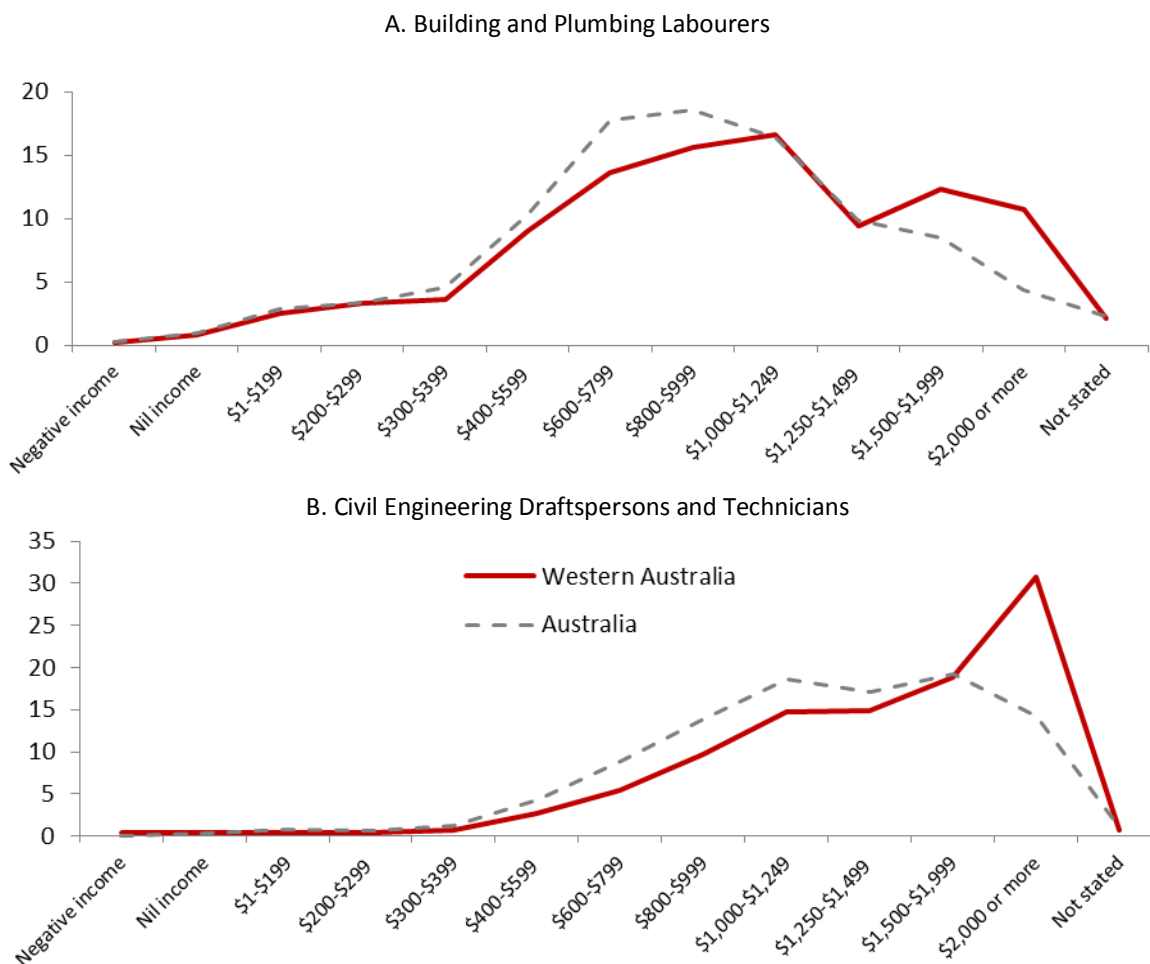
Income

Both household and personal income in WA is among the highest across Australia's states and territories. In 2011-12, gross household income for WA residents averaged \$2,117 per week – second to only ACT residents, who averaged \$2,395 each week.

Taking two particular occupations as an example, Figure 10 plots the income distribution of civil engineering draftspersons and technicians, and building and plumbing

labourers in Western Australia against those all-over Australia. As can be seen, a larger proportion of WA employees lie in the high income range (above \$2000 per week) in both panels. That is, these two occupations get paid more in Western Australia than the average over all states and territories. Note that up to half of incomes in the mining industry in WA are in the last Census income category of \$2,000 or more – hence we do not know about quite a large component of the mining income distribution.

Figure 10: Gross weekly Income of two occupations in Western Australia, 2011



Source: Authors' calculations from 2011 Census

Key Research Questions:

1. How have internal migration patterns changed over time and what are the key drivers?
2. What has been the nature of migration patterns into WA, both international and inter-state migration patterns? Where is WA attracting international immigrants from?
3. Is the 'brain drain' from WA to the Eastern States reversing?
4. How has the resources boom affected intra-state migration in WA?
4. How has the projected population increase impacted on planning systems and policy in WA?

Related research publications

Cassells R, Duncan A and Gao G (2013) 'Brain Drain or Brawn Drain? East to West skilled migration in Australia, Bankwest Curtin Economics Centre Working Paper 13/5.

Abello A, Cassells R, Berry H, Duncan A, Hansnata E, Li J, Miranti R and Vidyattama Y, (2013) 'Migration in the Murray-Darling Basin: who goes and who stays?'