



Perth's Most Competitive Sectors: An Exploratory Study

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Introduction

This Bulletin examines the competitiveness of Perth's employment sectors between the 1996 and 2006 censuses. It identifies not simply broad rates of growth in various employment categories, but those sectors that grew because of particular local attributes that underpin the city's competitiveness. By doing this it is possible to: i) identify those sectors that drive economic growth; ii) determine those sectors that underperform and might require reform or support. While the study focuses on Perth, it also draws comparisons with other Australian cities.

Measuring Local Competitiveness

Local competitiveness is measured here using shift-share analysis. This technique 'decomposes' economic change into three components. The first is the share of growth that is linked to broader national growth or decline (often referred to as 'national share'). The second is the growth/decline that occurs as a result of the particular combination of industries within a location (often referred to as 'industry mix'). The final component is the growth/decline that occurs as a result of local competitive effects. These effects might relate to the availability of natural resources, the performance of local companies, institutional supports, or the regulatory regime.

This Bulletin is focussed on identifying the extent of these competitive effects in driving Perth's recent employment growth. In essence, it begins to address the question: 'which sectors are Perth's most competitive?' It is important to note that shift-share analysis does not attempt to explain what underlies these competitive effects. It simply measures the extent to which economic change is related to local attributes – whatever these might be. The analytical technique is described in more detail in Appendix A.

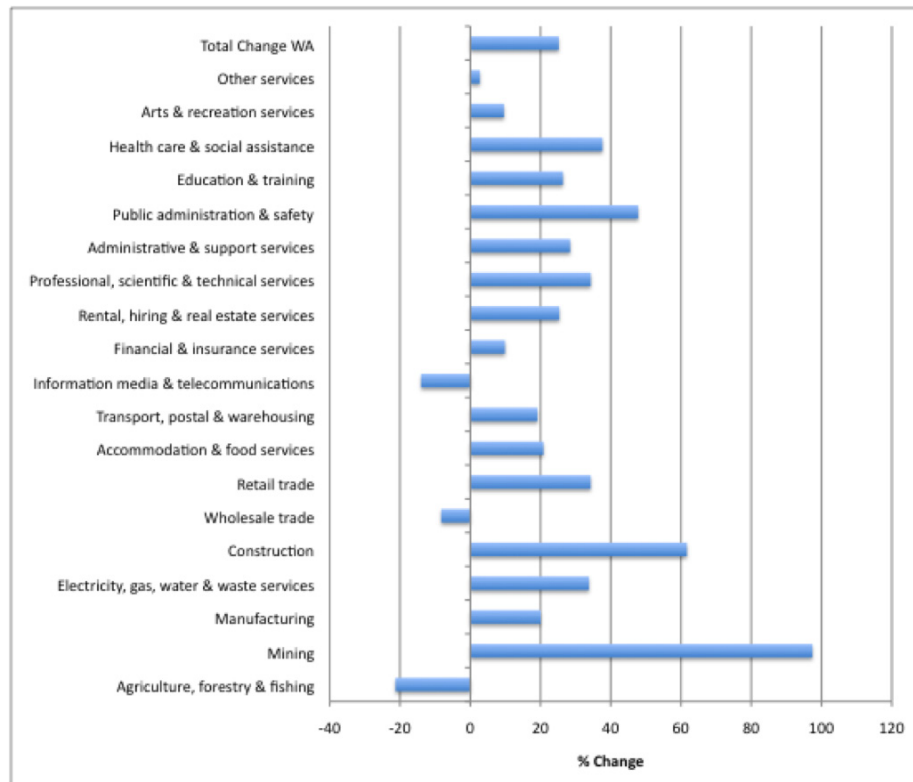
Perth's Changing Employment Structure

Between 1996 and 2006, Perth's total labour force increased from 553,387 to 693,087; a rise of 25.2 per cent. This compares with a national increase in the labour force of 19.2 per cent over the same



period. Figure 1 shows the breakdown of employment growth by industry sector over this time period. The strongest growth was recorded in the mining sector (increasing by 97.4 per cent), followed by construction (61.7%). Other significant growth occurred in public administration (47.8%), health care and social assistance (37.7%) and retailing (34.3%).

Figure 1 Percentage Growth in Employment by Industry Sector, 1996-2006



(Source: Australian Bureau of Statistics, 2007)

While Figure 1 shows the total growth, Figure 2 shows growth as a result of competitive effects. This shows a rather different picture, since it points to the extent to which local factors are driving the rate of change. It shows that Perth's most competitive sector is mining, with growth as a result of local effects being over 73 per cent. In essence, this figure tells us that there are very particular local conditions that make mining highly competitive. These might include quality of the resources, accessibility of resources, institutional structures and so on. In general terms, this suggests that mining is a sector that not only performs well, but that the broader regulatory, labour market and economic environment within which it is situated is highly conducive to growth.

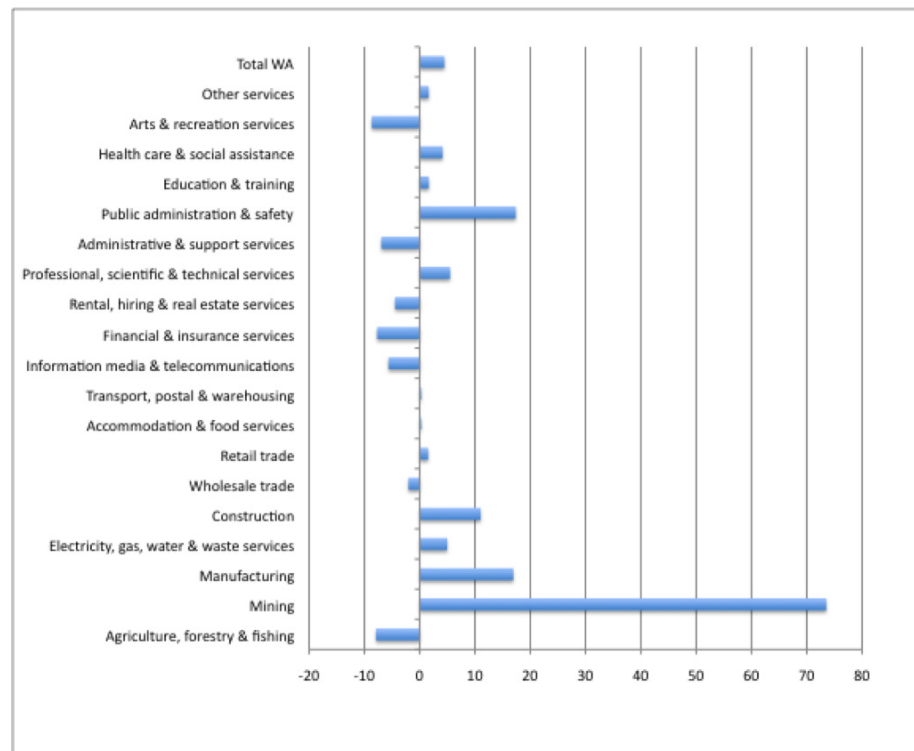
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Aside from mining, there are a number of other sectors where Perth's industry is highly competitive. Perhaps one of the most notable is manufacturing, which increased by more than 20 per cent as a result of local factors. Much of this is likely to be linked to the manufacturing sector's interaction with mining, although other success stories such as innovative food processing and ship building industries probably account for some of this.

The growth in manufacturing has been accompanied by sizable increases in public administration – largely as a result of employment growing in the public sector at a faster rate than at the national level. Construction, also linked to the expansion of resources, as well as rapid population growth, was also one of the city's most competitive local sectors.

Figure 2 Employment Growth Linked to Local Competitive Effects, 1996-2006



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

Not all of the industry sectors in Perth demonstrate high levels of competitiveness. The local agriculture, fisheries and forestry sector (predominantly represented by horticulture and viticulture) is a relatively poor performer, reflecting the challenging trading and environmental conditions in this industry. The city's financial services

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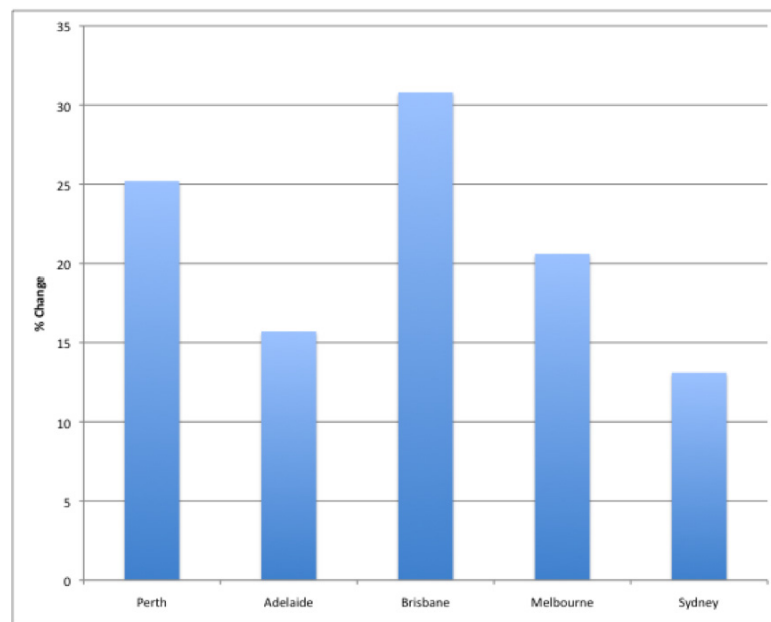


and ITC sectors are also modest performers, and clearly lack the competitive advantage of similar sectors operating in other cities. Perhaps worryingly, the arts and recreation sector also lags. In a city aiming to cast off the 'dullsville' tag this is cause for concern, and points to the need for further support and investment in the arts.

Perth in Comparative Perspective

Figure 3 shows the total percentage employment growth for all Australian cities between 1996 and 2006. Brisbane recorded the strongest growth over the period, increasing by just over 30 per cent. Perth's 25.2 per cent growth was ahead of Melbourne (20.6%). Adelaide (15.7%) and Sydney (13.1%) recorded lower rates of change.

Figure 3 Percentage Employment Change in Selected Australian Cities, 1996-2006



(Source: Australian Bureau of Statistics, 2007)

The shift-share analysis provides insights into the extent to which local competitiveness is driving change. At the national scale, Perth's level of local competitiveness is relatively high. Between 1996 and 2006, employment growth linked to local competitiveness was around 4.5 per cent, second only to Brisbane with 10.2 per cent. This suggests that, on the whole, Perth has an economic, institutional and regulatory structure that fosters growth. Australia's two largest cities, Melbourne and Sydney,

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performed less well. This is not necessarily because these cities lack a competitive environment, but simply reflects the fact that much of their expansion was driven by national level economic growth, rather than peculiar local conditions. It is important to remember that Table 1 simply shows the *locally driven component of growth* – not the total percentage growth figure.

Table 1 Employment Growth Linked to Local Competitiveness for Australian Cities, 1996-2006

| | Perth | Adelaide | Brisbane | Melbourne | Sydney |
|---|-------|----------|----------|-----------|--------|
| Agriculture, forestry & fishing | -7.9 | 14.1 | -1.6 | -6.9 | -9.9 |
| Mining | 73.5 | 60.8 | 37.9 | -33.0 | -33.3 |
| Manufacturing | 16.9 | -3.7 | 21.7 | -9.4 | -11.3 |
| Electricity, gas, water & waste services | 5.0 | 8.5 | 48.0 | 10.2 | -12.8 |
| Construction | 11.0 | 12.2 | 10.7 | 4.7 | -21.6 |
| Wholesale trade | -2.0 | -11.8 | 1.7 | 12.5 | 0.5 |
| Retail trade | 1.5 | 1.2 | 9.2 | 2.8 | -8.9 |
| Accommodation & food services | 0.2 | -4.7 | 8.0 | 8.9 | -4.5 |
| Transport, postal & warehousing | 0.0 | -2.8 | 15.2 | 4.4 | -9.3 |
| Information media & telecommunications | -5.7 | -1.8 | -2.2 | 4.8 | 4.7 |
| Financial & insurance services | -7.7 | -2.2 | 7.6 | 4.1 | 3.4 |
| Rental, hiring & real estate services | -4.5 | -16.9 | 12.3 | 12.8 | -5.7 |
| Professional, scientific & technical services | 5.5 | -5.2 | 4.5 | 1.4 | -5.5 |
| Administrative & support services | -6.9 | -6.6 | 12.9 | 7.7 | -17.5 |
| Public administration & safety | 17.4 | 9.4 | 6.2 | -5.9 | -10.2 |
| Education & training | 1.6 | -8.4 | 8.9 | 5.5 | -1.9 |
| Health care & social assistance | 4.2 | -6.4 | 10.2 | 1.2 | -8.3 |
| Arts & recreation services | -8.7 | -18.5 | 1.9 | 9.8 | -7.4 |
| TOTAL | 4.5 | -3.9 | 10.2 | 1.7 | -6.74 |

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

At the sectoral level, the importance of Perth's mining industry becomes apparent, with this outperforming other cities across Australia. Other cities to perform well in this regard were Adelaide and Brisbane. The local competitive effects in manufacturing were especially strong in Perth and Brisbane. Perth lagged other cities in a number of the services sector, as well as those related to entertainment (e.g. arts and recreation, and accommodation and food services). It is here that from a strategic economic development perspective, Perth might consider how to improve its competitive advantage. One of the other sectors that is often a driver of local economic growth is education, and here Perth could perhaps look to strengthen its performance.



Conclusion

The overall message in the analysis is that Perth has a local economy that is competitive and promotes growth. This is most evident in the mining sector, although is also apparent in sectors such as manufacturing and construction. When compared to other Australian cities, these and a number of other sectors performed well. Indeed, Perth's employment growth was second only to Brisbane in terms of both absolute growth and growth that was fuelled by local factors. It is clear, however, that there is room for improvement. Sectors such as the arts, financial services, and tourism lag somewhat. In these areas, there are opportunities to look for ways of strengthening local conditions in order to optimise development.

Appendix A: Shift-Share Analysis

Shift-share analysis is a means of analysing regional growth and decline over time. The technique enables an assessment of a region's overall performance relative to other regions, and is a useful way of identifying a region's industry problems or advantages by attempting to isolate the extent to which growth or decline is linked to local effects, national effects or structural effects based on the particular mix of industries.

For any region j , employment growth for a particular period under investigation is decomposed in the following way:

1. NS, the national share. The employment growth that region e experienced as a result of overall national trends
2. IM, the industry mix component. That part of change attributable to the industrial composition or mix of the region,
3. CE the competitive effects component. That part of change attributable to regional advantage or competitiveness.

The full equations require the following elements:

e_i = regional employment in industry i

E_i = national employment in industry i

e = regional total employment in all industries

E = national total employment in all industries

$t-1$ = the initial period (1996) and t the end period (2006)



Thus:

$$\Delta e_i \equiv e_{i,t} - e_{i,t-1} \equiv NS_i + IM_i + RS_i \quad (1)$$

$$NS_i \equiv e_{i,t-1} (E_i / E_{t-1}) \quad (2)$$

$$IM_i \equiv e_{i,t-1} (E_{i,t} / E_{i,t-1} - E_t / E_{t-1}) \quad (3)$$

$$CE_i \equiv e_{i,t-1} (e_{i,t} / e_{i,t-1} - E_{i,t} / E_{i,t-1}) \quad (4)$$

$$e_{i,t} \equiv e_{i,t-1} + (NS_i + IM_i + CE_i) \quad (5)$$

REFERENCES

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

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