



## ***Perth's Economic Base: A Comparative Assessment***

Matthew Tonts

### **Introduction**

One of the most important issues in urban development is to understand the drivers of a local economy. This enables policymakers, planners and others interested in the future of cities to focus attention on supporting those sectors that underpin economic growth, and those that are of emerging importance. Such analyses are generally linked to 'economic base theory', which aims to identify areas of export oriented activity and employment specialisation. This brief bulletin examines Perth's economic base, identifying the propulsive sectors and how this structure compares with other Australian cities.

### **Measuring a City's Economic Base**

While there are numerous techniques that can be used to determine a city's economic base, this research uses location quotients on employment data from the 1996 and 2006 census. Location quotients are a simple measure of economic concentration in particular sectors relative to a wider population – in this case Australia as a whole. The interpretation of location quotients is quite straightforward. The convention holds that any sector with a score of more than 1.0 is over-represented compared to the nation, and is therefore considered to be one of the city's propulsive industries. In other words, these sectors are generally export oriented and important in generating new jobs. In this bulletin, the criterion for a 'propulsive' industry is a little more strict, and uses a figure of 1.1 to determine such a sector. The details on exactly how a location quotient is calculated are provided in Appendix 1.

### **Local Employment Concentration in Perth**

The location quotient analysis for Perth in 1996 and 2006 highlights the importance of mining. While it has long been apparent that Perth is a 'resources city', the data in Figure 2 emphasise just how significant that sector really is. In 2006, mining had a quotient of 2.17, which was considerably higher than the next most important industry, manufacturing, which recorded 1.14. So, even though mining only provides direct employment for 2.5 per cent of the city's labour force, in overall terms it is *nearly twice as important for Perth's economy than any*

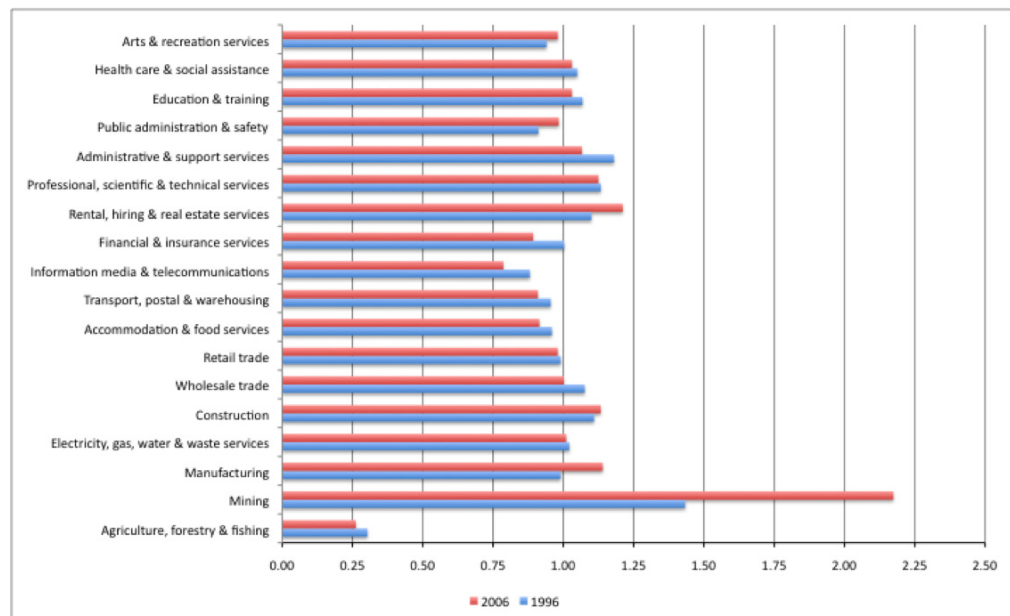


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*other single sector.* It is also worthy noting the extent to which mining increased its position after 1996, when it recorded an already significant 1.43.

The other industry that improved its relative position was manufacturing, which rose from 0.99 in 1996 to 1.14 in 2006. Much of this increase was linked to the expansion of the resources sector, and included the manufacture and maintenance of mining related equipment and some processing activities. However, it is also clear that other forms of manufacturing that are not directly related to mining are performing well. Activities such as shipbuilding at Henderson, south of Perth, food processing, and metals and plastics fabrication are helping to underpin the increasing role of this sector in the city's economy.

**Figure 1 Location Quotients for Industry Sectors in Perth, 1996 and 2006**



(Source: Calculated from ABS, 2007)

A number of other sectors scored above the critical 1.1 quotient in 2006. These included: construction (1.13); professional, scientific and technical services (1.12); and rental, hiring and real estate services (1.21). In one way or another these sectors have direct or indirect links to the mining sector. Construction's quotient reflects not only the expansion of the mining industry, but also the wider resources-driven boom that the city experienced in the early to mid 2000s. The professional, scientific and technical services industry has even closer links to the resources sector, and includes those engaged in activities such as surveying, exploration



geology, metallurgy, and other analytical/scientific activities. Rental, hiring and real estate services is one of the more important sectors, although it includes a rather odd mix of those involved in the real estate industry, through to those engaged in leasing/hiring equipment. The sector's position reflects the strength of the property market during much of the late 1990s and early 2000s. However, it also captures those people engaged in leasing equipment to both the mining and construction sectors.

### **A Comparison with Other Australian Cities**

The structure of Perth's economic base becomes clearer when benchmarked against other Australian cities. The results of a comparative assessment are presented in Table 1. It shows that Australian cities demonstrate relatively high degrees of specialisation in terms of their economic structure. In summary:

- The economic base of Adelaide continued to be closely tied to the manufacturing sector in 1996. However, the closure of major production facilities, such as Mitsubishi's car assembly operations in 2008 and Bridgestone's tyre factory in 2010 are likely to have eroded this sector. In the absence of clear employment alternatives, this economic structure leaves Adelaide relatively vulnerable. Other major activities included administrative services and health care. However, the importance of these sectors is more a reflection of the city's dominance within the South Australian urban system than their role in generating export earnings.
- Brisbane's economic base was linked closely to real estate and various professional services in 2006. This reflects the city's role in the management of Queensland's property development and management sector, and its growing role as a centre of professional and scientific services/activities. Transport was also a significant economic activity, with considerable tourism-related activity in this sector. A number of other sectors fell just short of the 1.1 quotient threshold here, including manufacturing and wholesale trade.
- Manufacturing remained an important component of Melbourne's economic base in 2006. However, it is also clear that the city has a number of other sectors that underpin its economy, including information media and telecommunications, financial and insurance services, and professional, scientific and technical services. This reflects the presence of a large number of large employers in these sectors (see also Factbase Bulletin 1). Interestingly, the city records a quotient of 1.2 for arts and

recreation. This perhaps confirms its reputation as a centre of creativity and activity in the arts/recreation sector.

- Sydney recorded a highly diversified economic base in 2006, with particular strengths in wholesale trade, transport related activities, information and telecommunications, and finance sectors. It also has an important professional, scientific and technical services industry.

The economic specialisation across the different sectors reflects the findings of Factbase Bulletin 1, which pointed to corporate specialisation in the national urban system.

**Table 1 Location Quotients for Industry Sectors in Australia's Largest Cities, 2006**

	Perth	Adelaide	Brisbane	Melbourne	Sydney
Agriculture, forestry & fishing	0.26	0.30	0.22	0.18	0.15
Mining	2.17	0.40	0.48	0.14	0.14
Manufacturing	1.21	1.24	1.05	1.23	0.93
Electricity, gas, water & waste services	1.01	1.07	1.02	0.73	0.85
Construction	1.13	0.85	1.03	0.93	0.90
Wholesale trade	1.00	0.91	1.04	1.27	1.27
Retail trade	0.98	1.06	0.99	1.01	0.93
Accommodation & food services	0.91	0.91	0.93	0.89	0.96
Transport, postal & warehousing	0.91	0.89	1.17	0.99	1.15
Information media & telecommunications	0.79	0.93	0.88	1.29	1.54
Financial & insurance services	0.89	0.98	0.96	1.24	1.67
Rental, hiring & real estate services	1.21	0.88	1.21	0.86	1.09
Professional, scientific & technical services	1.12	0.93	1.11	1.25	1.34
Administrative & support services	1.07	1.10	1.04	1.13	1.09
Public administration & safety	0.98	1.06	1.07	0.74	0.83
Education & training	1.03	1.03	1.04	0.99	0.94
Health care & social assistance	1.03	1.26	1.04	0.95	0.95
Arts & recreation services	0.98	0.94	0.92	1.20	1.03

(Source: Calculated from Australian Bureau of Statistics, 2007)



## Conclusion

The analysis conducted here shows that Perth's economic base is unlike any other city in Australia. There are two particularly telling aspects of this. First, no other city has an economic base that is closely tied to the mining sector. Indeed, not a single other Australian city recorded a quotient above 1.0 for mining. Second, and perhaps most significantly, Perth's quotient for mining (2.17) is much higher than the next highest quotient nationally (Sydney's finance and insurance sector at 1.67). From a policy perspective, this means that those interested in economic development need to take particular care to ensure that mining remains competitive and prosperous. However, it also raises questions about dependence and the need for diversification. While mining will continue to be the driver of the city's economy for the foreseeable future, the importance of fostering other sectors should not be forgotten.

## APPENDIX A CALCULATING A LOCATION QUOTIENT

Location quotients are calculated as follows:

$$LQ_{ir} = (E_{ir}/E_r)/(E_{iN}/E_N)$$

Where:

$E_{ir}$  = employment in sector  $i$  in region  $r$

$E_r$  = total employment in region  $r$

$E_{iN}$  = employment in sector  $i$  in the national economy

$E_N$  = employment in the national reference economy

A location quotient of greater than 1.0 suggests a local or regional advantage (or concentration of employment) in that sector. A location quotient of less than one suggests that the sector is not a 'propulsive' industry within the local economy.



## REFERENCE

Australian Bureau of Statistics (2007), *Time Series Community Profiles* (various issues), Commonwealth of Australia, Canberra.

### About FACTBase

The FACTBase project is a joint venture between the University of Western Australia and the Committee for Perth, an influential member-based organisation driven by a diverse assembly of Perth's leaders. Members collaborate with business, government and community groups to actively improve the liveability of our city, resulting in a real and enduring contribution to Perth and the metropolitan area.

One of the only broad-reaching projects of its kind to be undertaken in the southern hemisphere FACTBase condenses the plethora of databases and studies on the subject of liveability and analyse what's happening in Perth through words, maps and graphs.

### About the Author

Matthew Tonts is Professor of Human Geography at The University of Western Australia.

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Tonts, M. (2010), *Perth's Economic Base: A Comparative Assessment*, FACTBase Bulletin No 9, The University of Western Australia and Committee for Perth, Perth.

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