

Deloitte Access Economics

Transition Illawarra Initiative

*Update of the 2013
Transition Illawarra Report*

RDA Illawarra

October 2015



Deloitte.

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Glossary

ABS	Australian Bureau of Statistics
AUD	Australian dollar
DAE	Deloitte Access Economics
GDP	Gross Domestic Product
GRP	Gross Regional Product
ICT	Information and Communications Technology
LGA	Local Government Area
NBN	National Broadband Network
NSW	New South Wales
RDAl	Regional Development Australia Illawarra
UOW	University of Wollongong
US	United States
USD	US dollar

Executive summary

The Transition Illawarra Initiative was launched by Regional Development Australia Illawarra (RDAI) in 2013 to identify ways to secure the Illawarra's economic future amid changing economic conditions in the region. For an economy traditionally reliant on manufacturing, the Illawarra faces both challenges and opportunities looking forward.

The 2013 report played a pivotal role in the identification of opportunities for the Illawarra region. This September 2015 document serves as a progress report, outlining changes to the economic environment in the past two years, and their impact on the Illawarra. However, the recommendations from the 2013 report remain valid, and there has been significant progress in implementing these.

Implementing these recommendations has been key to progressing the Transition Illawarra initiative. Goals and specific action items have been identified against the main focus areas of transport, health and ageing, business development, workforce development, housing and tourism. Progress against the recommendations is separate to this document.

Broad changes to the economic environment since 2013 include:

- Significantly lower interest rates (the RBA's cash rate is now at 2.%, down from 3% in early 2013), which have stimulated housing activity and retail spending;
- Depreciation of the Australian dollar, which has provided support for trade-exposed sectors including agriculture, manufacturing, tourism and education;
- Declining commodity prices, which have undercut Australia's national income and compromised the mining sector's profitability; and
- Rising house prices, especially in Sydney, which have improved the Illawarra's attractiveness relative to Sydney on the basis of housing affordability.

A range of key economic indicators have appeared favourable for the Illawarra region in the period since the 2013 report. Specifically:

- Employment in the Illawarra has grown by 6% between 2012-13 and 2014-15, compared to 2% in NSW as a whole;
- The unemployment rate in the Illawarra has declined from 7.1% to 6.5% between 2012-13 and 2014-15, whereas in NSW it has risen from 5.2% to 5.9%; and
- Workforce participation has risen from 57.3% to 58.3% in the Illawarra, and fallen from 63.4% to 63.1% in NSW as a whole.

Since the 2013 report, the global landscape has seen a structural shift in economic activity, much of which has flow on effects to the Illawarra region. China and Australia are experiencing separate yet interrelated transitions, both of which are underpinning fundamental changes in the Illawarra's economy:

- China is attempting to rebalance economic activity away from investment-driven growth towards more sustainable, consumption-led growth. Industrial production and investment flows into infrastructure have slowed, leading to lower steel demand, with considerable impacts on the Illawarra's coking coal exports;

- Australia is navigating its way from the investment and construction phases of the resources boom, to the export phase; and
- The Illawarra continues its transition from a reliance on industrial production (steel) and mining (coal), to a service, digital and knowledge-based economy.

Diversification of the Illawarra's economy is central to the region's growth and future prosperity. Regional economic development comprises both quantitative features (such as an increase in the stock of jobs) and qualitative features (such as diversification of the type of jobs created).

While manufacturing continues to be a vital component of the Illawarra's economy, industries including education, health and professional services will underpin the region's future employment growth. Institutions such as the University of Wollongong (UOW), and organisations such as RDAI, Illawarra Business Chamber and Clusters like i3Net will be crucial to the success of this transition.

As such, the Illawarra should continue to focus on fostering cooperative partnerships through the formation of mutually beneficial groups and clusters. These relationships should evolve in conjunction with the UOW to reap the benefits of this world-class research institution.

Both intra and inter-industry collaboration will assist with:

- Enabling greater supply chain management;
- Tourism operators creating joint visitor packages and options, and collaborative marketing strategies;
- Revitalise the region's manufacturing sector with an increasing focus on technological innovation and advanced manufacturing;
- Securing public sector funding and attracting private sector funds to invest in both physical infrastructure (roads and buildings), and strategic infrastructure (training, qualification attainment and technological infrastructure);
- Greater efficiency in generating new and innovative business ideas through integration of the region's most important industries, including the public sector (such as health, education) and the private sector (professional services, manufacturing, mining); and
- Bringing together the large pool of unemployed (including structurally unemployed, youth and older workers) with industries experiencing skills shortages (to be facilitated by retraining and skills development).

The Illawarra has seen considerable labour market improvements since 2013. The unemployment rate has fallen, labour force participation has risen, and average employment growth in the past two years has been more than double the rate in NSW and Australia.

That said, while the ageing of the population presents opportunities for higher employment in the health sector, it is expected to place strain on labour force participation going forward, with detrimental impacts on output growth.

Therefore, the Illawarra's economic progress will be reliant on its ability to create a range of employment opportunities for young people that will both allow and encourage them to stay

in the region, as well as targeting retraining for older workers. Jobs growth in diverse sectors will also improve the resilience of the region's economy to external shocks, thereby facilitating further sustainable economic development.

1 Background

The Transition Illawarra Initiative is led by RDAI for the purpose of identifying and promoting economic diversification in the Illawarra region. Deloitte Access Economics' initial report in 2013 formed phase one of Transition Illawarra. Phase two involved prioritising the recommendations of phase one and preparing a detailed implementation plan, drawing on the opportunities identified in the 2013 report. Phase three involves implementation of key recommendations (see appendix X progress report August 2015)

Since the 2013 report, the economic environment has changed. The Australian dollar has fallen from recent peaks, commodity prices have declined considerably, and low interest rates have underpinned rapid house price growth. It is timely to consider an update of the drivers and assumptions made in the 2013 report and assess to what extent the outlook for the Illawarra has changed.

This report provides a statistical update to various sections of the 2013 report, including many of the forecasts presented in that report. This report also includes an assessment of the extent to which major economic drivers and events between 2013 and 2015 have affected the outlook for the Illawarra region. Finally, a discussion of key sectoral changes within the Illawarra region is provided, along with an assessment of infrastructure expenditure and plans in the two years since the 2013 report was prepared.

The analysis in this report is limited to new data or information that has become available. Most relevantly, regional population and employment data is regularly updated by the Australian Bureau of Statistics (ABS). Together with updated macroeconomic forecasts for the global, Australian and New South Wales economies, Deloitte Access Economics has updated regional demographic and labour force forecasts, including at the 1-digit industry and occupation level.

This report is a supplementary document and not an independent report. It should be read in conjunction with the 2013 report rather than in isolation.

Where no new data were available, 2013 results were not updated. There have been no changes to Deloitte Access Economics' small area demographic and labour market forecasting methodology since the 2013 report was prepared, except to account for the changes in geographic definitions issued by the ABS.

Specifically, the ABS has updated its geographical definitions, which are now based on the Australian Standard Geographical Classification. As a result, the data and forecasts presented in this report are based on the new geographical definitions (see Appendix A). The Illawarra SA4 is the region assessed in this report.

2 Changes to economic conditions

This chapter outlines the broad changes to the economic environment since 2013, including key macroeconomic movements at the global, national, State and regional level.

The momentum of economic activity has slowed in Australia in the past two years, with annual economic output growth below trend, averaging 2.4% between 2012 and 2014. Australia's economy is currently transitioning from the investment and construction phases of the resources boom, to the export phase. The task of re-aligning economic growth away from mining-led investment towards other drivers of growth is significant.

Most notably, the downturn in commodity prices is undercutting national income, job gains are modest, and wages growth is soft. During 2014, nominal wages rose by 2.5%, the lowest annual rate in 16 years. Increasing pressure is also being placed on the national unemployment rate, which was at a 12 year high of 6.8% Australia wide in January 2015, however has since fallen back to 6.3% this July.

Key changes in the economic landscape since 2013 include: (show contemporary data)

- Record low interest rates (currently 2.0% RBA Aug 2015);
- Depreciation of the Australian dollar (currently \$US 0.74);
- Declining commodity prices and a falling global energy price (\$US 56.3/tonne predicted drop to \$US 42); and
- Rising house prices (Sydney average breached \$1m in July 2015).

2.1 Low interest rates

In an attempt to stimulate sluggish economic activity, the Reserve Bank of Australia (RBA) has lowered official interest rates twice already this year. The current rate stands at 2.0%, the lowest on record, and considerably lower than the 3.0% that prevailed in early-2013.

Despite weak wage and job gains, the interest rate cuts have spurred growth in retail spending. Cheap credit has also driven increased homebuilding and renovation in spite of falling population growth. This is of particular importance to the Illawarra – in the 12 months to May 2015, the construction and retail sectors were the region's third and fourth largest employing industries respectively.

That said, fear of aggravating the already buoyant east coast property market and continuing recovery in the US economy (including the likelihood of the US Federal Reserve raising interest rates in the months ahead) is likely to lessen the RBA's propensity to cut rates any further in the short term.

Over the medium term, record low interest rates will not be a permanent feature of Australia's economic landscape. As the economy transitions away from mining-related activity, interest rates are expected to move to more normal levels and the stimulatory effects of a low interest rate environment will weaken.

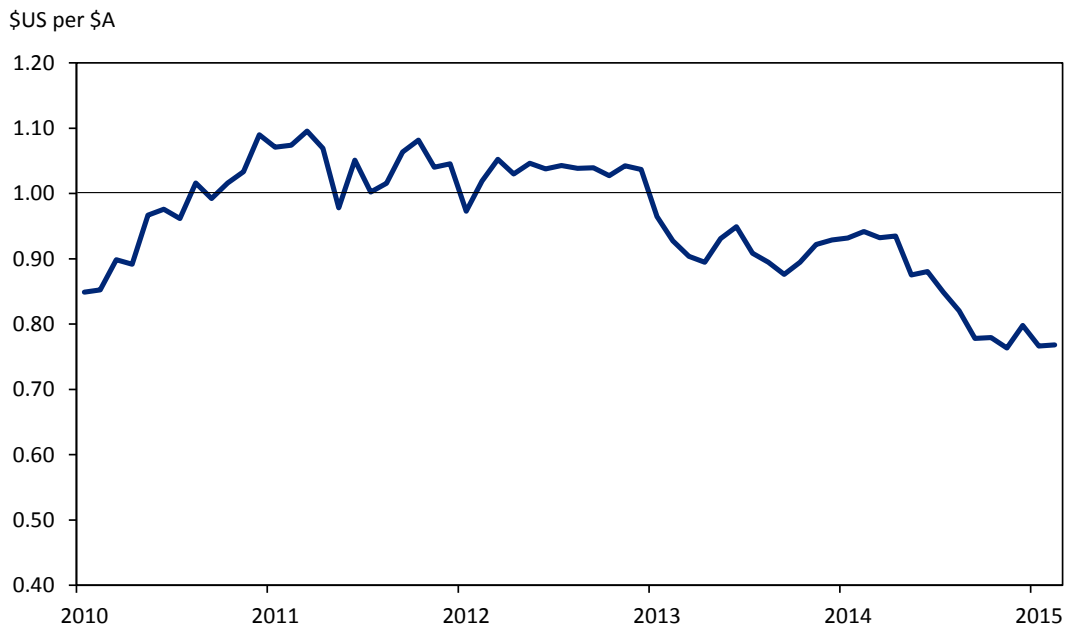
2.2 Depreciation of the Australian dollar

The value of the Australian dollar (AUD) has fallen significantly against the other major currencies over the past two years, attributed to the cooling of Australia’s resources boom and the growing strength of the US dollar (USD). In March 2013, the Australian dollar was above parity with the Greenback, buying US\$1.05. By March 2015, the Australian dollar bought only 77 US cents – a decline of nearly 30% in just two years (see Chart 2.1). As at mid-September 2015 the exchange rate was hovering at around 72 US cents.

Downward pressure on the dollar has led to a boost in the international competitiveness of Australia’s exports, providing some welcome relief for the nation’s trade-exposed sectors, including agriculture, manufacturing, tourism and education. The weaker dollar, however, also makes foreign purchases more expensive, increasing costs for retailers and other businesses reliant on imports.

An interest rate rise in the US, anticipated in the coming months is likely to induce further depreciation of the Australian dollar in the short term.

Chart 2.1: Australian exchange rates, USD per AUD



Source: Reserve Bank of Australia

2.3 Declining commodity and energy prices

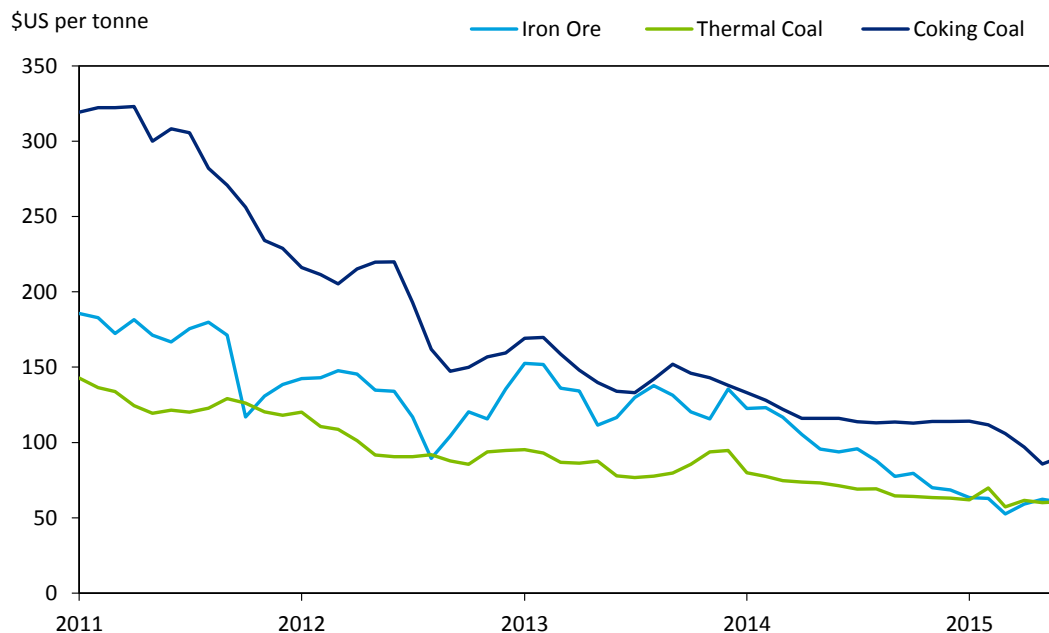
The prices of commodities are heavily contingent on Chinese demand – mostly iron ore and coal – and are rapidly declining (see Chart 2.2).

The price of coal has plummeted. The Illawarra region is a key producer and exporter of coking coal, which is used in steelmaking. Between June 2013 and June 2015, the price of coking coal declined by over 33%. Coking coal is currently trading around US\$84 per tonne, the lowest price in about ten years. This is driven by two factors: waning Chinese demand and vast new coal supply.

China relies heavily on imported coal and iron ore for its domestic steelmaking industry. Its rapidly deteriorating property market, however, has dampened China's demand for steel. Indeed, according to the World Steel Association China recorded negative growth in steel demand in 2014 for the first time in 19 years. In the medium term, Chinese demand for steel is expected to remain subdued (in comparison to recent historical standards at least).

China's dampened demand has coupled with accelerating world supply to cause the current low in commodity prices. Coking coal exports increased by 4.3% in 2014-15 in Australia. Supply of coking coal is forecast to rise by 193 million tonnes in 2015-16, with many major coal projects near completion. Sustained downward pressure on prices will place additional strain on the \$63 billion worth of coal projects throughout Australia (about \$2 billion of which is in the Illawarra) yet to be confirmed.

Chart 2.2: Commodity prices over time



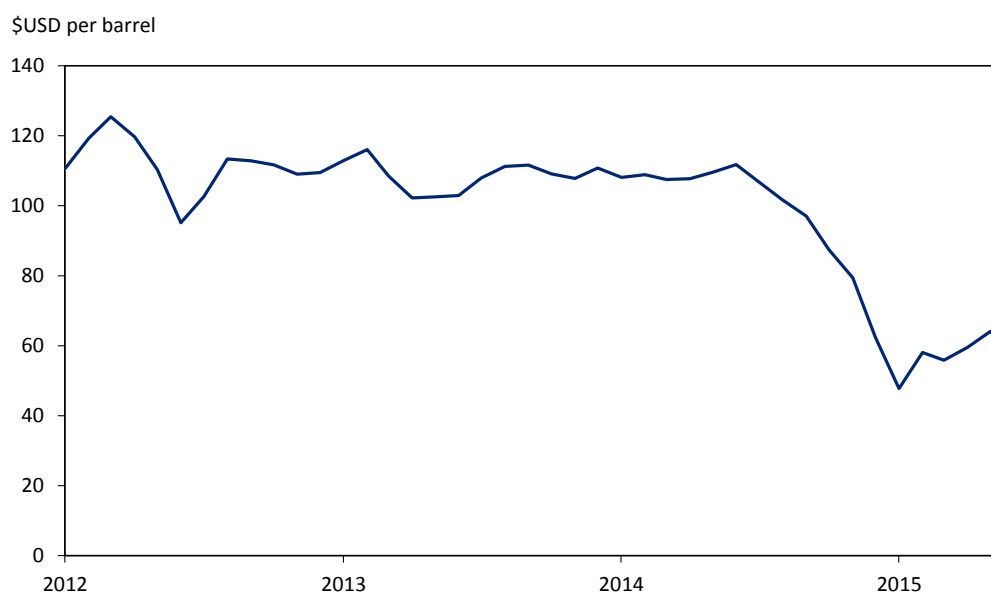
Source: ANZ commodity briefs

The global energy price has provided something of a reprieve, having fallen significantly since mid-2014 (see Chart 2.3). Declining global oil prices have translated into reduced input costs, providing support to miners, manufacturers, the transport sector, tourism operators,

and ultimately consumers. Indeed, Deloitte Access Economics has previously estimated that the fall in petrol prices of approximately 25 cents per litre adds the equivalent of roughly 0.5% to total disposable income. Along with cheap credit, this has also bolstered higher retail activity recently.

The global energy price has rebounded from its recent slump (up 27% this June from January's low). Accordingly, the price of petrol has also risen (up 12% over the past three months). Sustained price rises could subdue household spending and increase input costs for businesses.

Chart 2.3: Global oil price



Source: ANZ commodity briefs

2.4 Rising house prices

The low interest rate environment is maintaining a buoyant housing market, which accounts for approximately two thirds of the wealth of an average Australian. The east coast property market in particular is booming, leading to concerns over a housing bubble.

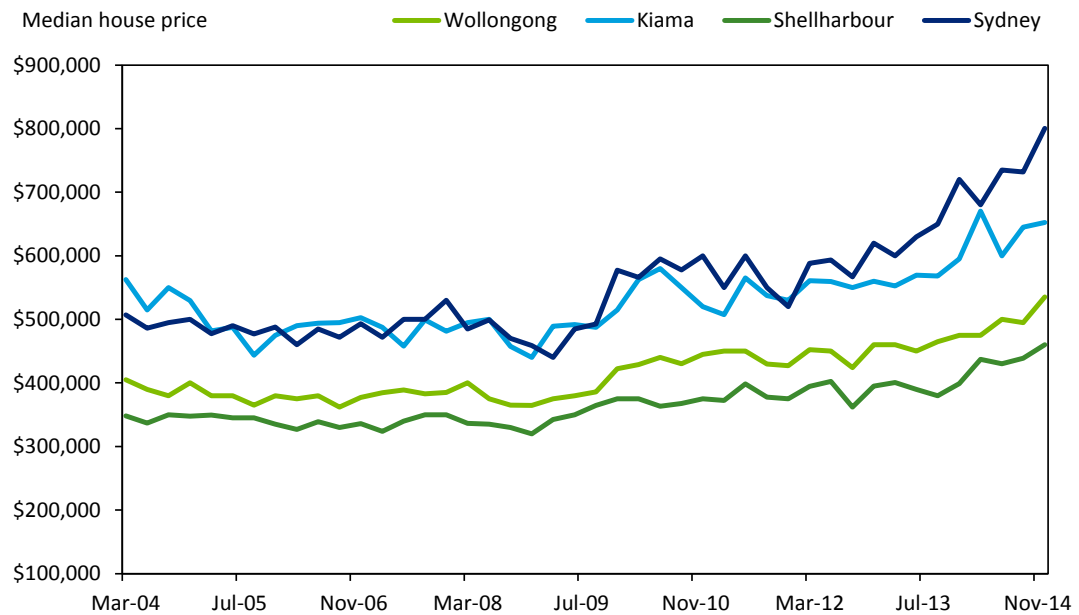
Sydney's median house price grew by close to \$200,000 in the past 12 months, bringing the annual growth rate in prices to a 35 year high¹ (in the year to June 2015, Sydney's median house price increased by almost 23%). The median house price in Sydney is now \$1,000,616 (compared to just over \$510,000 in Wollongong, and around \$530,000 in the Illawarra as a whole).

While dwelling prices in New South Wales' regional areas are generally lower than those prevailing in Sydney, low interest rates are also driving up house prices in the Illawarra. The increase in the median house price in the Illawarra's regions can be seen in Chart 2.4.

¹ http://www.domain.com.au/group/wp-content/uploads/2015/07/Domain_House_Price_Report_June2015.pdf

There are negative aspects of such strong rises in dwelling prices – housing affordability and first-home buyers are adversely affected, and the step up in household leverage, from an already high level, poses potential risks.

Chart 2.4: Median house price



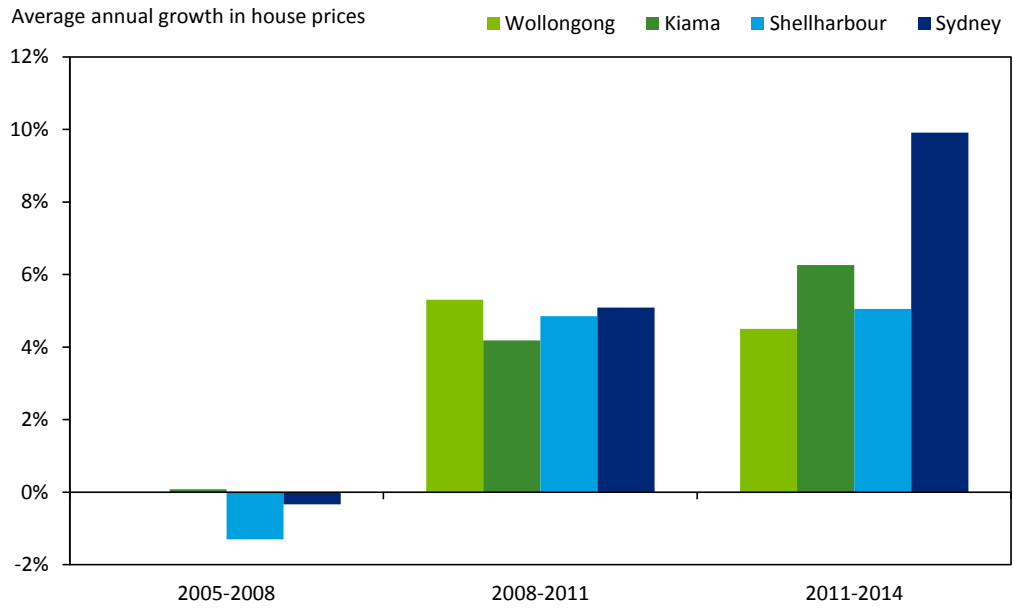
Source: Housing NSW

While house prices in the Illawarra have been following an upward trajectory in the past four years, the strength in this growth is well below that seen in Sydney. Chart 2.5 shows that between 2011 and 2014, the average annual growth in house prices in Sydney is more than double that in Wollongong.

Indeed, the growth in Wollongong’s house prices has been lower in the past four years than in the years between 2008 and 2011. Accordingly, the comparative advantage of the Illawarra in terms of housing affordability is increasingly apparent.

The sharp increase seen recently in Sydney housing values could be a strong positive for the Illawarra, as it furthers the cost advantage of living in the Illawarra region relative to Sydney. Every new resident that moves to the region will demand goods and services produced or supplied by local firms, which in turn will generate greater employment growth.

Chart 2.5: Growth in the median house price, Illawarra's regions



Source: Housing NSW

3 Update on key economic drivers

The previous chapter discussed key developments in the economic and business landscape of the Illawarra region since the 2013 report. That 2013 report outlined five drivers for economic growth in the Illawarra, namely the rise of Asia, the ageing population, technological change, business and industrial development and the region's proximity to Sydney. This chapter provides a brief update on these drivers.

3.1 The rise of Asia

As noted in the 2013 report, the rise of Asia stands to impact on the Illawarra's economy through three broad avenues: international education, the growth of China, trade through Port Kembla, and foreign direct investment into Australia.

China's growth has driven the Illawarra's economic growth for some time. In the last third of a century, China's economy grew seventeen times faster than its population, creating massive movements in people and money that underpinned the rapid expansion of its property markets, and unprecedented demand for steel. The Illawarra was well placed to service these demands, hosting the nation's largest steel producing plant.

China is now suffering from an oversupply of infrastructure, and construction activity has plummeted. Construction activity is a major driver of steel demand. As such, weakness in the real estate sector has stunted Chinese demand for coking coal. At the same time, there is now a glut in global supply of steel, placing particular pressure on the Illawarra region.

However, while average output growth in China continues to slow, economic expansion and development in other Asian countries continues to accelerate. Chart 3.1 shows the Consensus Economics forecasts for average annual growth in Gross Domestic Product (GDP) as at July 2015.

It can be seen that while forecasts for GDP growth in China are lower in 2016 than in 2015, many emerging (and extremely large) nations (India and Indonesia, for instance) are expected to experience increasing growth rates in economic output. Continued development in these nations will drive demand for Australia's goods and services going forward, albeit possibly a different mix of goods and services.

The pending rise of ASEAN (the Association of Southeast Asian Nations) presents significant growth opportunities for Australia's exports in the near future. The region's current plans to establish a unified market could mean ASEAN will replace China as the globe's leading manufacturing centre, especially as companies increasingly reap the benefits from an abundance of cheap labour.

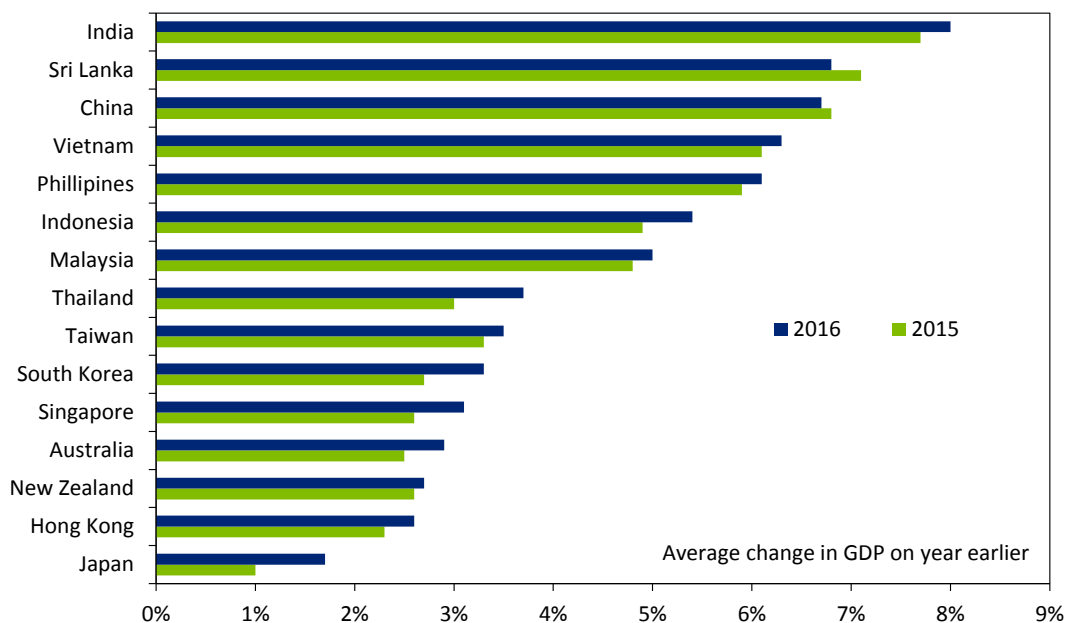
Accordingly, demand from emerging ASEAN countries is expected to surge in the coming decade, including Indonesia, Malaysia, the Philippines, Thailand and Vietnam. Rising urbanisation and incomes will drive increased investment and consumption, which will, in turn, drive increased demand for Australian exports. The potential for Australia to service

accelerating demands from Southeast Asia is significant given its relative proximity to ASEAN countries, coupled with its abundance of natural resources and skilled labour.

That said, for regions heavily dependent on China specific exports, as the Illawarra is with coal, the benefits of expanding ASEAN growth will only be felt through a diversification of the export base. While other Asian countries may see their overall growth rise relative to China's, these countries do not have the same import profile as China, of key relevance to regions such as the Illawarra.

Trade flows and diversification opportunities through Port Kembla are discussed in the following section.

Chart 3.1: Average annual GDP growth forecasts, 2015 and 2016

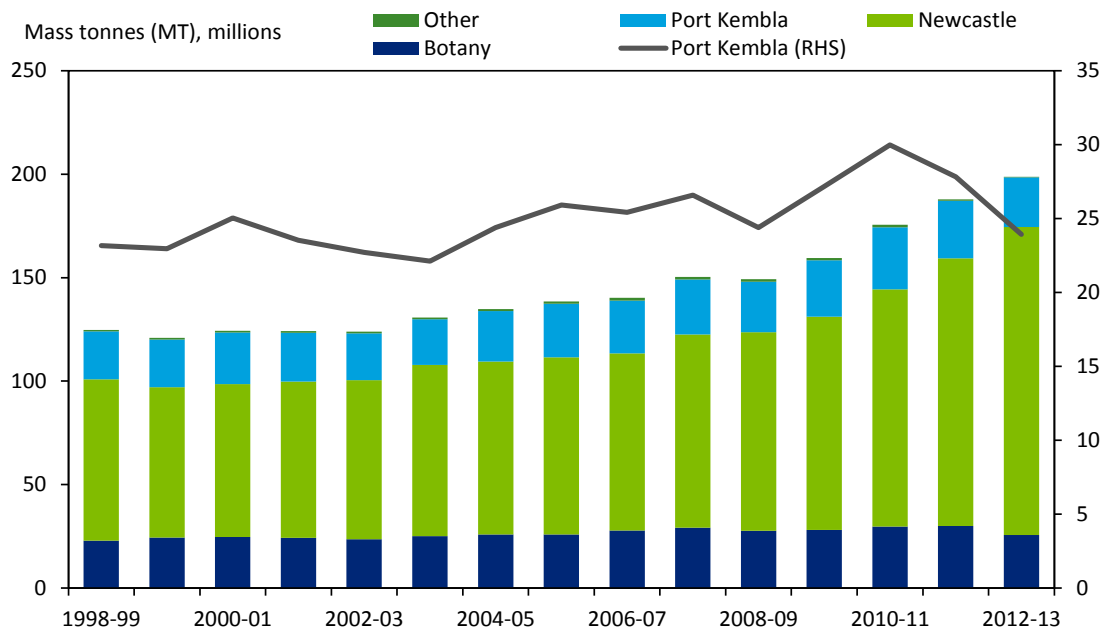


Source: Consensus Economics

3.1.1 Port Kembla

Port Kembla generates a considerable volume of employment and economic output. However, total trade through Port Kembla has been falling in the past three years, from a peak of 30 million mass tonnes in 2010-11 to a ten-year low of 24 million mass tonnes in 2012-13). Although 2013-14 data are not publically available, anecdotal evidence suggests a further decline in coal exports to 2013-14 was likely.

Chart 3.2: Total trade, NSW ports



Source: Ports Australia

As noted in the 2013 report, ongoing diversification of the Port’s trade remains crucial for its future success and its continued benefits to the Illawarra economy. In that regard, grain exports have been rising, and the Port continues to expand its motor vehicle import trade.

A large stakeholder group spearheaded and led by RDAI has recommended to government the relocation of the Royal Australian Navy base in Garden Island to Port Kembla. This would provide further opportunities for diversification of the Port, and considerable flow on benefits to the Illawarra’s economy. It would also potentially generate economic benefits more broadly by freeing up space in Garden Island for alternative, higher value uses. Investment into infrastructure would be required to expand surrounding facilities and improve wharves.

Furthermore, the potential for flow on effects to the greater Illawarra economy are vast, including navy personnel and their families relocating to the region, requiring housing, goods and services, to the benefit of other sectors in the economy. As such, the relocation has been called a potential ‘game changer’ for the Illawarra.²

3.1.2 International education

The Illawarra has historically been reliant on coal exports as its main link to economic growth in Asia. Increasingly, however, the region’s international education is beginning to make a significant impact on the regional economy.

In NSW as a whole, the top 10 nationalities of international enrolments in the year to December 2014 were all Asian countries. Over 40% of overseas students studying in NSW

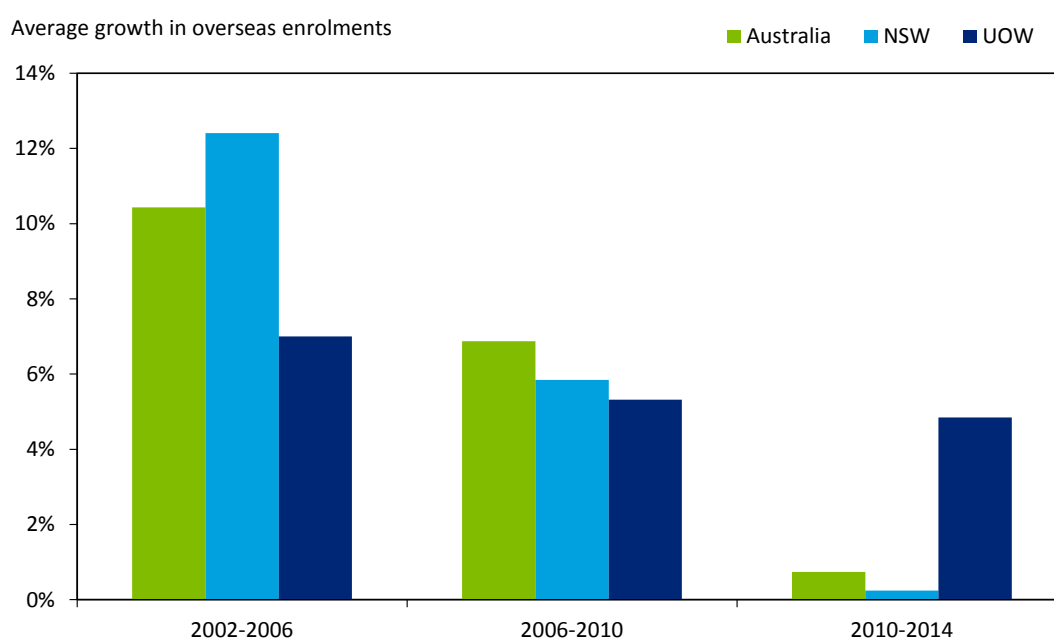
² <http://www.illawarramercury.com.au/story/3254375/calls-for-navy-to-move/>

are Chinese, with Indian and Nepalese students accounting for a further 20%. Thus, the rise in Asia will have a marked effect on the demand for international education services Australia wide.

As the Chinese economy continues its transition from investment-led growth to a consumption-driven growth model, the number of Chinese students coming to Australia to study is expected to expand further. Furthermore, accelerating economic growth and development in other emerging Asian countries (including India, Vietnam and Indonesia) is likely to encourage increased enrolments in Australia's universities from these nations.

The University of Wollongong (UOW) continues to be a key driver for the economy, and in recent years the University's international student intake has grown at considerably stronger rates than NSW and Australia as a whole, albeit with an average growth rate slightly lower than the preceding years (Chart 3.3).

Chart 3.3: Growth in international student enrolments



Source: Department of Education and Training, University of Wollongong

3.1.3 China's growth prospects

Over the past three decades, China has averaged economic growth of around 10% per year. More recently, momentum in China's economy has slowed. Economic output grew by 7.0% in the first and second quarter of 2015, down from 7.3% in the final quarter of 2014.

Consensus forecasts for China's near term growth are now 1% lower per year than at the time of the 2013 report. While economic growth remains well above developed nations, falling rates of growth in industrial production and infrastructure investment, coupled with relatively weak consumer spending, are expected to result in overall growth declining further in 2015.

Surging prosperity, rising urbanisation and low interest rates underpinned strength in China's property market in the past decade. More recently, the unsustainable rate of growth in construction has led to a massive over-supply of infrastructure. The stock of unsold property continues to increase accordingly, and China's demand for steel has plummeted, which has placed significant strain on coal miners throughout the Illawarra and Australia as a whole.

While Chinese authorities have cut interest rates to stimulate economic activity, it is unlikely this will translate into increased investment in a contracting sector that is already suffering from significant overcapacity. In the absence of government funded, large scale public works in China, it is unlikely demand will improve in the near term. According to the World Steel Association, growth in China's demand for steel is likely to remain negative (-0.5%) throughout 2015 and 2016.

Furthermore, in recent months China's stock market has experienced considerable declines, falling as much as 30% between June and July. While this has not yet translated into a broader economic slowdown, it has raised fresh concerns over the health of the Chinese economy, and the extent to which it may or may not generate contagion effects in other economies (including Australia) is uncertain.

3.2 Ageing population

Australia's population continues to age. As noted in the 2013 report, an ageing population is likely to affect the Illawarra region in two main ways: first through its direct effects on the health care sector, and second through its indirect effect on the education sector (predominantly, the UOW).

The UOW health care faculty has seen considerable growth in recent years, with the introduction of medical school in 2007. As noted in the previous report, the potential for the region to develop its own pool of 'home grown' doctors and nurses will be central to its ability to maximise the economic opportunities presented by an ageing population.

RDAI is currently working with the Aged Care Illawarra Workforce Action Group to develop a centre for excellence in aged care. Such collaborative projects will be vital going forward to ensure the economic opportunities stemming from an ageing population are harnessed.

Health enrolments accounted for 11% of overall enrolments at the UOW in 2013 (the most recent year for which enrolment data from the Department of Education are available), a share that has been steadily increasing since 2007 when the University first introduced a medical school.

As the nation's population ages, the Illawarra should continue to leverage its comparative advantage as an affordable and attractive seaside retirement destination in an effort to boost inward migration from Sydney and other regional areas.

The region's status as a manufacturing heartland may further generate capacity to capitalise on an ageing population and further assist with the ongoing economic diversification effort. Specifically, the potential exists for the region to establish a capacity in medicinal pharmaceuticals or equipment manufacturing, capitalising on (a) an already established manufacturing sector; (b) the University of Wollongong's strength in technological fields; and

(c) the Innovation Campus, which already brings together a range of relevant technological expertise.

It is worth noting that a range of research already exists on the subject of ageing in the Illawarra region. For example the UOW's Global Challenges program has ageing as one of its three core areas of focus (the others are innovation in manufacturing and sustaining coastal and marine zones). However, there appears to be a need for a greater understanding of the specific economic opportunities that might be generated by an ageing population in the region – section 5.1 discusses a couple such opportunities.

3.3 Technological change

Ever-changing and complex technological advancements continue to rapidly and radically alter the global economic landscape, with profound effects on the composition of the workforce. The depth and breadth of the digital disruption that has characterised the past two decades is unprecedented. It has transformed Australia's labour market, in both negative and positive ways, and is expected to continue to do so going forward. Recent developments in three diverse industries – IT, manufacturing, and finance and insurance – are discussed below to demonstrate the broad-reaching affect technological change is having on the Illawarra's workforce.

The 2013 report highlighted the potential for the expansion of the information technology industry in the Illawarra. The UOW has a strong information technology focus and the Innovation Campus provides ample opportunities for growth of the sector. A number of high profile signings over the past year, such as the recent establishment by NEC of a 110 staff office at the Campus³, suggests the Innovation Campus is continuing to generate strong opportunities for the Illawarra's ICT sector.

However, despite some positive signs around the Innovation Campus, the regional IT sector remains largely tied to the declining print media sector.

As an example of the challenges facing the sector, this June Fairfax Media confirmed that the Illawarra Mercury, Wollongong's daily newspaper, will lose 47 full-time equivalent jobs. The staff cuts are in line with Fairfax's move to a 'digital-first publishing system' – improving productivity, embracing new technology and delivering increased online content.

In 2009, Medibank Private acquired AHM, Wollongong's private health insurer, since leading to a steady flow of job cuts. In April, AHM announced a further 20 positions will be made redundant, which will include all administrative staff. Labour-saving and productivity-enhancing technologies have led to increased efficiency in administrative activities and processing member claims, rendering manual back-office processing obsolete.

Technological change, however, also generates considerable positive changes. While the ongoing closure of automotive assembly continues to threaten the future viability of the manufacturing industry, technological innovations, specifically 'advanced manufacturing', is transforming the outlook for how the sector may operate in the future. Another positive

³ <http://www.computerworld.com.au/article/559441/nec-australia-hire-110-staff-wollongong/>

aspect in the outlook for manufacturing is the increasing role of industry clusters, as will be discussed in section 4.5.

3D printing ('additive manufacturing') is increasingly being viewed as a potential avenue for Illawarra's manufacturing sector to diversify to remain sustainable. The UOW is investing heavily in research through its 'Re-energising the Illawarra through Additive Manufacturing' project, which aims to embrace these new technologies in an attempt to keep the region's manufacturing sector alive and competitive, and to support regional employment.

Finally, the rollout of the National Broadband Network has reportedly made the Illawarra one of the most "connected" regions in the country⁴. While naturally there will be winners and losers, on balance the NBN is expected to be a great positive for virtually every aspect of the Illawarra's economy. By increasing the capacity for teleworking, for example, the NBN could make it more attractive for Sydneysiders to re-locate to the region. The ability for local firms to hire the best staff anywhere – not just in the region – will improve their productivity, benefitting the regional economy as a whole.

3.4 Business and industrial development

Diversification of the Illawarra's economy is central to the region's economic progress and development. The Illawarra is currently transitioning from a heavy reliance on traditional manufacturing, industrial production (steel) and mining (coal), towards other drivers of growth (chiefly service-based industries).

The decline of manufacturing continues to place pressure on the Illawarra's industrial base. This trend is not likely to change in the near future. Announcements such as that by BlueScope (see Section 4.2) are merely a symptom of the broader structural change being felt not just in the Illawarra but in all traditionally 'blue collar' regions.

Chart 3.4 shows the change in the Illawarra's employment by industry in the past two years. Services industries (health, education and professional services) continue to expand in the region, and are expected to underpin the Illawarra's future employment growth and economic prosperity.

The apparent increasing rate of urbanisation seen in the Illawarra in the recent past (discussed below in Section 5.4) will drive further growth in these service industries. Greater population density within the urban areas will generate a range of economic activity across a broad mix of sectors (including construction, professional services, retail, health and education) which itself will assist with ongoing diversification of the economy.

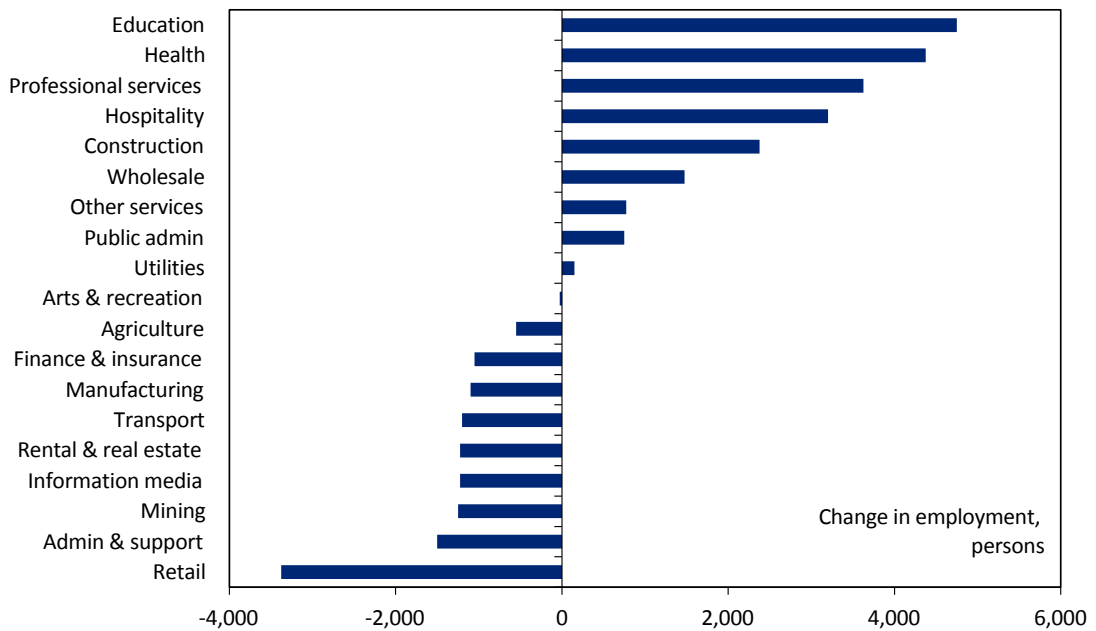
Mining and manufacturing, on the other hand, continue to lose workers as reduced coal demand from China and increased international competition in manufacturing continue to compromise the profitability of these sectors.

The decline of 'traditional' sectors, such as manufacturing, is not something that policymakers should seek to prevent. Rather, the best way for the region to cope with such

⁴ <http://www.nbnco.com.au/corporate-information/media-centre/media-releases/nbn-lights-up-first-wollongong-homes-and-businesses.html>

a transformation is for the Illawarra to grow and develop into an increasingly multi-faceted society. There is a concerted effort currently underway by RDAI through the Transition Illawarra initiative to achieve just that.

Chart 3.4: Change in employment in Illawarra, 2012-13 to 2014-15



Source: ABS 6291.0

The top six industries by average employment growth over the past five years in the Illawarra can be seen in Chart 3.5. Five of these also appeared in the equivalent chart in the 2013 report (utilities, health, education, hospitality, and mining). The one difference is wholesale trade (replacing public administration), which has experienced employment growth of over 7% in the past five years.

Chart 3.6 shows the Illawarra’s bottom six industries by average employment growth over the past five years. Of these, four are the same as identified in the 2013 report (manufacturing, real estate, information media, and agriculture), and two are different (finance and insurance and administration and support have replaced construction and retail).

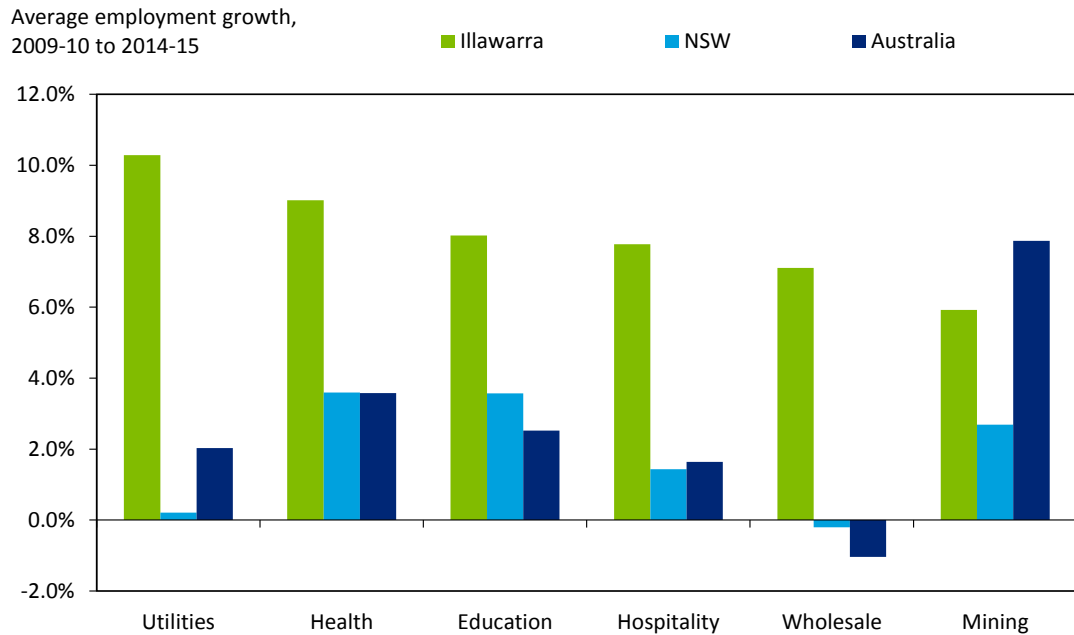
A sector’s appearance in the bottom six does not necessarily mean an unambiguously negative outlook for that sector. Retail for example is set to see strong growth in the coming years as evidenced by recent retail investments in the Wollongong CBD.

This is a source of some concern given the Illawarra’s current shift to a more service and knowledge-based economy. One reason for slower employment growth in these services could be a lack of suitably trained or qualified workers rather than a lack of job vacancies. As shown in Appendix D, a number of service based professionals are considered to be in a State or nationwide shortage at the present time.

The Illawarra should continue to invest in human capital to ensure it fosters a labour force with a varied set of qualifications and skills. While the UOW remains central to this process,

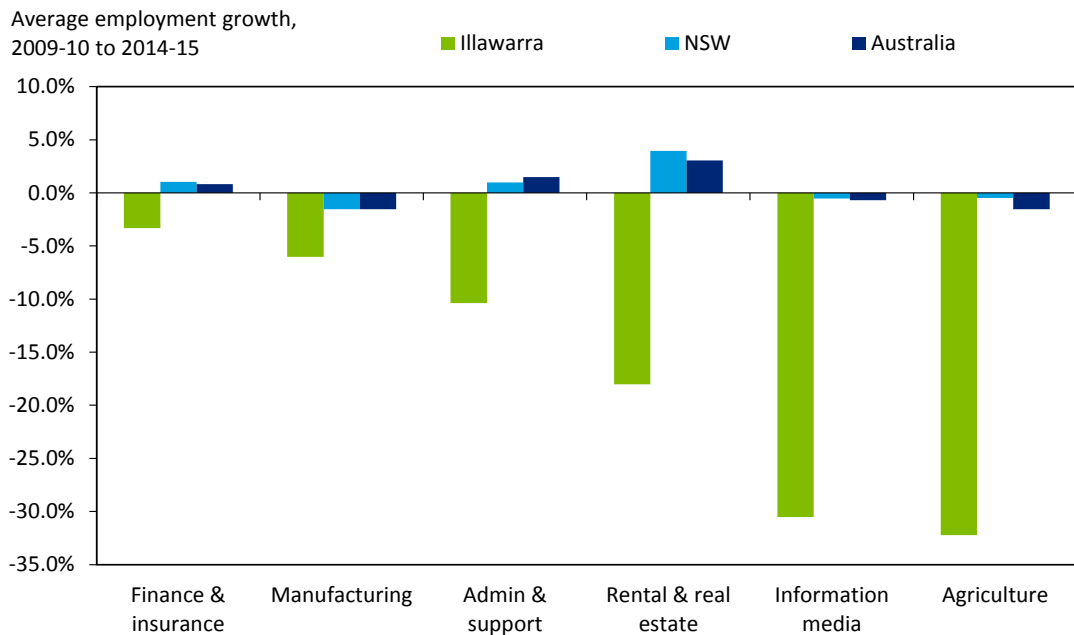
supporting vocational education through NSW TAFE and other VET/RTO providers in Illawarra is also crucial. Traineeships and the commencement of school based apprenticeships should be encouraged, with a focus on acquisition of the skills needed for growing industries (such as the provision of health care and other services).

Chart 3.5: Top six industries by average employment growth, last five years



Source: ABS 6291.0

Chart 3.6: Bottom six industries by average employment growth, last five years



Source: ABS 6291.0

3.5 Growth in Sydney

The 2013 report noted that the Illawarra's proximity to Sydney could generate competitive advantages and economic opportunities through five main drivers:

- The potential for Sydney workers to live in the Illawarra and commute to Sydney for work ('journey to work');
 - The potential for an increasingly urbanised Illawarra to draw Sydney siders towards the region;
 - The potential for the Illawarra to position itself as a key tourism destination and attract tourists from Sydney for a day trip or overnight trip;
 - The potential for the region to harness its competitive advantages relative to other regions such as the Central Coast and Hunter; and
 - The potential for the region's housing/office markets to entice relocation of Sydney residents and/or firms.
- A lack of updated data means assessing progress in these drivers is difficult. The data used in the 2013 report to underpin the discussion of proximity to Sydney was derived from the Census, and accordingly cannot be updated until 2016 Census data is released. However, other potential points to consider in the absence of updated Census data include: The most recent tourism data indicate that tourism in the region continues to stagnate, with seemingly little to no major changes in the period since the 2013 report. Current improvements in infrastructure to make the journey to and from Sydney faster (via roads or trains) may induce higher tourist trips to the Illawarra by Sydney residents.
 - In relation to the region's housing market, there have been some improvements – while overall dwelling approvals remained stagnant for much of 2013 and 2014, since December 2014 there appears to have been a recovery. Furthermore, relative housing affordability of the Illawarra compared to Sydney has improved given strong rises in dwelling prices in Sydney; and
 - The ratio of apartment approvals relative to house approvals in the Illawarra has increased markedly since the time of the 2013 report, suggesting a heightened degree of urbanisation in the region (as will be discussed in Section 5.4), which may spur greater activity in the region's commercial markets.
 - A rise in housing values in Sydney relative to Wollongong may further entice some relocation of Sydney-siders to the Illawarra region.

4 Broad changes to workforce

This chapter considers changes to the Illawarra's labour force since 2013, including broad movements in unemployment and labour force participation. It then discusses more specific changes to industries, including the impact of BlueScope Steel's further downsizing, and the impact of supply chain pinch points and clustering.

4.1 Unemployment and participation

There have been some considerable improvements in the Illawarra's labour market since 2013 (Table 4.1). Between 2012-13 and 2014-15, the unemployment rate has fallen from 7.1% to 6.5%, the labour force participation rate has increased from 57.3% to 58.3%, and average employment growth has increased markedly.

These improvements are also significant relative to the performance of the NSW and Australian labour markets in the past two years, both areas of which have witnessed higher unemployment rates and lower participation rates over the same period.

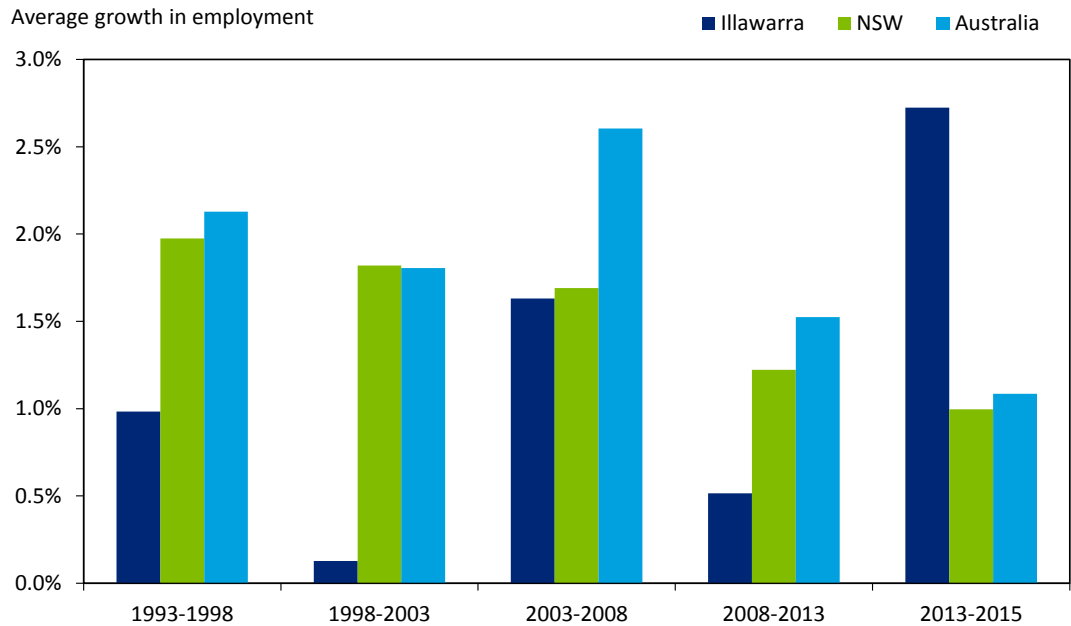
Table 4.1: Snapshot of the labour force

	Illawarra		NSW		Australia	
	2012-13	2014-15	2012-13	2014-15	2012-13	2014-15
Employed (persons)	126,910	133,920	3,574,700	3,646,400	11,403,740	11,652,470
Unemployed (persons)	9,770	9,420	196,520	228,720	649,910	761,820
Labour force (persons)	136,680	143,330	3,771,290	3,875,120	12,053,650	12,414,290
Unemployment rate	7.1%	6.5%	5.2%	5.9%	5.4%	6.1%
Participation rate	57.3%	58.3%	63.4%	63.1%	65.1%	64.8%

Source: ABS 6291.0

Since 2013, the Illawarra has experienced faster employment growth than both NSW and Australia as a whole (see Chart 4.1). In the two decades prior, average employment growth in the Illawarra was consistently lower than the State and national averages. This is especially the case during periods of economic turmoil, when regional employment has tended to be more adversely affected – the 1997-98 Asian financial crisis and the 2008-09 global financial crisis provide notable examples. This can be seen in Chart 4.1, where average employment growth in Illawarra fell to 0.1% and 0.5% respectively during these downturns. In the past two years, however, average employment growth in the Illawarra has been twice that in NSW and Australia.

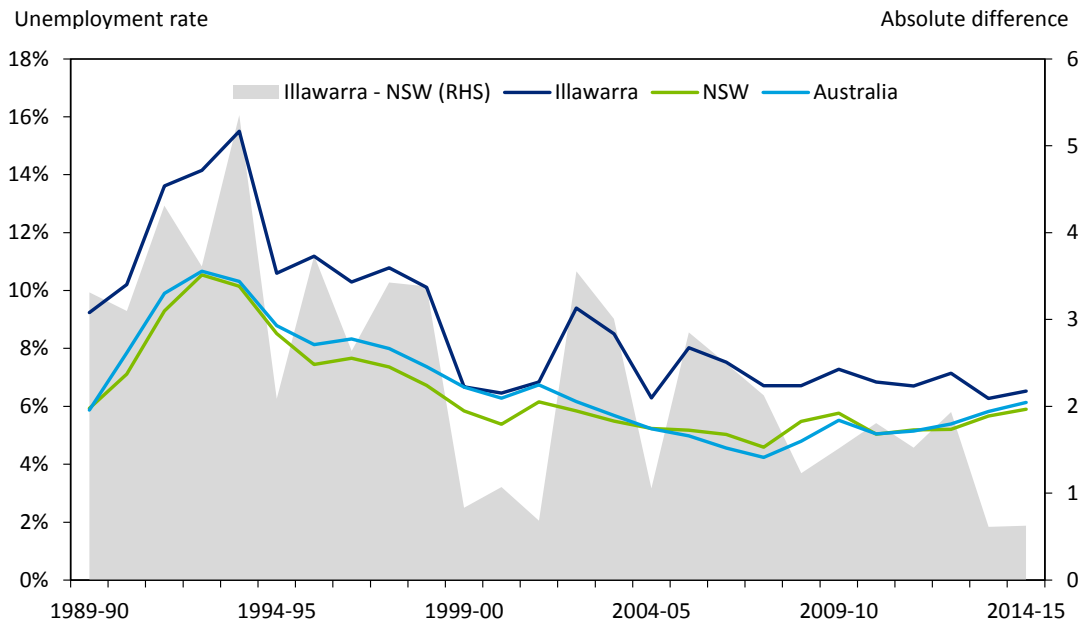
Chart 4.1: Average employment growth over time



Source: ABS 6291.0

Chart 4.2 shows the national, State and regional unemployment rate since 1989-90. Historically, the Illawarra’s unemployment rate has been consistently higher than that observed in the NSW or Australia. However, this gap has been gradually narrowing, and has lessened considerably in the two years since the 2013 report.

Chart 4.2: Unemployment rate through time



Source: ABS 6291.0

While lower unemployment rates generally imply labour market improvements, it should be noted that falling unemployment rates can also be a product of discouraged job-seekers dropping out of the labour force. By definition, an unemployed person is an individual who is actively seeking employment. If a person gives up looking for work, they are no longer in the labour market, which reduces the unemployment rate.

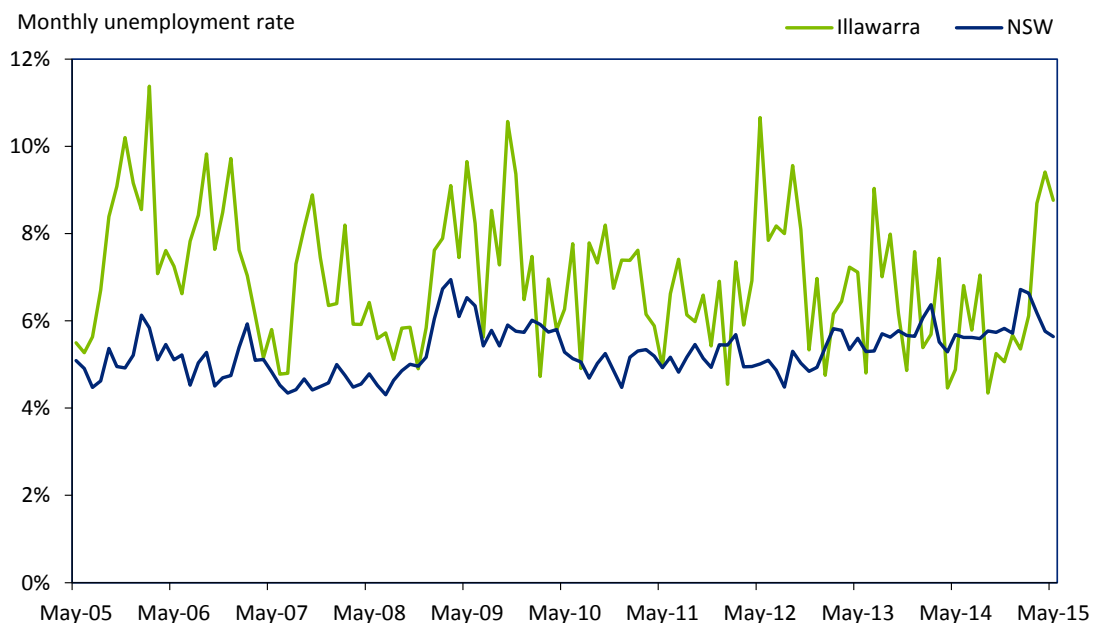
This trend could be attributed to manufacturers and miners who have recently lost their jobs, and whose skills are not immediately transferable to other sectors. The task of retraining and acquiring a new set of competencies is significant, and some of these individuals may have decided to leave the labour force.

The monthly unemployment rate in the Illawarra fluctuates more than that in NSW and Australia (see Chart 4.3), as regional economies are more susceptible to external shocks and more prone to the adverse impacts of slowing national economic growth (potentially attributable to lower economic diversification in regions and larger reductions in business confidence in times of economic turmoil).

In May 2014, the Illawarra’s unemployment rate was 4.9%, below the NSW rate of 5.7%. In April 2015, ABS labour force survey data recorded unemployment in the Illawarra at 9.4%, the highest rate since September 2012, and considerably above the NSW unemployment rate of 5.8%.

The recent unemployment rate of 9.4% has generated considerable media attention. As shown below, however, a spike of that magnitude is not uncommon, and is more reflective of the volatility in regional unemployment data than it is of underlying conditions in the Illawarra’s labour market.

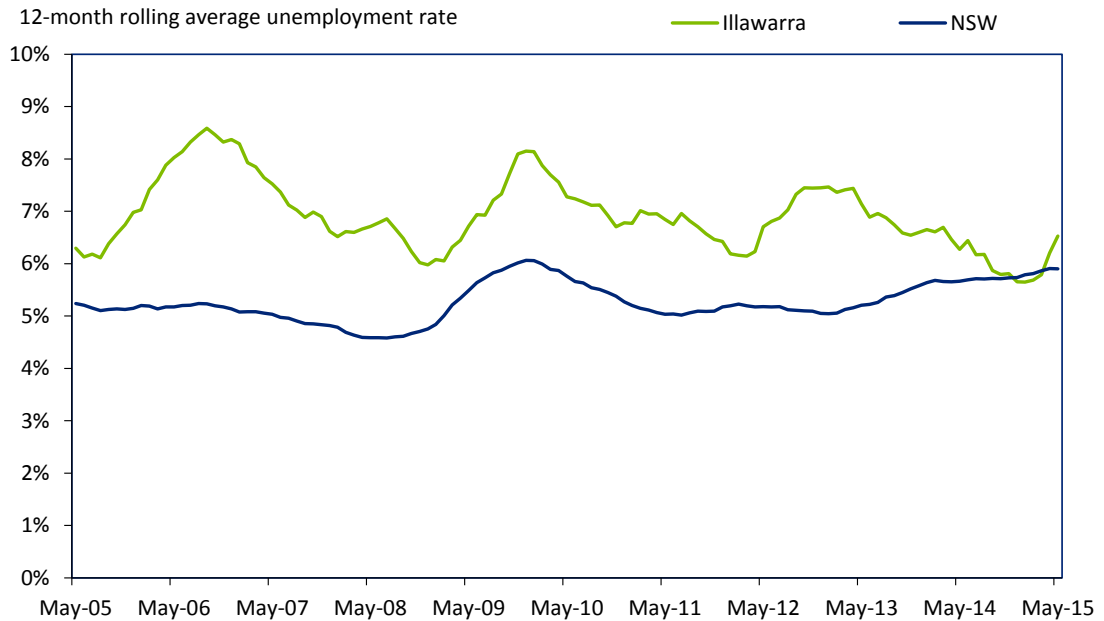
Chart 4.3: Monthly unemployment rate



Source: ABS 6291.0

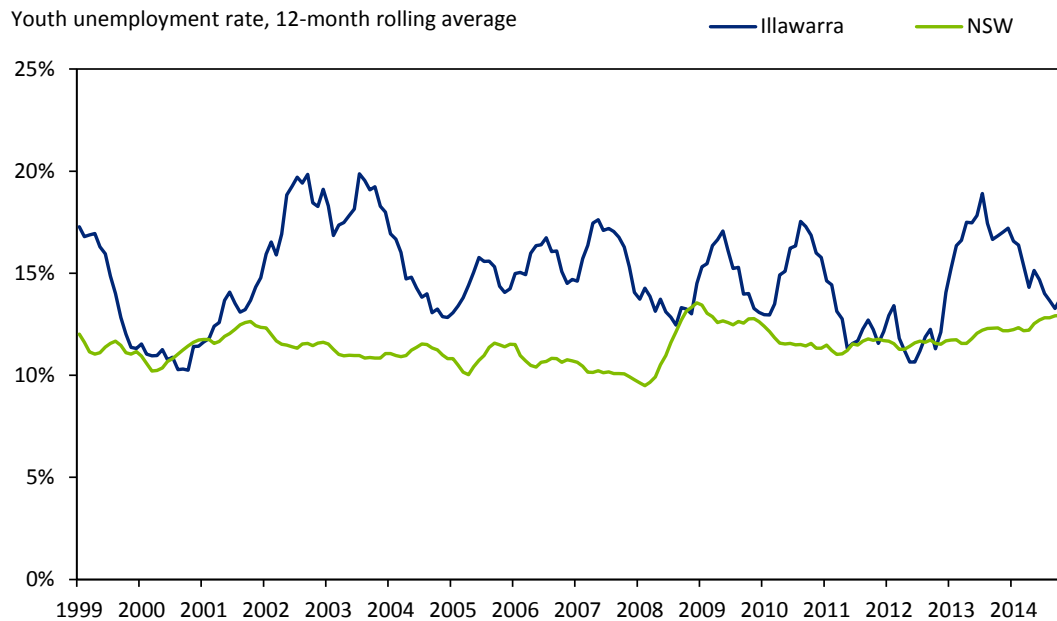
Indeed, when considering yearly averages, the unemployment rate in the year to February 2015 was 5.7% in Illawarra, just below the average 12-month unemployment rate in NSW of 5.8% (Chart 4.4). Despite jumping more recently, the annual trend data do not suggest the Illawarra’s current unemployment rate is significantly higher than long term averages.

Chart 4.4: 12-month average unemployment rate



Source: ABS 6291.0

While youth unemployment is higher in both the Illawarra and NSW than the total unemployment rate, youth unemployment in the region has improved noticeably in the past year (Chart 4.5). In March 2014, the youth unemployment rate stood at 22.5%, the highest monthly rate since prior to the global financial crisis. Since then, it has come down markedly, to be 13.2% in March 2015. That said, whether this reflects an improvement in labour market conditions or increased disengagement from the labour force, is not able to be ascertained from the official data.

Chart 4.5: Youth unemployment rate, 15-24 years old

Source: ABS 6291.0

The labour force participation rate in Sydney and NSW continues to outperform that in Illawarra (see Chart 4.6). Again, however, this difference is becoming less and less prevalent. Participation rates in Sydney and NSW have been historically higher, and relatively steady, averaging 66% and 63% since 2008 respectively.

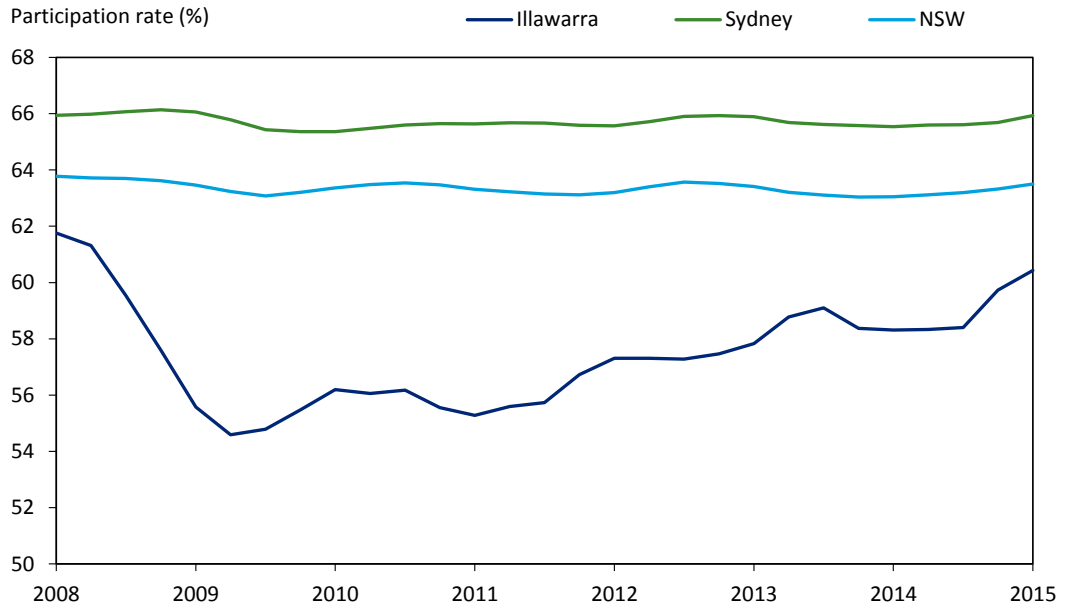
The Illawarra's participation rate, in contrast, has been lower and significantly more volatile, averaging 58% since 2008, but with comparably large fluctuations. In the past six months, the Illawarra's labour force participation rate has increased considerably, to 61.6% in July 2015⁵.

The participation rate includes only employed persons and individuals who are actively seeking employment. Therefore, a rising participation rate implies more people have found employment and/or more people are actively looking for jobs.

ABS labour force data do not provide details on the reasons for month by month movements – as noted above an apparent reduction in the unemployment rate for example may simply be a result of disenfranchised jobseekers leaving the labour market. That said, a simultaneous improvement in the unemployment rate and the participation rate increases the chances of those movements reflecting legitimate improvements in labour market conditions.

⁵ Australian Bureau of Statistics, 6291.0.55.001, Table 16

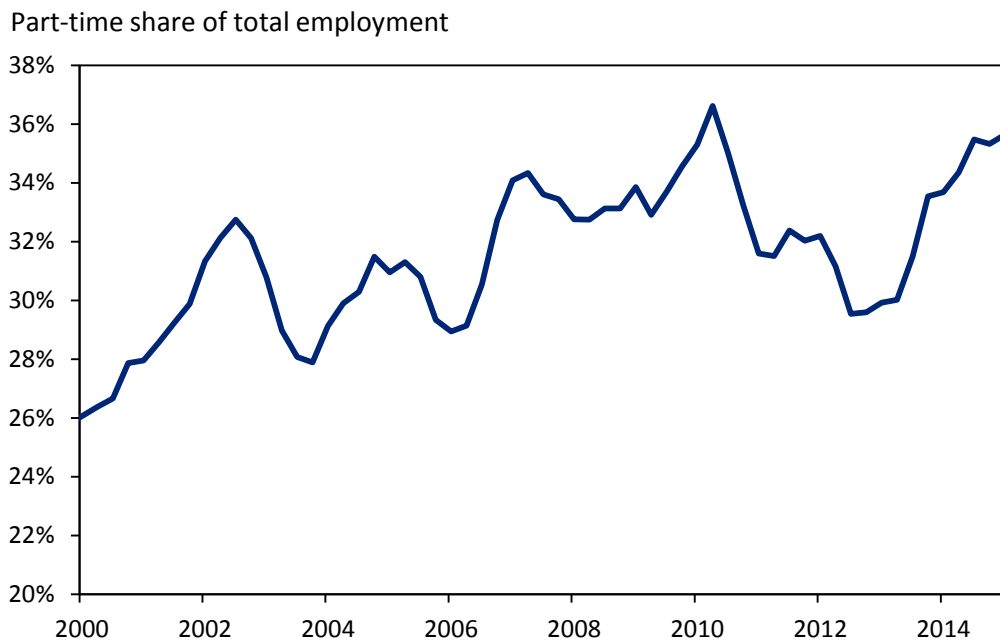
Chart 4.6: Labour force participation rate by region



Source: ABS 6291.0

The part time share of the Illawarra’s workforce has risen since 2013, which likely reflects faster growth in more part time oriented sectors. Overall, however, it is difficult to establish a clear trend in relation to part time/full time employment shares.

Chart 4.7: Part time share of employment, Illawarra region



Source: ABS 6291.0

4.2 Recent BlueScope Steel announcements

BlueScope's operations at Port Kembla encompass Australia's largest steel plant, with the capacity to produce 2.6 million tonnes of raw steel per annum. Ongoing decline in Australia's manufacturing competitiveness have led to recent speculation about the future of the plant.

On the 24th of August 2015, BlueScope announced that it needs to make \$200 million worth of savings from its Port Kembla operations by 2017, which will result in the loss of approximately 500 jobs. If it fails to make these cost reductions it says its only alternative will be to close the plant entirely and revert to imported steel. This shedding of 500 jobs has since been agreed to as part of a new enterprise agreement intended to ensure the plant's immediate future.

The significance of a potential BlueScope closure at any point in time should not be underestimated. The Illawarra's manufacturing sector in total employs around 11,000 people, implying close to 10% of the region's manufacturing workers may be set to lose their jobs in 2017.

Should BlueScope ultimately decide to close their plant in the future, the decision would not be uncommon given the challenging market conditions faced by the manufacturing sector – similar decisions have been taken in relation to car manufacturing in Adelaide and Geelong, for example. It is an unfortunate consequence of a transitioning economy that workers in manufacturing firms will face such layoffs.

Given this, the impetus for policy makers lies not in persuading companies, including BlueScope, to remain in the region, but rather in ensuring that workers affected by such shifts are afforded the required and adequate assistance to ease their transition into alternative employment. This is a challenging task, as a person who has worked permanently in the steelmaking industry will need to acquire new skills to gain employment in an alternative sector. However, such transitions are possible, and targeted assistance programs have been shown to work in other jurisdictions.

In 2011, BlueScope closed one of its blast furnaces, resulting in 1,000 job redundancies. Research conducted by the UOW found that within 6 months, 35% of these workers had found alternative employment, and within 18 months, around 50% were re-employed⁶.

There were two streams of support for the laid-off workers. Firstly, at the time, Australia was at the peak of the resources boom, and many of these workers were absorbed into the mining industry. Secondly, the Federal Government supported regional job growth and retraining through the Illawarra Regional Innovation and Investment Fund, an initiative worth \$30 million.

The upshot of any future BlueScope downsizing is twofold. First, it makes initiatives such as Transition Illawarra increasingly important to assist the Illawarra in managing this structural shift in the economy. Second, it should be recognised that manufacturing will remain an important employer in the region. With this in mind, possibilities in advanced manufacturing

⁶ <http://www.afr.com/business/does-australias-steel-industry-have-a-future-20150619-ghs0r7>

present considerable opportunities for the region. This is especially true given the region's high quality university, which is ideally positioned to take advantage of opportunities as and when they arise.

4.3 Skills demand

The potential skill set of the Illawarra region can be assessed by comparing projected growth in employment by certain occupations with the skill needs list at a State level, as published by the Federal Department of Employment.

First, it is useful to establish which occupations are likely to see the strongest employment growth in the Illawarra in the near term. Table 4.2 shows Deloitte Access Economics' most recent forecasts of occupational employment growth in the Illawarra on an annual average basis between 2014-15 and 2019-20.

The forecasts show that the strongest employment growth is expected to be in community and personal services workers, owing primarily to the region's continually expanding health sector. This is followed by sales workers, professionals and managers, attributed to the economy's structural transition away from blue collar professions towards an emphasis on white collar occupations.

Consistent with structural change in the economy, blue collar occupations such as machinery operators and drivers, technicians and trades workers and labourers, are expected to experience the slowest employment growth.

Table 4.2: Projected employment growth by occupation, 2014-15 to 2019-20

	Average annual employment growth, 2014-15 to 2019-20
Community and personal service workers	1.6%
Sales workers	1.1%
Professionals	0.8%
Managers	0.6%
Clerical and administrative workers	0.1%
Labourers	0.0%
Technicians and trades workers	-0.2%
Machinery operators and drivers	-0.9%
Total	0.4%

Source: Deloitte Access Economics, ABS 6291.0Place in order of magnitude above

The Department of Employment's latest release of the skills shortages currently experienced in NSW and its regions can be seen in Appendix D. Only four of the broader occupations are included (managers, professionals, technicians and trades workers and community and personal service workers), as these occupations are considered skilled labour.

The list identifies four specific jobs under the broad category of technicians and trades workers in which there is a skills shortage in the State's regional areas. Table 4.2 above showed that technicians and trades workers are forecast to be the second slowest growing occupation in terms of average annual employment growth in the Illawarra. Accordingly,

there is potential for retraining and qualification attainment in these areas to meet such shortages and improve employment growth.

The NSW skills shortage list also identifies recruitment difficulty in regional areas for hospital and retail pharmacists and physiotherapists. These professions are expected to be relatively fast growing in the Illawarra in the next five years, and employment in the health sector is projected to continue to expand in the coming years, meaning the Illawarra may be well placed to service these shortages.

4.4 Supply chain efficiency

Supply chain disruptions are inevitable, yet can have huge impacts on business operations and company profitability. Supply chain management and efficiency, therefore, is vital for organisational success. According to a study by FM Global, financial executives around the globe ranked supply chain risk as the greatest potential disrupter to revenue. As such, identifying and addressing supply chain 'pinch points' or 'pressure points' is essential.

Deloitte Access Economics' 2013 report outlined supply chain linkages for two growth sectors in the Illawarra – professional services and health care and social assistance. These industries are dependent on suppliers of inputs, and disturbances in the supplying industries could lead to bottlenecks or 'pinch points' in the supply chain.

Table 4.3 presents average employment growth in the key industries (health care, social assistance and professional services), and their associated suppliers. As an example, the delivery of health care is dependent on the industries in which the suppliers operate in (such as manufacturing), and as such, growth in health care is constrained somewhat by growth in the manufacturing sector.

Health care is a thriving industry – since 2010-11, employment growth in health care in NSW has averaged 2.8%. Over the same period however, employment growth in pharmaceutical manufacturing averaged -1.9%. This presents a potential source of disruption to the supply of goods to the health care sector, especially considering pharmaceutical manufacturing accounts for almost 40% of inputs to the delivery of health care services. Additionally, one-off disturbances in supplying industries (say a strike by manufacturing workers), could lead to 'pinch points' in the supply chain.

As another example, the delivery of residential and aged care relies on food and beverage services, which constitutes around 17% of all immediate inputs. While employment growth in social assistance services has averaged 5.7% since 2010-11, indicating strength in the sector, average employment growth in food and beverage services has reached only 1.1%, presenting potential concerns surrounding supply chain effectiveness.

This is particularly important given Australia's ageing population, which will continue to induce growth in demand for social assistance services – if the rate of growth in employment in food and beverage services remains below that in social assistance, potential supply chain pinch points could be problematic.

Table 4.3: Employment growth, key industries and suppliers

	Approximate share of input ⁷	Average employment growth, NSW, 2010-11 to 2014-15
Health Care and Social Assistance		2.8%
Pharmaceutical Manufacturing	38%	-1.9%
Other Repair and Maintenance	15%	6.5%
Medical and Other Health Care Services	14%	3.1%
Social Assistance Services		5.7%
Residential Care Services	26%	0.9%
Other Repair and Maintenance	25%	6.5%
Food and Beverage Services	17%	1.1%
Professional, Scientific and Technical Services		2.0%
Property Operators and Real Estate Services	47%	4.0%
Automotive Repair and Maintenance	7%	0.6%

Source: ABS 6291.0, 5290.0 Sectors are 3 digit ANZSIC industries

In terms of other industries, in April 2014, Dr Lee Styger from Sydney Business School delivered a presentation to members of apicsAU (the Society for Supply Chain Professionals) at Port Kembla on the importance of efficient and effective integration of supply chains, with a specific focus on the Illawarra.

Dr Styger identified five requirements for a thriving supply chain – innovation, knowledge, a skilled workforce, resources and collaboration. The discussion provided in this report as well as the 2013 report, and the progress made to date on progressing the Transition Illawarra initiative, indicate that the Illawarra region is either well-endowed with, or has strong potential in, each of these five requirements.

Intra and inter-industry linkages and alliances are central to the success of supply chain management, and also to the general growth, development and diversification of the Illawarra's economy.

4.5 The impact of clustering

One means of addressing the lack of collaboration noted above is to develop organisational networks that promote a strong business environment. The Illawarra has several organisational 'clusters' that work together to discuss a range of strategies intended to support the region's future economic growth and development.

⁷ Taken from the 2013 report, Chapter 6

For instance, in May 2015, the Southern Manufacturing Innovation Group was established, the purpose of which was to provide an avenue for open communication and collaboration between the Illawarra's manufacturers and researchers from the UOW.

The group allows for a two-way flow of both concerns and innovative ideas between researchers and companies, in the hope of addressing some of the challenges facing the manufacturing industry, and also embracing some of the opportunities that face the industry.

Another example is the Illawarra Innovative Industry Network (i3net), comprising manufacturing and engineering companies and industrial suppliers. This group provides a platform for information sharing, workshops and training, networking and tendering opportunities, alliance formation and joint marketing projects. The cluster was formed in 2005 in response to the ongoing decline of manufacturing and the continued threats posed by international competition.

4.6 Regional procurement

There has recently been an increased interest in regional procurement – a holistic approach to Government tendering. Regional procurement offers a collaborative solution to contracting, by bringing together industries and local councils, allowing for increased efficiency in administrative areas when organising contracts and services. The Illawarra region could potentially benefit from such programs.

A recent Deloitte Access Economics report found that the economic impacts of inefficient procurement practises are substantial, and that some elements of current government procurement policy and practice are inefficient, adding unnecessarily to the cost of infrastructure.⁸

Specific problems identified with current procurement practices were estimated to increase the cost to government by around \$239 million each year. The Deloitte Access Economics report suggested a number of steps to shift the direction of procurement practices, including:

- Establishing procurement teams with a better mix of skills
- Reallocating resources to better focus on project objectives
- Removing contract causes that inefficiently allocate risk (such as contracting out of proportionate liability)
- Developing and applying limited liability guidelines.

Regional bodies such as RDAI face additional procurement challenges, including:

- Funding – bodies such as RDAI generally have far smaller operating budgets than larger State or Federal organisations
- Capacity – regional areas often struggle to attract the requisite skills to the region when considering procurement

⁸ <http://www.consultaustralia.com.au/docs/default-source/infrastructure/better-procurement/dae---consult-australia-final-report-050215---96-pages.pdf>

- Networks – potential networking opportunities where procurement managers can establish useful contacts, and keep abreast of recent developments in best practices, are often severely limited in regional areas
- Governance – regional bodies often lack the sophistication of processes that State and national counterparts often have, meaning sometimes procurement decisions can be made more difficult.

The upshot is that the cost impact of in-efficient procurement practices is likely to be magnified at a regional level owing to regional specific disadvantages such as those noted above.

In this regard, initiatives such as the Hunter Regional Procurement Toolkit can be of importance to regional economies. The Toolkit was created to allow local small and medium size enterprises to diversify and develop increased resilience against the challenges presented by structural changes in the local, national and global economies. The Toolkit provides the businesses with information regarding recognising and embracing new opportunities, designed to stimulate regional job creation.

RDAI is currently producing a similar toolkit for the Illawarra region, which is expected to harness all of the benefits of the Hunter example. The Illawarra Toolkit will be available in early 2016 and will help businesses to better understand the process of tendering for particular suppliers and increase their expertise accordingly.

5 Sector specific changes

The Illawarra's major industries include education, mining, construction, health, retail, manufacturing, professional services and tourism. These sectors are discussed below as they present key opportunities for the region moving forward. They also epitomise the broader changes to the economy since 2013 as outlined in Chapter 2.

5.1 Health

Health care is currently the largest employing industry in the region. This trend is expected to grow stronger in the coming years. Health sector employment in the Illawarra grew on average by 9% a year between 2009-10 and 2014-15, making it the second strongest sector. As noted in the 2013 report, an ageing population in the region will underpin an increasing growth trajectory in health care sector employment in the coming years.

In many regional economies, the local hospital is the largest employer. While the Illawarra has a number of other sizeable employers (the UOW and Port of Port Kembla, for example), the region's ageing population profile means its dependence on the Wollongong Hospital and other health care facilities such as the Ramsay Private Hospital and the two centres of excellence in the region is expected to increase. At the same time though, the region's other assets provide it with a unique opportunity to diversity its industry base.

Specifically, a key competitive advantage for the Illawarra lies in the strength of education and manufacturing; the region should continue to leverage this and encourage inter and intra-industry collaboration. Effective interaction between the health sector and the education and manufacturing sectors is likely to provide considerable opportunities for the region going forward.

For example, an opportunity may lie in the development of an advanced manufacturing capacity, focused on medicinal products. The presence of Port Kembla and the UOW, which already has a strong technological focus, to further make this a possibility.

In relation to education, as noted in the 2013 report, the UOW introduced a medical school in 2007, and a key opportunity for the region lies in its potential to generate a pool of 'home grown' doctors and nurses. A distinguishing feature of many regional hospitals is the fact that a majority of medical staff are 'imported' from other regions. Doctors are assigned to a regional hospital for, say, two to three year rotations. While this brings benefits to the local regional economy in the short term (contributions to the rental, retail and service markets, for example), it also means the potential to capture vast quantities of doctors' and their family's overall lifetime spending is limited.

Between 2011 and 2013 enrolment in the University's health faculty grew by 30%, more than three times the growth in overall student enrolments (8%). During this period, the health faculty's share of total enrolment grew from 10% to over 12%.

In relation to manufacturing, the UOW provides the region with a potential to enhance its focus on advanced manufacturing technologies. A potential industry diversification opportunity might exist for the Illawarra to establish itself as a producer of medical

technologies, utilising the region’s existing manufacturing base, its strong innovation capabilities (through the UOW’s Innovation Campus), and its growing health sector.

5.2 Education

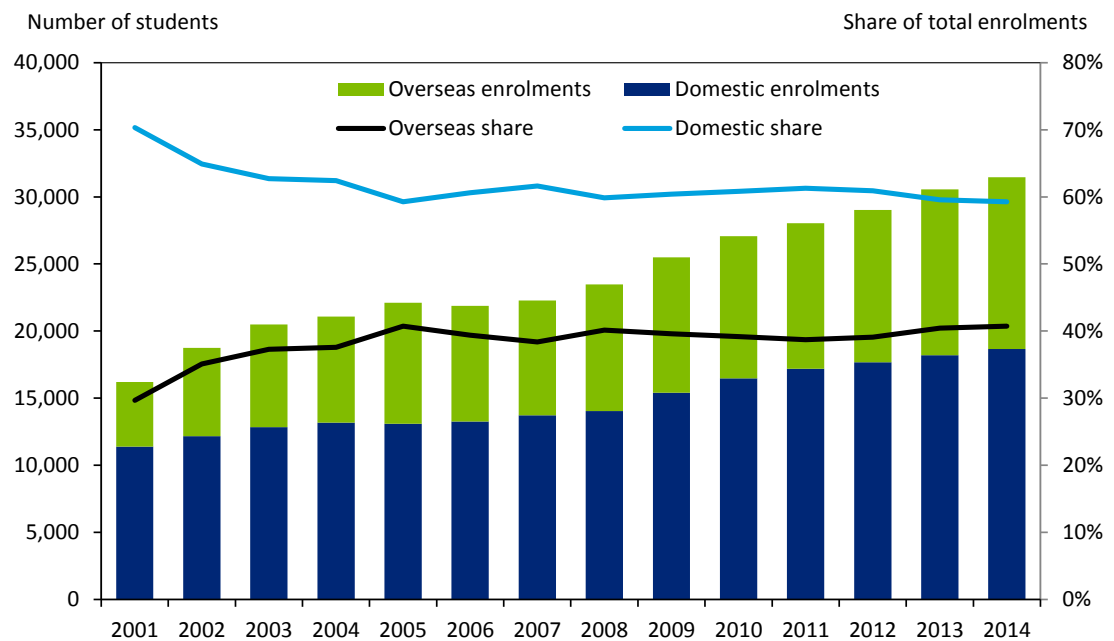
As of May 2015, education is the second largest employing industry in the Illawarra. In addition to a range of public and private primary and high schools, the region is also home to a number of vocational education providers, such as Illawarra TAFE and a variety of Registered Training Organisations (RTOs), and of course the University of Wollongong (UOW).

The UOW is one of the Illawarra’s most important economic institutions. It is renowned for its research and development expertise, its world-class innovation facility and its strong international links, and is ranked in the world’s top 2% of universities.

The University’s economic influence on the region, both directly and indirectly, is significant – higher taxes paid by graduates, improved productivity for the region’s workforce as a result of technological innovations, as well as direct employment (the University employs over 2,000 staff, meaning more than one in ten people in the Illawarra’s education sector work at UOW).

In 2014, the UOW had around 31,400 student enrolments, the equivalent of around 11% of the region’s population (see Chart 5.1). In 2014, almost 41% of the University’s enrolments were overseas students, up from 40% in 2013 and 30% in 2001.

Chart 5.1: University of Wollongong enrolments



Source: Department of Education and Training, University of Wollongong

In the early half of last decade, international students grew from 30% to 40% of total UOW enrolments, but this has since plateaued (Chart 5.1). While both domestic and overseas

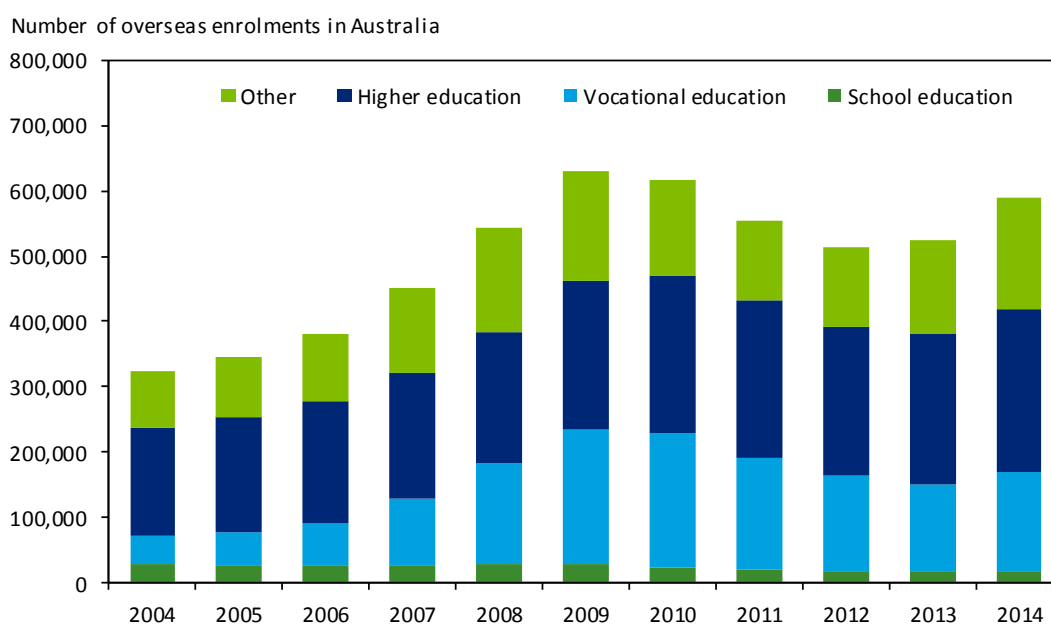
enrolments continue to increase, the ratio of domestic to international students has remained steady.

The UOW's dependence on overseas student enrolments is easily the highest in the State (the next highest is the University of Technology in Sydney with a 27% overseas share) and is amongst the highest in the nation. NSW had 85,500 international enrolments in the year to December 2014, and the UOW had 12,811, making the UOW account of nearly 22% of the State's total overseas students.

This provides an avenue through which the Illawarra region is more susceptible than other regions to volatile economic circumstances. International education is driven by economic factors (exchange rates and interest rates for instance) as well as other factors, including government policy (visa arrangements for instance) and consumer perception (attacks on Indian students in Melbourne in 2009 led to a downturn in overseas enrolments).

In late 2010, the Australian dollar rose above parity against the USD for the first time since it floated in 1983. For the most part, it remained above parity until it plunged in early-2013. This has affected international student enrolments in Australia, as can be seen in Chart 5.2.

Chart 5.2: International student enrolments in Australia



Source: Department of Education and Training

5.3 Mining

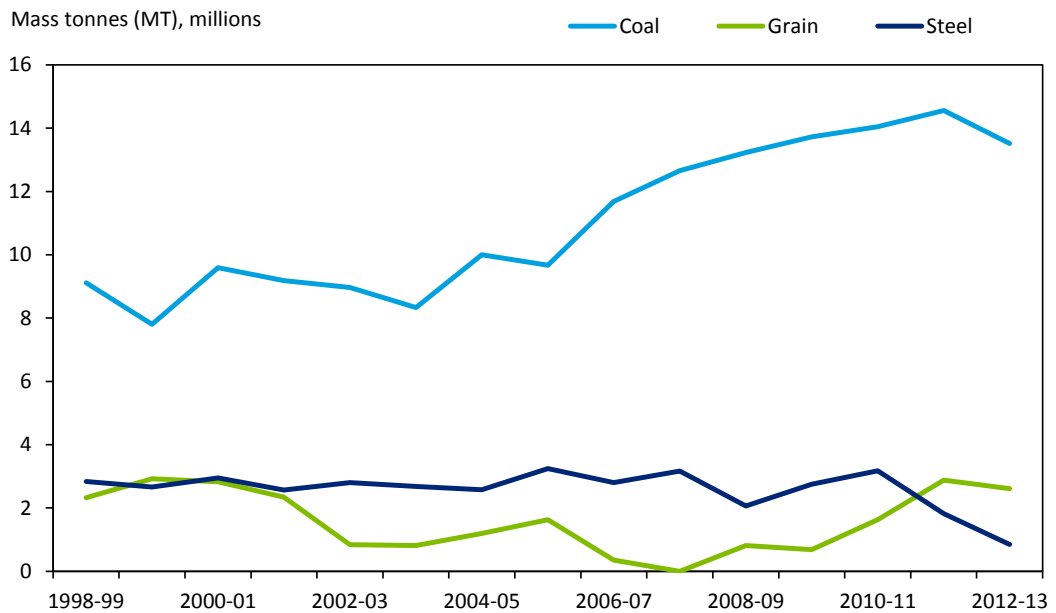
Although not a strong contributor to the region's employment base, mining is the Illawarra's fifth largest industry in terms of economic output. Mining's importance to the region is also magnified through its importance to Port Kembla. The major commodity traded through Port Kembla is coal, followed by steel, grain and motor vehicles. As Chart 5.3 shows, coal

exports out of Port Kembla have declined recently, and are expected to follow this downward trajectory should challenging market conditions prevail. Coal exports fell over 7% in the year to 2012-13, down from a peak of 14.5 million tonnes in 2011-12. Port Kembla’s steel exports have also dropped, falling by more than 70% since 2010-11.

Coal exports through Port Kembla, the Illawarra’s main linkage with the Chinese economy, fell approximately 7% between 2011-12 and 2012-13. Chinese coal imports are expected to remain fairly stagnant over the coming years. A number of new coal mines are confirmed in the Queensland and northern NSW coal markets. This, in conjunction with the recent expansion of the Port of Newcastle’s coal handling facilities, means a diversification of the Port’s trade flows will become increasingly important in coming years

Overall, the outlook for mining is little changed from the 2013 report. Notably, that report commented that ‘while current coal prices still remain well above historic averages, there is some uncertainty surrounding the coal price outlook going forward, with increasing coal supply coming on board across Australia and globally’ (2013 Transition Illawarra report, page 16). In a nutshell, that price decline has now occurred, and while mining will continue to support the economy in the near term, its long term sustainability is far from certain.

Chart 5.3: Exports, Port Kembla



Source: Ports Australia

5.4 Construction

The construction sector is one of the Illawarra’s key industries, accounting for close to 10% of the workforce. The construction sector includes engineering construction, residential building and non-residential building. Each component is driven by a varied set of economic conditions. Engineering construction activity, for example, has historically been affected largely by the resources boom, while building activity is linked to changes in interest rates.

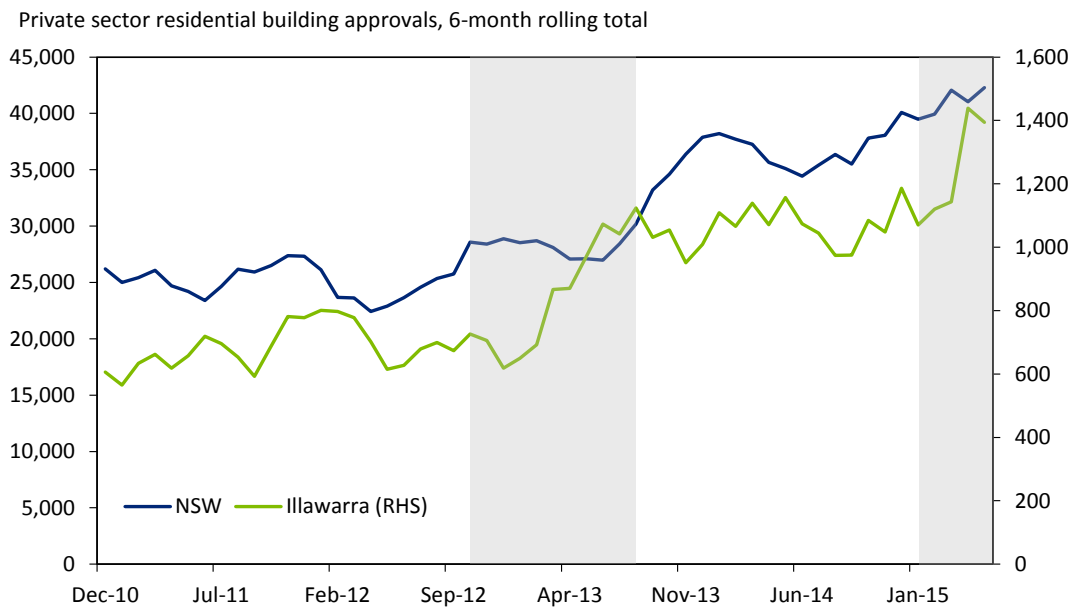
Low interest rates have stimulated strength in dwelling commencements for residential properties. Chart 5.4 shows the upward movement in residential building approvals in both the Illawarra and NSW since late 2012, driven, in part, by record low interest rates.

This is particularly clear in the ten months between October 2012 and August 2013 (the larger shaded grey area in Chart 5.4), during which time the RBA cut interest rates four times, leading to a huge spike in private residential building approvals in the Illawarra. This trend is much stronger for the Illawarra than NSW, although building approvals jump in NSW with around a nine month lag.

The negative correlation between building approvals and interest rates is also clear in the first months of 2015 (the smaller shaded grey area in Chart 5.4), during which time the RBA lowered interest rates twice, contributing to a large boost in the Illawarra’s dwelling approvals. Again, this trend is more apparent in the Illawarra than in the State.

The strength in building approvals directly drives higher construction activity. These upward trends in dwelling approvals suggest housing construction will generate a healthy amount of activity in the Illawarra in the foreseeable future. However, this may begin to slow when the RBA begins to lift interest rates again.

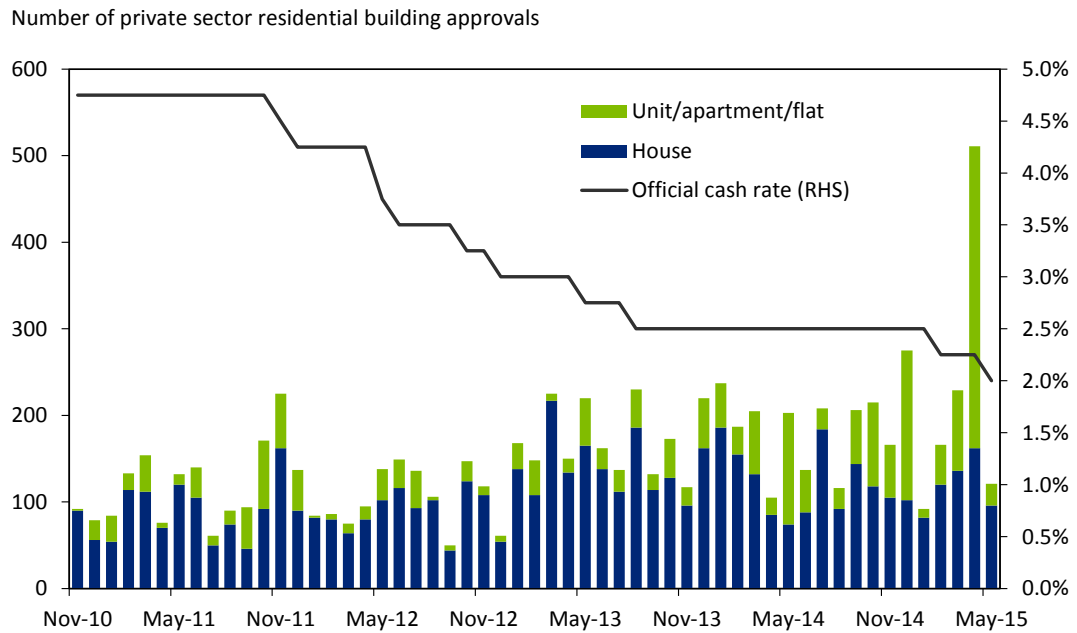
Chart 5.4: Private sector residential building approvals



Source: ABS 8731.0

The relationship between increased homebuilding and cheap credit is also depicted in Chart 5.5. This chart shows the number of approvals for private residential houses each month, compared to other dwelling types, including units, apartments and flats.

Chart 5.5: Number of private sector residential buildings approved in Illawarra



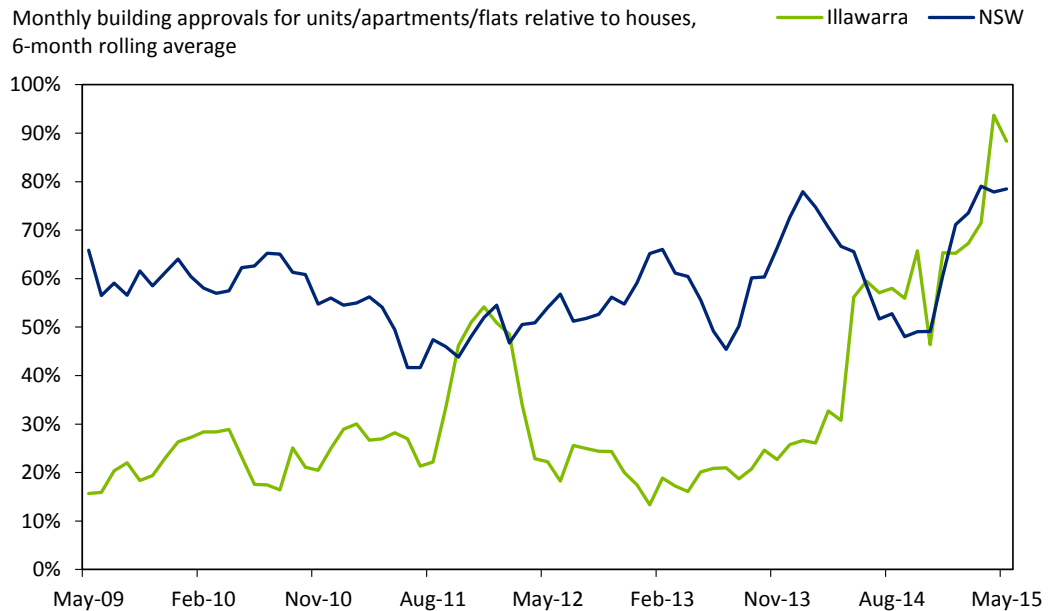
Source: ABS 8731.0, Reserve Bank of Australia

One clear trend is the growing share of units, apartments and flats relative to houses over the past two years, as shown in Chart 5.6. This could be indicative of a number of factors. The first is that as house prices continue to rise, the demand for units, a substitute, increases accordingly.

Perhaps more importantly, however, the ratio can be used as a proxy for the degree of urbanisation. By this measure, urbanisation in the Illawarra began to rapidly increase towards the end of 2013, and in fact is now tracking slightly above the corresponding measure for NSW as a whole.

For a region with a focus on revamping its image from that of a manufacturing heartland to that of a prosperous, diverse and resilient economy, the apparent upturn in urbanisation shown in Chart 5.6 demonstrates positive progress. The higher density of apartments relative to houses means there are more people per square kilometre. In turn, this drives increased retail activity in urban areas and surrounds – more shops, cafes, bars and services.

As a result, the more people that live in the city centre, the more attractive office space in the city will become, leading to higher private and public sector investment into infrastructure.

Chart 5.6: Ratio of other residential building approvals to houses

5.5 Retail

In 2014, retailers nationally experienced the strongest year in terms of sales growth since the global financial crisis, owing in part to the low interest rate environment. Retailing constitutes a considerable portion of the Illawarra's workforce, with almost one in ten workers employed in the retail industry in 2014-15.

Despite low interest rates bolstering retail activity nationally, however, employment in the Illawarra's retail sector has declined as a share of the total workforce, reflecting structural challenges facing the industry.

The retail sector is navigating its way through the continually evolving and intricate online arena that has transformed the way the industry operates. The explosion in online shopping has proven paramount. According to the NAB Online Retail Sales Index, year to growth in online sales averaged 20-30% between 2010 and 2012, up to ten times the growth of traditional brick-and-mortar retail sales. While this has since slowed, in the year to May 2015, annual growth in online retail sales reached 9%, still more than double that of traditional retailers.

Going forward, Australia's retailers will continue to be placed under increasing pressure to adjust and adapt their offerings to maintain market share and profitability. Retailers in the Illawarra region are no exception. The competition presented by both overseas and domestic online retailers is likely to weigh on future retail activity. Whether the imposition of GST on online sales from 2017 will affect the retail market is also yet to be seen.⁹

⁹ <http://jbh.ministers.treasury.gov.au/media-release/075-2015/>

Despite low interest rates, consumer confidence in the Illawarra region and nationally has been wavering since mid-2013. The Illawarra Consumer Sentiment Index fell to 75.0 in the final quarter of 2014, down from 81.0 in the December quarter of 2013, and 13 pts below the long term average for a December quarter (88.0)¹⁰.

Furthermore, relying on cheap credit getting even cheaper is not a viable basis for a healthy rate of retail spending, and imbalances continue to build in Australia's housing market. Therefore, given the somewhat unsustainable nature of the current support for retail activity, coupled with the ongoing challenges presented by online retail offerings and weak consumer confidence, it is expected retail sales will drop back towards a slower growth rate by the end of 2015.

5.6 Manufacturing

Manufacturing is also an important contributor to the Illawarra's economic activity, and the region's sixth largest employing sector. Given the demise of Australia's manufacturing industry over the past three decades, however, the future of the Illawarra's manufacturing industry and its workers remains uncertain.

International competition from emerging countries continues to compromise the profitability of Australia's manufacturers, despite the partial offsets provided by the weaker dollar. Accordingly, local manufacturing companies remain under increasing pressure to pursue large scale cost cutting activities.

These structural pressures are not new, and they are expected to persist in the coming decades. Employment in the Illawarra's manufacturing sector has remained in decline in the two years since the 2013 report, and will likely continue to do so over the coming years.

As noted above, while employment in 'traditional' manufacturing activities is expected to continue to waver, there are ample opportunities for the region to address this structural adjustment in its economy by increasing its focus on advanced manufacturing. The Illawarra has some notable competitive advantages compared to other regions, namely an international Port and a world renowned research institution with strong technological capabilities.

Significant opportunities lie in the Illawarra's ability to move its manufacturing sector away from the labour and raw materials intensive steel making towards capital intensive and technologically advanced manufactures. It is crucial that collaboration, and initiatives such as the i3net and Southern Manufacturing Innovation Group (discussed in Section 4.5), continue to be central to the establishment and development of an advanced manufacturing specialisation in the region.

¹⁰ IRIS Research, Media Release, Consumer Confidence remains low despite improved debt position

5.7 Professional services

Professional services are currently not a major industry within the Illawarra, accounting for 6% of overall employment, compared to 9% of NSW employment. Therefore, compared to NSW, the Illawarra's professional services sector is relatively under-represented.

That said, professional services is an industry with considerable opportunities looking forward, as the transition to a services based economy becomes more complete. Indeed, the Illawarra professional services sector's share of State totals has been growing, and behind education and health, professional services created more jobs than any other industry in the period since the 2013 report.

A range of indicators suggest that the strong growth potential noted in the 2013 report for the professional services sector has gained momentum. There are a number of high level drivers of professional services in the region:

- The ongoing structural change from blue collar to white collar jobs will continue to see professional services grow in the region;
- The presence of the UOW, combined with the Innovation Campus, provide a ready stream of qualified graduates;
- The apparent increase in the urbanisation of the region (as measured by the ratio of apartment approvals to detached house approvals) will help to drive a more vibrant city centre, which, in turn, will facilitate increased commercial activity;
- Significant house price appreciation in Sydney will make 'fringe' areas, such as the Illawarra, increasingly attractive for Sydney-siders to relocate and for the Illawarra's graduates to remain in the region rather than moving elsewhere upon completion of their studies;
- A range of infrastructure upgrades in recent years has improved the connectivity between the Illawarra region and Sydney's CBD.

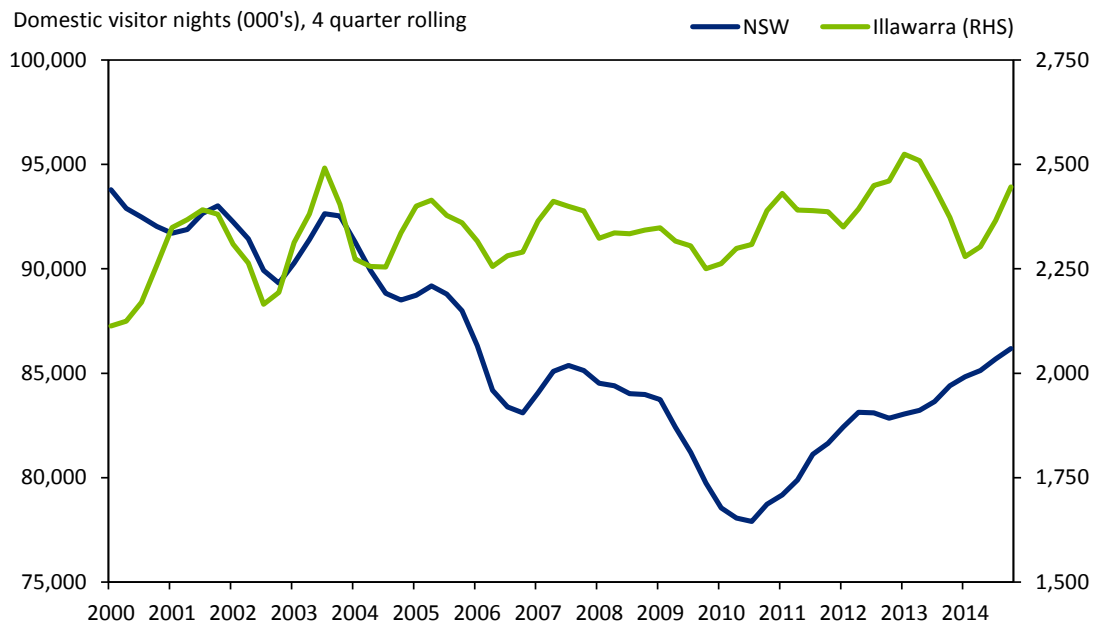
The Illawarra needs to focus on retaining the younger generation upon completion of their secondary and tertiary education. Expanding job opportunities, especially in service sectors, will allow the University's graduates to enter the labour force in the Illawarra rather than commuting to Sydney.

It is noteworthy that strong progress has already been made on enhancing the professional services opportunities in the region – programs such as Advantage Wollongong and the NEC lease at the Innovation Campus are examples of this. In general however, despite its potential, a lack of clarity exists around the specific opportunities within professional services, raising the prospect of a targeted, industry specific development strategy.

5.8 Tourism

Hospitality is the fifth largest employing industry in the Illawarra. That said, tourism, which is largely driven by hospitality, is not a large industry sector, accounting for an estimated 3.5% of the region’s economy¹¹. Indeed, domestic and international visitation to the Illawarra has remained fairly stagnant in trend terms of the past decade (see Chart 5.7 and Chart 5.8), whereas NSW visitor numbers have grown strongly in recent years.

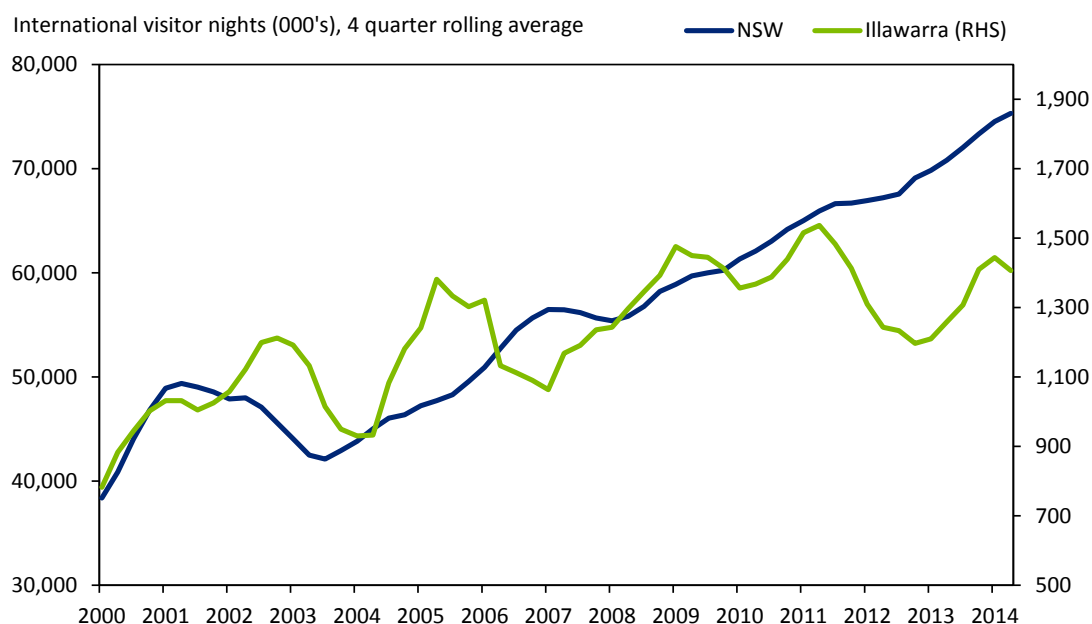
Chart 5.7: Domestic visitor nights, Illawarra and NSW



Source: Tourism Research Australia

This is especially true when compared to NSW – domestic visitation to the State has been on the rise since late-2010, and international visitation has followed an upward trajectory since late-2003. This has occurred despite the climbing value of the Australian dollar during much of that time (and a stronger Australian dollar makes holidays for overseas visitors increasingly expensive).

¹¹ <http://www.economicprofile.com.au/wollongong/tourism/value-added>

Chart 5.8: International visitor nights, Illawarra and NSW

Source: Tourism Research Australia

The Illawarra's international tourism sector appears to be more susceptible to swings in the Australian dollar. Overseas visitor nights to the Illawarra plummeted in early 2012 (see Chart 5.8), at a time when the AUD traded above the USD. International visitation to the Illawarra picked up again in late 2013, when the value of the Australian dollar was much lower.

Until 2013-14, the majority of domestic visits to the Illawarra were for a holiday (see Chart 5.8). In the 12 months to June 2014, however, the VFR (visiting friends and relative) markets became the major driver of domestic tourism in the Illawarra, now constituting close to 50% of all visitor nights. The total spend in the region by domestic overnight visitors grew by a very strong 31.4% in the year to March 2015, the highest overall growth rate in NSW.

The Illawarra could spur higher domestic visitation and reinvigorate the holiday portion of visits through cooperation between tourism operators (such as collaborative marketing strategies), focusing on the attractiveness of the region as a beach side destination, and leveraging its affordability and increasing accessibility. Initiatives such as the Tourism Collaboration Group and Destination Wollongong are positive developments in this regard.

The successful lobbying by Destination Wollongong for a 2500 passenger cruise ship to make Port Kembla a regular stop on its itinerary from October 2016 has hit the news recently and by some reports has already led to more inquiries from competing cruise liners.¹² This has the potential to generate a recognised brand for tourism in the Illawarra which in turn will help to stimulate further tourism activity.

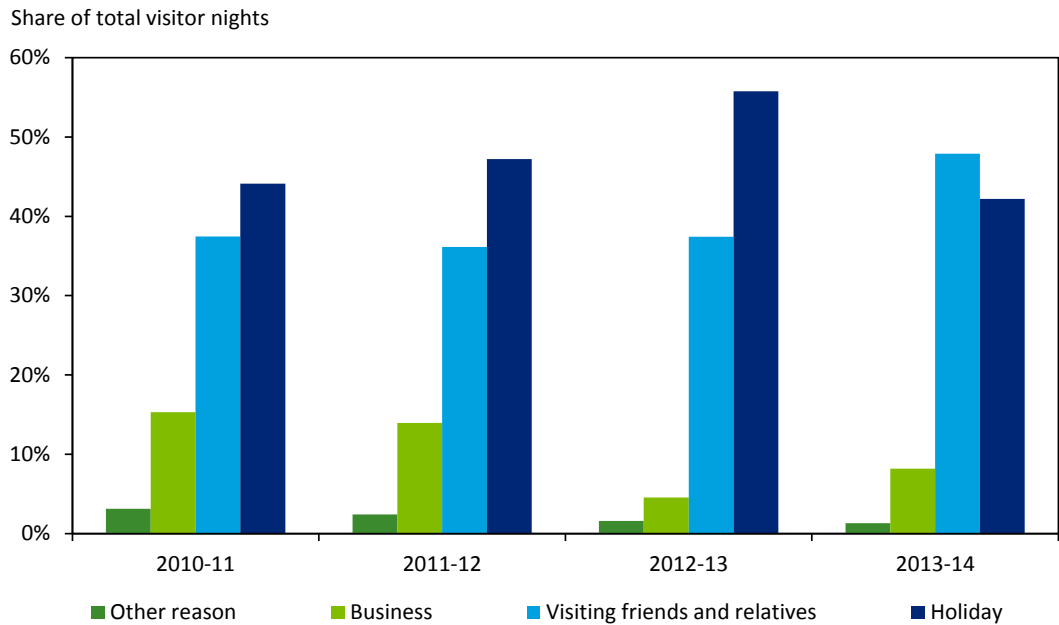
International tourism in the Illawarra is chiefly driven by education, as shown in Chart 5.10, however this share has been declining recently, from almost 65% of all visits in 2010-11 to

¹² <http://www.illawarramercury.com.au/story/3328717/when-our-ship-comes-in/>

45% in 2013-14. Again, the Illawarra has the potential to improve international visitation, especially for holidays, through collaboration between tourism operators and the creation of joint visitor packages and options, for example.

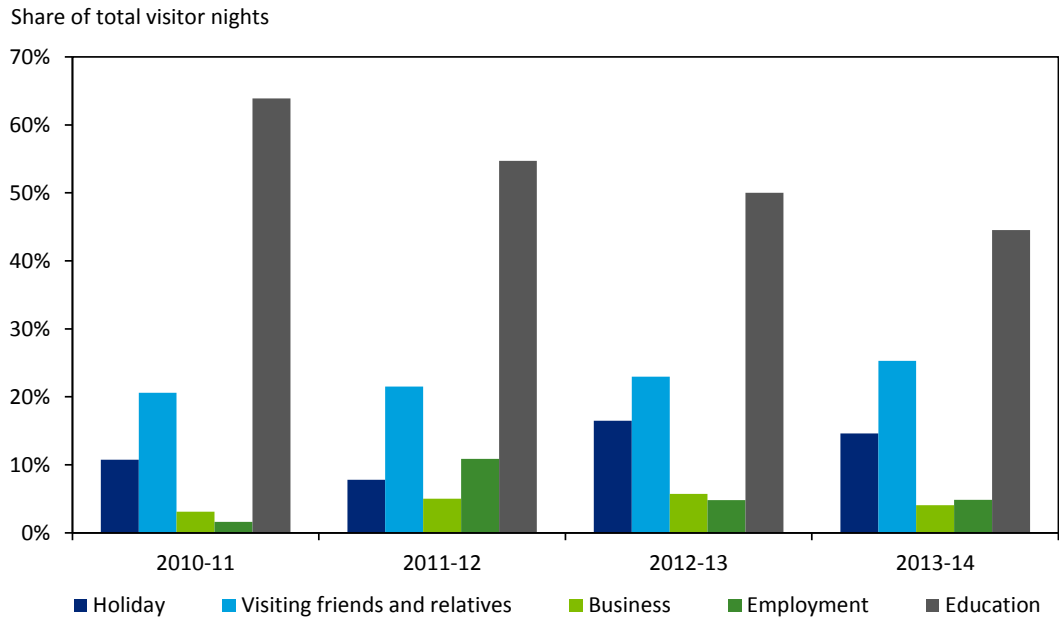
As noted in the 2013 report, the main barrier to tourism in the Illawarra appears to be a lack of infrastructure. While it is not currently a significant driver of the regional economy, there remains considerable potential for the Illawarra region to capture a larger share of NSW tourist numbers.

Chart 5.9: Reason for visit, Illawarra, domestic tourists



Source: Tourism Research Australia

Chart 5.10: Reason for visit, Illawarra, overseas tourists



6 Infrastructure spending

This chapter discusses investment in regional economic growth and development in the Illawarra through infrastructure expenditure. First, it examines public infrastructure spending, including the NSW Government's Restart NSW and Rebuilding NSW initiatives. It then discusses private infrastructure spending, chiefly private investment into expanding and revitalising Wollongong city.

6.1 Public infrastructure spending

6.1.1 Restart NSW

In May 2013, the NSW Government agreed to the long term leasing of Port Kembla and Port Botany to the NSW Ports consortium. The State Government declared more than \$4 billion of the funds raised would be directed towards investment in NSW infrastructure. The proceeds would form part of a broader program, Restart NSW, established in 2011, focusing on funding high priority future infrastructure projects.

Of the total proceeds from the privatisation of Port Kembla, \$270 million was dedicated to supporting economic development in the Illawarra. Of this, \$170 million was allocated to upgrading the Princes Highway and \$100 million comprised the Restart NSW Illawarra Infrastructure Fund, an initiative to invest in future economic growth of the Illawarra.

The Restart NSW Illawarra Infrastructure Fund has provided funding for 12 infrastructure projects in the region (see Table 6.1). The projects are joint-funded, with a combined value totalling \$190 million, and are expected to generate substantial employment in the Illawarra. That said, it should be noted that some of these 12 projects are outside the Illawarra region as defined in this report.

Since then, many of the infrastructure projects remain in the design phase and are yet to begin construction. As at May 2015, only around \$12 million had already been spent on the projects, just over 10% of the total fund in two years. However, this is expected to accelerate with many of the projects recently advancing to the construction stage.

One of the largest projects is Warrigal's Aged Care Facility at Shell Cove. The project will inject \$43.3 million into the regional economy, as well as create 366 temporary jobs during the construction phase. The first stage of construction is expected to commence this August, with completion in early-2017. The economy is anticipated to benefit a further \$165 million with 128 direct care jobs to be created permanently upon completion.

The third largest funded project is iAccelerate at the Innovation Campus. The three-story iAccelerate Centre began construction in April last year, and is expected to be completed in April 2016. iAccelerate is designed to foster creative thinking to drive innovative business concepts and turn these ideas into start-up companies. The new building will allow more high-tech entrepreneurs to develop their business ideas, with room for 280 entrepreneurs and 500 staff.

The project to receive the largest amount of funding was the West Dapto Access Strategy, intended to reduce congestion in the area by providing an alternative access route to West Dapto. This will allow an additional 17,000 new homes to be built. New residential developments at West Dapto are expected to house a significant portion of Wollongong's population growth in the near future. In turn, these new residents will require services that are expected to underpin development of new infrastructure going forward.

Table 6.1: Projects being funded by the Restart NSW Illawarra Infrastructure Fund

Project	Description	Total value	Funding	Jobs created
Kiama hospital site	Integrated aged and health care services	\$39.2 million	\$8 million	69 new ongoing, 194 temporary construction
Warrigal Care	128 bed aged care facility	\$37.8 million	\$17 million	128 direct, 65 indirect, 366 jobs during construction
Early intervention family support centre	For children with a disability	\$2.9 million	\$1.43 million	50 ongoing, 30 temporary construction
*South Nowra	Upgrade of Flinders road	\$1.45 million	\$1.05 million	Capacity to grow to 20,000 jobs
*Mittagong	Assisted accommodation for the disabled	\$1.3 million	\$0.9 million	4 ongoing, plus construction
*Bowral town centre		\$12.5 million	\$7.5 million	30 ongoing, 105 construction
Bulli Hospital	Centre of Excellence for Aged Care	\$16.8 million	\$14.4 million	40 – 60 new jobs, plus construction
iAccelerate	University of Wollongong	\$40 million	\$16.5 million	500 direct, 1,000 indirect, 75 construction
Kanahooka	Care and community centre for aged with intellectual disability	\$3.9 million	\$2.9 million	5 during construction, 3 ongoing operational jobs
West Dapto Access Strategy	Road link	\$45.4 million	\$22.5 million	51 ongoing jobs, 44 construction
Bald Hills Improvement project		\$5.8 million	\$2.9 million	94 ongoing, 7 construction (for both the Bald Hills Improvement project and the Royal National Park, below)
Royal National	Grand Pacific	\$5.75 million	\$5.0 million	

Project	Description	Total value	Funding	Jobs created
Park to Lake Illawarra	Walk Stage 1			

Source: Infrastructure New South Wales * denotes not in region as here defined.

6.1.2 Rebuilding NSW

The Rebuilding NSW plan was announced by the NSW Government in June 2014, a \$20 billion investment in the State's infrastructure. Rebuilding NSW is mainly a result of the partial long-term lease of NSW's publically owned electricity network, as well as the Commonwealth's asset recycling incentive scheme.

The leasing of 49% of NSW's poles and wires (legislated in June 2015) will unlock financial capital to be reinvested into other new and productive infrastructure assets the State requires (roads, schools, hospitals, water infrastructure, sporting and cultural facilities).

The Illawarra region will benefit from the program. For example, the Albion Park Rail bypass was allocated \$3 million of funding from the NSW Government's 2015-16 Budget as part of Rebuilding NSW. The planning and design phase of the M1 Princes Motorway extension (which will bypass Albion Park Rail) is currently in progress, to be approved in 2016, with construction expected to commence in early-2019. An Environmental Impact Statement on the extension will be available by the end of 2015, outlining the potential effects of the bypass, including the environmental, social and economic impacts.

There has been a significant effort by RDAI to achieve regional collaboration and agreement on the priorities, which as noted in RDAI's submission to Rebuilding NSW were faster rail, faster road links and the Maldon to Dombarton rail link.

As part of Rebuilding NSW, the \$1 billion Regional Growth Roads program will direct funds towards four regional areas, including the Illawarra. Part of this will include plans for improvements of Port Kembla's freight rail, inquiry into improved rail journeys between the Illawarra and Sydney Central, and review of the F6 and A6 corridors to improve timeliness of the drive to Sydney.

Greater connectivity to Sydney will serve to enhance the benefits, both actual and potential, that the region's proximity to Sydney generates (see Section 3.5).

6.2 Private infrastructure spending

6.2.1 Investment into expanding and revitalising Wollongong City

As the Illawarra transitions from traditional manufacturing and coal production and exportation to other drivers of growth, including knowledge and digital services, the City of Wollongong continues to see expansion and revitalisation. Investment in the city's infrastructure and amenities is important for both supporting and stimulating population growth.

Wollongong, the regional capital of the Illawarra, is known as the City of Innovation (driven by the reputation of the UOW). Wollongong is central to the economic prosperity of the Illawarra, with an estimated Gross Regional Product (GRP) of around \$11.4 billion, accounting for over 60% of the Illawarra's total GRP (\$18.1 billion)¹³.

To meet increased demand for services and centrally located accommodation, Wollongong is undergoing a series of urban developments and refurbishments. Over \$700 million of private sector investment in Wollongong is underway or has been completed in the past year (see Table 6.2).

The importance of expanding this urban centre to foster population growth, business innovation and inter and intra-industry collaboration in the Illawarra should not be understated. The Illawarra will be increasingly dependent on Wollongong as the region's economic growth engine, especially given the structural shift away from traditional industries to knowledge-based services.

In order to promote continued private sector investment in the city to facilitate economic growth and development, the Advantage Wollongong Investor Prospectus, an information guide for prospective investors, was developed and launched in May 2014. More broadly, the Advantage Wollongong partnership between Wollongong City Council, NSW Trade and Investment and the UOW, combined with Wollongong City Councils' Economics Development Strategy, represent considerable work that has been undertaken toward the consistent goal of economic development and diversification.

The Prospectus was designed to attract new investors and to encourage existing investors to expand business activities in the region. It outlines the Illawarra's office and industrial market opportunities, and the comparative advantage of the Illawarra relative to other areas.

¹³ <http://www.economicprofile.com.au/wollongong/Economy/Gross-Regional-Product>

Table 6.2: New private sector developments in Wollongong city

Development	Value	
GPT's West Keira shopping development – Wollongong Central shopping complex	\$200 million	18,000sqm expansion including 650 car parks and 80 new stores
Wollongong Private Hospital	\$120 million	Including 150 bed and 4000sqm of medical suites
The Vantage Apartments	\$38 million	14- story mixed-use development (two levels of commercial space and 135 apartments)
The Esplanade	\$68 million	Luxury residential complex (ground floor retail space and 34 apartments)
Crown Street Mall refurbishment	\$20 million	

Source: Wollongong Investor Prospectus

The expansion of GPT's Wollongong Central shopping complex last year was expected to create 800 full time retail jobs. Perhaps more importantly however, the investment by shopping mall giant GPT led to renewed business confidence. Indeed, the development has been branded a 'catalyst project'¹⁴ as it has since encouraged other sizeable investments in the city. A large investment by GPT is seen as a symbol of optimism about the region's future, invoking increased confidence and investment by medium and smaller businesses, and leading to momentum in the city's infrastructure development.

A number of other projects are currently being reviewed, which are expected to push total investment over \$1 billion in the coming years. Notably, the recently approved development of Regency Towers will include a \$66 million hotel and apartment block with four levels of office space. This building will be the largest development between Sydney and Melbourne, and a huge catalyst in itself for further large-scale buildings in the city.

The potential economic impact of these developments is considerable. To the extent that new residents are attracted to the region, these residents will require facilities, including health care, education and shops, driving higher employment, which in turn will drive higher household spending and increased employment.

A greater preference for accommodation that is in close proximity to retail precincts, restaurants and services has driven the recent popularity of units and flats compared to traditional houses (discussed in Section 5.4). This will continue to underpin a rise in the construction of residential apartment blocks in Wollongong city centre.

An increasingly urbanised Wollongong is amongst the most promising aspects for the Illawarra's near term outlook, as it could stimulate growth in all sectors of the economy.

¹⁴ <http://features.fairfaxregional.com.au/keirast/content/chapter5.html>

7 Future outlook

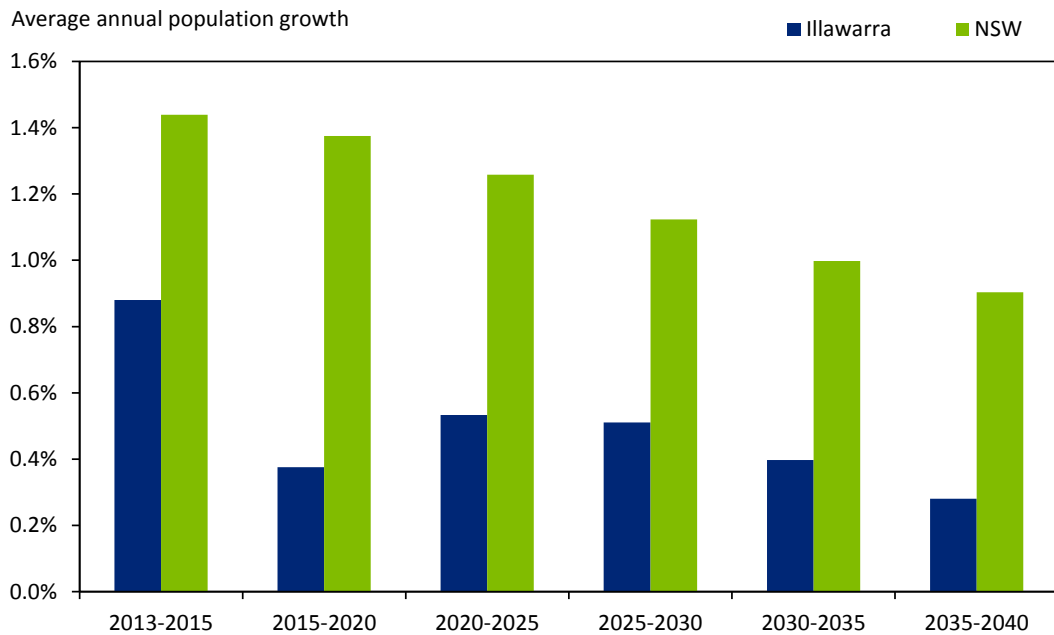
This chapter provides an update of Deloitte Access Economics’ population and industry employment forecasts for the Illawarra.

There have been no changes to the small area demographic and labour market forecasting methodology since the 2013 report was prepared, except to account for the changes in geographic definitions issued by the ABS, which are now based on the Australian Standard Geographical Classification. As a result, the forecasts presented in this chapter are based on the new geographical definitions. The newly-defined SA4 region of Illawarra closely aligns to the geography captured by the three LGAs assessed in the 2013 report.

7.1 Population projections

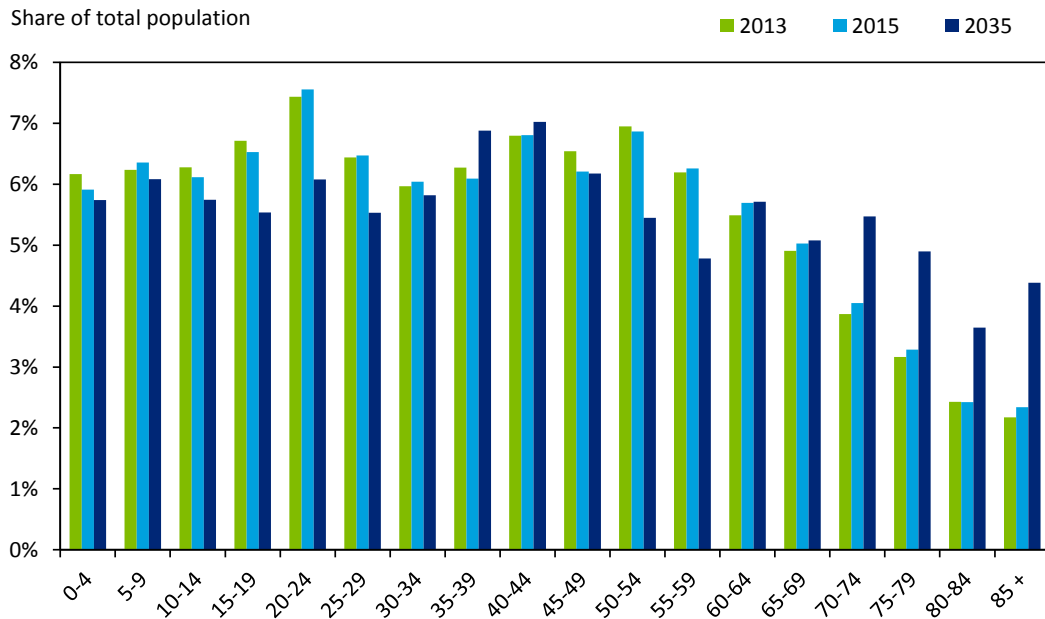
Deloitte Access Economics’ base forecasts continue to see population growth in the Illawarra lagging behind the State total.

Chart 7.1: Projected five-year population growth rates



Source: Deloitte Access Economics, ABS 3218.0

Chart 7.2: Projected population shares by age



Source: Deloitte Access Economics, ABS 3218.0

7.2 Labour force projections

This section provides Deloitte Access Economics’ employment projections by occupation and industry (see Table 7.1 and Table 7.2). Appendix C presents the most recent employment forecasts by industry compared to the 2013 forecasts. As a whole, projections for total employment are very similar to the 2013 forecasts (Chart C.20). However, changing economic circumstances and fundamentals discussed in the preceding chapters have brought about changes in industry specific forecasts (see Table 7.2 and Appendix C).

It is worth noting that regional labour force data published by the ABS are subject to a high margin of error due to small sample size. The most recent observations have been noted as particularly volatile at a regional level. For instance, the ABS data show that employment in the Illawarra’s manufacturing sector fell by 1,275 workers in the June quarter of 2015. While the sector is indeed in decline, it is highly unlikely that almost 1,300 workers lost their jobs in the space of three months.

Therefore, the generation of forecasts involves a gradual reversion to what is deemed a reasonable level of employment in the coming years. As a result, industry level growth rates may appear abnormally high or low, however this is driven by a mean reversion from an abnormally high or low historical data point.

Table 7.1: Projected employment by occupation, Illawarra

	2014-15	2019-20
Professionals	29,289	30,421
Technicians and Trades Workers	21,580	21,368
Clerical and Administrative Workers	17,476	17,576
Community and Personal Service Workers	15,673	16,928
Labourers	13,682	13,651
Managers	13,180	13,548
Sales Workers	11,694	12,364
Machinery Operators And Drivers	9,896	9,437
Total	132,470	135,293

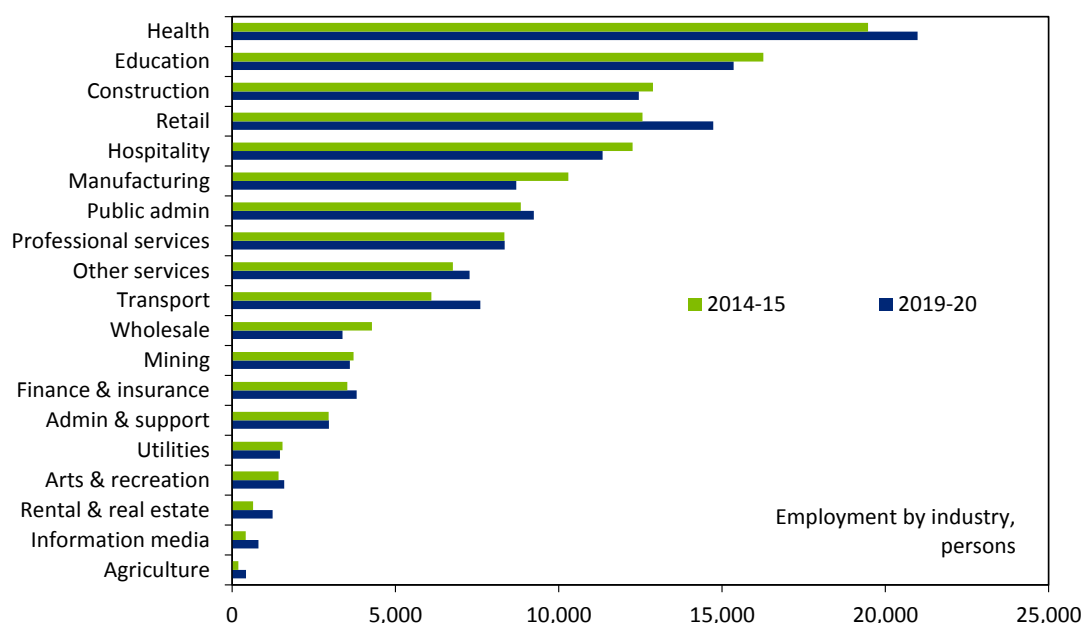
Source: Deloitte Access Economics, ABS 6291.0

Table 7.2: Projected employment by industry, Illawarra

	2014-15	2019-20
Health	19,471	20,983
Education	16,267	15,357
Construction	12,886	12,447
Retail	12,565	14,726
Hospitality	12,257	11,346
Manufacturing	10,292	8,696
Public admin	8,836	9,240
Professional services	8,332	8,340
Other services	6,758	7,267
Transport	6,098	7,602
Wholesale	4,281	3,375
Mining	3,717	3,603
Finance & insurance	3,529	3,816
Admin & support	2,958	2,960
Utilities	1,545	1,464
Arts & recreation	1,425	1,595
Rental & real estate	644	1,241
Information media	416	807
Agriculture	193	428
Total	132,470	135,293

Source: Deloitte Access Economics, ABS 6291.0

Chart 7.3: Employment by industry projections, Illawarra



Source: Deloitte Access Economics, ABS 6291.0

Table 7.3: Projected employment shares by industry, Illawarra

	2014-15	2019-20
Health	14.7%	15.5%
Education	12.3%	11.4%
Construction	9.7%	9.2%
Retail	9.5%	10.9%
Hospitality	9.3%	8.4%
Manufacturing	7.8%	6.4%
Public admin	6.7%	6.8%
Professional services	6.3%	6.2%
Other services	5.1%	5.4%
Transport	4.6%	5.6%
Wholesale	3.2%	2.5%
Mining	2.8%	2.7%
Finance and insurance	2.7%	2.8%
Admin and support	2.2%	2.2%
Utilities	1.2%	1.1%
Arts & recreation	1.1%	1.2%
Rental & real estate	0.5%	0.9%
Information media	0.3%	0.6%
Agriculture	0.1%	0.3%
Total	100.0%	100.0%

Source: Deloitte Access Economics, ABS 6291.0

8 Conclusion

This report has outlined key changes to the economic environment since Deloitte Access Economics' *Transition Illawarra* report was published in 2013. It provides an analysis of the potential impact of these changes on the Illawarra's ongoing economic development and transition from a reliance on manufacturing and other blue collar industries, to a knowledge-based, digital-based and service-based economy.

Since 2013, low interest rates have stimulated retail spending and boosted homebuilding and construction activity; depreciation of the Australian dollar has supported trade-exposed industries including manufacturing, mining, tourism and education; and declining commodity prices have compromised the profitability of coal production.

The 2013 report identified five drivers of economic growth in the Illawarra. This report provides an update on these drivers two years on:

- **The rise of Asia:** While growth in China is slowing, other emerging economies are expected to underpin demand for Australia's exports going forward. Although lower construction and investment in China has weakened demand for the Illawarra's coking coal exports, China's transition to a consumption-led growth model is likely to stimulate increasing demand for the Illawarra's tourism and education.
- **Ageing population:** The nation's ageing population will continue to induce growth in the Illawarra's health care and social assistance services, and the region has the potential to position itself as an attractive and affordable retirement location to lift interstate migration, thereby improving population growth and economic activity.
- **Technological change:** Ongoing collaboration between the UOW and manufacturing bodies to progress advanced manufacturing has the potential to facilitate the diversification, sustainability and reinvigoration of the Illawarra's manufacturing industry. The rollout of the National Broadband Network to the Illawarra has gained momentum, which will support progressive technological change in the region.
- **Business/industrial development:** The decline of manufacturing and mining activities in the Illawarra is increasingly being offset by growth in service sectors, including health, education and professional services. A heightened rate of urbanisation seen in past two years, coupled with other large-scale infrastructure investments to promote Wollongong City's development and revitalisation, will continue to drive demand for the region's services going forward.
- **Growth of Sydney:** The region's relative attractiveness has improved given the strength in house price growth in Sydney. Along with ongoing investment in faster car and train travel between the Illawarra and Sydney, comparative housing affordability could drive population growth and stimulate economic activity going forward.

Where new data were available, this report has also provided a statistical update to various sections of the 2013 report. There have been considerable improvements in the Illawarra's labour market since 2013, including a reduction in the unemployment rate, higher labour force participation, and an average rate of employment growth double that seen in NSW and Australia.

Considerable progress has been made since the 2013 report in progressing the Transition Illawarra initiative. Goals and specific action items have been identified against the main focus areas of transport, health and ageing, business development, workforce development, housing and tourism.

The changes facing the Illawarra region are vast, and continued collaboration at all levels of government – Local, State and Federal – as well as with the Illawarra community more broadly, will be essential in ensuring that the Illawarra region is able to successfully transition itself away from a dependency on manufacturing and successfully harness some of the specific industry opportunities identified in this report.

Appendix A: Regional definition

The newly-defined Statistical Area 4 (SA4) region of Illawarra closely aligns to the geography captured by the three Local Government Areas (LGAs) assessed in the 2013 report (see Table A.1). The Illawarra SA4 is the region assessed in this report.

Table A.1: Regional concordance

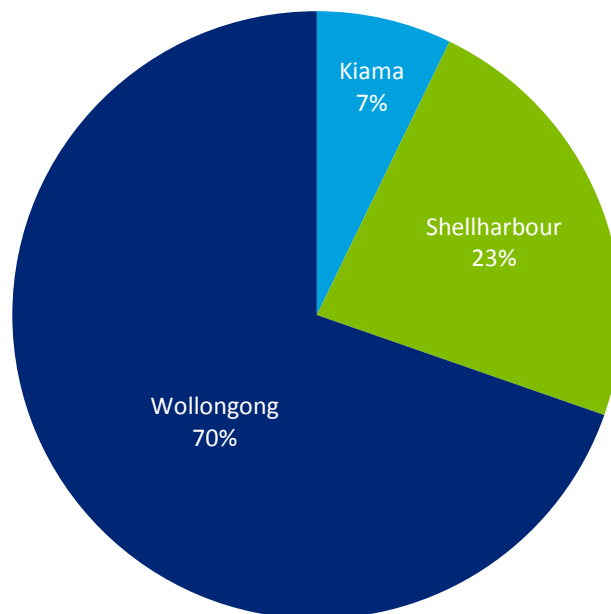
Local Government Area (LGA)	Statistical Area Level (SA4)	Proportion of LGA population in SA4
Kiama	Illawarra	99.7%
Kiama	Southern Highlands and Shoalhaven	0.3%
Shellharbour	Illawarra	100.0%
Wollongong	Illawarra	100.0%
Wollondilly	Illawarra	0.1%
Wollondilly	Sydney – Outer South West	88.2%
Wollondilly	Sydney – Outer West and Blue Mountains	11.7%

Note: Shaded rows include the area covered in this report.

Appendix B: Statistical Update

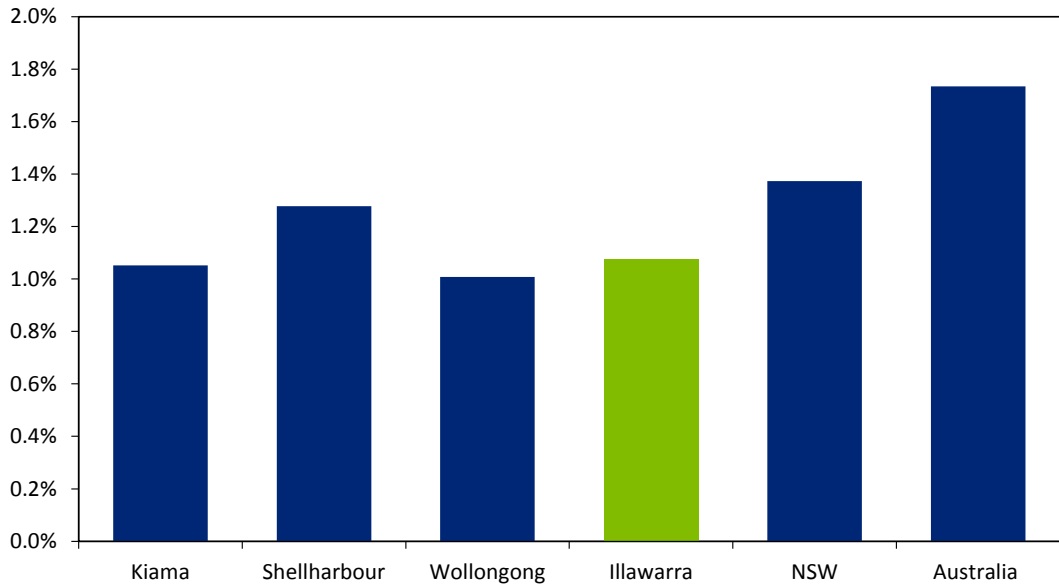
This section provides a statistical update of the charts in the 2013 report for which new data has become available.

Chart B.1: Population by LGA, 2013-14



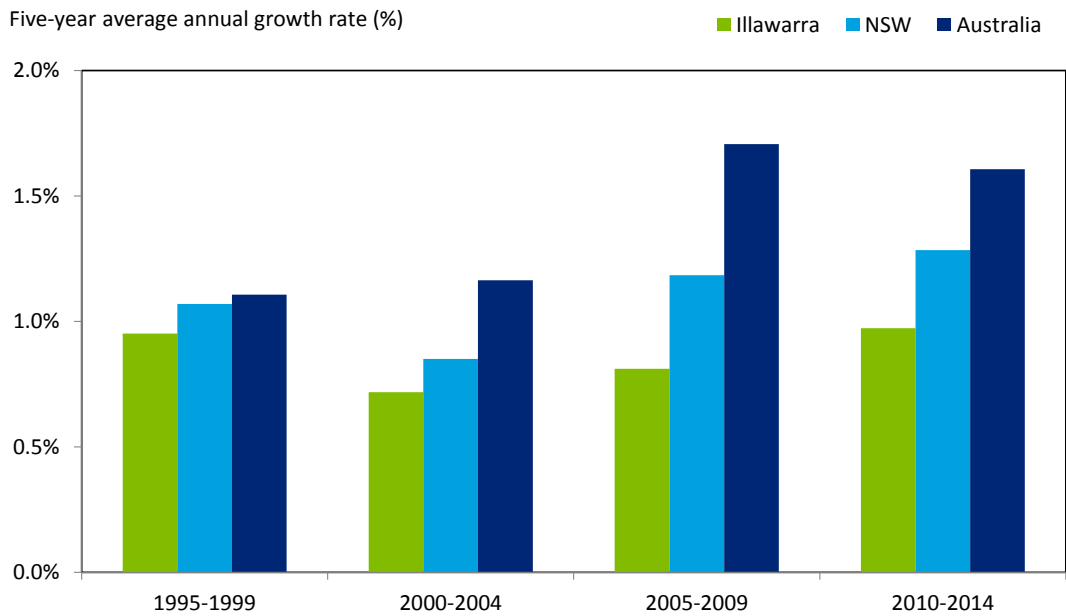
Source: ABS 3218.0

Chart B.2: Population growth by region, 2006-07 to 2013-14



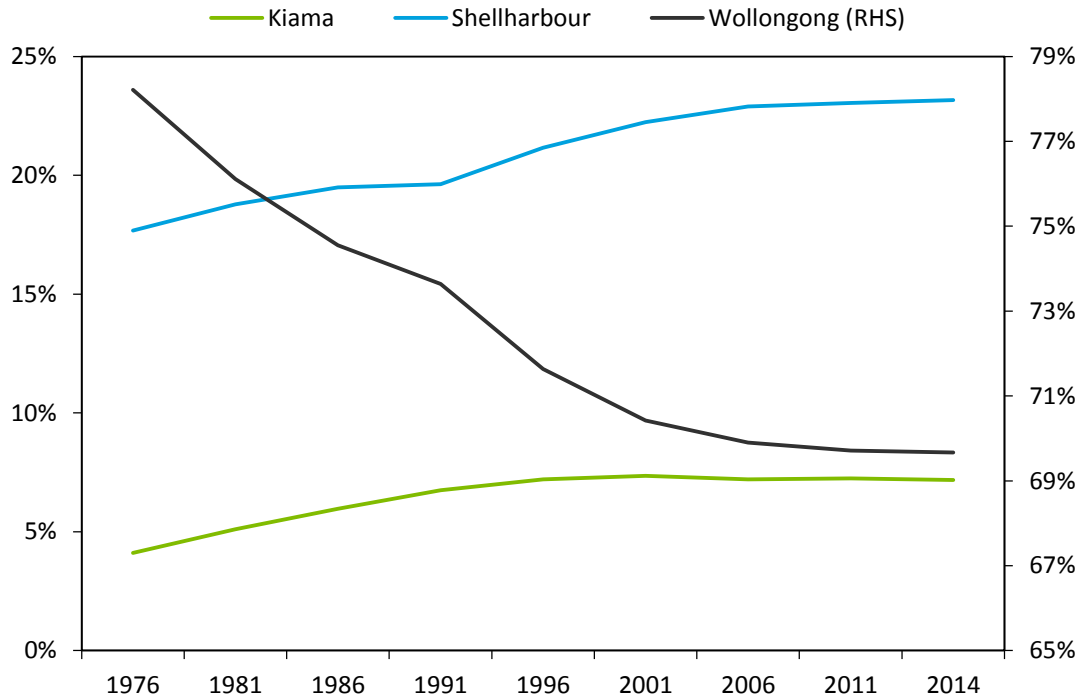
Source: ABS 3101.0, 3218.0

Chart B.3: Five-year average annual population growth rates



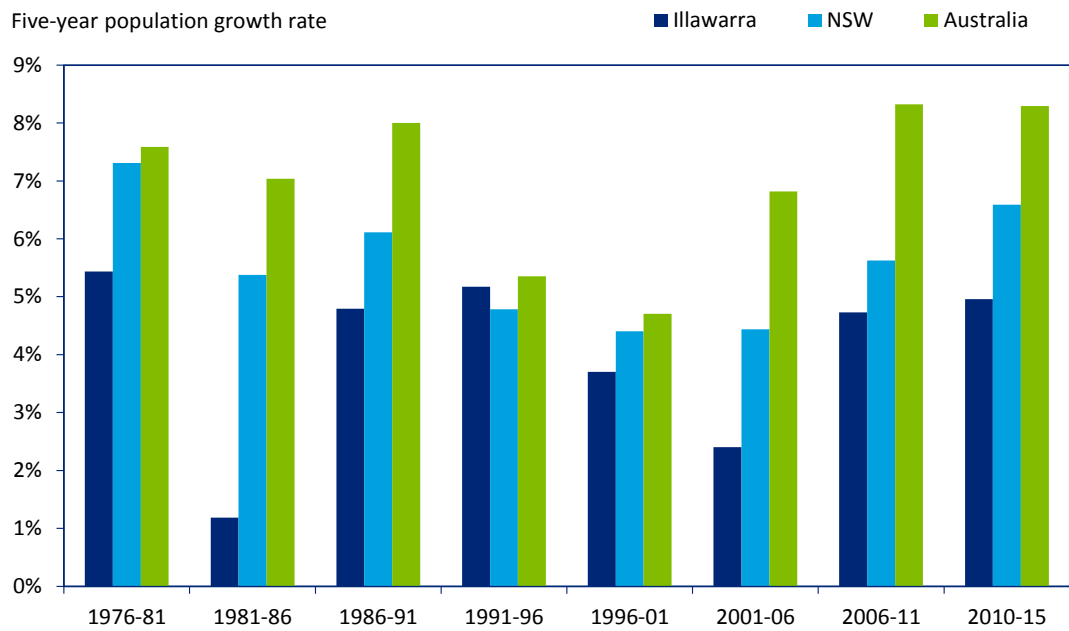
Source: ABS 3218.0

Chart B.4: Shares of Illawarra population, 1976 – 2014



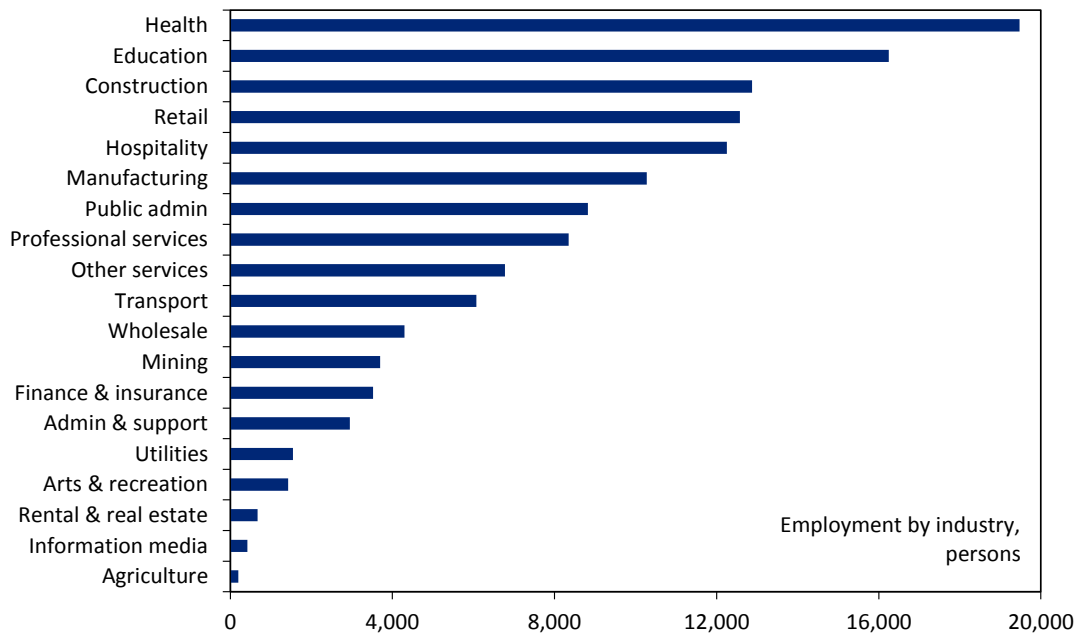
Source: ABS 3218.0

Chart B.5: Five-year population growth rates



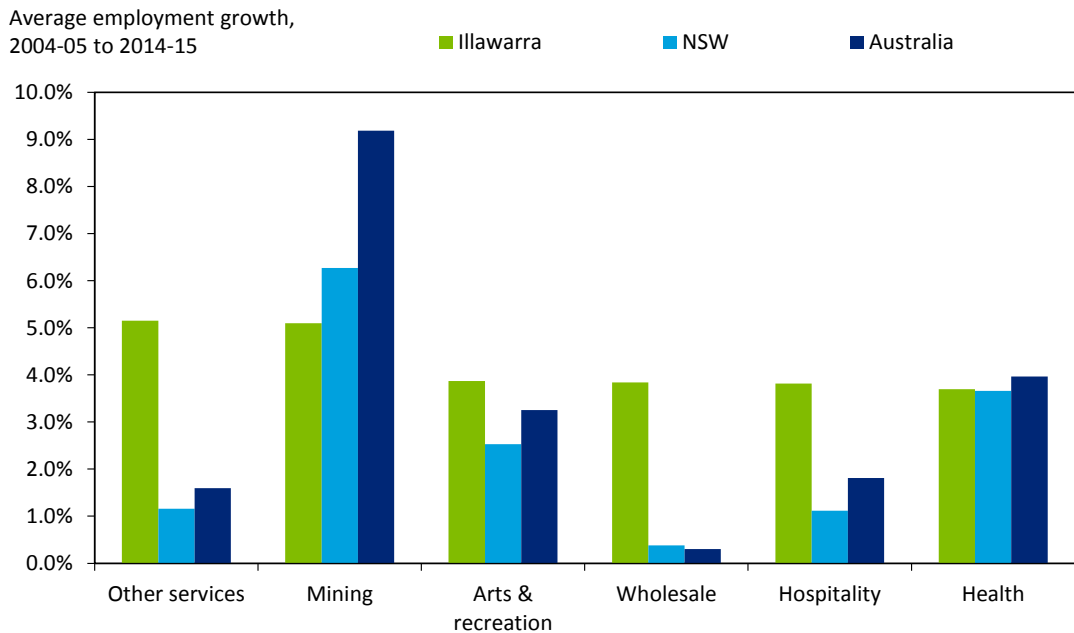
Source: ABS 3218.0

Chart B.6: Employment in Illawarra, 2014-15



Source: ABS 6291.0

Chart B.7: Top six industries by average employment growth, last ten years



Source: ABS 6291.0

Chart B.8: Bottom six industries by average employment growth, last ten years

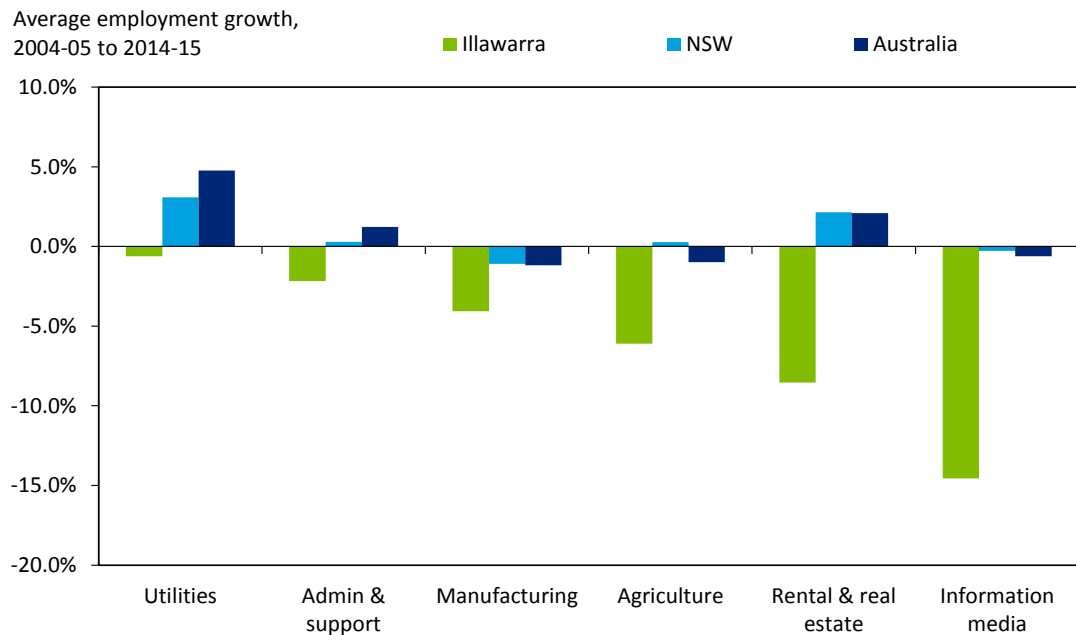


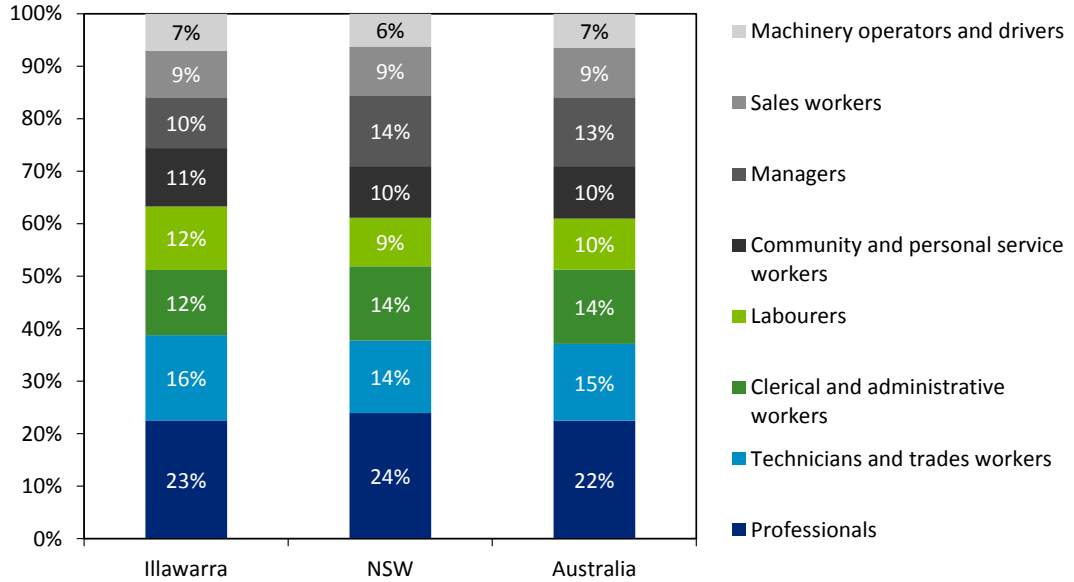
Table B.2: Industry employment shares over time

	1999-00	2004-05	2009-10	2014-15
Agriculture	0.6%	0.3%	1.2%	0.2%
Mining	1.3%	1.9%	2.3%	2.8%
Manufacturing	15.8%	13.5%	11.6%	7.8%
Utilities	1.3%	1.4%	0.8%	1.2%
Construction	9.6%	8.3%	8.6%	9.7%
Wholesale	2.2%	2.6%	2.5%	3.2%
Retail	12.0%	10.7%	10.8%	9.5%
Hospitality	7.5%	7.3%	7.0%	9.2%
Transport	5.6%	5.1%	5.3%	4.6%
Information media	0.9%	1.8%	2.2%	0.3%
Finance & insurance	2.6%	3.1%	3.5%	2.7%
Rental & real estate	1.3%	1.4%	1.5%	0.5%
Professional services	4.8%	6.2%	5.3%	6.3%
Admin & support	2.5%	3.2%	4.2%	2.2%
Public admin	4.5%	6.6%	8.0%	6.7%
Education	10.9%	10.3%	9.1%	12.3%
Health	10.5%	11.7%	10.5%	14.7%
Arts & recreation	0.9%	0.8%	0.9%	1.1%
Other services	5.2%	3.5%	5.0%	5.1%

Source: ABS 6291.0

Chart B.9: Workforce composition by occupation, Illawarra

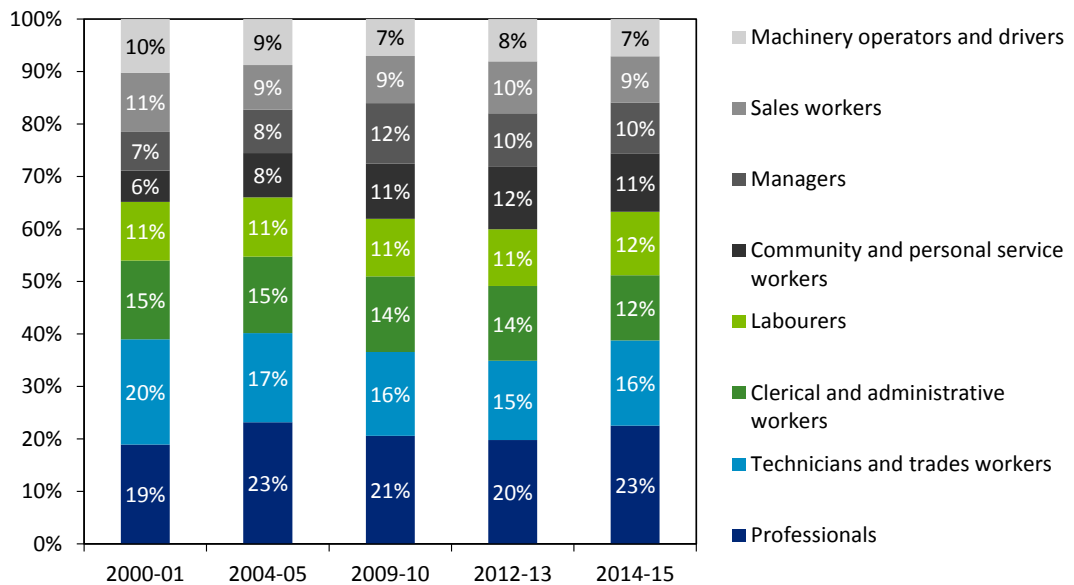
Employment by occupation as a share of total employment



Source: ABS 6291.0

Chart B.10: Occupational composition through time, Illawarra

Employment by occupation as a share of total Illawarra employment



Source: ABS 6291.

Appendix C: Update of forecasts

Chart C.1: Agriculture



Chart C.2: Mining

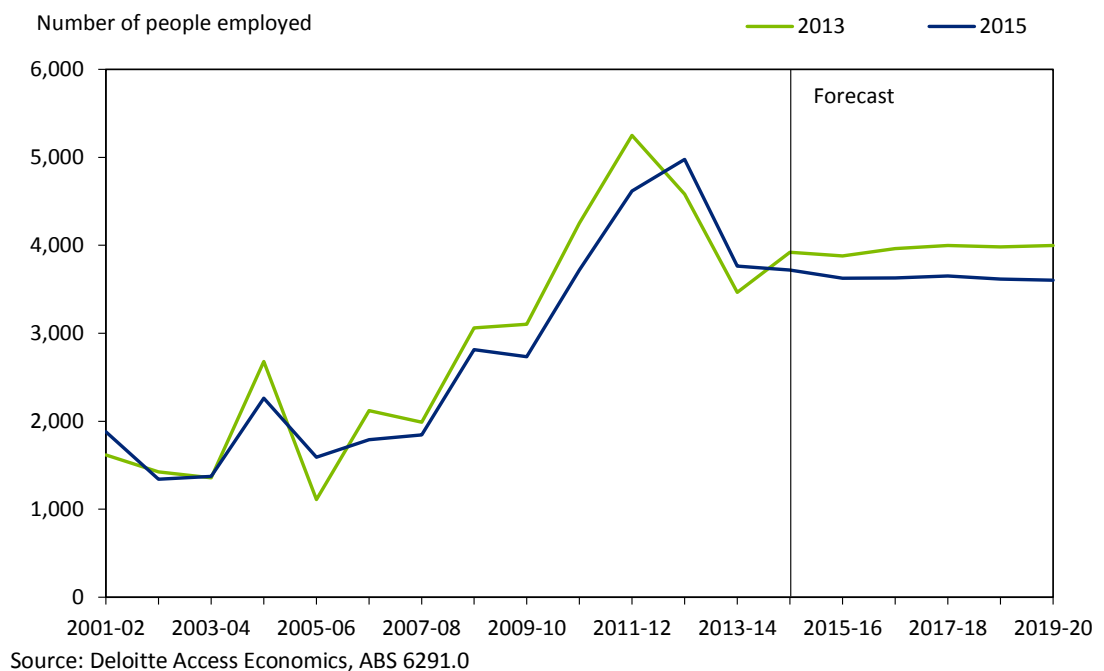


Chart C.3: Manufacturing

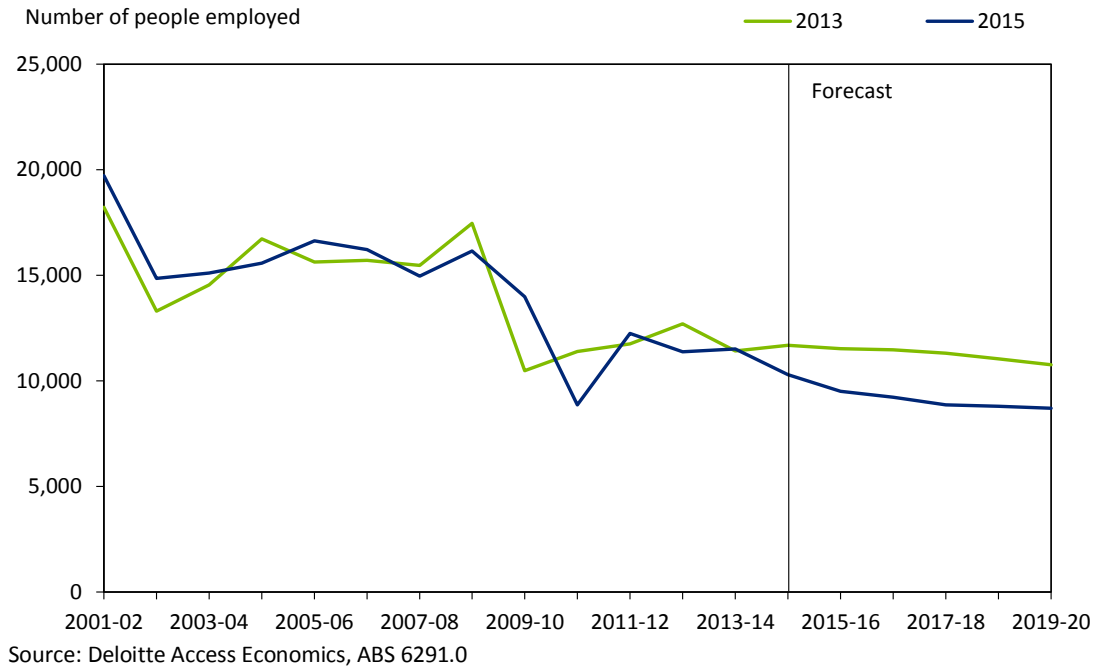


Chart C.4: Utilities

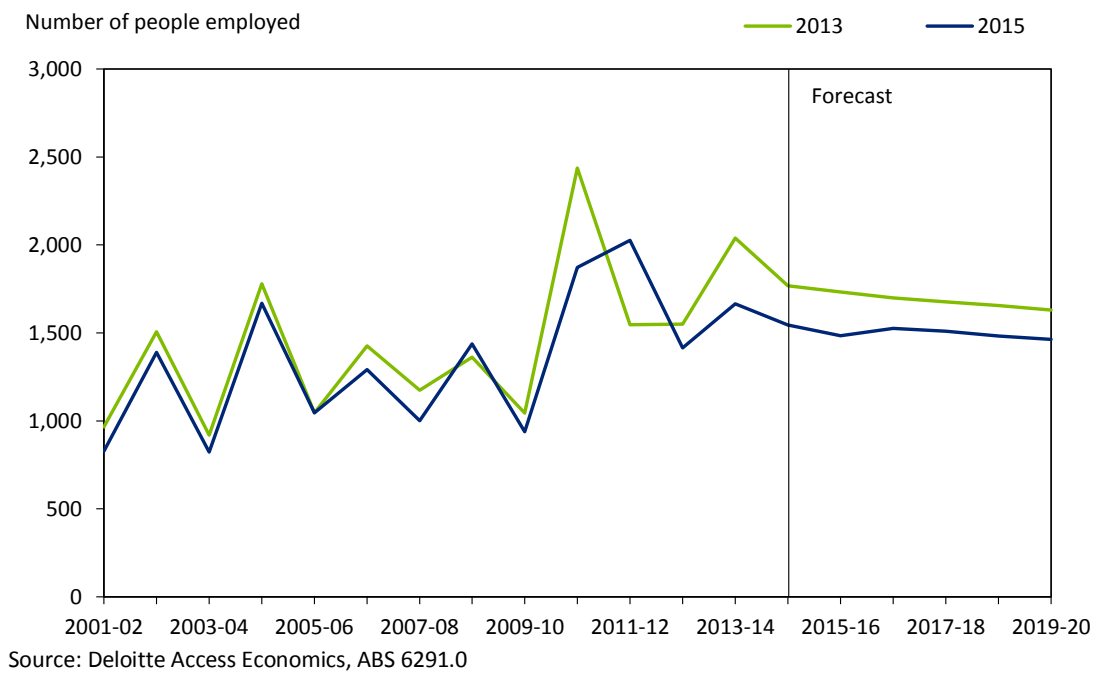


Chart C.5: Construction

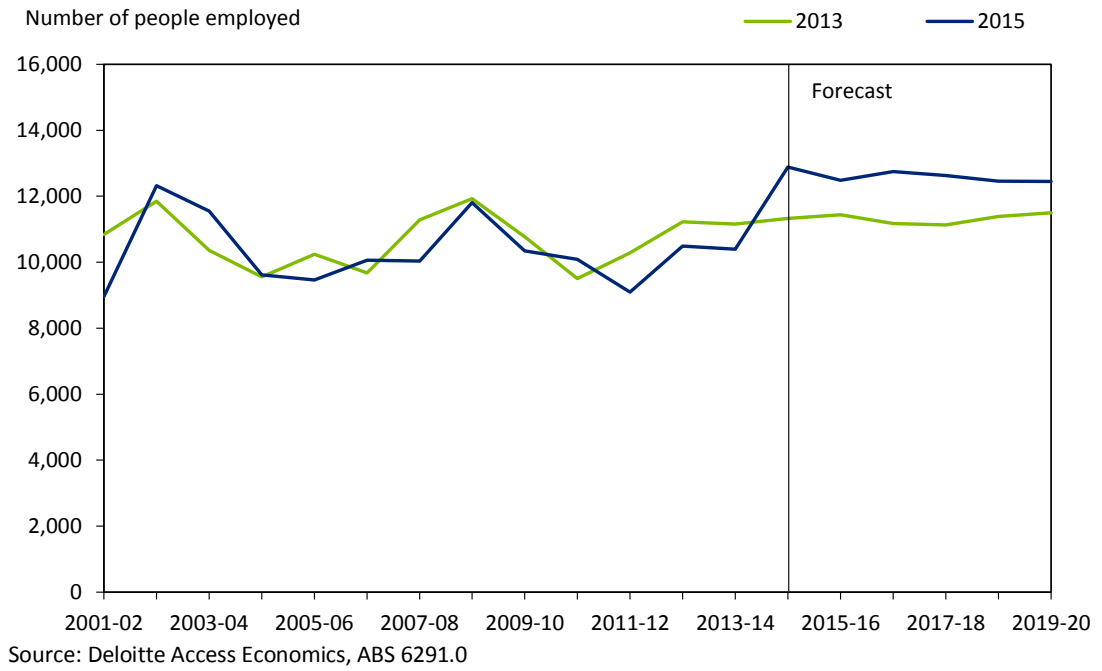


Chart C.6: Wholesale trade

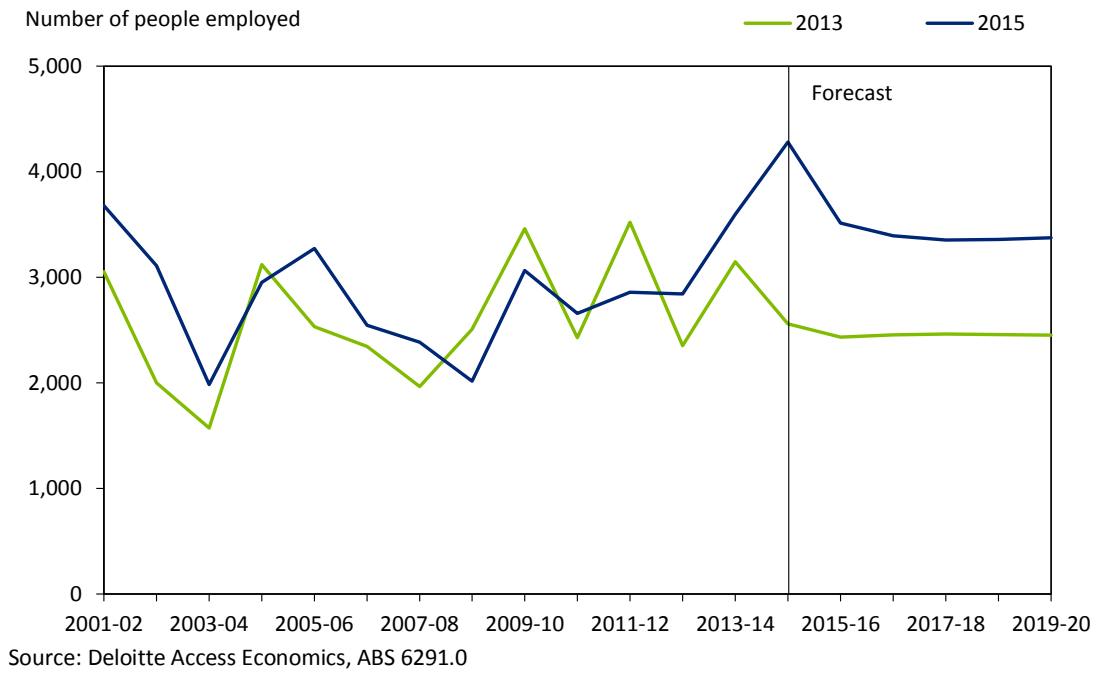


Chart C.7: Retail

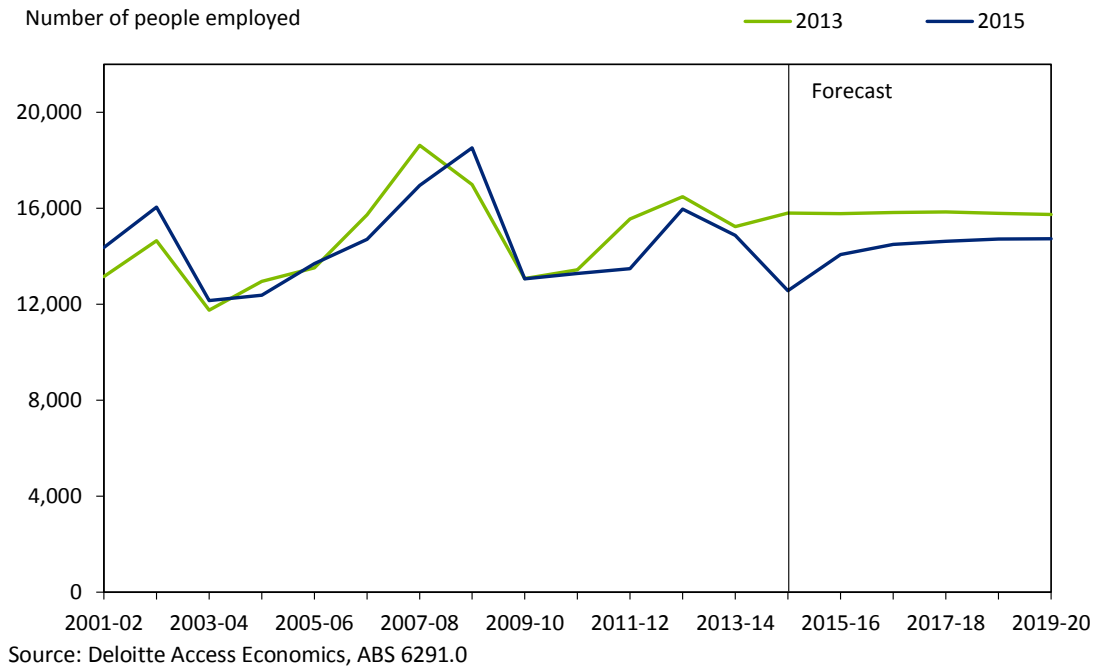


Chart C.8: Hospitality

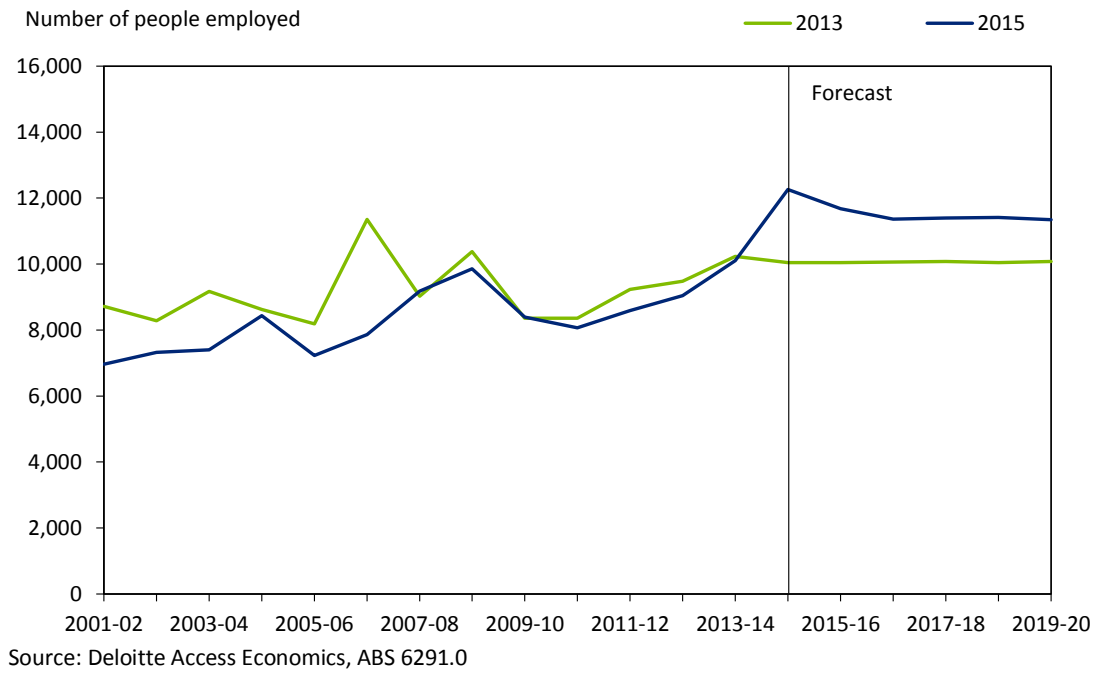


Chart C.9: Transport

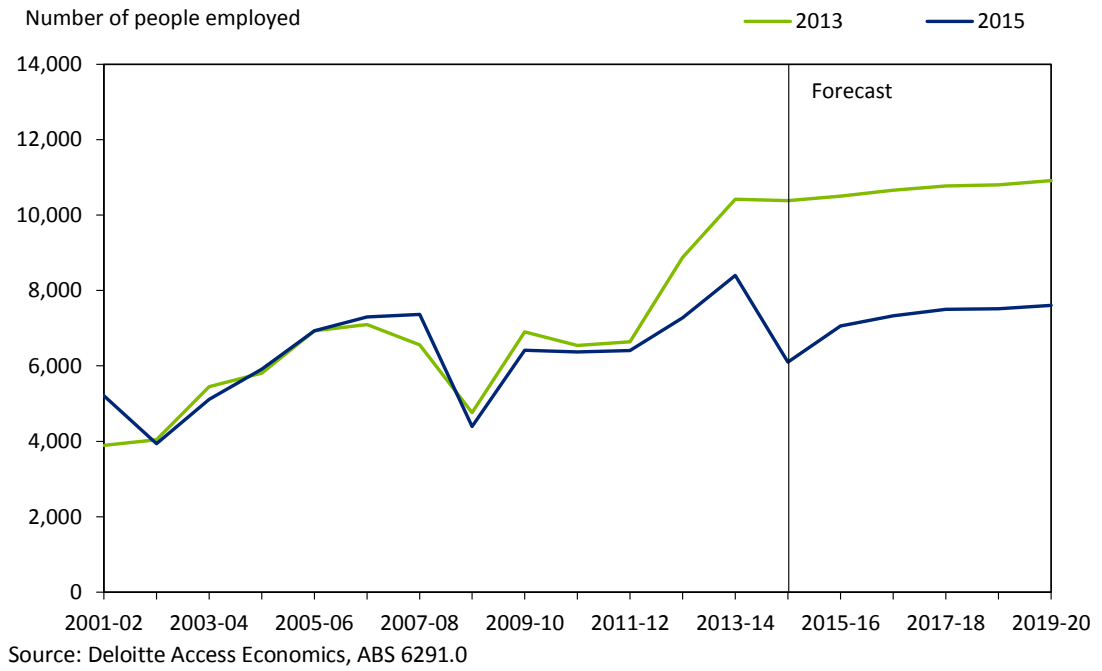


Chart C.10: Information media

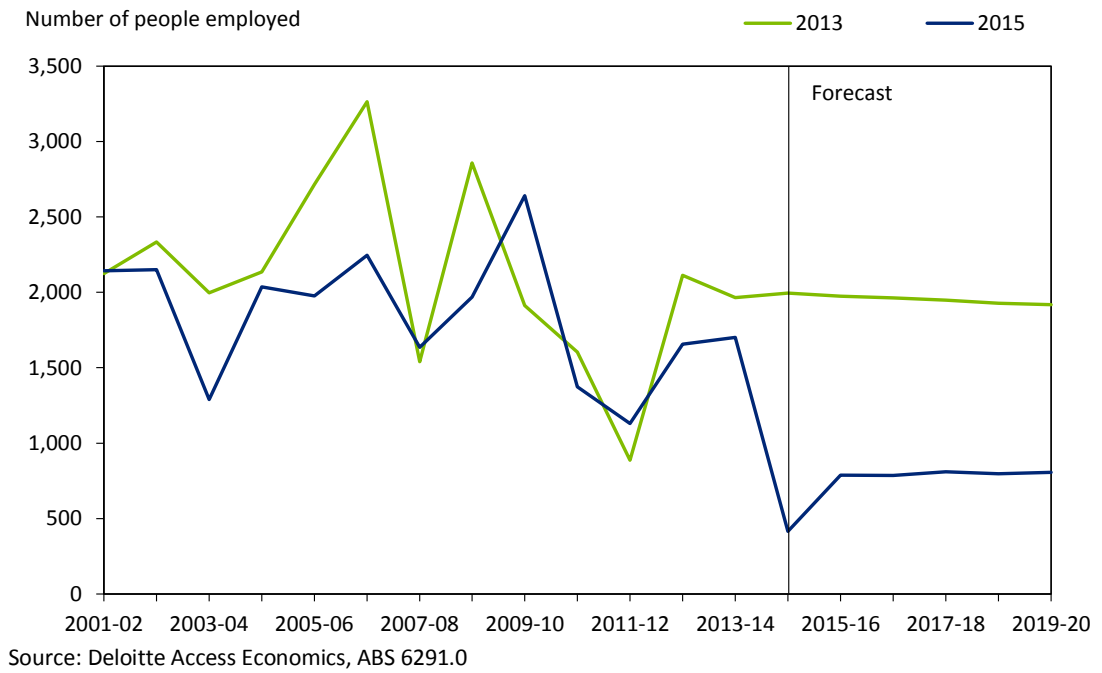


Chart C.11: Finance and insurance

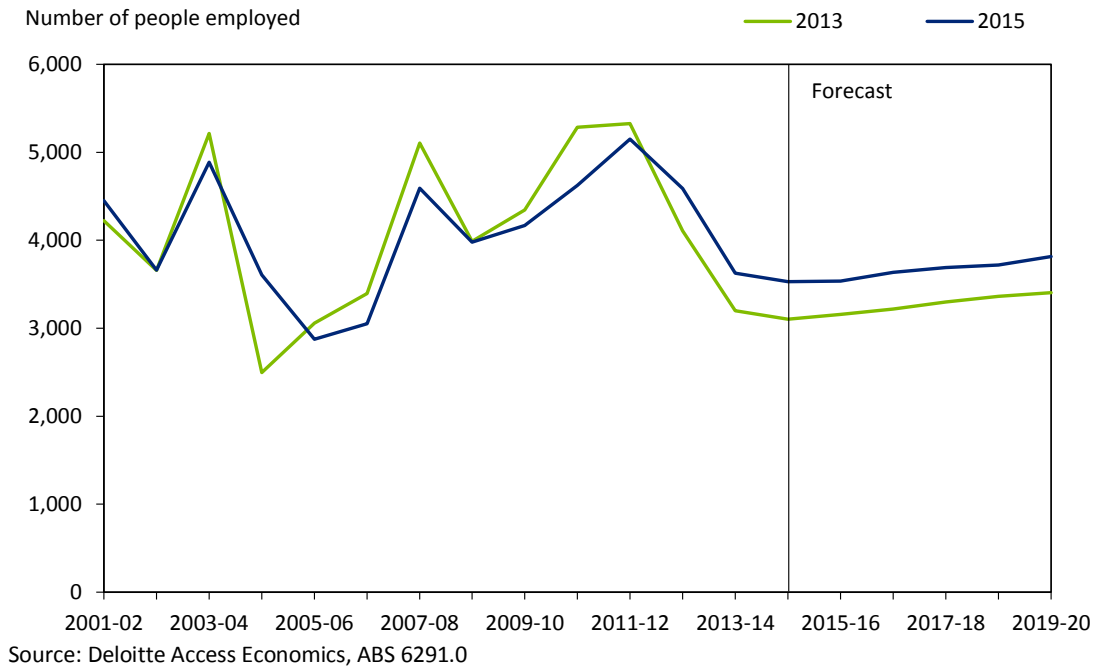


Chart C.12: Rental and real estate

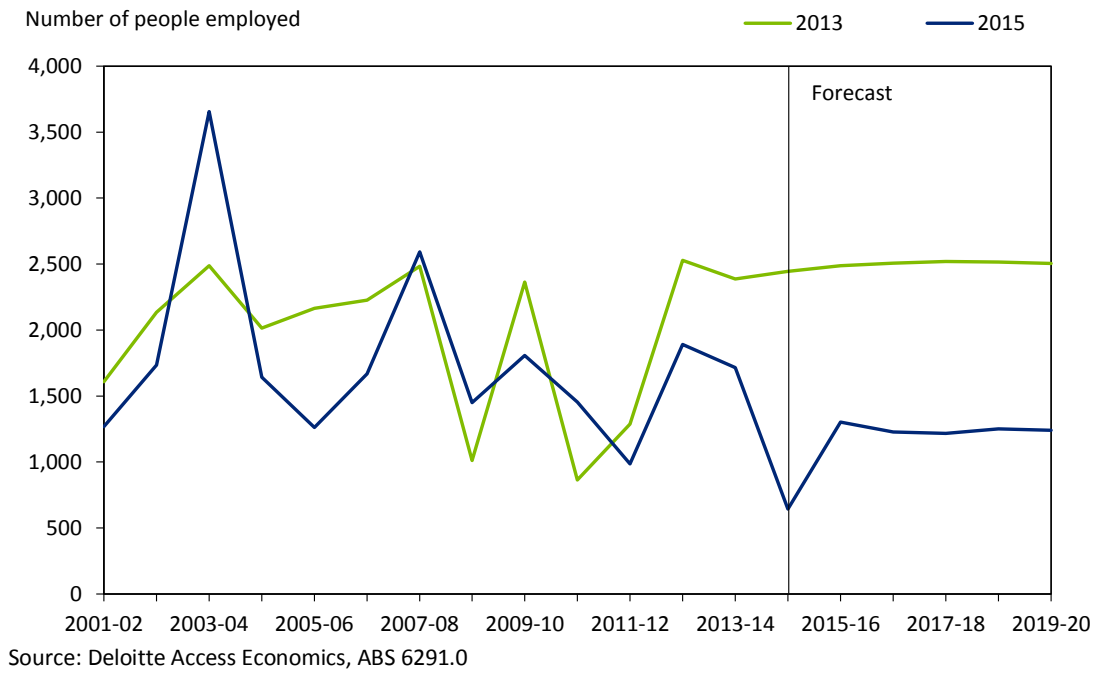


Chart C.13: Professional services

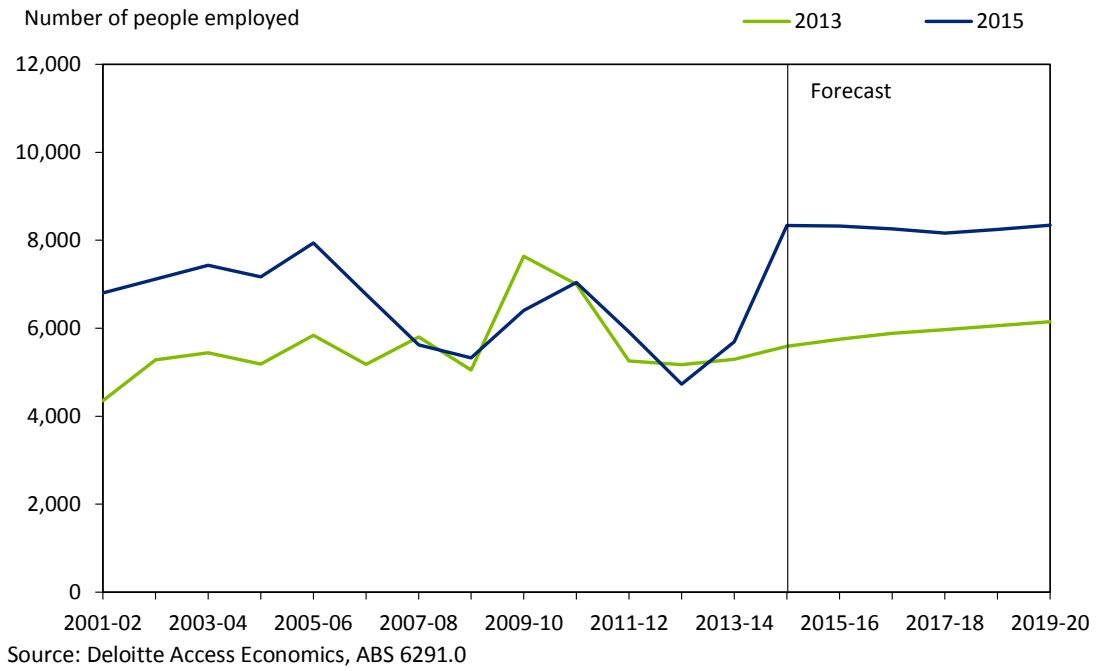


Chart C.14: Administration and support services



Chart C.15: Public administration and safety

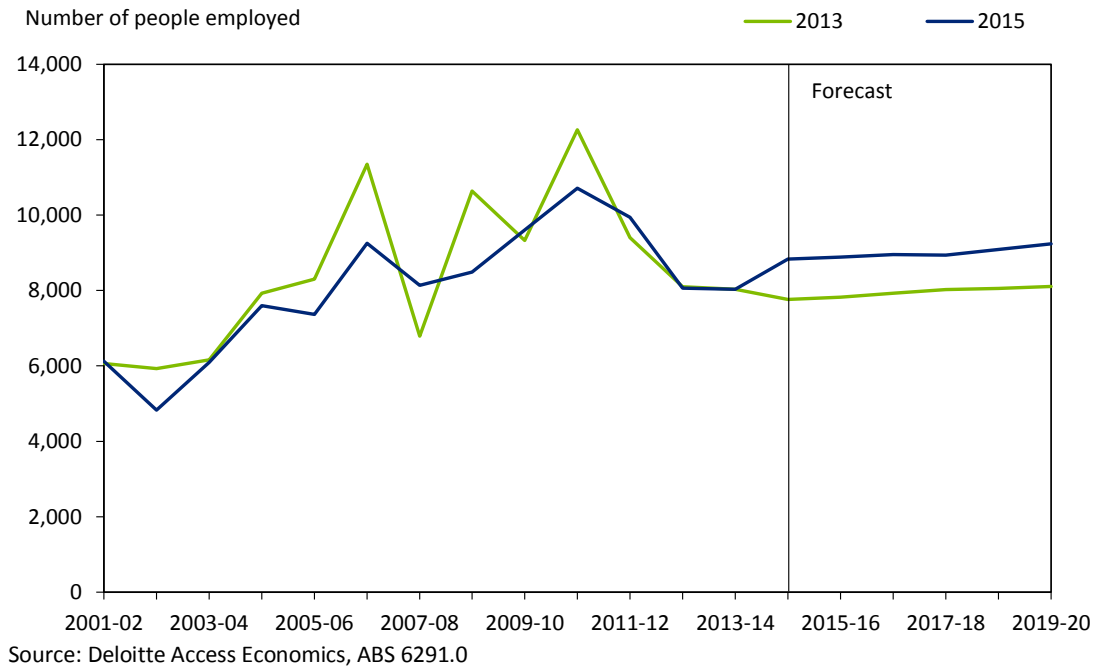


Chart C.16: Education

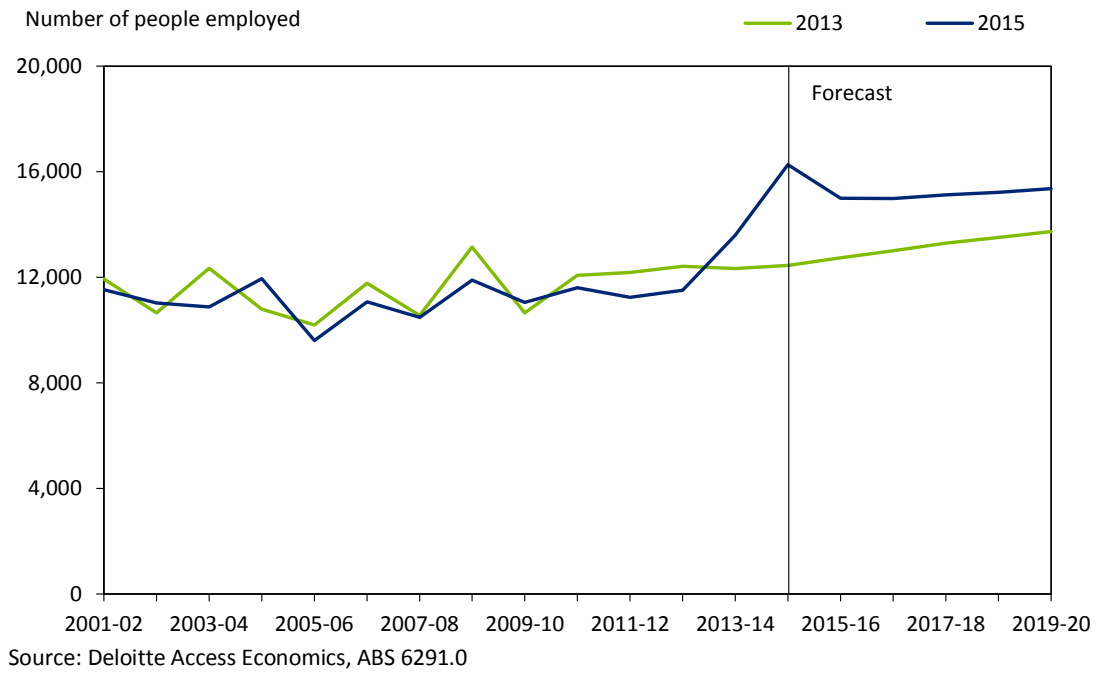


Chart C.17: Health care

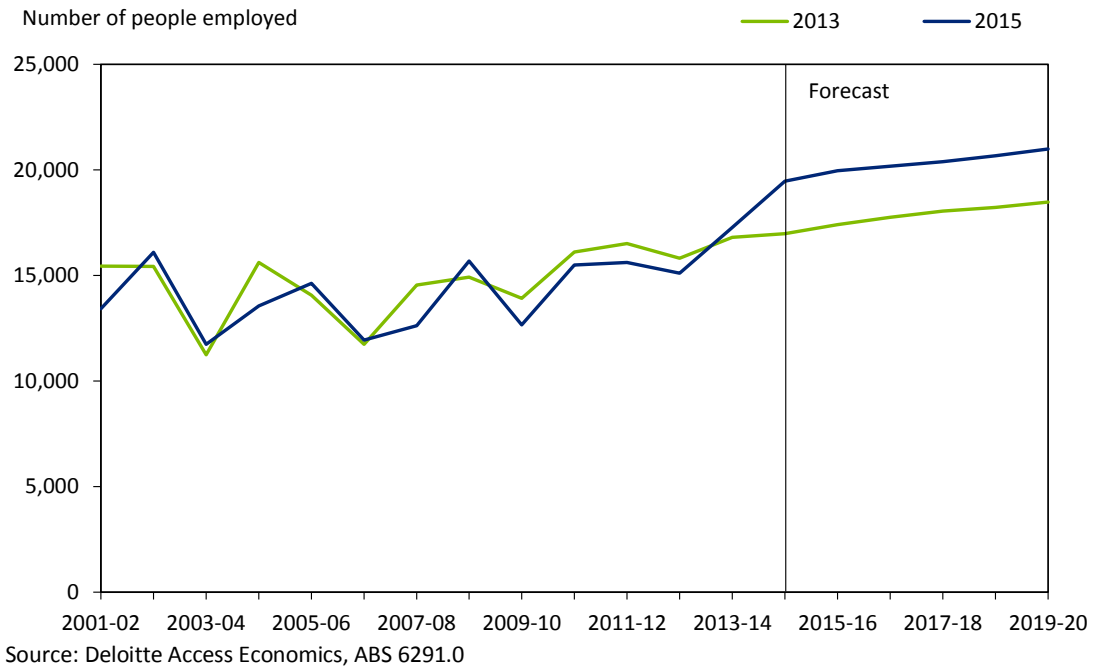


Chart C.18: Arts and recreation

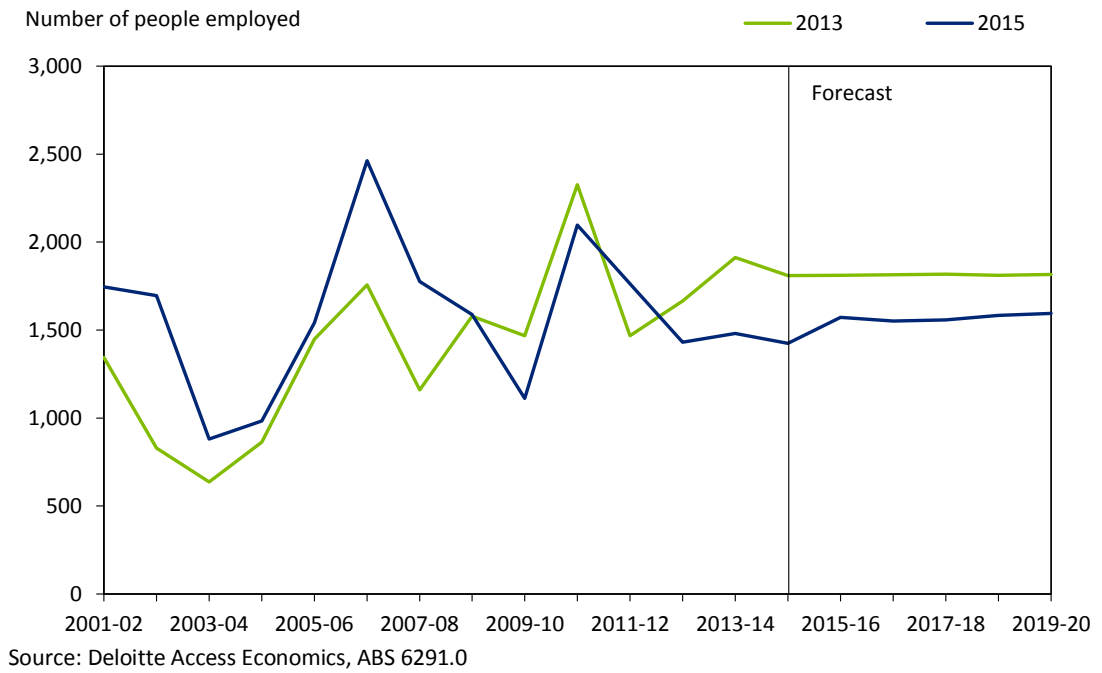


Chart C.19: Other services

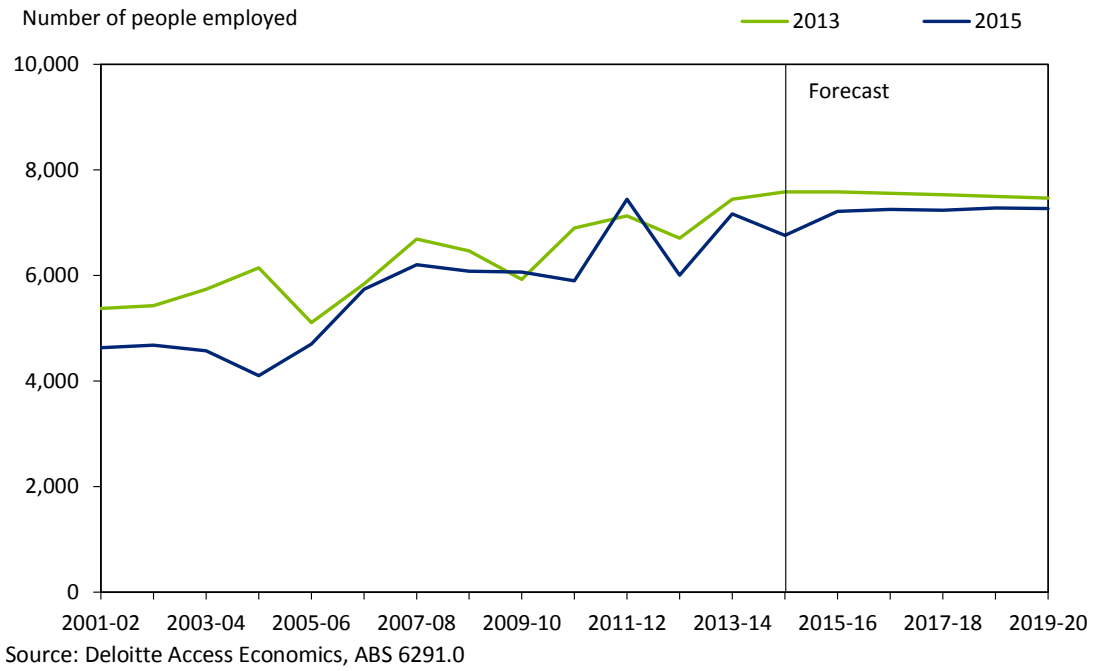
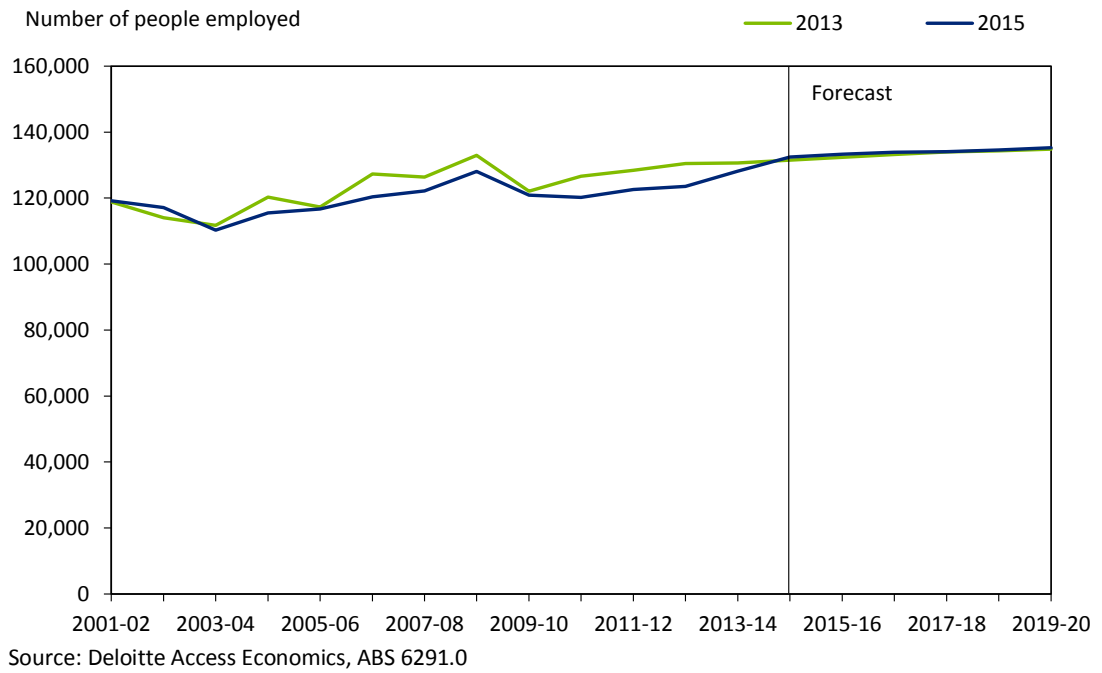


Chart C.20: All industries



Appendix D: Skill shortages in NSW

	State wide shortage	Shortage in regional areas	Recruitment difficulty	Recruitment difficulty in regional areas
Managers				
Childcare centre manager	✓			
Nursing clinical director			✓	
Professionals				
Architect			✓	
Surveyor	✓			
Civil engineering professionals			✓	
Electrical engineer			✓	
Early childhood teacher	✓			
Secondary school teacher			✓	
Sonographer	✓			
Hospital and retail pharmacist				✓
Physiotherapist				✓
Midwife	✓			
Registered nurses			✓	
Technicians and trades workers				
Automotive electrician	✓			
Diesel motor mechanic	✓			
Motorcycle mechanic	✓			
Sheet metal trades worker			✓	
Metal fabricator			✓	
Welder (first class)			✓	
Metal machinist (first class)	✓			
Panel beater	✓			
Bricklayer	✓			
Painting trades worker		✓		
Fibrous plasterer		✓		
Plumbers	✓			
Electrician		✓		
Air conditioning and refrigeration mechanic	✓			
Chef		✓		
Cabinet maker	✓			
Community and personal service workers				
Enrolled nurse	✓			

Source: Department of Employment

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