

Central West & Centroc Regional Opportunity Assessment

RDA Central West

Final Report
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1. Introduction

1.1 Project Background

The Central West Region of NSW is a large and economically diverse region located west of Sydney. Bathurst, Orange and Lithgow are the region's major urban centres which are supported by a wide variety of smaller and regional communities.

AECgroup was engaged by Regional Development Australia - Central West, Central NSW Councils (Centroc) and Industry and Investment NSW to undertake the Central West NSW Regional Economic Analysis project. The project aims to produce a regional economic profile, marketing material, and a web-based statistical economic data management system that will be used by stakeholders across the region to guide regional development initiatives and attract investment in the region.

The project involves a structured process with key stages comprising:

- Research and analysis of the regional economy
- Preparation of Regional Economic Profile and LGA Profiles
- Opportunity assessment to identify investment and economic development opportunities
- Development of graphically designed marketing materials and an information management system

1.2 Purpose of the Report

This report represents an assessment of the Central West and Centroc regions and identification of industry opportunities for growth. The industry opportunities identified in the report are at the regional level and will be incorporated into the LGA Fact Sheets and marketing materials.

1.3 Study Area

The Central West Region of NSW comprises 17 local government areas. Industry opportunities have been identified for the Central West Region of NSW though some economic analysis has been undertaken at the Central West and Centroc sub-regions to align with analysis in the Regional Economic Profile. The regions have significant overlap and are grouped as follows:

- **Central West region:** This region comprises the 12 LGAs that form the RDA Central West area including Bathurst, Bland, Blayney, Cabonne, Cowra, Forbes, Lachlan, Lithgow, Oberon, Orange, Parkes, and Weddin.
- **Centroc region:** This region comprises the 16 LGAs that form the Centroc organisation including Bathurst, Blayney, Boorowa, Cabonne, Cowra, Forbes, Harden, Lachlan, Lithgow, Oberon, Orange, Parkes, Upper Lachlan, Weddin, Wellington and Young.

The map below provides an overview of the Central West and Centroc regions including the membership of the 17 LGAs.

Figure 1.1: Map of Central West and Centroc Regions



Source: ABS (2003), AECgroup

2. Opportunity Assessment

An industry opportunity assessment has been conducted to determine the industry growth opportunities for the Central West and Centroc regions. The various assessment tools utilised, including location quotient analysis and cluster mapping, assist in identifying specific industry-sector targets for the region based on a thorough assessment of various key indicators such as:

- Competitive advantages of the local economy
- Industry growth trends
- Strategic assets
- Gap assessment

The identification of specific industry sectors is based on an assessment of a range of factors including historical data, current economic characteristics and planned future projects. The consideration of past, present and future information helps in developing a comprehensive understanding of the regional economy, how it may develop into the future and what the specific industry opportunities are.

2.1 Location Quotients

When identifying target sectors for investment attraction, it is important to understand the competitive advantages of an area. A focus on competitive advantages can assist the investment attraction process by concentrating on those sectors or industries most likely to benefit from locating in a particular area or region.

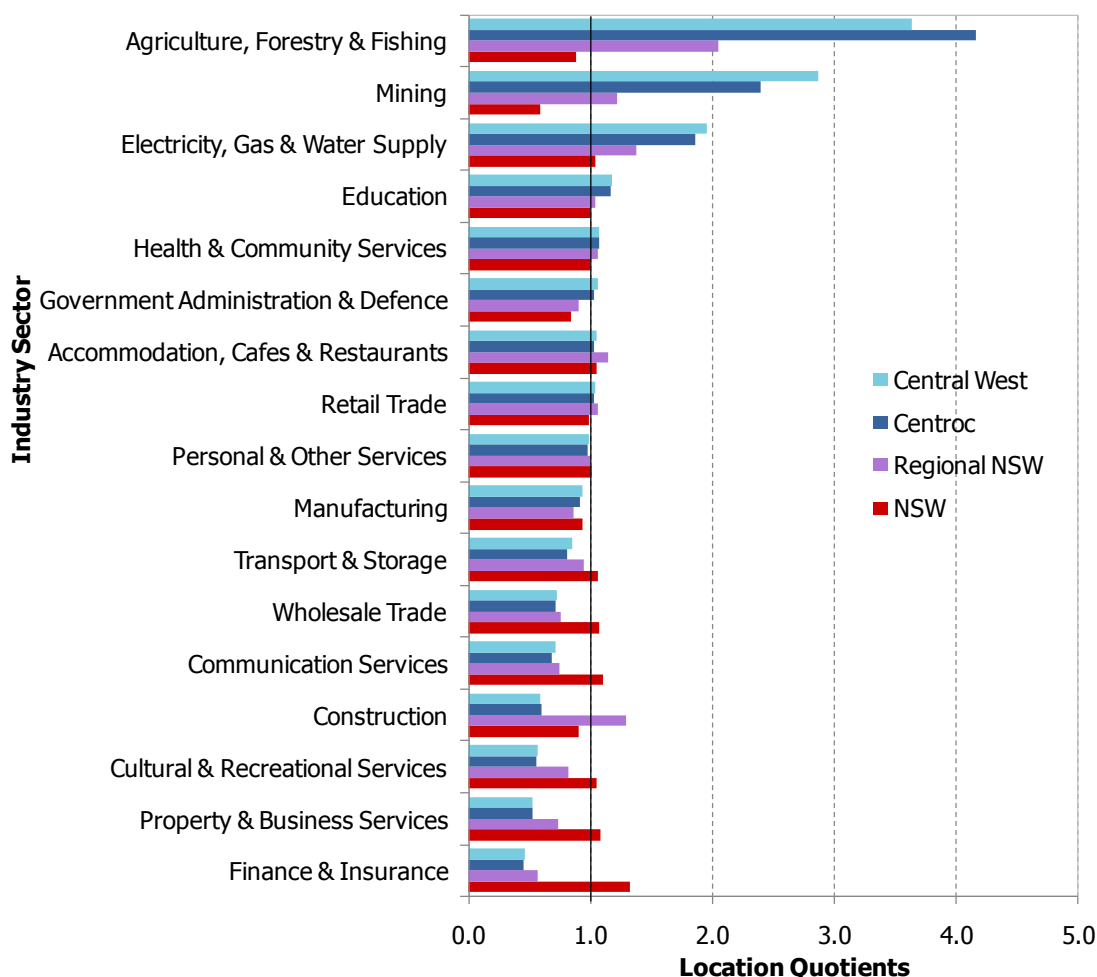
Specialisation of labour can be a competitive advantage. Location quotients based on employment have been calculated in order to determine the labour specialisation of the study area. It should be noted that the analysis is based on ABS Census data from 2006 which is several years old though is still the most recent comprehensive data available. The location quotients demonstrate the degree to which a local or regional economy is specialised by examining the proportion of employment (by industry sub-sector) compared to a larger economy (Australian economy). Location quotients can be used to indicate strengths and weaknesses of a local or regional economy (i.e. its natural competitive advantage).

If a region has a high location quotient in a certain industry sector, it doesn't necessarily mean it has investment opportunities. In some instances this industry sector may be fully exploited. What it does do, though, is highlight the specific industries in a region that historically have been relatively strong in a region and should be investigated for opportunities such as growth, diversification and/or supply chain development.

For this project, the analysis has compared the Central West and Centroc regions with the regional NSW and the NSW State economies by comparing all regions to the Australian economy. A location quotient of "1" means that the economy being assessed has an equal share of employment (compared to Australia) for a specific industry sector, thus no potential advantage either way. Comparing each regional economy to Australia allows regions to be compared. A location quotient above "1" indicates a specialisation of labour and therefore an area of potential competitive advantage. If the location quotient is below "1", the area has a relatively lower employment in the particular industry sector.

As demonstrated in the figure below, the Central West and Centroc regions have significant strength in agriculture, mining, and electricity, gas and water supply services, recording location quotients over 1.5, considerably higher than regional NSW and the State. Other areas of strength include education, health care and government administration with location quotients of above 1. Manufacturing has also been identified for further examination, despite being below 1, as several sub-sectors are likely to be very prominent due to the strong agriculture and resource sectors in the region. Many of the individual LGAs have a significant strength in manufacturing.

Figure 2.1: Location Quotients (1-digit ANZSIC), All Industries - Central West & Centroc, 2006



Source: ABS (2007), AECgroup

Having identified the key industries (agriculture, mining, electricity and water services, health, education and manufacturing) within both the Central West and Centroc regions, the next section discusses specific sub-sectors within each of these industries, based on 3-digit Australian and New Zealand Standard Industrial Classification (ANZSIC) industry classifications. Please note that relevant location quotient figures for each of the six sub-sectors discussed below are included in **Appendix A**.

- **Agriculture:** The Central West and Centroc regions have a significant competitive advantage in the following agriculture sub-sectors, including grain, sheep and beef cattle farming, forestry and logging and services to agriculture. Both the regions recorded a location quotient of more than "2" for each of these sub-sectors, significantly higher than that of regional NSW and the State.
- **Mining:** The regions have relative strength in the following mining sub-sectors, including metal ore, coal and construction materials. For each of these sub-sectors, both regions have considerably higher location quotients compared to regional NSW and the State.
- **Electricity, Gas and Water Supply:** Both regions exhibit considerable strength (compared to regional NSW and the State) in electricity, gas and water supply, recording location quotients of almost "2", meaning that there are almost twice as many people employed in the industry than the national average. The significant energy generation capability in Lithgow is likely to be responsible for the relatively high level of employment in this sector.
- **Health:** Both regions have relative strengths in healthcare, including veterinary services, hospitals and nursing homes.

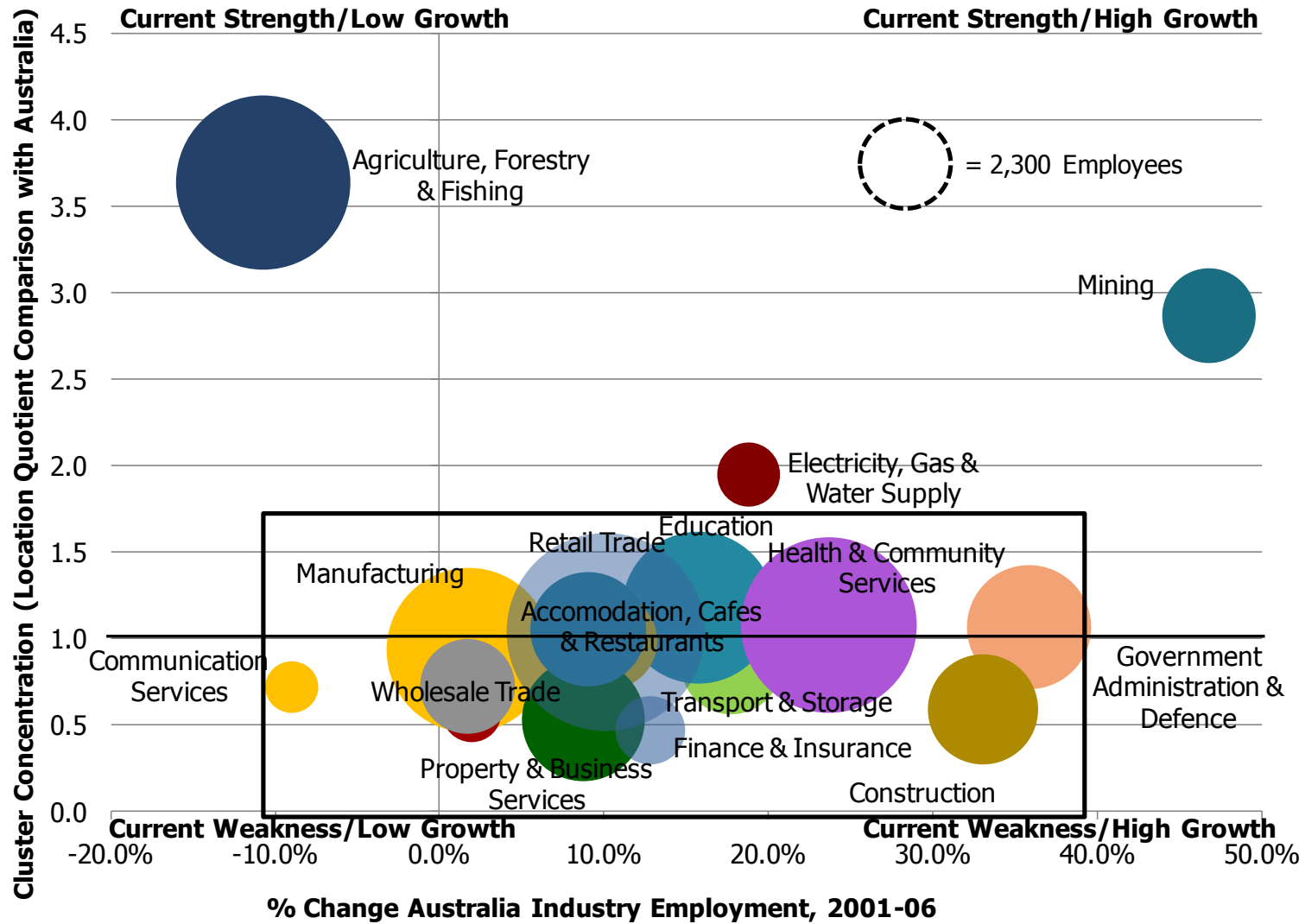
- **Education:** Both the Central West and Centroc regions record relative strength in preschool and school education services. The Central West region also records a higher location quotient in post school education.
- **Manufacturing:** Despite the overall industry having a location quotient of below 1, both regions record high location quotients in specific sub-sectors including food processing, fabricated metal products, prefabricated buildings, timber manufacturing and electrical equipment. Despite industry sub-sectors such as industrial machinery and equipment and transport equipment currently have a location quotient below 1, these sectors represent investment opportunities to leverage off the strength of the agricultural and mining sectors.

2.2 Cluster Mapping

Cluster mapping builds on the location quotient analysis. It is a technique which allows for the identification of growth opportunities in specific industry sectors where a natural competitive advantage already exists. The location quotients for each industry sector are mapped against its respective national employment growth rates over a five-year period (2001-2006). Each combination is represented by a 'circle' in the graph, whereby the size of the circle indicates the size of local workforce in that particular industry sector. The industry-sectors located above "1" on the vertical axis indicate an existing industry concentration (i.e. competitive advantage). The national employment growth rates are plotted along the horizontal axis with the 0% growth rate as the "cut-off" line. The industry clusters plotted on the left of the "cut-off" line indicate employment contraction during 2001-2006. Similarly, the industry clusters plotted on the right of the "cut-off" would include the ones that have been expanding over the five-year period.

As demonstrated in the cluster maps below (Figures 2.2 to 2.5), the key growth sectors in both the Central West and Centroc regions include mining, electricity, gas and water supply, education and health care. While the agriculture sector accounted for around one-tenth of the region's total employment in 2006, the sector has witnessed a decline in its overall national employment levels by over 10% during 2001-06. On the other hand, the mining (46.8%), electricity, gas and water supply (18.8%), education (15.8%) and health care (23.7%) sectors have recorded significant employment growth during the same period. Detailed cluster maps for selected industries broken down by 2 and 3-digit ANZSIC industry classifications for Central West and Centroc are provided in **Appendix B**.

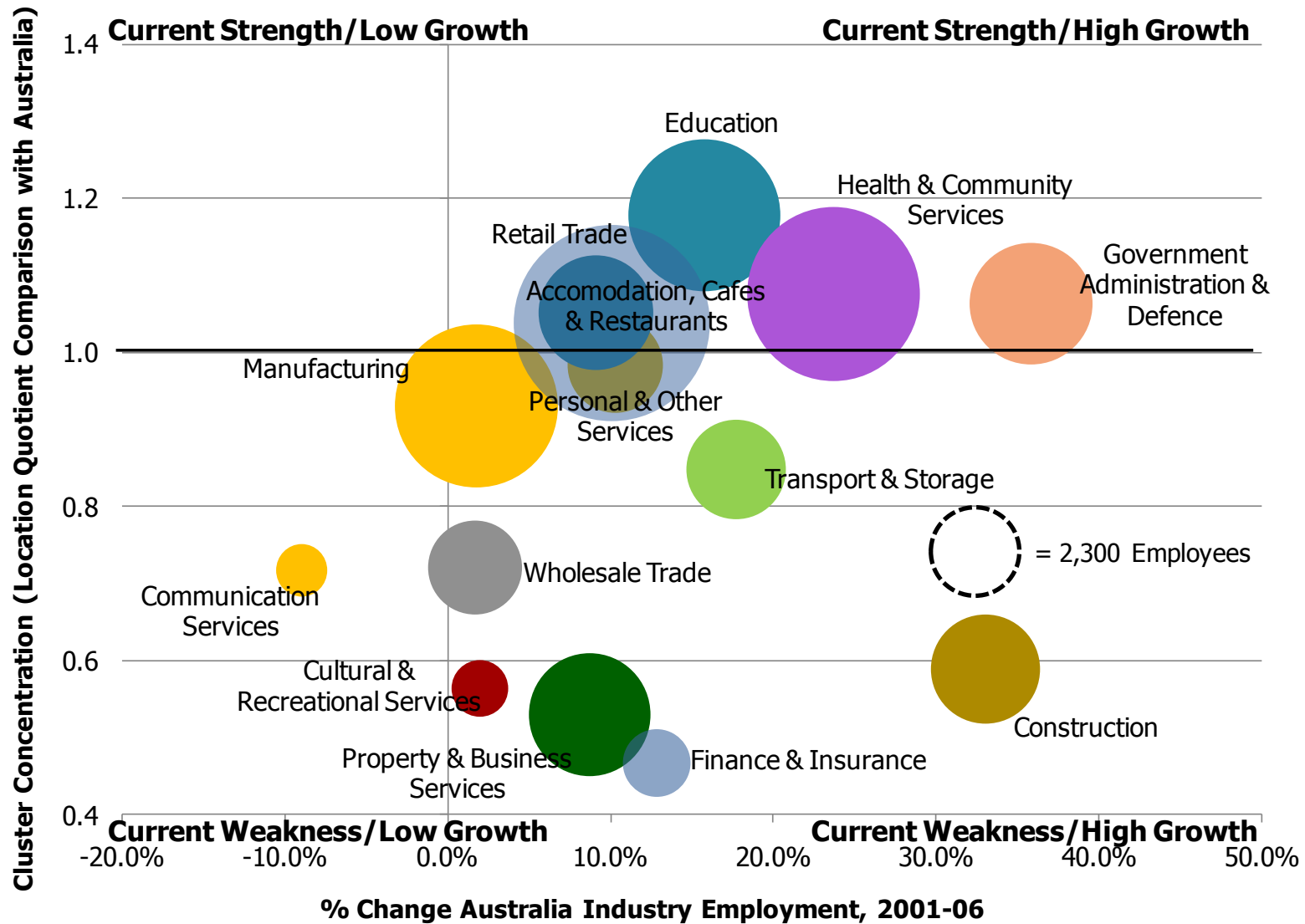
Figure 2.2: 1-digit ANZSIC Cluster Map - Central West, All Industries, 2006



Source: ABS (2007), AECgroup



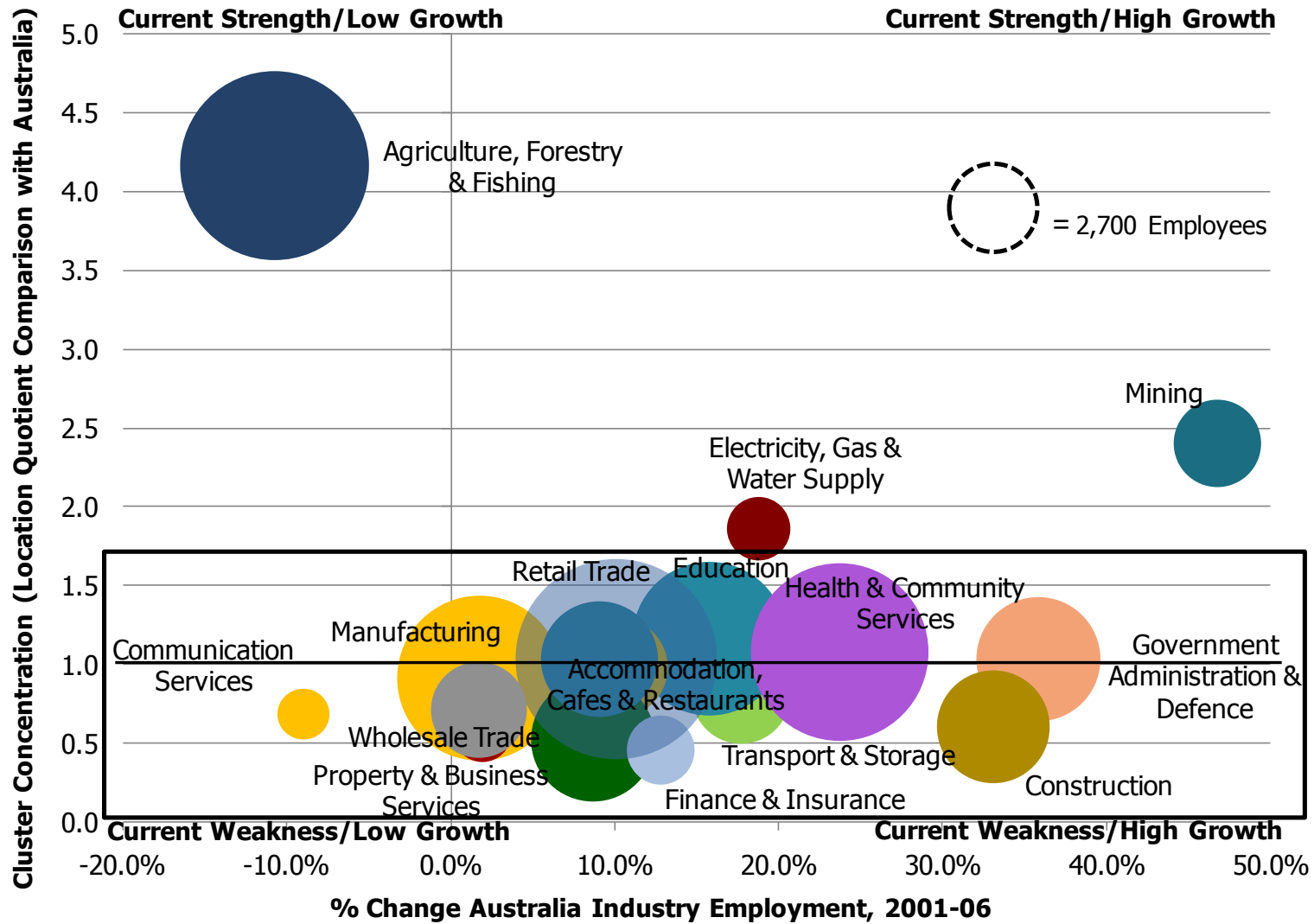
Figure 2.3: 1-digit ANZSIC Cluster Map - Central West, All Industries (Zoomed In), 2006



Source: ABS (2007), AECgroup



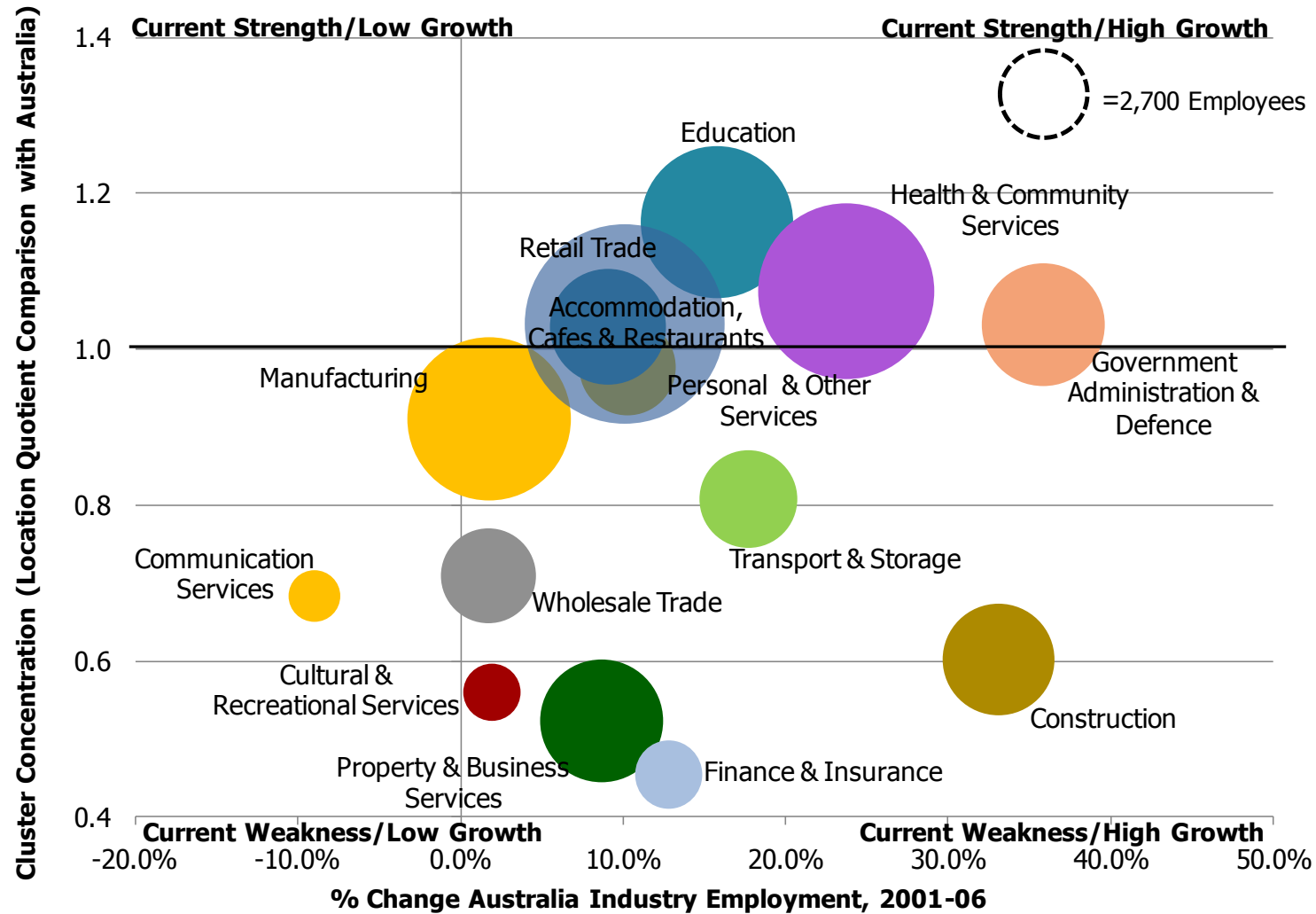
Figure 2.4: 1-digit ANZSIC Cluster Map - Centroc, All Industries, 2006



Source: ABS (2007), AECgroup



Figure 2.5: 1-digit ANZSIC Cluster Map - Centroc, All Industries (Zoomed In), 2006



Source: ABS (2007), AECgroup



2.3 Strategic Asset Assessment

The strategic asset assessment builds further on the location quotients and cluster mapping to identify additional competitive advantages by highlighting unique and specific assets in the region that can be leveraged for economic development. These assets demonstrate the unique capacity of the local economy and can provide opportunities for significant growth, when combined with other existing competitive advantages.

A strategic asset assessment of the Central West and the Centroc regions (discussed below) confirms there are a number of locational, geographical and existing industry characteristics that would further support the growth opportunities. These factors are summarised in **Table 2.1** and explored in more detail in the dot points below the table.

Table 2.1: Central West & Centroc Strategic Asset Assessment

Strategic Asset	Opportunity it Supports	How it can be leveraged
Transport Infrastructure	Supports overall development for industrial sectors and logistics operations.	The major highways, railway and airports located within the regions facilitate efficient movement of products and people. The region is strategically positioned to benefit from future national and state freight policy and industry trends.
Educational Institutions	Supports further growth in knowledge-based industrial and service sectors.	Access to solid education facilities can provide unique training opportunities that provide a highly skilled workforce. Many advanced manufacturing and business service sector companies require specialist training.
Health Infrastructure	Encourages additional partnerships with the education sector to facilitate medical research, and internship and other training programs.	Presence of a network of Base and Local hospitals throughout the region provides opportunities for the development of additional university-hospital partnerships to occur.
Power Infrastructure	Supports growth and development of industrial sectors.	Proximity to power generation can provide cost effective access to power through lower infrastructure costs and higher levels of reliability for large users.
Availability of Industrial Zone Land	Attraction of other major manufacturing and logistics companies. Attraction of transport & storage and wholesale trade activities.	Availability of competitively priced industrial land within the region with access to existing supply chains, a strong workforce and export infrastructure will be attractive to manufacturing, wholesale trade, and transport & storage sector companies.
Existing Industrial Base	Supports overall development of industrial sectors.	Availability of strong industrial base (manufacturing, transportation and logistics sectors), well established supply chains and highly skilled workforce will be attractive to companies in similar industries.
Agricultural Sector	Supports other industries such as transport, storage, food processing and support services.	The presence of a strong agricultural sector can attract businesses that want to be in close proximity to agricultural production to reduce their transport costs.
Mining Sector	Attraction for support services such as engineers, mechanics, manufacturers and equipment providers.	The operation of large mines in the region will be attractive to service providers that supply services and equipment to the mining companies.
Communications Infrastructure	Numerous opportunities across the economy.	Better leverage of high speed broadband can improve productivity and efficiency in most businesses. Having good internet access in regional areas can further support relocations from capital cities.

Source: AECgroup

- Transport Infrastructure:** The Central West and Centroc regions are located in close proximity to Sydney and Canberra and are well-served by the Newell Highway (connecting the regions to Brisbane and Melbourne), Mitchell Highway and the Great Western Highway (linking the regions to Sydney), Lachlan Valley Way (providing access to Canberra and the Golden Highway (connecting the region to Newcastle).

The regions are well-linked with other major cities including Perth, Melbourne and Sydney via rail transport with the Transcontinental Railway running between Sydney and Perth. The region boasts a significant rail network including passenger and freight services. Besides being well-connected by road and railways, the regions have a number of regional airports including Bathurst, Orange and Parkes which have regular passenger services to Sydney.

- **Education:** There are a number of educational institutions located within both the Central West and Centroc regions, offering training opportunities that contribute to a highly skilled workforce. These include institutions such as the Charles Sturt University campuses in Bathurst and Orange, and TAFE Western campuses located in Bathurst, Cowra, Forbes, Lithgow, Orange and Parkes and the Central West Community College throughout the Central West region. Other organisations include Central West Group Apprentices, which has offices in Bathurst, Orange, Parkes, Cowra and Lithgow, and a range of Registered Training Organisations.
- **Healthcare:** The Central West and Centroc regions have adequate provision of health infrastructure including a number of hospitals located in regional centres. New base hospitals have recently been completed in Orange and Bathurst with other key hospitals in Parkes and Lithgow. There are a large number of existing university-hospital relationships including Lithgow Hospital and Notre Dame, Bathurst Hospital with Charles Sturt University and University of Western Sydney, Orange Hospital with Charles Sturt University and Sydney University School of Rural Medicine. Charles Sturt University is also looking to host the development of the new Bathurst medical centre. In addition to health care, there is also a significant supply of aged care facilities and a number of medical specialists in the region.
- **Power Infrastructure:** There are major power plant facilities located within the regions, including the Mt. Piper Power Station and Wallerawang Power Station in Lithgow, providing attractive options for businesses that have heavy dependence on electricity. The region also has a successful track record in the development of renewable energy projects. The Blayney Wind Farm (consisting of 15 wind turbines) and the Delta Mallee project (biomass co-firing at the Wallerawang station) are two examples of recent projects in the renewable energy sector.
- **Availability of Industrial Zoned Land:** Both the Central West and Centroc regions have a significant supply of industrial land. Estates include several major industrial precincts with large areas of available land with good access to road and rail infrastructure, such as the Lithgow Minerals and Industry Park.
- **Existing Industrial Base:** Both regions have well-established industrial bases, with large industrial sectors including manufacturing, logistics and transportation, around regional centres in Orange, Bathurst and Parkes. The regions have highly skilled workforces and well-developed supply companies and maintenance services. These well-established supply chains are a significant asset for further industrial development.
- **Agricultural Sector:** The agricultural sector has traditionally underpinned the regional economy. The sector is centred around the production of wheat, sheep and cattle and also includes horticulture, viticulture and other meat production.
- **Mining Industry:** The region boasts a strong mining sector including coal mining centred around Lithgow and several copper and gold mines further west. There are ten existing mines in the region including:
 - Airly Mine, coal (Lithgow)
 - Angus Place Mine, coal (Lithgow)
 - Baal Bone Mine, coal (Lithgow)
 - Cadia Valley Mine, copper and gold (Orange)
 - Cowal Mine, gold (Bland)
 - Cullen Valley Mine, coal (Lithgow)
 - Invincible Mine, coal (Lithgow)
 - Northparkes Mine, copper and gold (Parkes)
 - Pine Dale Mine, coal (Lithgow)
 - Springvale Mine, coal (Lithgow).

Considerable mining exploration, including gold, copper, nickel, silver, zinc, lead and coal, is being undertaken throughout the region. Several mines in the region also have plans to expand operations and boost investment in the near future. Continued growth in exploration and new mining operations will be an important driver for economic growth in the region.

- Communications Infrastructure:** The Central West and Centroc regions have good telecommunications infrastructure with almost all telephone exchanges in the region being fed by fibre optic cable. High speeds are available to residents within 1.5kms from exchanges, subject to carrier concurrence. The major centres in the region have good broadband access with broadband capabilities to improve dramatically with the roll out of the National Broadband Network (NBN). Parkes in particular has an extensive fibre optic network with two twin fibre optic cables passing through Parkes joining Brisbane and Melbourne, and a third fibre optic cable connecting Parkes with Sydney. This provides Parkes with a high level of redundancy (that is, spare capacity) and communications security. The regions are also positioned close to a point of intersection in Dubbo. This proximity is a major factor in the development of communication infrastructure required for the roll-out of the NBN.

2.4 Major Projects

It is important to identify recently completed and proposed future major projects in the region as they are likely to create significant opportunities for growth and investment in certain industries. Major infrastructure projects can facilitate investment by providing the required infrastructure to make business investment financially viable. The development of major projects across the agriculture, mining, energy and tourism sectors create opportunities for support businesses to invest in the region and fit into the supply chain of these larger operations. A list of current major projects for the region exceeds \$4.7 billion, as highlighted in **Table 2.2**.

Table 2.2: Major Investment and Infrastructure Projects

Project Name	Value (\$M)	Location	Project Status
Bathurst Base Hospital	\$103	Bathurst	Completed 2010
Cadia East Project (Newcrest Mining Limited)	\$2,100	Cabonne & Blayney	Approved in 2010
Orange General Hospital & associated health services	\$290	Orange	Completed in April 2011
Bulky Goods Precinct	\$21	Bathurst	Under construction
Manildra to Parkes Power Line Upgrade	\$30	Parkes	Underway
Broken Hill to Parkes Rail Upgrade	\$21	Parkes	Underway
Parkes Garden Estate	\$110	Parkes	Approved
Lake Cargelligo to Merri-Abba Water Pipeline	\$19	Lachlan	Tendering
North Parkes Mine Pre-Feasibility Study	\$90	Parkes	Due for completion in 2013
Newcrest Mining Remote Management Centre	\$30	Orange	Due for completion in 2011
Kelso Intermodal Terminal	\$100	Bathurst	Approved
Delta Mallee Project	\$250	Lachlan & Forbes	Trial Commenced March 2010
Emirates Wolgan Valley Resort	\$125	Lithgow	Completed 2009
Black Springs Wind Farm	\$50	Oberon	Approved
Taralga Wind Farm	\$320	Upper Lachlan	Approved
Crookwell I Wind Farm	\$20	Upper Lachlan	Installed
Crookwell II Wind Farm	\$230	Upper Lachlan	Approved (under construction)
Gunning Wind Farm	\$110	Upper Lachlan	Approved (under construction)
Gullen Range Wind Farm	\$420	Upper Lachlan	Approved (under construction)

Source: RDA Central West

The proposed inland railway between Melbourne and Brisbane would facilitate major investment in the region. The project, likely to result in construction investment of over \$5 billion, would change the nature of the transport of freight along the eastern seaboard of Australia. The region would become significantly more attractive as a base for transport, logistics, wholesale and manufacturing operations, with key hubs on the line such as Parkes attracting significant investment. In the 2011-2012 budget, the Federal Government committed \$300 million to resume detailed planning work for the inland rail link between Brisbane and Melbourne.

The National Broadband Network (NBN) is a multi-billion dollar project to develop fibre optic networks throughout Australia to provide download speeds of up to 1 Gigabit per second to over 90% of Australian homes and businesses. The project would see a significant expansion of the optic fibre footprint in the Central West and Centroc regions that would improve broadband capacity and make the region more attractive to

companies requiring high quality telecommunications infrastructure. Towns in the region that are proposed to be part of the optic fibre network are Bathurst, Blayney, Condobolin, Cowra, Crookwell, Forbes, Grenfell, Hillston, Lake Cargelligo, Lithgow, Molong, Orange, Parkes, Peak Hill, West Wyalong and Young. This infrastructure may facilitate the relocation of creative industries or expand capabilities and opportunities for health care and education.

2.5 Gap Assessment

The gap assessment aims to identify existing supply gaps in the region that could be addressed through investment attraction. Gaps indicate that supply in the sector is not meeting existing demand, which is creating shortages in service provision. While previous sections primarily identified competitive advantages that can be leveraged, the gap assessment identifies existing weaknesses that can be improved. The extent of gaps varies within the region with the larger regional towns such as Bathurst, Orange and Lithgow generally having better provision of services than the more rural areas. On a regional level, existing supply gaps comprise:

- **Health Services:** Central West NSW and regional NSW in general are experiencing a shortage of medical professionals, with regional NSW estimated to have a shortage of approximately 150 general practitioners (as estimated by the Health Watch Group). Regional NSW often struggles to attract medical professionals because they lack access to the same facilities and opportunities available in the major regional cities. There is an opportunity for Central West towns to form links with metropolitan universities to host medical students in their communities. In a number of communities the private sector medical workforce is forming relationships with universities to attract more doctors. Local Government is providing support in some cases.
- **Professional Services:** The Central West region has experienced a shortage of professional services, primarily in the more rural areas. Shortages are not uniformly distributed within the region with larger centres having a greater availability of professional services. Shortages include business services such as financial services and accountants. Engineering professionals and technicians are also in short supply and this has been increased by the development of large mining projects. The further expansion of the mining sector will create opportunities for the attraction of engineering consultants and service providers.
- **Tertiary Education:** Part of the reason for the shortage of skilled workers in the region is the underutilisation of regional tertiary education institutions. Existing tertiary institutions in the region include the Charles Sturt University campuses in Bathurst and Orange and several TAFE Western campuses. A large number of young people in the region leave to pursue education opportunities elsewhere. There are opportunities to expand tertiary education in the region, particularly course offerings, to retain people. The expansion of universities in the region could also result in potential partnership opportunities with the private sector, which could create pathways for careers which in turn may assist in retaining young people in the region.

Charles Sturt University has developed a University Strategy 2011-2015 to plan for the future. The strategy outlines the plan to strengthen the network of regional campuses and study centres, refine the course profile to better meet student and business requirements, and increase research projects. These goals will create opportunities for investment in the education sector in the region and collaboration with other sectors.
- **Tradesman/Mechanics:** Skills shortages research undertaken by the Department of Education, Employment and Workplace Relations for December 2010 has identified significant skills shortages in regional NSW in blue collar occupations. Particular areas of shortages in regional NSW include automotive, engineering and construction tradesman with issues such as the development of large mining projects influencing the shortages. Industries such as manufacturing, retail trade, accommodation and food services, professional services, healthcare and agriculture have reported difficulty recruiting skilled workers. These areas of skills shortages mirror some of the gaps in local industry, signalling potential areas for improvement.

2.6 Specific Development Opportunities at the Regional Level

When identifying key industry sectors for growth, it is important to keep in mind the need for high value development (i.e. business activities that bring a high degree of knowledge and generate products and services of a high value). At the same time, it is important that future industry sectors are also sustainable businesses, both in terms of their environmental responsibilities and in terms of their operations (i.e. that their business operations are competitive in the long term). By focusing on these areas, economic development can generate greater economic returns for the community.

The opportunities for growth in the table below demonstrate opportunities which generate valuable, full-time employment for local residents.

Table 2.3: Economic Development Opportunities, Central West and Centroc Regions

Growth Sector	Specific Activities	Why Central West/Centroc Region?
Transport & Logistics	<ul style="list-style-type: none"> • Logistics: Transport and distribution services, warehousing, services to transport. 	<ul style="list-style-type: none"> • Availability of industrial land: Several major industrial estates within the region offering relatively cheap land in proximity to infrastructure. • Existing industrial base: The existence of a strong workforce, established supply chains, and related services is attractive to companies in similar industries. • Existing transport infrastructure: Access to strong transport networks including major highways and rail networks. • Strategic location: The region is strategically located with good transport links to Sydney, Canberra, Brisbane, Melbourne and Adelaide. • Strong resources sectors: Opportunities to leverage off the strong mining and agricultural resource sectors in the region.
Agribusiness	<ul style="list-style-type: none"> • Water Management: Water conservation technologies, irrigation and consultation. • Agricultural Services: Pest management, animal health care and bio-technology. • Biomass: Industrial biomass, research and energy production. 	<ul style="list-style-type: none"> • Agricultural sector: A strong agricultural sector with major production including beef, lamb, grains, cherries, apples and grapes. • Research Institutions: Opportunities for partnerships with local universities and research institutions.
Professional Services	<ul style="list-style-type: none"> • Business and Finance Services: Accounting, finance, banking, legal and real estate. • Scientific and Technical Services: Scientific research, engineering, planning, and design. 	<ul style="list-style-type: none"> • Existing business centres: Several regional commercial centres located throughout the region providing access to a large regional market. • Mining growth: Opportunities to provide scientific and technical service to the growing mining sector. • Lifestyle: Relatively low cost of living and high quality of life to attract white collar workers from major cities.
Health	<ul style="list-style-type: none"> • Medical and Health Related Services: Specialist and niche medical services surrounding hospitals. • Aged Care Services: Retirement villages and aged care services including active retirement villages. 	<ul style="list-style-type: none"> • Population growth: The region is expected to record strong population growth in the future, driving demand for health services. • Ageing population: The region records a relatively older population (that is continuing to age) and is popular for retirees. • Existing health facilities: Several major public hospitals located within the region in addition to numerous medical centres and medical services providers.
Education and Research	<ul style="list-style-type: none"> • Agricultural research: Research to make agricultural production more water efficient. • Health research and training: Partnerships between universities and upgraded hospitals. • Tertiary education: University campuses and training providers. 	<ul style="list-style-type: none"> • Health infrastructure: Several base hospitals located in the region that are also being upgraded. • Research Institutions: Opportunities for partnerships with local universities and research institutions. • Supply Gaps: Shortages in the provision of tertiary education campuses and courses in the region.
Technology Services	<ul style="list-style-type: none"> • Information and Communications Technology: Communications services. • Creative industries: Software development, film, music, publishing and advertising. • Renewable Energy Technologies: Solar and wind energy, carbon capture and biofuels. 	<ul style="list-style-type: none"> • National Broadband Network: Development of high speed communications infrastructure will improve competitiveness of the region. • Research Institutions: Opportunities for partnerships with local universities and research institutions. • Government Policy: Changing policy in relation to renewable energy and greenhouse gases and public sector investment.



Growth Sector	Specific Activities	Why Central West/Centroc Region?
Advanced Manufacturing	<ul style="list-style-type: none"> • Food and Beverage: Food processing, baked goods and beverage production. • Advanced Machinery & Equipment: Advanced machinery and equipment manufacturing including health equipment, medical devices and electrical equipment. • Industrial Machinery & Equipment: Manufacturing of machinery and equipment for the agriculture and resource sectors. 	<ul style="list-style-type: none"> • Availability of industrial land: Several major industrial estates within the region offering relatively cheap land in proximity to infrastructure. • Existing industrial base: The existence of a strong workforce, established supply chains, and related services is attractive to companies in similar industries. • Skilled local workforce: Existing manufacturing sector supporting a skilled workforce. • Training facilities: Numerous TAFE Western campuses located throughout the region providing education and training opportunities for businesses. • Existing transport infrastructure: Access to strong transport networks including major highways and rail networks. • Strategic location: The region is strategically located so that it is within close proximity to Sydney, Brisbane, Melbourne and Adelaide. • Strong resources sectors: Opportunities to leverage off the strong mining and agricultural resource sectors in the region by manufacturing and supplying machinery and equipment to local operations.
Tourism	<ul style="list-style-type: none"> • Business travellers: Housing resource workers. 	<ul style="list-style-type: none"> • Growing resource sector: The resource sector in the area is continuing to expand, which will drive demand for business travellers to the region, both as fly-in/fly-out as well as suppliers and service providers.

Source: AECgroup



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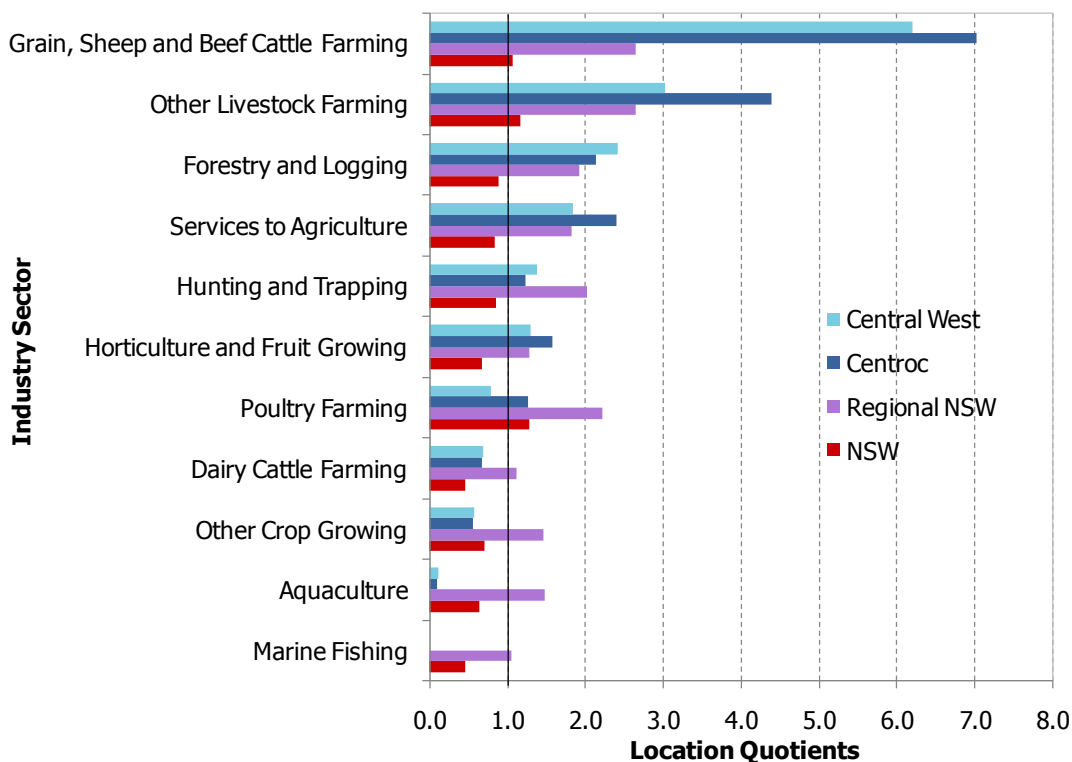
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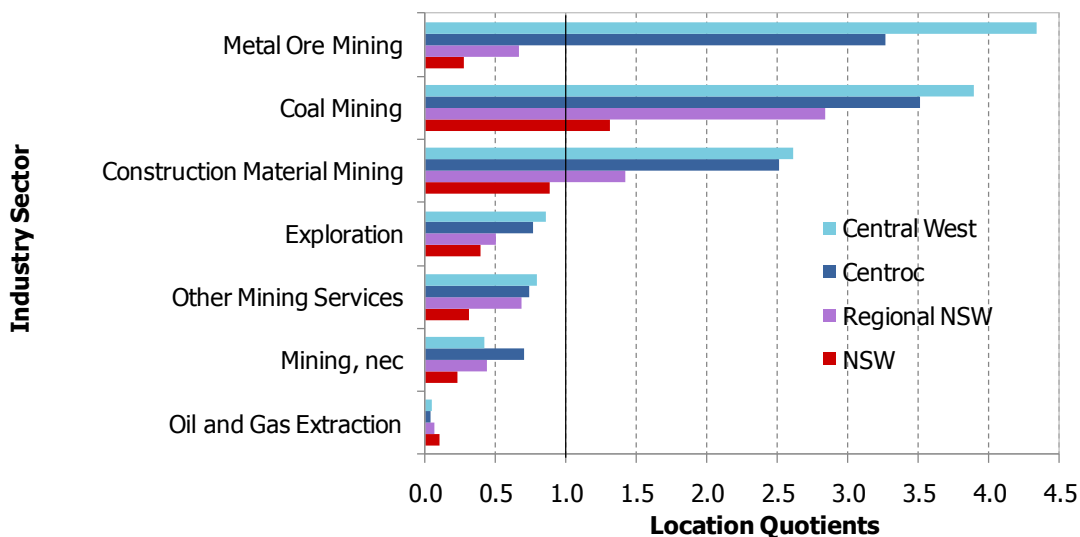
Appendix A: Location Quotients

Figure A.1: Location Quotients (3-digit ANZSIC), Agriculture - Central West & Centroc, 2006



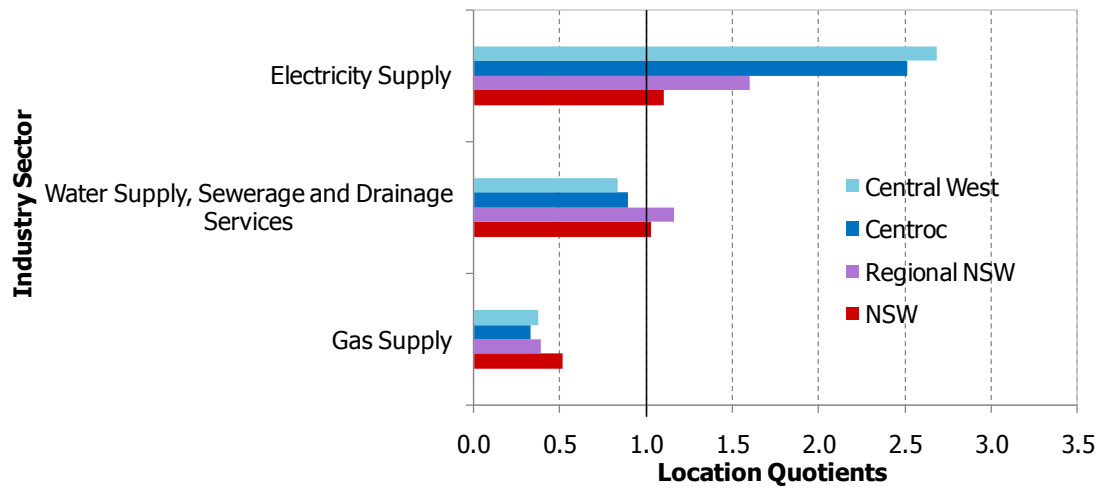
Source: ABS (2007), AECgroup

Figure A.2: Location Quotients (3-digit ANZSIC), Mining - Central West & Centroc, 2006



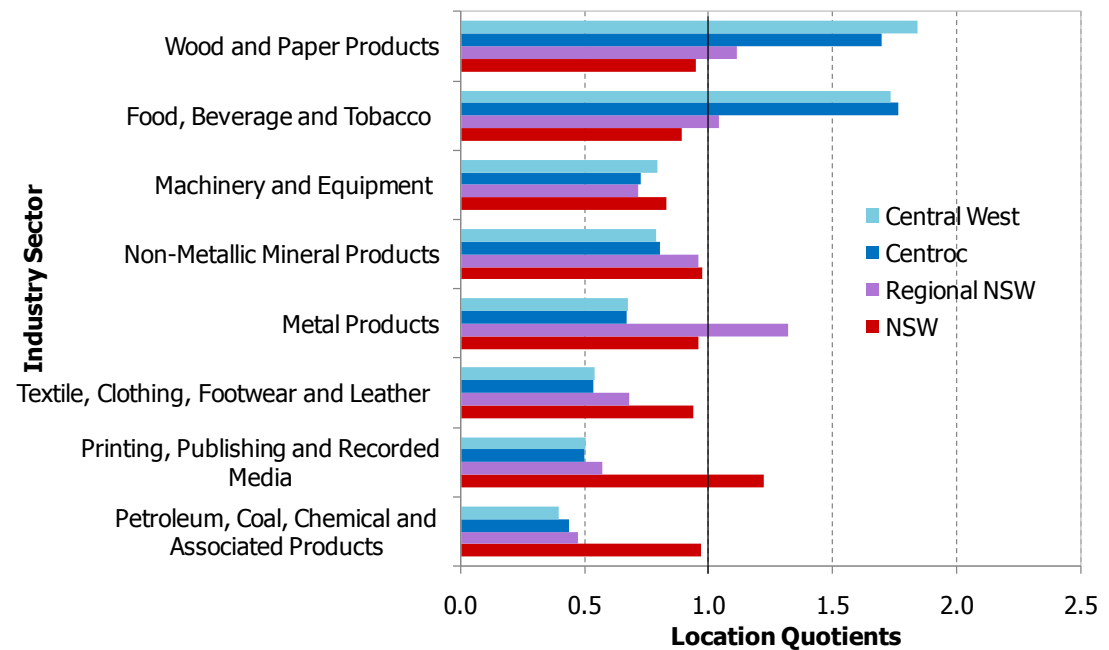
Source: ABS (2007), AECgroup

Figure A.3: Location Quotients (3-digit ANZSIC), Electricity, Gas & Water Supply - Central West & Centroc, 2006



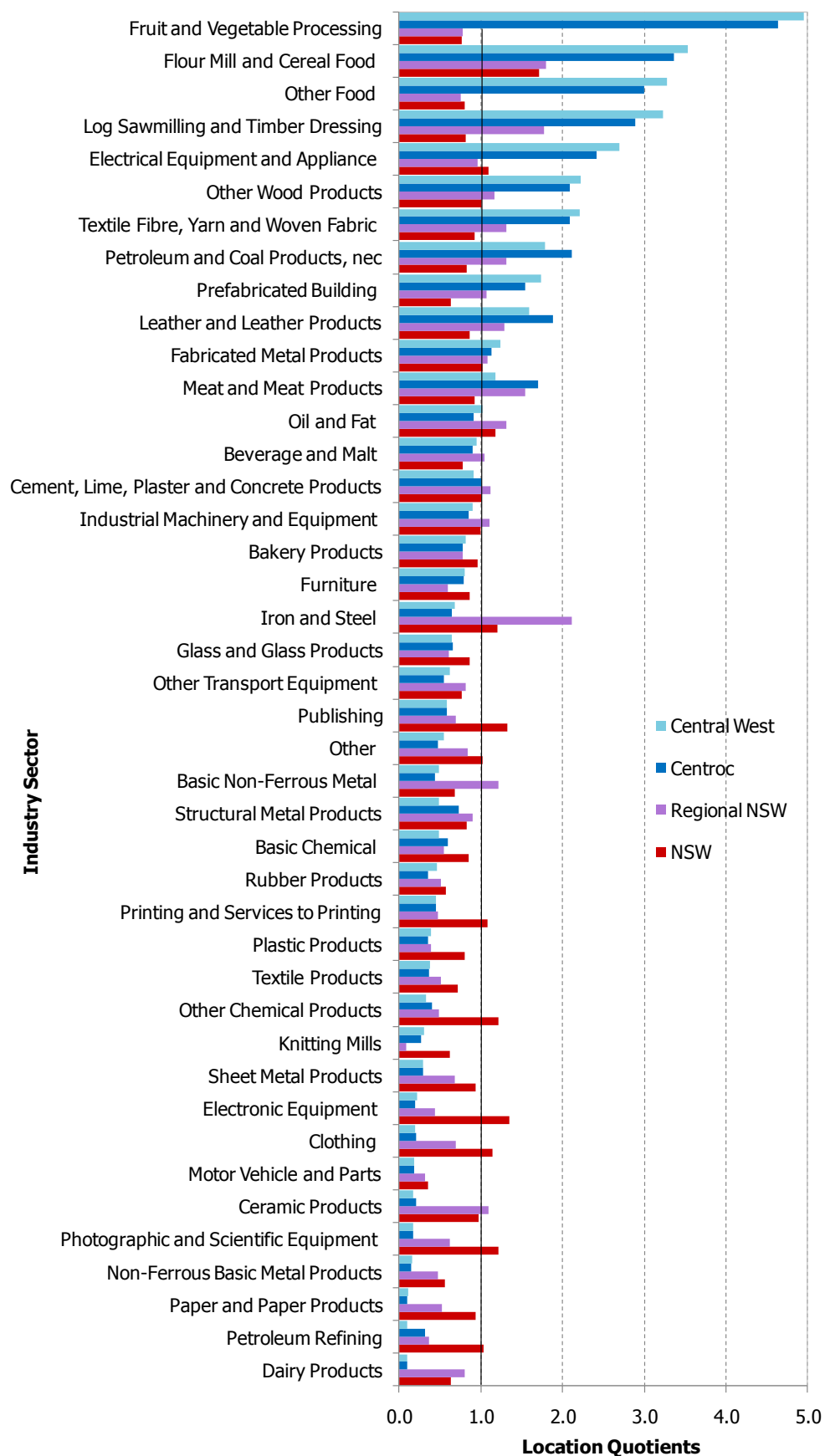
Source: ABS (2007), AECgroup

Figure A.4: Location Quotients (2-digit ANZSIC), Manufacturing - Central West & Centroc, 2006



Source: ABS (2007), AECgroup

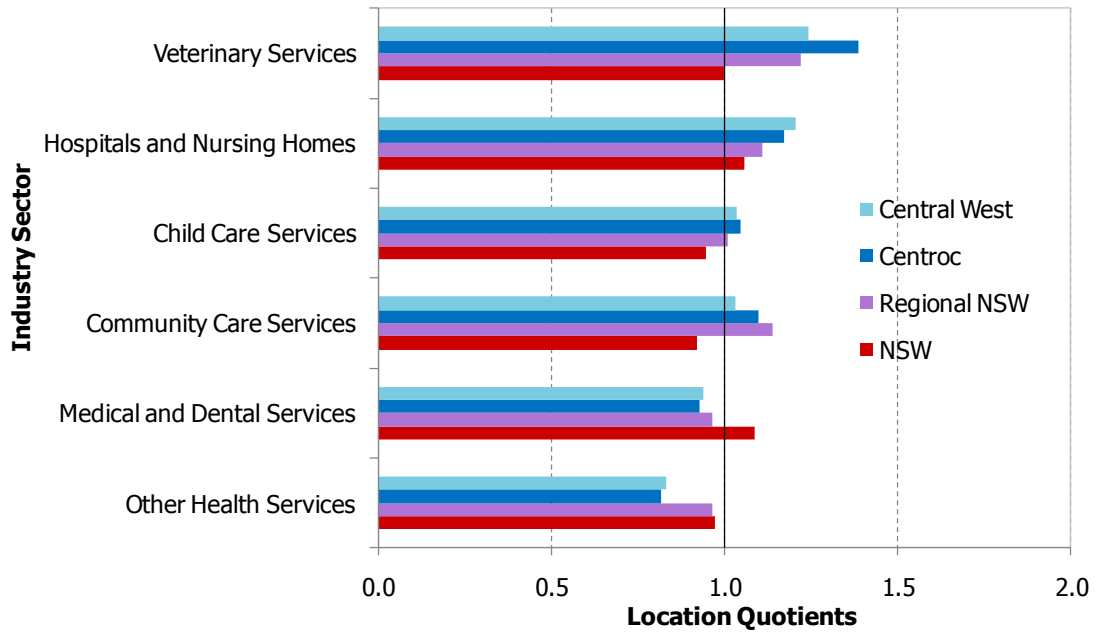
Figure A.5: Location Quotients (3-digit ANZSIC), Manufacturing - Central West & Centroc, 2006



Source: ABS (2007), AECgroup

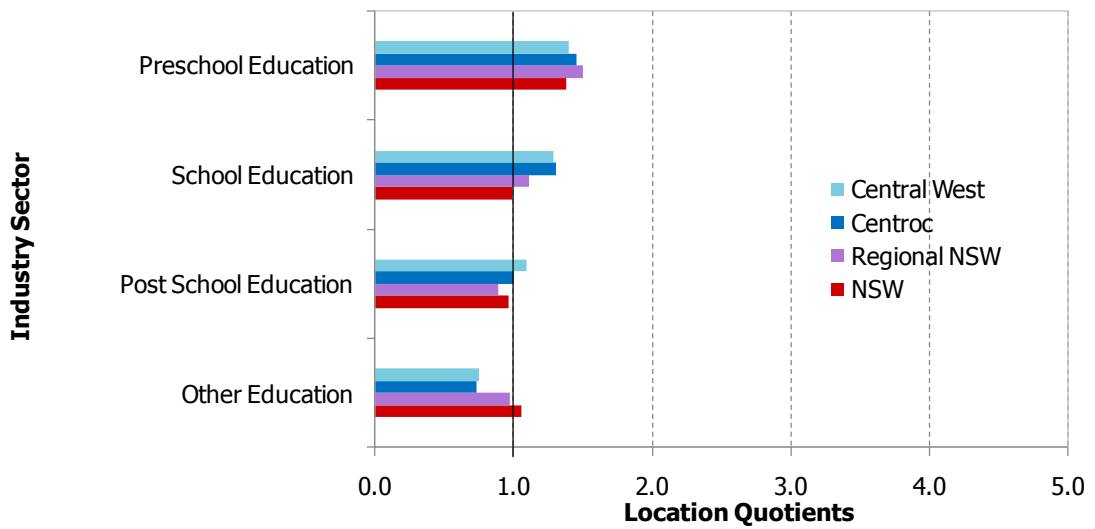


Figure A.6: Location Quotients (3-digit ANZSIC), Health and Community Services - Central West & Centroc, 2006



Source: ABS (2007), AECgroup

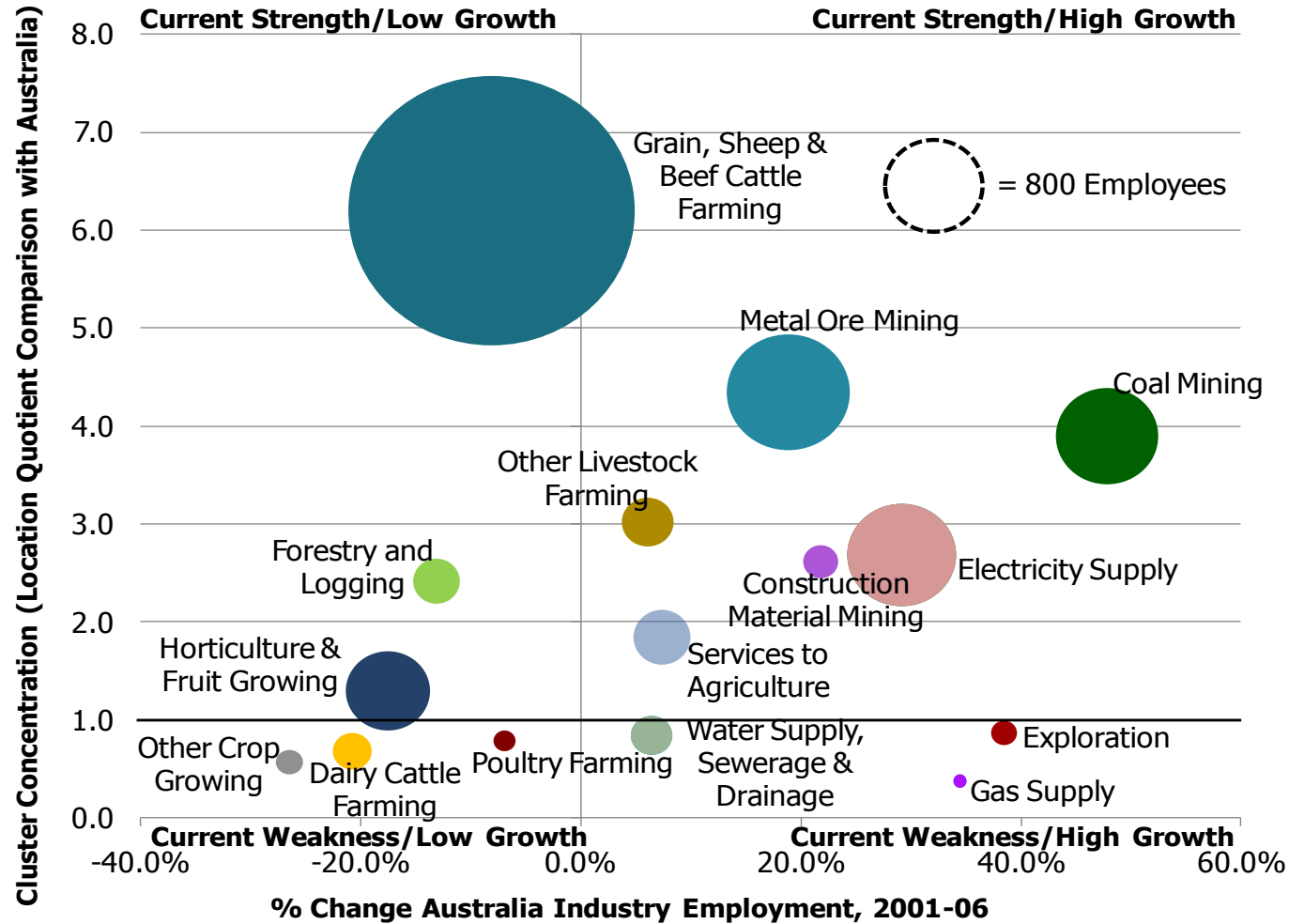
Figure A.7: Location Quotients (3-digit ANZSIC), Education, 2006



Source: ABS (2007), AECgroup

Appendix B: Cluster Maps - Central West & Centroc

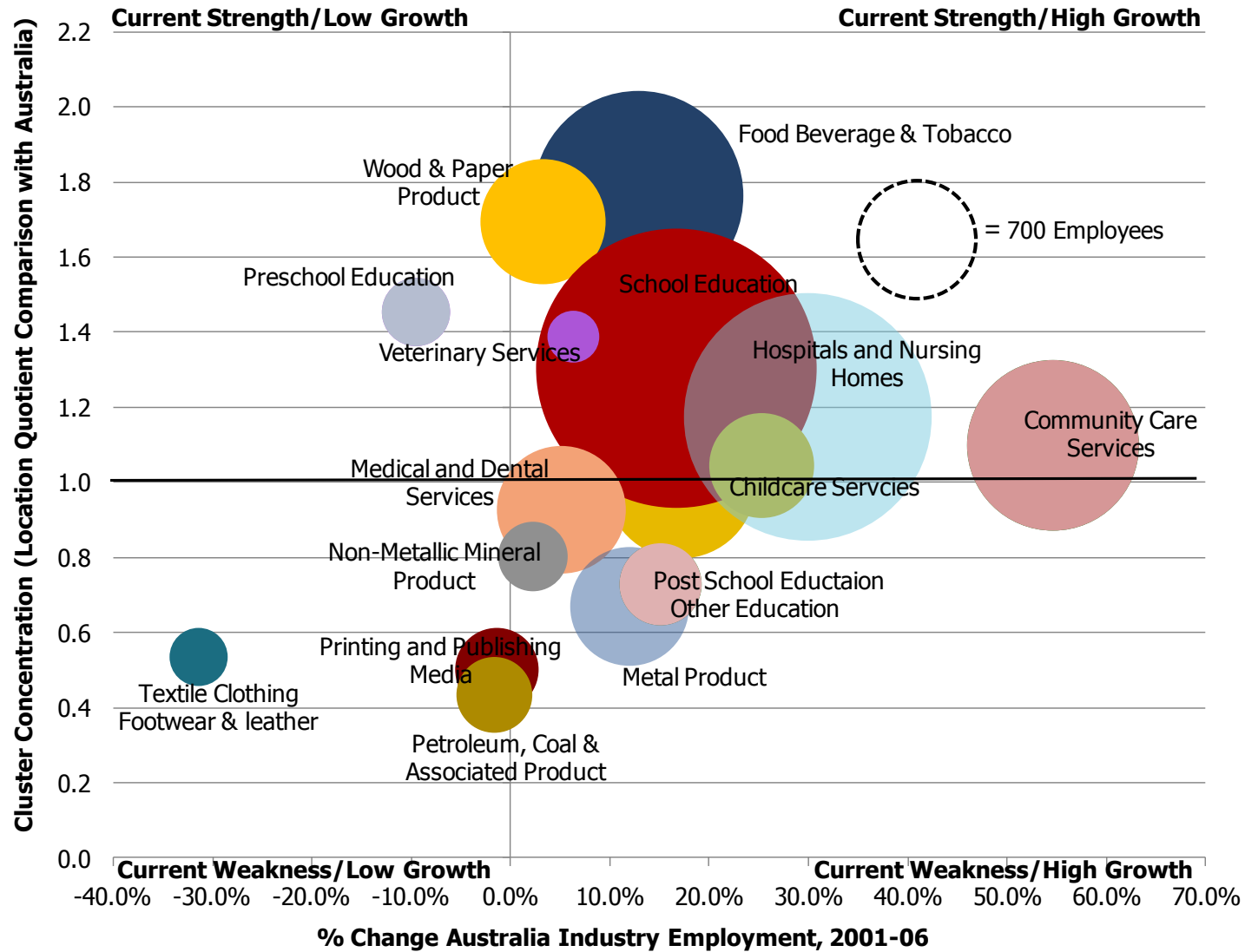
Figure B.1: 3-digit ANZSIC Cluster Map - Central West, Key Industries (Agriculture; Mining; & Electricity, Gas & Water Supply), 2006



Source: ABS (2007), AECgroup (2010)



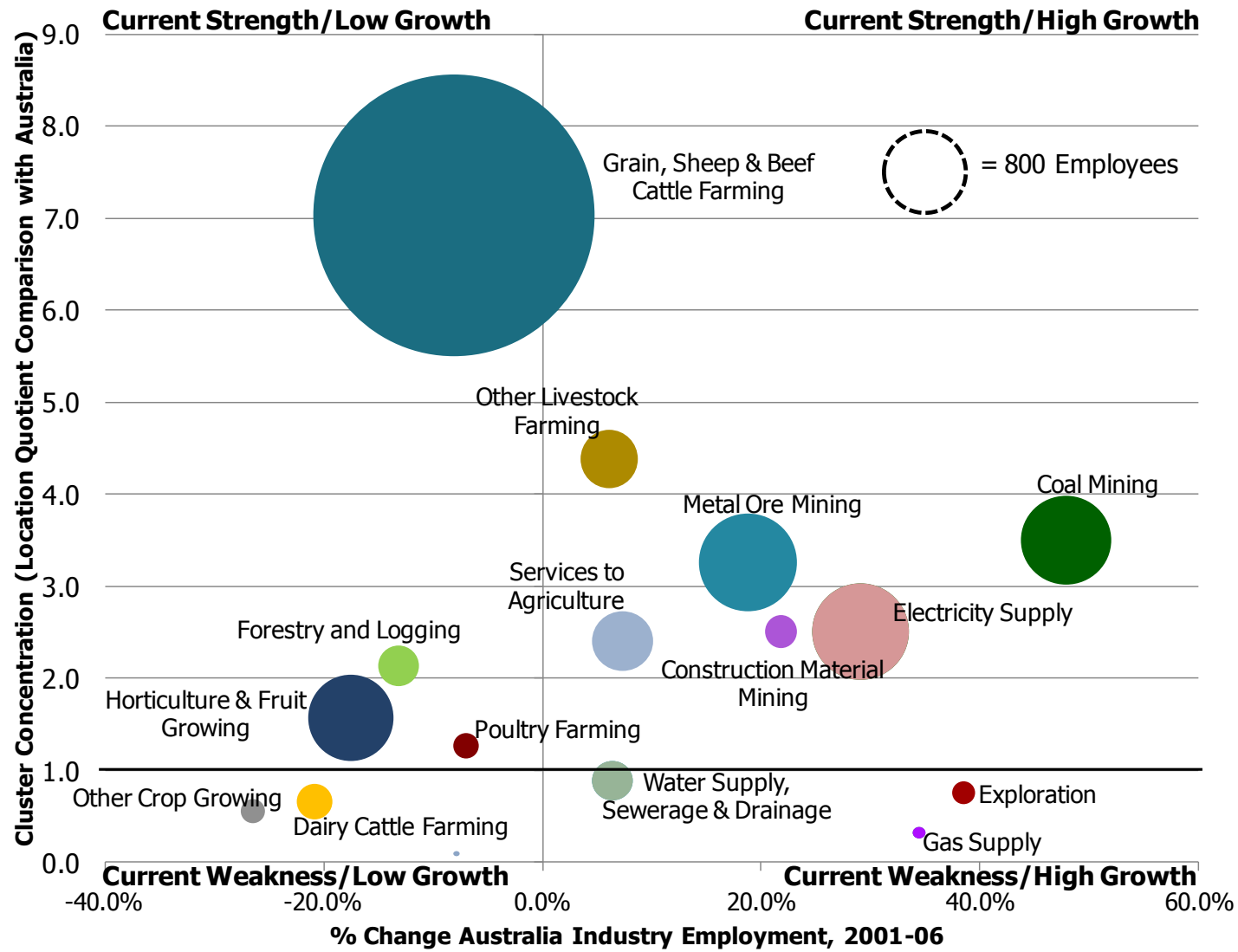
Figure B.2: ANZSIC Cluster Map - Central West, Key Industries (2-digit Manufacturing, and 3-digit Health and Education), 2006



Source: ABS (2007), AECgroup (2010)



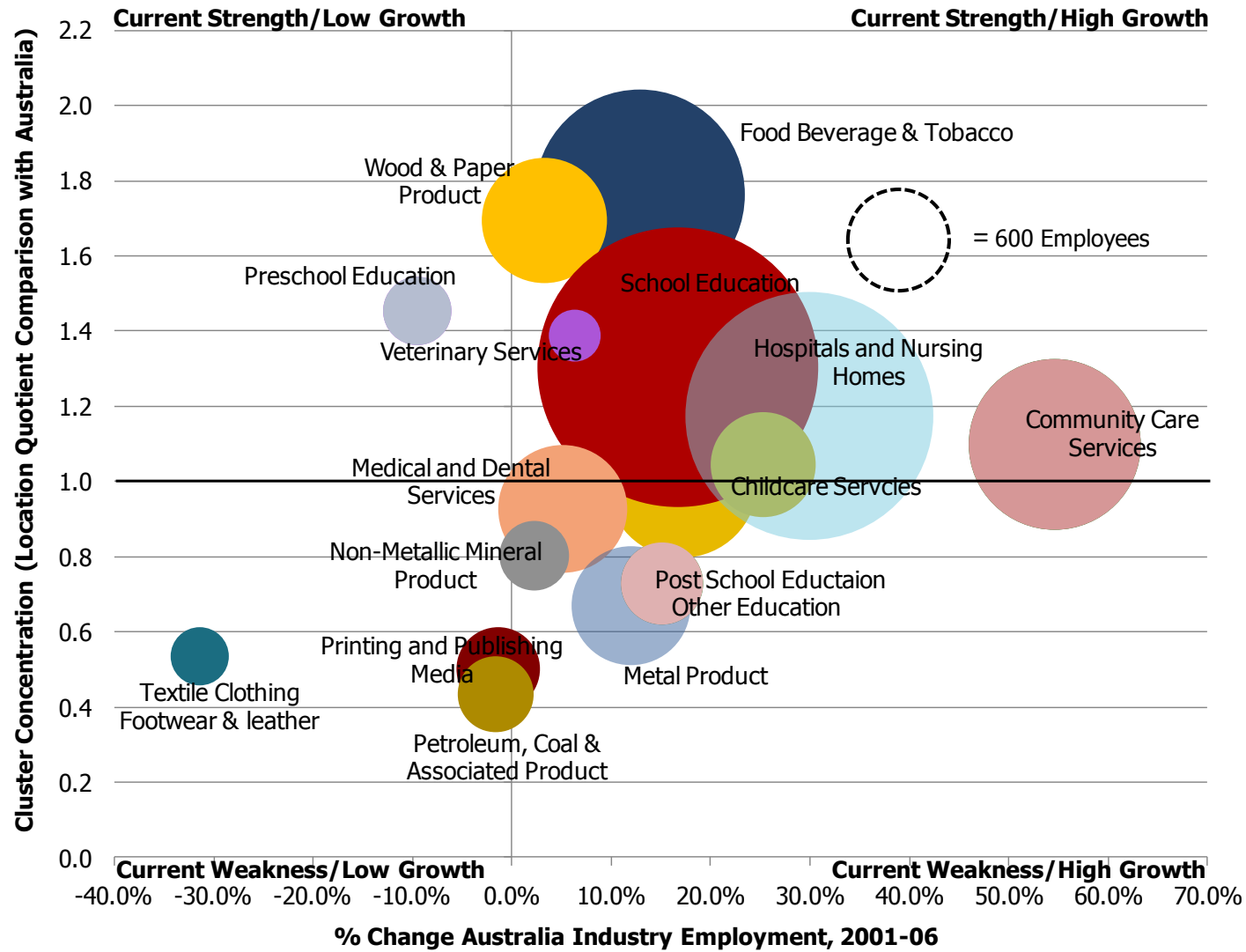
Figure B.3: 3-digit ANZSIC Cluster Map - Centroc, Key Industries (Agriculture; Mining; & Electricity, Gas & Water Supply), 2006



Source: ABS (2007), AECgroup (2010)



Figure B.4: ANZSIC Cluster Map - Centroc, Key Industries (2-digit Manufacturing, and 3-digit Health and Education), 2006



Source: ABS (2007), AECgroup (2010)



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Brisbane	Level 5, 131 Leichhardt Street Spring Hill QLD 4000	PO Box 942 Spring Hill QLD 4004	T F	+61 7 3831 0577 +61 7 3831 3899
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Sydney	Level 3, 507 Kent Street Sydney NSW 2000	PO Box Q569, QVB Sydney NSW 1230	T F	+61 2 9283 8400 +61 2 9264 9254
Townsville	233 Flinders Street East Townsville QLD 4810	PO Box 5804MC Townsville QLD 4810	T F	+61 7 4771 5550 +61 7 4771 5152
Perth	Level 18, Central Park 152 - 158 St Georges Terrace Perth WA 6000		T F	+61 8 9288 4456 +61 8 9288 4457