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BRIEFING NOTE

BN 13/1 Two Billion Dollars a Week:
The Global Resources Boom and Western Australia

Make tomorrow better.



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Two Billion Dollars a Week: The Global Resources Boom and Western Australia

Alan Duncan and Paul Kosky

May 2013

Key Research Questions:

1. How has the resources sector impacted on the WA economy? Are the benefits of the boom being spread evenly?
2. How exposed is WA to changes in international demand for resource commodities and short- to medium- term changes in prices?
3. What are the implications of reductions in projected prices and production in key commodities such as iron ore and LNG?
4. What opportunities exist for WA to 'leverage' its position in resources?
5. How are households being affected by changes in income, prices and housing costs?

After the Gold Rush.....

Western Australia (WA) has a long association with resource-driven growth, beginning with the Kalgoorlie gold rush of the 1890s which drew people from all over Australia and the world. That boom underpinned the rapid development of what was still a remote settlement and laid the foundations for the creation of the State. However, given its relative geographical isolation, by the 1950s WA was in danger of becoming in the words of former WA Premier Sir Charles Court, a 'mendicant state', dependent in large part on transfers through the national budget and the Commonwealth Grants Commission.

However, since the 1950s WA has witnessed a series of mining booms. The second major boom in WA history was the development of the Pilbara iron ore deposits in the 1960s, coupled with new developments in alumina and nickel and in the latter part of the decade and early 1970s. In the 1980s, the development of a liquefied natural gas (LNG) export industry and petroleum and condensate exports, together with a new boom in gold mining saw the state undergo another economic and population growth spurt. The current expansion (from 2004) represents WA's exposure to the 'super-cycle' in mineral commodities – a global shift in prices and volumes in these markets due to growth in China, and to a lesser extent, countries such as India, Russia and Brazil (the so-called BRICs group).

The development of new resources in WA, commencing with the planning and construction for the iron ore boom in 1962, has resulted in the transformation of WA. In 1967, in the midst of initial exports of iron ore from the Pilbara, WA's production of mineral and petroleum resources was equal to \$134 million, or 1.2% of state final demand (SFD). By 1987, following the expansion of gold, nickel and alumina production, total output in minerals and petroleum equalled \$6.3 billion, around 22.2% of SFD. By 2011-12, following the emergence of the 'super cycle', production reached \$107 billion or 54% of SFD.

Table 1: WA Minerals and Petroleum Production: 1967, 1987 and 2012

Year	WA Production of Mineral and Petroleum Resources	Share of State Final Demand
1967	\$134 million	1.2%
1987	\$6.3 billion	22.2%
2011-12	\$106 billion	54.0%

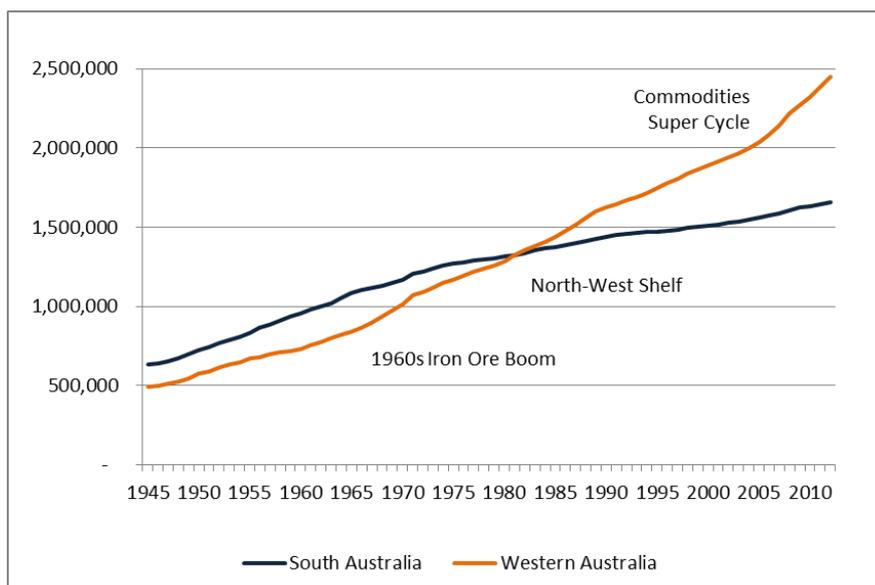
Source: Estimates of mineral and petroleum production (nominal terms): 1967: Australian Bureau of Statistics ABS (1969) *The Australian Yearbook 1969*; 1987: ABS (1988) *The Australian Yearbook 1988*; and Department of Minerals and Petroleum (2013) *Western Australian Minerals and Petroleum Digest 2011-12*. Perth: DMP.

Over 45 years, WA has increased mineral and petroleum production from \$2.6 million a week to over \$2 billion a week. In this time the resources sector has moved from representing a fraction of the WA economy to dominating it. The changes wrought by this dramatic transformation have had a profound impact on WA, transforming the second smallest Australian state in terms of population in the 1960s, into a fast growing state over the past twenty-five years in terms of population and economic growth.

An immediate point of comparison for tracing the impact of WA's resources boom is that of its growth in population compared to the rest of the country. In particular, a comparison with the experience of South Australia (SA) is telling. For much of their history, SA was the more populous state. Following the decade of the 1950s, where its population expanded by 29.5% compared to 25.5% in WA, SA saw its population cross the million person mark in 1962, while WA had to wait until 1970 to achieve that landmark. However, the 1950s was the last decade in which WA grew more slowly than SA, with WA seeing a population increase of nearly one quarter (24%) while SA's population expanded by 11.5% over the next decade, culminating in WA's population overtaking SA's in 1981-82, when the States reported populations of 1.35 million and 1.33 million respectively.

In the three decades since, WA's population has risen to 2.45 million while SA's slower growth has seen its population reach 1.68 million, around 68% of that of WA. One feature of this divergence of prospects between the States has been the surge in population WA following the advent of the 'super cycle' in commodities, an acceleration which is projected to continue into the foreseeable future. Such growth has already seen WA replace Queensland as the fastest growing state in Australia, with attendant pressures emerging in terms of infrastructure and service provision by government and housing.

Figure 1: A Tale of Two States: WA and SA Population, 1945 to 2012, Number of Persons



Source: The John Curtin Institute of Public Policy (JCIPP) (2004) *WA Resources: 2005 to 2015*, A report to the Chamber of Minerals and Energy (WA), JCIPP: Perth; Data from: ABS *Australian Historical Population Statistics*, ABS Catalogue No. 3105.0.65.001.

The Latest Boom

The most recent boom has catalysed arguably the greatest change in the State’s economy and society in its history. Importantly, the recent expansion in mineral and petroleum output resulted in WA becoming dramatically more export-orientated. For instance, total merchandise exports (including mineral and petroleum products) have risen from \$434 million in 1967 to over \$121 billion in 2011-12, accounting for 45.7% of total Australian exports. The export intensity of WA rose accordingly, with the State emerging from being intensely domestically-focused with an export share equal to 4% of final demand in 1967, rising to 28.6% in 1987. By 2011-12, the export share had risen to 61.6% of SFD.

Table 2: WA Exports as a Percentage of State Final Demand: 1967, 1987 and 2012

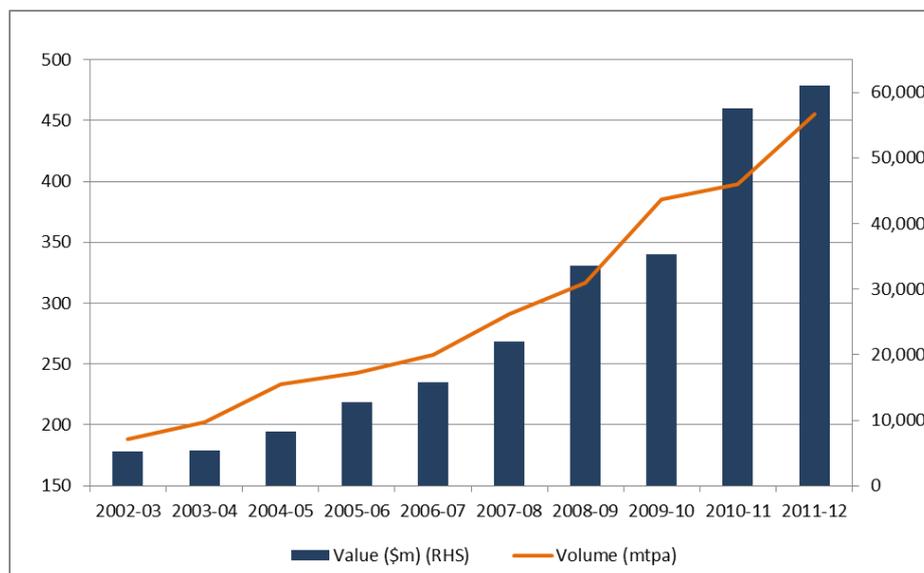
Year	WA Total Exports	WA Exports as a Percentage of State Final Demand
1967	\$434 million	4.0%
1987	\$8.1 billion	28.6%
2011-12	\$121 billion	61.6%

Source: ABS (1969) *The Australian Yearbook 1969*; 1987: ABS (1988) *The Australian Yearbook 1988*; and 2007: Department of Minerals and Petroleum (2013) *Western Australian Minerals and Petroleum Digest 2011-12*. Perth: DMP; ABS *Australian National Accounts: State Accounts*, ABS Catalogue No. 5220.0.

The resource booms WA has experienced since 1960 have reflected the rapid industrialisation of East Asia over that period, first led by Japan, and in the past decade, China, with resources supply from Australia fuelling economic growth in that region. This globalisation of the WA economy is largely tied to a number of key commodities, principally iron ore (\$61.1 billion in exports in 2011-12), crude oil and condensate (\$11.6 billion), liquefied natural gas (LNG) (\$10 billion) and gold (\$9.4 billion). The value of this production is currently underpinned by historically very healthy prices, with decreases in global

prices having the potential to directly reduce SFD in the immediate channels of lower wages and royalty and tax receipts, but also over the medium-term in view of reduced investment in resources projects. Iron ore in particular is indicative of the surge in prices, output and total value, as reported in Figure 2 below.

Figure 2: WA Iron Ore Production, Volume and Value, 2002-03 to 2011-12, Volume (mtpa) and Value (\$m)

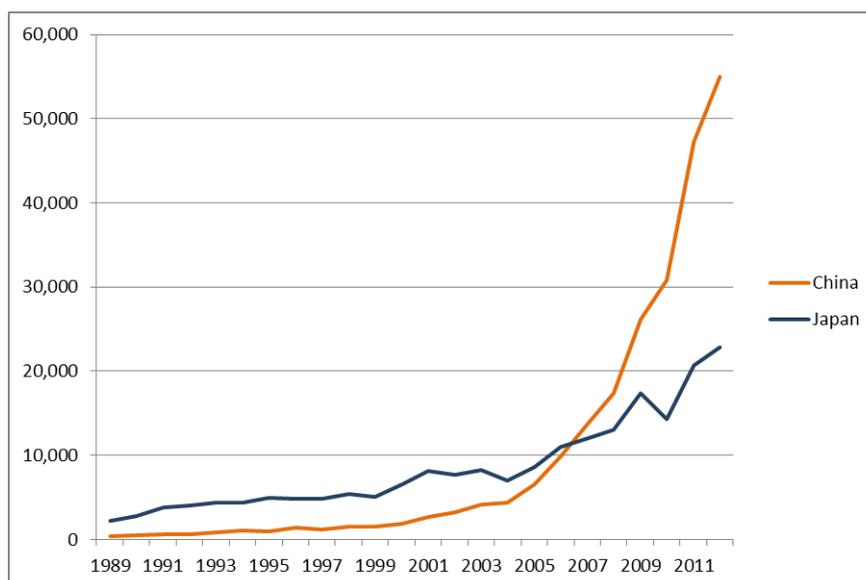


Source: Department of Mines and Petroleum, *WA Mineral and Petroleum Statistics Digest 2011-12*, Perth: DMP.

In 2002-03, WA produced 188 million tonnes of iron ore which sold at an average price of around A\$27.60 a tonne, for production valued at \$5.2 billion. In 2011-12, volume produced had increased to 455 million tonnes, prices averaged A\$134 a tonne, and production exceeded \$61 billion, an eleven-fold increase in under a decade.

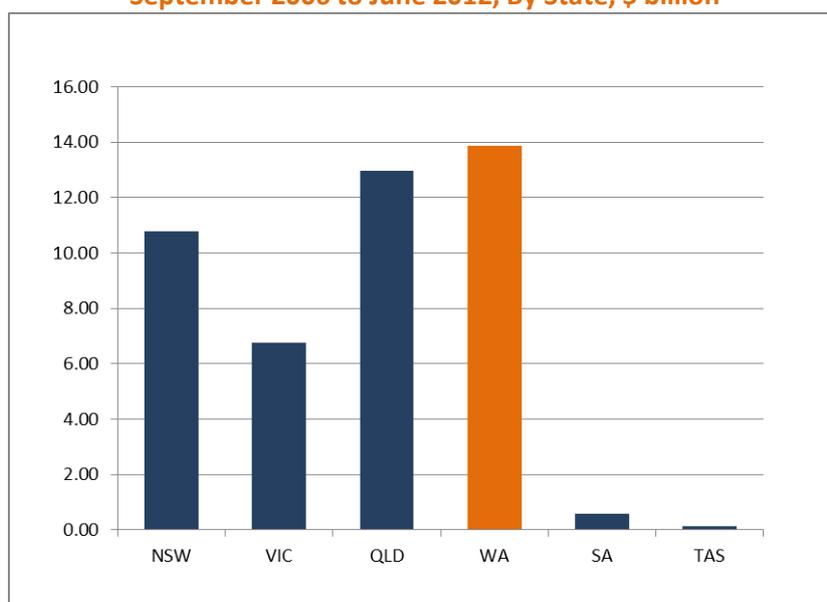
The recent impetus behind this expansion in exports has been the emergence of China. WA exports to China rose from \$2.7 billion in 2001 to \$55 billion in 2012 – representing 58% of the increase in WA merchandise exports over this period. China has been WA’s largest export market since 2006, when it overtook Japan (see Figure 3). It now accounts for 45.4 per cent of all WA exports, followed by Japan (\$22.8 billion in 2012) and South Korea (\$9.8 billion), with these countries mostly importing iron ore, LNG and petroleum products.

Figure 3: WA Exports to China and Japan, 1988-89 to 2011-12



Source: ABS (2013) *International Trade in Goods and Services, Australia; Table 36e. Merchandise Exports, State of Origin Western Australia, by Country and Country Groups, FOB Value.* ABS Catalogue No. 5368.0.

Figure 4: Chinese Outbound Foreign Direct Investment in Australia, September 2006 to June 2012, By State, \$ billion

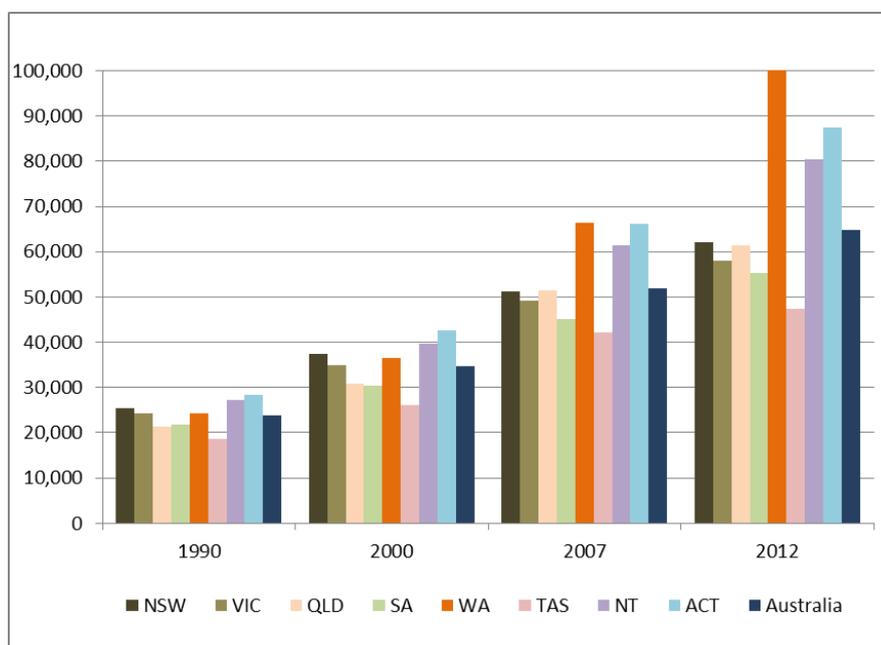


Source: KPMG and University of Sydney (2012) *Demystifying Chinese Investment: China's Outbound Direct Investment in Australia*, Sydney: KPMG.

As well as emerging as the key import market for WA, China is also developing as an investment partner, as shown in Figure 4. Between September 2006 and June 2012, a total of \$45.1 billion in completed investment deals was funded by Chinese partners in Australia. Of this, \$13.9 billion or 30.8% was spent in WA, almost entirely on mining and petroleum projects (99%).

The benefits of this investment in mining and petroleum resources has been spread across the broader community in the form of income and consumption impacts from related activities and tax and royalties collections by government. These impacts flow across the community and can be viewed at the aggregate level in terms of per capita Gross State Product (GSP).

Figure 5: Per Capita Output for the States and Territories (GSP) and Australia (GDP): 1990, 2000, 2007 and 2012, Current Prices.

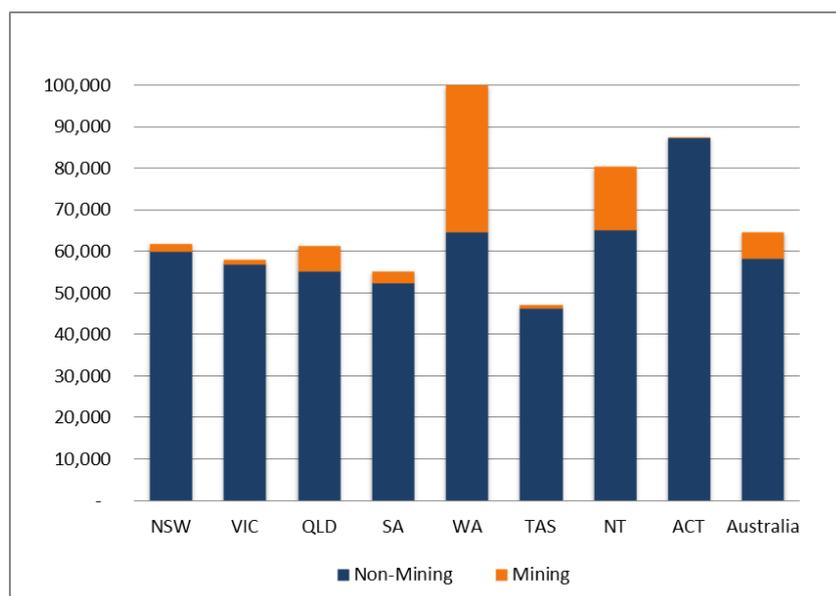


Source: ABS (2013) *Australian National Accounts: State Accounts*, ABS Catalogue No. 5220.0. All figures are in current prices for June of that year.

A comparison of WA's per capita GSP with that of the other States, indicates the State's recent growth, as per Figure 5. In 1990, per capita GSP in WA was broadly equivalent to that of Australian per capita GDP – \$24,316 compared to \$23,895. By 2007, in the first phase of the current resources boom and before Global Financial Crisis (GFC), WA per capita GSP at \$66,087 was 28 per cent higher than Australian per capita GDP of \$51,904. By 2012, this divergence had widened further to 54.7% above per capita GDP (\$64,725), with WA becoming the first state in Australia to record per capita GSP above \$100,000 with per capita GSP of \$100,127. Notably, all other mainland states were below the national average, with the territories (NT and ACT) joining WA in residing above it.

A clearer view of how the resources boom impacts on WA's per capita GSP can be seen in Figure 5, which apportions the share of per capita due to Mining (the ABS industry classification which includes petroleum output). This shows that the large out-performance of WA relative to Australia is dominated by Mining. In 2012, the WA mineral and petroleum sector ("Mining") reported value added equal to \$83.1 billion or 35.2% of state GSP of \$236.3 billion. In terms of an interstate comparison, Mining in WA was equal to around 91% of SA GSP, 25% of Victorian GSP and 5.7% of Australian GDP.

Figure 6: Per Capita Gross State Product for the States in 2012: Mining Share



Source: ABS *Australian National Accounts: State Accounts*, ABS Catalogue No. 5220.0.

The gains in WA's per capita GSP profile reflect the ongoing expansion of its economy and commensurate expansion in employment. Since June 2009, six months after the onset of the GFC, WA has accounted for 25% or one in four transitions into full-time work in Australia and around 20 per cent of the growth in total employment. This represents a rapid rate of job creation compared to its share of population of 10.8%. In contrast, Queensland (6%) and South Australia (3%) have seen anaemic growth in employment, while Tasmania and the Northern Territory have both seen negative growth in full-time employment and very marginal increase in total employment even before accounting for their relatively small populations.

Table 3: State and Territory Population (Sep 2012) and Employment Growth since June 2009: Percentage Shares of the National Total

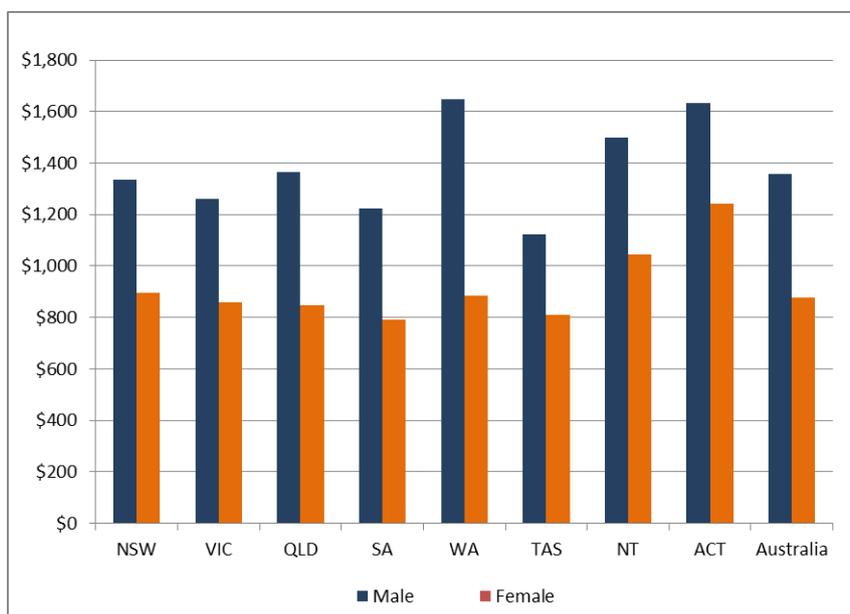
	Population (Sep 2012)	Employment Growth as a Share of National Total		
		Full-Time Employment	Part-Time Employment	Total Employment
NSW	32.1%	38.7%	22.5%	32.7%
VIC	24.8%	29.9%	25.1%	28.1%
QLD	20.1%	6.4%	26.0%	13.7%
SA	7.3%	2.6%	6.3%	4.0%
WA	10.8%	25.3%	11.6%	20.2%
TAS	2.2%	-2.7%	3.5%	-0.4%
NT	1.0%	-1.0%	0.8%	-0.3%
ACT	1.7%	0.7%	4.1%	2.0%
Australia	100%	100%	100%	100%

Source: ABS 6202.0 *Labour Force, Australia – Table 12. Labour force status by Sex - States and Territories*; ABS *Australian Historical Population Statistics*, ABS Catalogue No. 3105.0.65.001.

The increase in employment in WA has translated into higher incomes for the State's employees, as reflected in adult cash earnings (all sectors, full- and part-time adult employees). In November 2012, total cash earnings for WA males averaged \$1,649 a week, around 21% above the Australian average of

\$1,358 for males. Female employees in WA averaged \$885 a week, which was broadly comparable with the national average of \$876.

Figure 7: Weekly Adult Cash Earnings (Total), Males and Females, November 2012



Source: ABS (2013) *Average Weekly Earnings, Australia, Nov 2012*, ABS Catalogue No. 6302.0.

Of course average incomes don't necessarily imply that the benefits of the WA boom are being distributed fairly across the community, and research is required into examining the impact of rising incomes in the resources sector on incomes and prices throughout the State.

Can the Boom Continue?

In the short-to-medium term, the value and prospective increases in production volume of WA's main export commodities depends upon the continued health of China and other emerging markets (primary drivers through the value of resources production in WA), but also the ability of WA to remain competitive as a destination for mineral resource investment (secondary drivers through increased investment in the resources sector).

Central to these risks is the prospect of a renewed downturn in the global economy. As Table 4 demonstrates, World GDP collapsed by 2.2 per cent in 2009 in the aftermath of the GFC, with growth rates yet to consistently return to pre-2008 levels. This is especially true of the US and Euro Area, with growth in the US still being hampered by that country's large private debt overhang and ongoing debate about the appropriateness of current fiscal and monetary policy settings. In the Euro Area, the overall economic situation is bleaker still, with the economy witnessing negative growth over the course of 2012, with prospects for 2013 and 2014 being similarly dismal, as projected by the International Monetary Fund (IMF).

The third major developed economy, Japan, entered the GFC facing substantial debt problems and an economy which has been deteriorating for almost two decades. A recent shift towards a very expansive

monetary and fiscal policy in Japan could see its economy emerge from its stagnation, which provides some support for key WA commodity products such as iron ore and LNG exports.

Elsewhere in Asia lie WA's other key export markets – China and Korea. China's expansion has become increasing uncertain due to changes in the senior political leadership of that country and rising levels of credit, particularly in housing and infrastructure, two areas which are crucial to China's continued support for the expansion of iron ore and LNG exports. The current IMF assessment indicates that China will see reasonably strong growth over at least the next two years, albeit at reduced levels to that seen in the middle of the last decade.

Table 4: IMF Estimates and Forecasts of Growth – Key Countries and Areas, 2005 to 2012; Forecasts for 2013 and 2014 (% Growth)

Year	World*	US	Euro Area	Japan	China	Korea	Australia
2005	3.4	3.1	1.7	1.3	11.3	4.0	3.1
2006	4.0	2.7	3.2	1.7	12.7	5.2	2.7
2007	4.0	1.9	3.0	2.2	14.2	5.1	4.6
2008	1.5	-0.3	0.4	-1.0	9.6	2.3	2.7
2009	-2.2	-3.1	-4.4	-5.5	9.2	0.3	1.4
2010	4.1	2.4	2.0	4.7	10.4	6.3	2.6
2011	2.9	1.8	1.4	-0.6	9.3	3.6	2.4
2012	2.5	2.2	-0.6	2.0	7.8	2.0	3.6
Forecasts							
2013	2.6	1.9	-0.3	1.6	8.0	2.8	3.0
2014	3.4	3.0	1.1	1.4	8.2	3.9	3.3
2018	3.9	2.9	1.6	1.1	8.5	4.0	3.2

Note: * World GDP is weighted using GDP weights at purchasing power parity (PPP).

Source: International Monetary Fund (IMF) 2013, *World Economic Outlook*, April 2013, Appendix A1. Summary of Forecasts, Washington D.C.: IMF.

Globally, there exists a great deal of uncertainty about WA's external environment, an important consideration given the state's exposure to commodity export markets. A benign outcome to the turmoil of the post-GFC era would see a gradual recovery in the developed economies of the US, Euro Area and Japan allowing for continued growth in China and developing countries in the Asia Pacific. Domestically, this would be supported by growth in the broader Australian economy (with IMF projections of growth of 3 to 3.5%) which would provide stimulus to the State's economy.

Arguably the most important aspect of the Australian economy from WA's perspective is that of the exchange rate which now finds strong support above parity with the US dollar. An unwinding of the very expansive policies of governments and central banks in the US, Euro Area and Japan would see reduced demand for the Australian dollar, primarily as the country becomes less attractive as a destination for international funds. This wouldn't necessarily result in a sustained drop in the dollar, as its price would revert to reflect probably strengthening in commodity demand and prices around the globe.

Nevertheless, as the Reserve Bank of Australia (RBA) notes in its most recent Statement on Monetary Policy (May 2013), the dollar "...remains at a high level by historical standards, notwithstanding the decline in export prices and interest rates."¹ The most recent cut (6 May) in the target cash rate to 2.75 percentage points has had some impact on the dollar, pushing it below parity in the following week for

¹ Reserve Bank of Australia (RBA) (2013) *Statement on Monetary Policy*, (May 2013), p. 24, Sydney: RBA.

the first time in ten months. Despite this, with official interest rates in the US and Japan at or near zero, combined with those countries use of quantitative easing, Australia’s relatively tight monetary policy has tended to counteract any downward pressures on the dollar that flowed from lower prices for mineral commodities, especially those for iron and coking coal.

The dollar’s current position in global financial markets reflects investors’ views on the relative growth prospects of the US and China (see Table 5). A healthy China will tend to bolster demand for commodities and raise the value of the Australian dollar towards parity with the US dollar regardless of the situation in the US. However, as has been the case for much of the past two years, the dollar will overshoot parity should US economic prospects subside and Australia remain an important target for further diversification by international investors. The flipside of this argument is that should China falter and global commodity markets follow suit, the dollar will come under pressure. Under these circumstances, if the US shows evidence of an enhanced recovery and a withdrawal of its quantitative easing program, the dollar will see a considerable sell-off of the type around which financial markets are now speculating – a fall to around 80 US cents. Under this scenario, the fundamentals underpinning the dollar’s value – high commodity prices and relatively high interest rates compared with the US – begin to come under pressure. Even if the US remains weak, should a downturn in China impact significantly reduce commodity demand and prices, the dollar will still revert towards its longer-term mean below 80 US cents.

Table 5: Scenarios for the Australian Dollar Based on Outcomes for the US and China

	China +	China –
US +	Parity: = 100 US cents as dollar shifts to reflect higher commodity prices	Much lower dollar: <85 US cents as commodity demand and prices fall and the US becomes relatively more attractive
US -	Higher dollar: >100 US cents as dollar shifts to reflect higher commodity prices and a more favourable set of interest rate fundamentals compared to the US	Lower dollar: <95 US cents as commodity demand stumbles, but gains support as the US sees sluggish growth

In view of these concerns, the best scenario for WA (and Australia) in terms of the currency would be circumstances described above, where China and other emerging economies continue to expand, albeit at reduced but more sustainable rates of growth than those of the past five years, together, with continued recovery in the US and broader interventions in Japan (commencing under the new government in that country) and the Euro Area. This would have the favourable impact of not only sustaining the case for a continued increase in investment in the resources sector in Australia and WA and therefore growth, but would also see room for a decline in the Australian dollar as holdings in major economic blocks become more attractive to central banks and investors alike.

The Impact on Resources – The Case of Iron Ore

Given this caveat, then from WA’s perspective, it is global commodity markets largely determined by events in the Asia Pacific region which will be the key driver of the State’s resource sector and overall

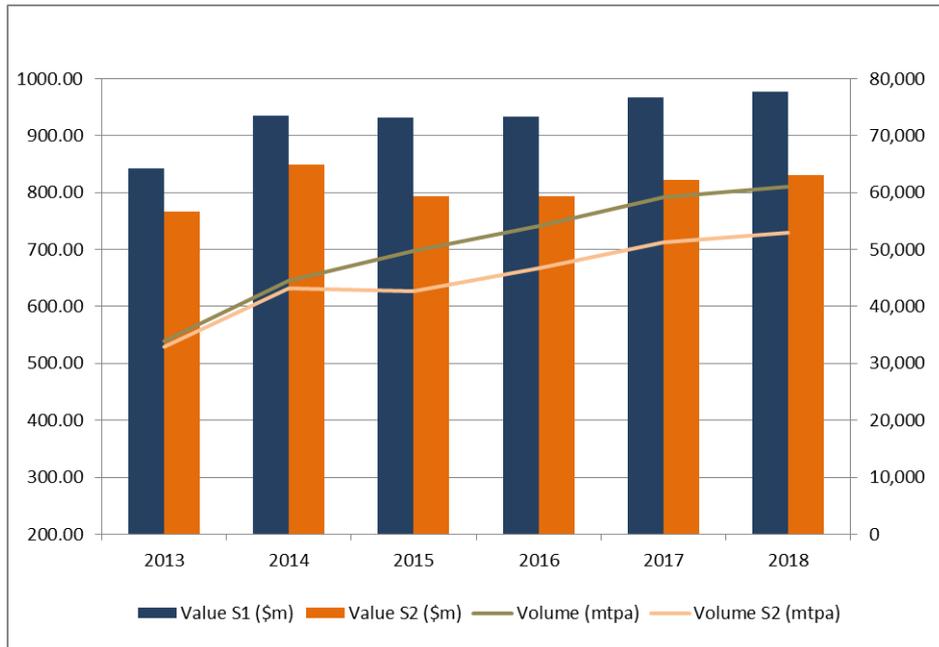
fortunes for at least the next decade. This can be seen in terms of forecasts for WA's most important industry, iron ore mining. The Bureau of Resource and Energy Economics (BREE) has recently (March 2013) released its annual update to five-yearly forecasts for Australian commodity production and exports.² Figure 9 below reports figures for WA iron ore exports under two scenarios, S1 and S2.

In Scenario S1, the BREE forecasts Australia are adjusted for WA's share (the State accounts for over 97% of iron ore exports from Australia) with BREE's US dollar price forecasts being used to generate revenue forecast for WA. It is assumed that the Australian dollar will move around parity with the US dollar over this period, so revenues throughout the period are reported on a parity basis. Under the assumptions of S1, the volume of iron ore exports from WA expands from a projected figure of 540 mtpa (million tonnes per annum) in 2013 to 810 mtpa in 2018 (assuming 97.5% of all Australian production comes from WA). WA's share of global iron ore trade is projected to rise from 42% in 2012 to 55% in 2018 under this scenario. BREE is forecasting that the price of iron ore will steadily fall in nominal terms over this period, from US\$128 in 2013 to US\$96 a tonne in 2018. As a result, revenue growth under S1 over the next five years will be relatively healthy, with total earnings from iron ore exports rising from \$60.9 billion in 2013 to \$77.8 billion in 2018.

Also reported in Figure 9 is a second scenario, S2, under with reduced volume growth (capacity at 98% of S1 over 2013 and 2014, falling to 90% thereafter) and prices (90% of S1 price between 2013 and 2018). Under S2m revenue from iron ore exports is \$56.7 billion in 2013. This increases to \$63.0 billion in 2018 – around 19% or \$14.8 billion below its S1 equivalent. Iron ore export receipts are projected to virtually 'flatline' to 2018 under S2.

² Bureau of Resource and Energy Economics (BREE) (2013) *Resources and Energy Quarterly*, (March 2013), Canberra: BREE.

Figure 8: WA Iron Ore Export Projections: Value (RHS) and Volume (LHS), 2013 to 2018.



Note: Scenario S1 is based on the Bureau of Resource and Energy Economics (BREE 2013) March 2013 update of its five-year forecasts for Australia, with nominal price forecasts as per BREE’s forecasts and underlying volume adjustment for WA’s dominant share of exports. Scenario S2 is based on fractional falls in both price (10% below BREE forecasts) and a muted supply response, with 97.5% of capacity projected by BREE eventuating in 2013 and 2014, falling to 90% for remaining years. For the purposes of this example, it is assumed that the Australian dollar straddles the parity level with the US dollar over the five year forecast period.

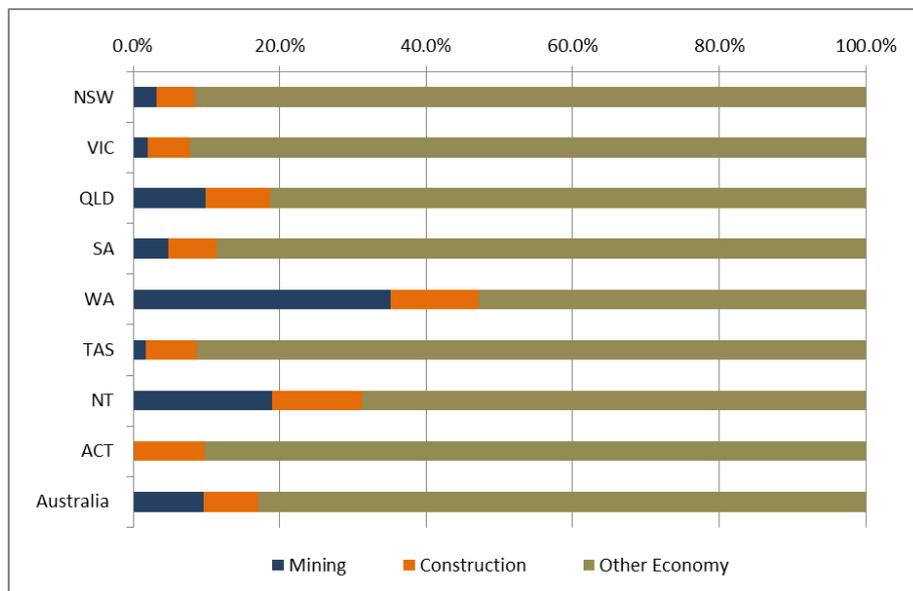
Source: Bureau of Resource and Energy Economics (BREE) (2013) *Resources and Energy Quarterly*, (March 2013), Canberra: BREE.

Of course, any depreciation in the Australian dollar below parity will improve the outlook for generating revenue from the addition to capacity outlined under these two scenarios. However, even under the more muted output response in S2, iron ore exports still see an increase of 45.6% or an addition to export capacity of around 224 mtpa. This is an expansion in capacity which is broadly similar to the expansion in capacity in WA between 2004 and 2012, requiring a similar level of recruitment into the sector and related service industries. (XXX – CME estimates).

WA Construction

Construction in WA has benefited greatly from the resources boom, either through direct building of mines and mining infrastructure or related infrastructure such as roads and electricity generation facilities throughout the State. In 2011-12, Actual Expenditure on Buildings and Structures in WA totalled \$43.2 billion, representing 44% of Australian expenditure of \$98.1 billion. In recent years, WA’s share of national expenditure on buildings and structures has hovered around 40% of the Australian total (see Figure 6). This is reflected in the WA state accounts, where Mining (35.2% of WA output) and Construction (12%) combine to account for 47.2% of economic output in WA, compared to just 17.1% for Australia as a whole.

Figure 9: Mining and Construction as a Share of Gross State Product, 2012



Source: ABS (2013) *Australian National Accounts: State Accounts*, ABS Catalogue No. 5220.0. All figures are in current prices for June of that year.

The linkage to construction activity occurs as capacity in the resource sector expands in response to prices – a typical part of the classic commodity cycle. This usually adds to the underlying volatility of growth in a resource economy, with output being subject to both fluctuations in commodity prices but also shifts in the timing and development of new projects.

Almost a decade into the latest resources boom, WA is seeing a record expansion in construction activity associated with new resource and energy projects, with over \$141.7 billion of work committed as at March 2013 and feasibility studies being undertaken or reshaped for another \$79 billion of work to take place over the next two to seven years. WA is the location for 44% of all committed or prospective (subject to ongoing feasibility assessments) in Australia.

Table 6: Stage of Development: Major Resource Projects in Australia, Either at Feasibility or Committed Stage of Development, October 2012, \$ million.

	Projects By Stage of Development		Total
	Feasibility	Committed	
NSW	17,863	6,736	24,599
VIC	962	3,600	4,562
QLD	107,622	80,780	188,402
SA	5,540	298	5,838
WA	79,019	141,675	220,694
TAS	609	-	609
NT	7,869	33,810	41,679
Other*	13,000	680	13,680
Australia	232,485	267,579	500,064

Note: * includes Joint Petroleum Development Area between Australia and East Timor and other offshore areas.

Source: Bureau of Resource and Energy Economics (BREE) (2013) *Resources and Energy Major Projects*, (March 2013), Canberra: BREE.

Construction activity in the resources sector in Australia is dominated by eleven already committed 'mega projects' identified by BREE in 2012, together accounting for 76% of expenditure. These include five located in WA, the largest of which are Chevron's two LNG projects, the now \$52 billion Gorgon LNG project on Barrow Island (Australia's largest resources construction project) and a \$29 billion Wheatstone LNG plant at Onslow. In addition, WA is home to the largest prospective project in Australia, Woodside's Browse Gas project, originally costed at \$34 billion, but now subject to renewed feasibility analysis after a projected cost blowout and new focus on alternatives such as a floating LNG production plant.

So quite aside from global conditions, construction costs in WA are also an important determinant of project viability. A critical feature of recent construction activity in the resources sector has been the extent to which four key factors are determining costs and project viability, best seen in LNG construction:

- **The high Australian dollar:** The shift in the Australian dollar from US85 cents to parity in the middle of 2010 has been responsible for 30% of the cost blowout in major Australian resource projects through higher prices for local content and labour, particularly those in the LNG sector;
- **Project timing:** The development of major resource projects in a very short space of time results in increased cost pressures. With major LNG projects in WA (two, with another prospective), the NT (one – the Ichthys), and two in Queensland (QCLNG and Gladstone) commencing construction since 2010 along with Woodside's recently completed Pluto project, there has been a dramatically elevated demand for construction labour and engineering expertise in the Australian resources sector as projects compete for talent;
- **Environmental concerns:** Environmental constraints impact on project feasibility, an issue seen in Gorgon's LNG project at Barrow Island and Woodside's Pluto development, where costs increased due to environmental considerations, but also more recently with Woodside's Browse project and the political debate about the siting of an LNG plant at James Price Point in the Kimberley.
- **Relatively favourable investment conditions elsewhere:** Other resource producing areas have lower cost deposits, especially in US dollars. In LNG, the ever present threat that the US shale gas boom will translate into LNG exports to Asia, sees pressure on investors wishing to locate operations in Australia, including pressure around offset pricing and customer access.

Policy Settings

A considerable amount of uncertainty in relation to policy settings in Australia and WA relates to the state of the Commonwealth's finances. The May 2013 Federal Budget outlined a strategy for returning the Commonwealth books to surplus by 2015-16. Of course, this is contingent on a number of factors such as the outcome from the 14 September Federal Election and future policy settings and movements in key commodity prices (iron ore and coal) and the value of the Australian dollar.

Overshadowing this discussion is the role that fluctuations in the Australian dollar and the prices of key commodities are playing in shifting federal budget receipts. In the aftermath of the GFC and downturn in commodity prices, Commonwealth receipts fell from 25% of GDP (in 2007-08) to 21.7% of GDP in

2010-11. This was driven by de-accelerating growth throughout the Australian economy but also a shock to revenue in the form of reduced tax collections on resource profits due to lower prices coupled with a relatively strong Australian dollar.

Figure 10: Commonwealth Budget: Receipts and Payments, % of GDP, 2002-03 to 2011-12; Estimates and Projections from 2012-13 to 2016-17



Source: Commonwealth of Australia (2013) *Budget Paper No. 1: Budget Strategy and Outlook 2013-14*, “Statement 10: Historical Australian Government Data,” Canberra: Commonwealth of Australia.

This has played havoc with Treasury’s forecasts. As part of the 2010-11 Federal Budget Treasurer Wayne Swan announced a return to surplus in 2012-13, around ‘three years earlier than previously expected and ahead of any of the major advanced economies.’ As of May 2013, the Government is now projecting a return to surplus in 2016-17 — a blowout in timeline for return to surplus of four years – including a projected deficit of \$18 billion in 2013-14. The return to surplus will necessarily occur in the context of uncertainty around corporate tax collections and underlying profits, particularly in regard to resource producers. This uncertainty will shape key policy issues such as the Commonwealth’s re-ordering of its carbon emissions trading policy and changes in resource rent taxation arrangements after the next federal election.

From a WA perspective, the other unknown is the extent to which the next Commonwealth government will address the allocation of GST revenues between the states and territories. In many ways, this is just as critical as Commonwealth tax settings in affecting the overall performance of the WA economy and the capacity of government to respond to challenges posed by the State’s rapid economic growth in recent years.

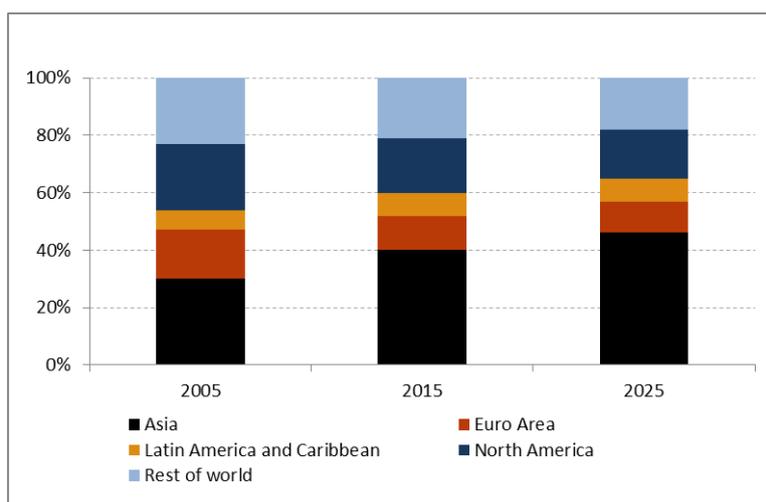
Summary - The Longer Term

The strength of the global economy and commodity markets becomes more apparent as the geographic frame of reference and timeframe of analysis widens.

The world economy is undergoing a major geographical shift towards the Asia Pacific region, driven simply by convergence in living standards in relatively populous countries to those currently enjoyed in the developed world. This can be seen in the recent formal initiation of discussions for the creation of an ASEAN+6 grouping, comprised of the ten ASEAN countries and China, India, Japan, South Korea, Australia and New Zealand. This group will become the world's largest economic bloc with a combined GDP of US\$17 trillion and population of 3.3 billion.

The logic of this grouping is compelling, as is the broader story of Asia's economic emergence. As part of its White Paper, *Australia in the Asian Century*, the Commonwealth estimated that the Asian region, encompassing the ASEAN+6 group (including Australia and New Zealand) will account for 40% of world output by 2015 and nearly 50% of world output by 2025.³ In turn, China will account for over half the output of Asia by 2025, with expected average growth of around 7% to 2025.

Figure 11: Regional Shares of World Output Growth: 2005 and Projections to 2015 and 2025



Source: Based on Chart 2.3 in: Commonwealth of Australia (2012) *Australia in the Asian Century*, (White Paper), Canberra: Commonwealth of Australia.

The White Paper points out that the medium-term benefit of this increase in output will be an increase in the Asian 'middle class.' On the basis of defining middle income as being characterised by per person expenditure of between US\$10 and US\$100 per person per day, Asia's middle income population will rise from 525 million in 2009 to 3.2 billion in 2030, with the majority of the world's middle income population residing in the region at that point.

For these reasons, regardless of whether the ASEAN+6 group emerges as a trading bloc in the near future, Asia will continue to emerge as the central focus of Australian trade and foreign policy engagement. It contains the key emerging countries from WA's perspective in regard to generating

³ Commonwealth of Australia (2012) *Australia in the Asian Century*, (White Paper), Canberra: Commonwealth of Australia.

future demand for Australian mineral and energy resource commodities, subject to alternative supply options that emerge over this time. A rapidly growing Asian middle class will consume Australian goods and services, while overall economic growth in the region will ultimately result in the increased competitiveness of Australia through the gradual convergence of real labour costs in Asian countries on Australian levels.

The continuing emergence of the Asia Pacific region has a number of broad implications for WA's growth prospects:

- **Continued expansion in mineral resource commodities:** Rapid industrialisation across the Asia Pacific will continue, resulting in relatively strong medium term rises in demand for key WA commodities such as iron ore, LNG, alumina, nickel and gold. Counterbalancing this trend are increases in new supply from both existing suppliers but also emerging ones.
- **Expansion in the prospects of new commodity markets:** The rise of the Asia Pacific will also see enhanced demand for WA's food commodities. In a 2012 report, the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) that world agrifood demand will rise 77% in value (in real terms) from 2007 (the base year of their analysis) to 2050, with demand in Asia doubling over this period.⁴ This is driven by China, who accounts for 43% of this increase. This increase in demand is spread across key food commodity groups, including areas in which WA has a dominant presence, such as wheat and other cereal production.
- **Diversification of the WA economy:** The WA economy will continue to see increasing opportunities for diversification in areas such as mining services, tourism, education-related travel and education services and also ultimately, as wages rise through the region, opportunities in export manufacturing. A recent example of the emergence of an Asia-Pacific focused industry in WA is that of international education, with travel-related education services from students attending institutions in WA topping \$1.17 billion in 2011-12.⁵ Underpinning this result has been a decade of growth in international education (from schools to higher education) which has seen the number of international students in WA rise from 27,061 in 2002 to 41,584 in 2012.

⁴ Linehan, V, Thorpe, S, Andrews, N, Kim, Y and Beaini, F (2012), "Food demand to 2050: opportunities for Australian agriculture", ABARES Outlook Conference, Canberra, 6–7 March.

⁵ Australian Education International (AEI) (2012) "Export income to Australia from international education activity in 2011-12", Research Snapshot, (November), available at: <https://aei.gov.au/research/Research-Snapshots/Documents/Export%20Income%202011-12.pdf>.