Australia's Economic Performance

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Preface

This report is the result of a 4-month collaborative project by the McKinsey Global Institute (MGI) and McKinsey's Australian Office on Australia's relative economic performance.

The approach we have is based on previous MGI work that assessed the productivity and employment performance of developed countries, including France, Germany, Italy, Japan, Spain, Sweden and the United States. As in past work, we have used industry case studies to measure differences in productivity and employment, and to understand the reasons for the differences between the Australian industries and their counterparts in leading countries.

The case study findings were first presented to 20 senior business leaders at a conference held by McKinsey in August 1995 and chaired by John Prescott, Managing Director and Chief Executive Officer of BHP. The conference discussions about the implications of our findings for firms, industries and for Australia contributed to the final chapter of this report.

Undertaking this Australian project is part of the fulfilment of MGI's mission to help business leaders broaden their understanding of global economic developments, improve the performance of their corporations and work for better national and international policies.

Acknowledgements

Many people contributed to this report. Without their efforts it would not have happened.

Our special thanks go to those business leaders who discussed the findings at our August 1995 conference. Their perspectives and lively debate did much to shape our thinking about Australia's reform agenda.

We would also like to thank Warwick McKibbin, Professor of International Economics at the Australian National University who gave us valuable advice about productivity measurement.

Thanks too must go to our colleagues in the McKinsey Global Institute, especially its Director, Bill Lewis, and the Chairman of its Advisory Board, Ted Hall, for stimulating our initial interest and providing constructive criticism and ongoing support, and Eric Zitzewitz for his economic analysis.

In the Australian office, Charles Conn (alumnus), David Gibbs, Adam Lewis, Kate McCann and David White led the research effort. They were helped by a worldwide team of McKinsey staff including consultants and sector leaders who undertook research and reviewed results, and specialists in research and information, visual aids and communication. There are too many to name individually but we thank them all.

Our greatest thanks, however, must go to the many people in companies and institutions who generously agreed to be interviewed. This report reflects their collective wisdom and experience. Responsibility for the conclusions is, of course, ours.

Robert J McLean, David Balkin and John Stuckey

Table of Contents

Executive summary

The Australian economy has undergone significant and extensive reform in the last 15 years. Major government-led changes have transformed its financial system, business regulations and industrial relations environment, and reduced trade protection. There has also been much change in business practices, and in the relationships between employers, employees and unions. Yet despite these efforts, Australia's relative economic prosperity has not changed since 1970. Its GDP per capita is 30 per cent behind the best performing country, the United States (Exhibit i). Most of this gap is due to lower labour productivity, and the remainder to lower employment per capita.

To help understand what further action is required to step up the pace of productivity growth in Australia and thereby improve its economic standard of living, we looked at labour productivity and employment creation in five industries to identify the major causes of differences with their counterparts in leading countries. These industries are food processing, construction, general merchandise retailing, retail banking and aviation. Together, they comprise 18 per cent of the Australian economy and about one quarter of the market economy (Exhibit ii).

FINDINGS FROM OUR CASE STUDIES

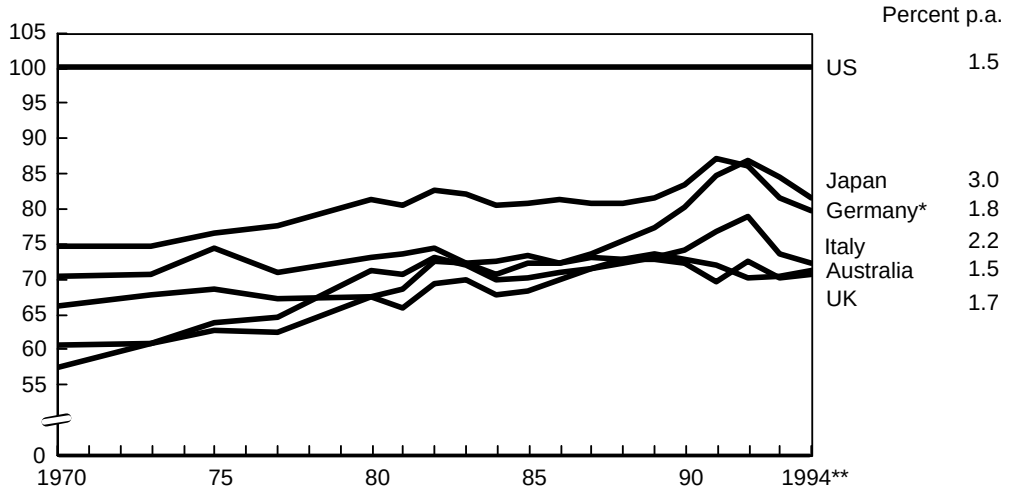
In four of the five industries we studied, Australia's labour productivity is significantly below that of the United States. In food processing, Australian productivity is 68 per cent of the US level; in general merchandise retailing, it is 81 per cent; in retail banking, it is 60 per cent; and in aviation, it is 84 per cent. In the remaining industry, construction, Australia is near best practice, achieving 95 per cent of the US productivity level (Exhibit iii). In terms of employment creation, Australia's performance is also weaker than the United States in these industries, particularly retailing and food processing.

To understand the reasons for Australia's relative performance we looked at the potential drivers of productivity in two categories. The first group includes firm-level factors such as management aspirations and behaviour; the configuration of business processes such as production, distribution and service; product and service innovation; capital intensity; and scale. The second group includes factors largely outside firms' control, such as market conditions and product and labour market regulation. These external factors influence the competitive intensity of an industry which, in turn, influences how firms behave.

Exhibit (I)

STATES

US$ per person at GDP PPP, index US = 100



* West Germany only

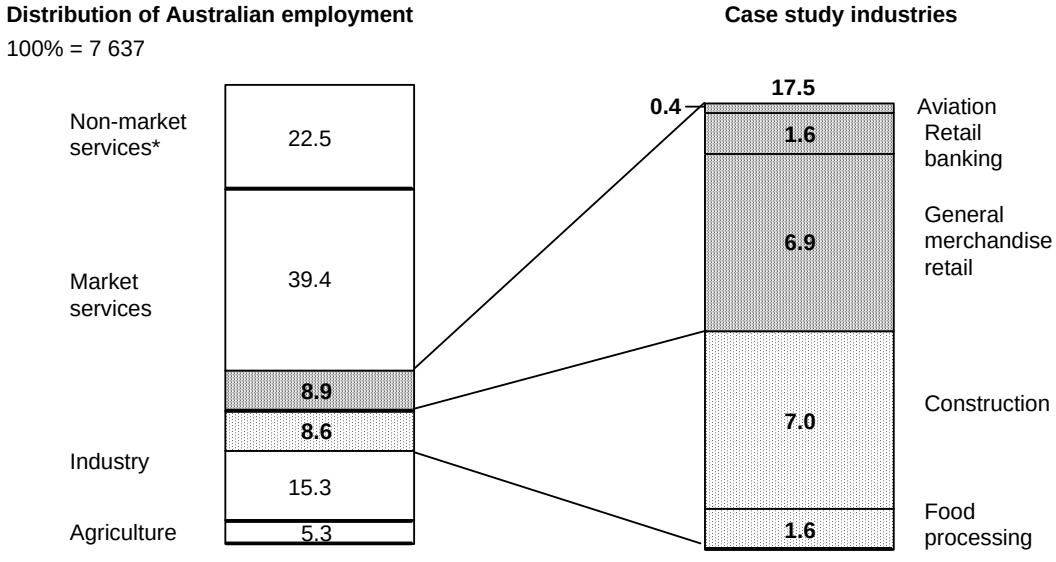
** Estimated using national GDP deflators and historical population growth

Source: OECD *National accounts*

Exhibit (ii)

THE FIVE CASE STUDY INDUSTRIES COMPRISE 18 PERCENT OF AUSTRALIA'S TOTAL ECONOMY

Thousands, percent

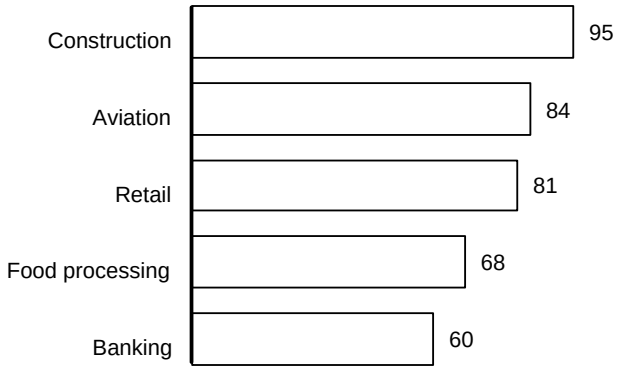


* Health care, education, social services and general government

Source: ABS

Exhibit (iii)

Index: best practice country = 100

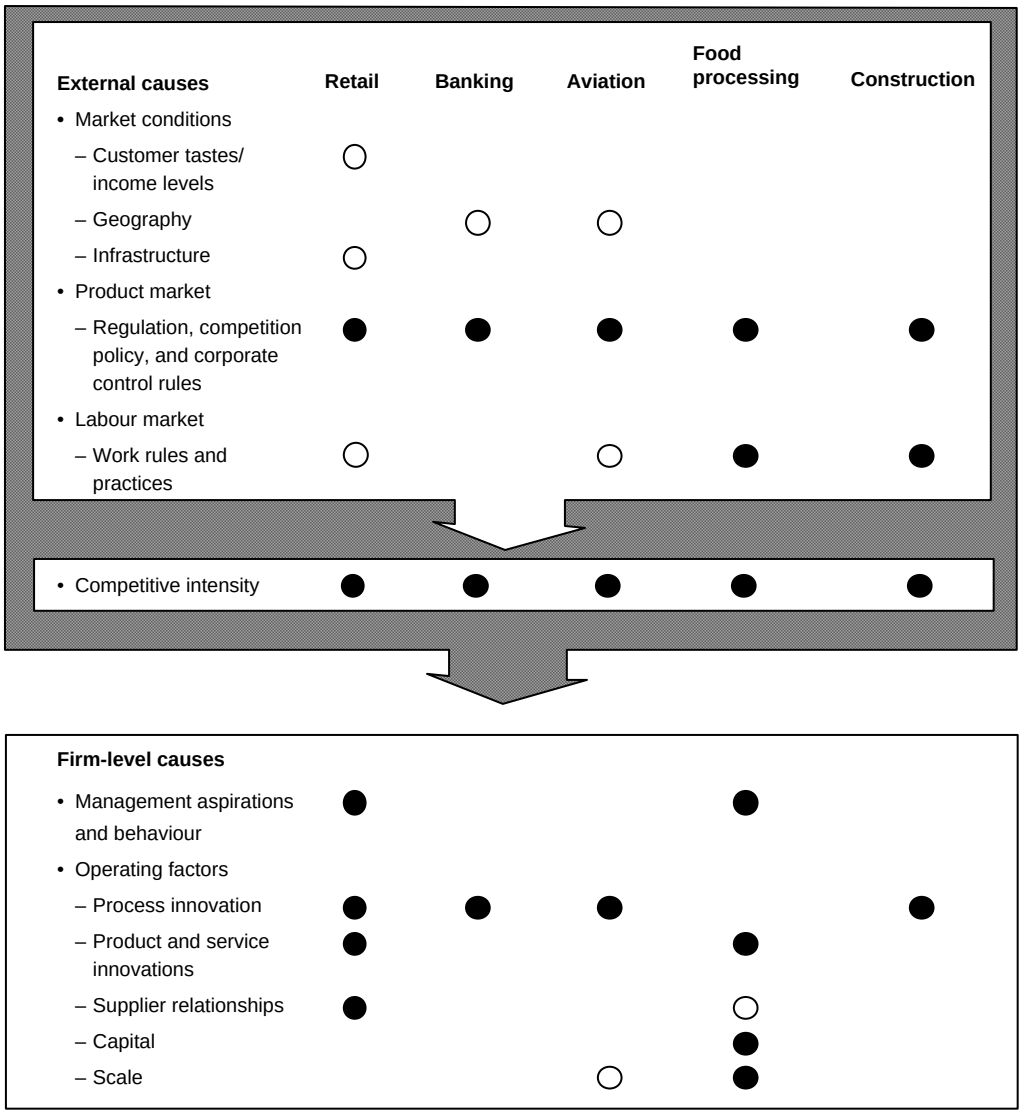


* Measurement period varies, depending on latest available information: 1992 in construction, retail, and food processing; 1993 in aviation; 1994 in banking

Source: Industry cases; OECD *National Accounts*

Exhibit (iv)

○ Less significant
○ Significant
● More significant



* In retailing, banking, aviation and food processing, these factors are significant causes of lower productivity, in construction they are causes of relatively high productivity

Source: Industry case studies

For each case industry, we identified a range of factors that explains the difference in the productivity levels achieved in Australia and the United States. Our findings for individual industries are discussed in detail in the case study section of this report. We also looked across the industries to see if there was a common pattern to these causes, and to understand the likely effect on employment of improving Australia's productivity. Three main findings emerged (Exhibit iv):

- Of the firm-level factors, lower management aspirations and less innovation are the primary causes of lower labour productivity in the Australian case industries.
- Of the factors largely outside firms' control, those that governments can influence—for example, product market regulation—are more important causes than market conditions that Australia has little ability to change, such as its lower income levels and smaller market size.
- If Australia can tackle the most significant causes and make substantial productivity gains, the result will not necessarily be a large net loss in employment. Productivity growth and job growth can be combined, especially in the services sector.

Lower aspirations and less innovation are the primary firm-level causes of Australia's lower productivity

The three most important firm-level causes of Australia's lower productivity relate to innovation—slower adoption of innovative processes, slower product and service innovation and lower use of supplier relationships. In turn, these lower innovation levels are driven by lower management aspirations, especially in retailing and food processing. We also found that lower capital intensity and smaller scale explain some of the productivity gap, but they are less significant causes.

Slower adoption of innovative processes. The four case industries with relatively low productivity have been slow to adopt new processes developed overseas. For example, in the retailing industry, less adoption of best-practice management processes developed in the United States is the major internal barrier to achieving US productivity levels. In retail banking, high branch numbers are the main cause of Australia's lower productivity, but the industry has only recently adopted higher productivity alternatives to branches, such as mobile sales forces for mortgages, that appeared in the United States in the early 1980s.

In contrast, the Australian construction industry is near best practice and ahead of European industries because it has been quick to adopt many of the most efficient production processes, such as the design-and-construct business system and greater use of prefabricated materials.

Slower product and service innovation. The evolution of the Australian retailing industry towards more productive store formats trails the United States by some 15 to 20 years. As a result, stores with the least advanced and least productive formats still account for 60 per cent of employment in the Australian industry compared with around 40 per cent in the United States. In food processing, Australian firms have been much slower to rethink their product categories and innovate to meet new consumer demand, which has prevented them expanding their existing markets. In the United States, food processors have launched many more new products than firms in Australia, and have achieved much greater growth in the value-added component of their output.

Lower use of supplier relationships for innovation. In retailing, most specialty chains keep their suppliers at arms length rather than building more collaborative relationships. The same is true in food processing—genuine supplier relationships were rare until recently, despite the potential to create value by collaborating with suppliers to improve processes and products.

Lower management aspirations. The rate and extent of innovation transfer is more likely to increase when managers with high aspirations push for change or when competitive pressures force firms to lift their performance to survive. The fact that some case industries have been slower to adopt key innovations than leading countries implies that management did not seize opportunities to lift productivity themselves and / or that the necessary competitive pressures were absent. For example, during the 1980s and even into the early 1990s, most Australian food processors did not focus on exporting despite Australia's inexpensive and high-quality raw materials. Established Australian retailers had the resources to copy successful higher productivity store formats from abroad in the 1980s, but in many cases did not do so until overseas retailers entered or threatened to enter.

Product market regulation is the most significant external cause of lower productivity

Looking at the environment in which firms operate, factors that governments are able to control are more important causes of lower productivity in the Australian case industries than factors that are difficult to influence—such as its average income levels, geographic position and market size. The most significant external cause of differences in Australian and US productivity levels is product market regulation, followed by labour market regulation.

Australia's more restrictive product market regulation limits the ability of new firms to enter the market or existing firms to introduce innovations. These barriers are a key driver of productivity performance in all five case industries. For example:

- In retailing, zoning regulations set largely by local governments limit the supply of retail space and thereby increase its cost. Australia has less than half as much general merchandise retailing space as the United States. These regulations also slow industry evolution towards more productive formats, which need large areas of space at reasonable rents to be viable.
- In aviation, legacies of the two airlines policy—such as the incumbents' 20-year leases on branded terminals and fully integrated business systems—limit the ability of new competitors to enter the market.
- Similarly in retail banking, restrictions on industry mergers limit the ability of banks to undertake the branch rationalisation required for higher productivity.

In contrast, low barriers to entry in the construction industry have resulted in a highly competitive industry with a large number of players. These conditions, along with the presence of foreign firms, encourage the widespread adoption of innovative production processes, such as the design-and-construct business system.

The more restrictive labour market regulation in Australia also leads to the lower productivity of some case industries, but it is a less significant cause than product market regulation. The introduction of enterprise bargaining has better aligned the interests of workers and management and led to the relaxation of work rules that limited productivity. For example, in construction, the dramatic improvement in industrial relations since the late 1980s is a key driver of the industry's relatively high labour productivity. In food processing, poor labour relations have tended to slow down rationalisation, investment and process innovation in manufacturing and distribution over the period we studied, but many firms, management, unions and employees are now making significant progress towards establishing the effective labour relations required for productivity growth.

Lower income levels, smaller domestic market and distance from export markets—factors which are often thought to limit Australia's productivity and ability to compete in global markets—were found to have only minor effects on labour productivity in general merchandise retailing, retail banking and aviation.

Productivity gains and job growth can be combined

Although increasing labour productivity is usually thought to lead to a reduction in employment, both at the firm level and in the economy as a whole, our research and previous MGI work show that this is not always the case, especially in services. In all five case studies, the overseas industry that had the highest productivity performance in the world also had a stronger employment-creation

performance than its counterpart in Australia. The most dramatic example is in retailing, where the highest productivity performer, the US industry, created almost five new jobs per thousand working age population over the period we studied. In contrast, Australian retailing showed a net job loss of nearly eight jobs per thousand working age population.

Employment will not necessarily grow in every industry in which productivity increases. But to achieve higher living standards, employment levels need only be maintained while productivity rises. If the constraints to higher output (and productivity) are removed in the services sector industries, experience has shown that employment creation there can offset job destruction elsewhere.

IMPLICATIONS FOR AUSTRALIA

If business and government can act to close Australia's productivity gap in the five industries we studied, benefits worth $7 billion per annum could flow to Australians through lower prices and higher economic living standards. Similar benefits in other market sectors could be worth $30 billion a year—a figure that is comparable with the estimated gains from the major micro-economic reform initiatives undertaken since 1980. Our research has led us to believe that the following actions are required to capture these benefits:

- Governments need to ensure that their policies create incentive structures that compel Australian companies to achieve much higher growth in productivity—we believe this should be the next stage of Australia's reform agenda.
- Business leaders must take action at the firm level to lift their aspirations and adopt management practices and innovation levels that will allow them to achieve world-class productivity.

Governments must create incentive structures that will compel faster productivity growth

We believe that the next step in the staircase of government-led reform initiatives should address industry incentive structures. Current government policies and regulation do not always create compelling incentives for firms to aspire to or achieve world-class levels of innovation or productivity:

- For example, lower productivity industries—such as retail banking—which have low rates of innovation and modest aspirations have also had incentive structures that served to maintain the status quo. These incentives are either at the product market level (for example, regulations about mortgage securitisation) and / or in the market for

corporate control (such as competition rules that prevent the rationalisation of branch networks).

- In contrast, the relatively high-productivity construction industry, which has adopted innovations and best practices rapidly, has incentive structures that encourage an intensely competitive industry.

In addition, regulatory barriers to higher productivity are very different in each industry we studied. This suggests that these incentive structures need to be better understood and refined at an industry level. To use industry incentive structures as a key lever to drive productivity growth, governments will need to reconsider their approaches to competition policy and the impact of many regulations:

- In some industries, creating incentive structures that encourage high levels of productivity and innovation may involve rethinking mergers policy, especially in some food processing sectors and retail banking, provided contestability conditions were satisfied.
- In other industries, such as retailing and aviation, different incentive structures would be needed to step up competitive intensity by further reducing market entry barriers.

Putting the 'right' incentives in place at an industry level would have a critical impact on productivity growth—particularly in the services sector which has been sheltered from the impact of many earlier reforms—and would extend Australia's capability platform as a competitive and productive nation.

Business leaders must lift their aspirations and innovation levels

Although incentive structures are a major influence on average industry productivity, the aspirations of individual firms also make a difference. Currently, Australia has pockets of firms with high management aspirations who are achieving dramatic improvements in performance through aggressive best-practice initiatives. To lift Australia's average productivity level, many more firms must set aggressive objectives and performance targets and buy into the change agenda by actively pursuing world-class levels of productivity performance.

Our experience and discussions with business leaders suggest that if more firms are to achieve higher productivity growth, they will need to focus on two important areas:

Developing the quality and effectiveness of Australian middle managers. Middle managers will play a pivotal role in determining the fate of Australian

business efforts to close the productivity gap—they hold the key to the success or failure of the major effort required to implement change.

Developing a pro-innovation culture. Lessons from the construction industry, backed up by our work with the Australian Manufacturing Council, suggest that companies need to look outside their own organisation for new ideas and actively develop linkages—with leading-edge customers, suppliers, publicly funded R&D providers and specialist firms—that will help them stay ahead of the game. In addition, they need to see innovation as a key driver of shareholder returns—to maximise the value of a firm's existing businesses and be a major source of growth options. Once this value-creation potential is widely understood, innovation will begin to be seen as a core management process—rather than being tackled in a piecemeal manner.

* * *

Our industry-based analysis has yielded insights into the actions that need to be taken by business and governments to close Australia's prosperity gap. We hope that this work will foster an open and fact-based debate about the next stage of Australia's reform agenda, and that business and policy leaders take up the discussion of the perspectives we raise.

Introduction

The Australian economy has undergone significant and extensive reform in the last 15 years. Major government-led changes have transformed its financial system, business regulations and industrial relations environment, drastically reduced trade and tariff protection, and opened its markets to international competition. Along with these reforms, there has been much change in business practices and the relationships between employers, employees and unions. Together, these changes are helping to create a more competitive Australia.

Yet despite these efforts, and the vigorous economic recovery Australia has experienced since 1991—with GDP growing by about 3.8 per cent per annum—our economic living standard is 70 per cent of the best performing country, the United States (Exhibit 1). Moreover, this relative level of prosperity (measured by GDP per capita) has not changed since 1970. In contrast, other countries—most notably Japan—have made substantial gains in that time.

Our aim in this study has been to look more closely at Australia's relative performance and identify causes of its lower level of economic prosperity. Our industry-based analysis has yielded insights into the actions that need to be taken by business and governments to close the gap. We hope that this work will foster an open and fact-based debate about the next stage of Australia's reform agenda, and that business and policy leaders take up the discussion of the perspectives we raise.

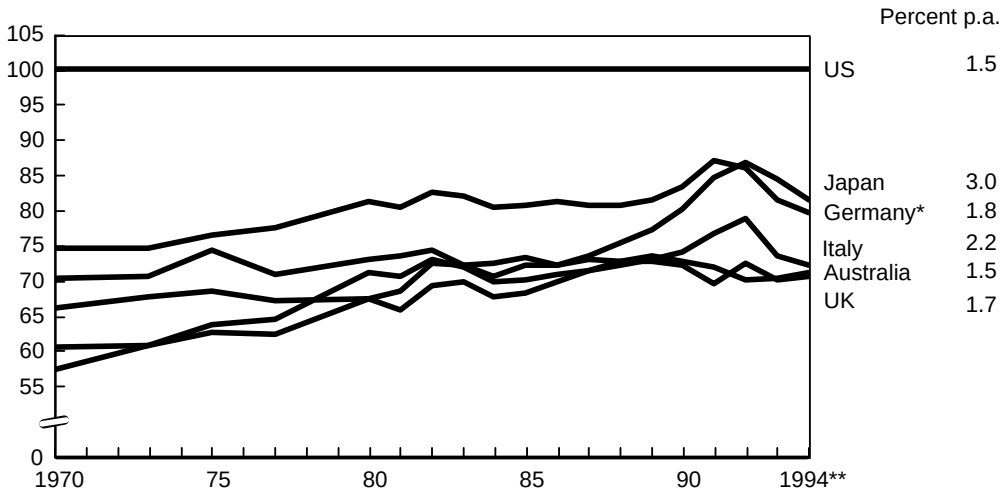
WHY WE FOCUSED ON LABOUR PRODUCTIVITY

Our early research showed that Australia's 30 per cent prosperity gap with the United States is made up of 25 per cent lower labour productivity and 5 per cent lower employment per capita (Exhibit 2). While employment is clearly an important social issue, this finding suggests that lower productivity a more significant driver of Australia's lower economic standard of living. This is one of the reasons we made labour productivity the main focus of our research. Others were pragmatic. Previous MGI work on the productivity of the United States, Japan and Europe also focused on labour productivity, so the methodology had been developed and the results of this work provided valid comparisons. In using this approach we are not suggesting that labour productivity is Australia's only problem—capital productivity, technology and managerial performance are

Exhibit 1

STATES

US$ per person at GDP PPP, index US = 100



* West Germany only

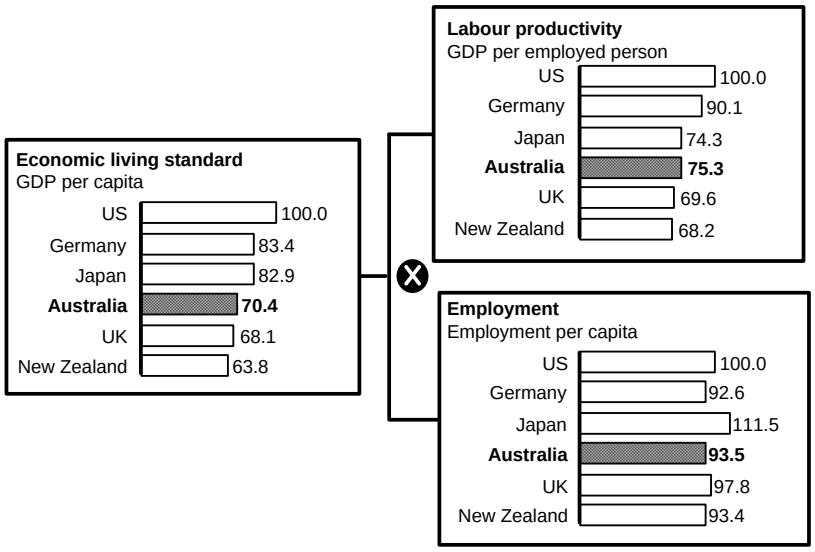
** Estimated using national GDP deflators and historical population growth

Source: OECD *National accounts*

Exhibit 2

LABOUR PRODUCTIVITY IS A MAJOR DRIVER OF AUSTRALIA'S LOWER ECONOMIC PROSPERITY

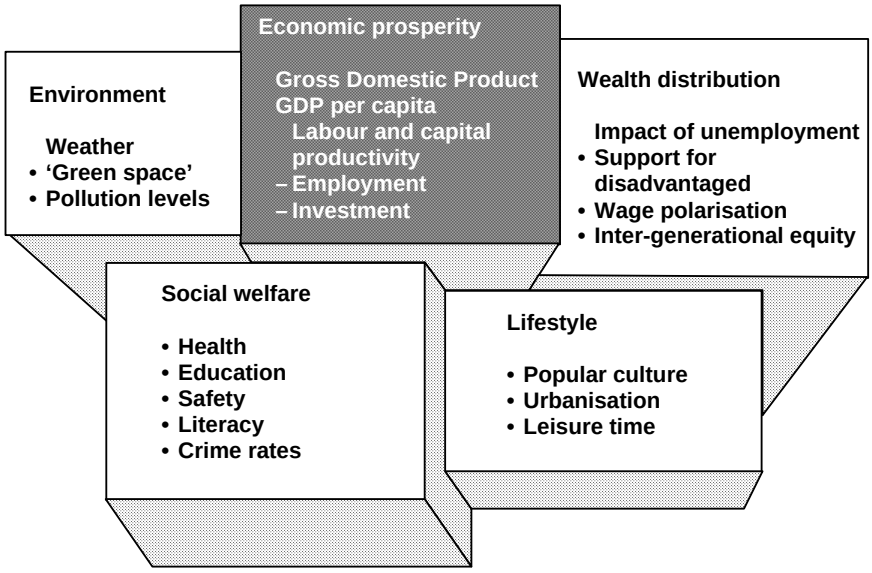
1993, US$ at GDP PPP, index US = 100



Source: OECD *National Accounts*; OECD *Labour Force Statistics*

Exhibit 3

ECONOMIC PROSPERITY IS ONE OF MANY FACTORS CONTRIBUTING TO



also big issues. Our work looks at these issues as potential drivers of Australia's relative labour productivity performance.[1]

Economic prosperity is one of many factors that contribute to a country's standard of living—others include its environment, lifestyle, health and education standards and the distribution of wealth across the population (Exhibit 3). As our research focuses only on economic outcomes, it will be up to policymakers to consider the impact of our suggestions on these other factors. It is worth noting, however, that governments' ability to meet social challenges usually increases as productivity and employment levels grow, providing them with greater resources. In addition, previous MGI work shows that although productivity gains are often believed to result in reductions in employment, productivity growth and job growth can also go together[2].

ABOUT OUR INDUSTRY-BASED APPROACH

As in previous MGI work on productivity and employment, we have used industry-level analysis to determine the relative importance of the different possible causes of Australia's productivity and employment performance. We looked at five industries, and measured and compared the level of industry productivity and employment creation in a range of countries. We then analysed the causes of differences between the performance of the Australian industry and those of leading countries.

It is often argued that Australia's size and remoteness limit its production scale and thus the productivity it can achieve. But other factors can hinder employment and economic performance. For example, barriers can exist in the labour market, in the form of high labour costs, penalty rates, labour market inflexibility or skill shortages. Previous MGI work has also identified barriers in product markets. Some of these barriers—including zoning laws and opening hour restrictions—can block the introduction of new products and services, either directly or by raising the cost of key inputs such as land. Others, such as trade barriers, directly affect the level of competitive intensity in an industry, which result in less innovation, lower productivity and less employment creation. Since these barriers can differ industry by industry, they can only be identified using a case study approach.

To understand how these barriers and other factors affect Australia's labour productivity performance in our five case industries, we used a framework developed in previous MGI work on productivity. This involved examining the

1 For more detailed information about our methodology, see Appendix 2. Details of the measures used in individual industries are described in each case study.

2 For further discussion about the relationship between productivity, output and employment, see Appendix 1.

potential drivers of productivity in two categories (Exhibit 4). In the first category, we looked at how Australian firms operate internally, and compared this to their counterparts in the benchmark countries. How do they configure and

Exhibit 4

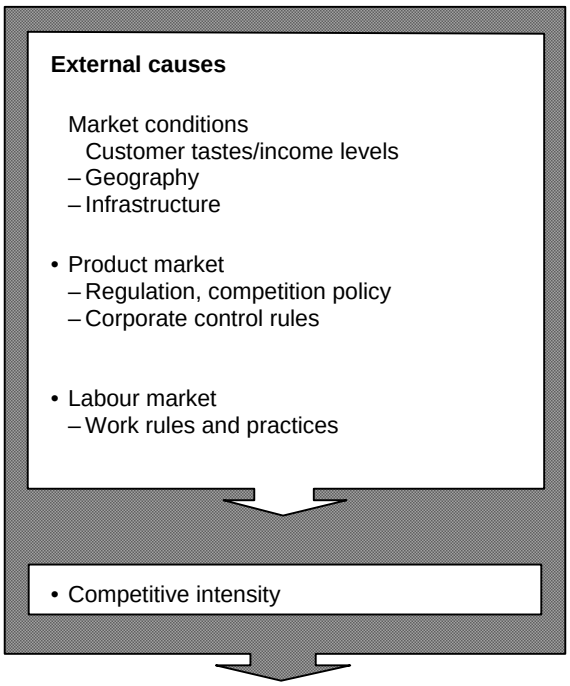
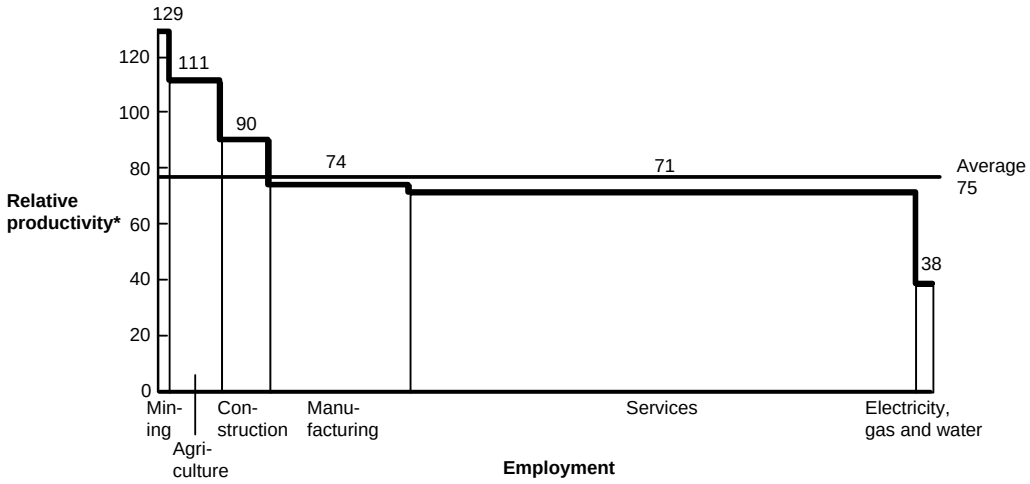

External causes
Market conditions
Customer tastes/income levels
– Geography
– Infrastructure
• Product market
– Regulation, competition policy
– Corporate control rules
• Labour market
– Work rules and practices
• Competitive intensity
Firm-level causes
• Management aspirations and behaviour
• Operating factors
– Process innovation
– Product and service innovations
– Supplier relationships
– Capital
– Scale

Exhibit 5

ESTIMATE

PRODUCTIVITY AND EMPLOYMENT

Value added/employed person, index US = 100



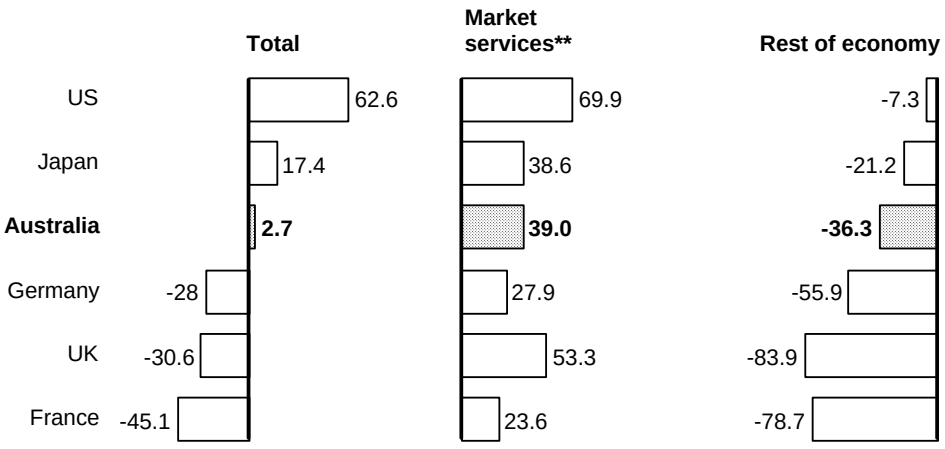
* Data for mining, construction, electricity, gas and water from Haig (1986); data for agriculture and manufacturing from Ergas (1989); productivity for services imputed from GDP per employee for whole economy

Source: Brian Haig *The comparative productivity of Australian industry* 1986; Henry Ergas *Australian productivity in an international perspective,* April 1989; McKinsey analysis

Exhibit 6

MOST NEW JOBS ARE IN MARKET SERVICES

Net jobs created/thousand working age population*, 1980–1994



* Adjusted for growth in the working age population

** All services except health care, education, social services and general government

Source: OECD *Labour Force Statistics*; national household surveys; McKinsey analysis

organise their business processes such as marketing, distribution, sales and service? How quickly do they develop or adopt innovations in processes, service and products? How do they manage their relationships with suppliers? What economies of scale do they achieve? How capital intensive are they? What management aspirations and behaviours do they exhibit? These firm-level factors directly influence firm productivity and therefore industry performance.

In the second category, we looked at factors normally outside the control of individual firms in an industry and, again, compared these to those affecting firms overseas. How restrictive is their regulatory environment? What kind of labour market do they operate in? What is the nature of customer demand? What is the impact of Australia's geography and population size? These external factors influence the incentive structures and competitive intensity within an industry and thus affect firms' behaviour and productivity.

HOW WE CHOSE OUR CASE INDUSTRIES

Looking at the structure of the Australian economy compared to the United States in terms of productivity and employment, several features stand out (Exhibit 5). The first is the high productivity of Australia's mining and agriculture sectors, which is well known. Second is the very low productivity of sectors such as electricity, gas and water—the prime targets of recent micro-economic reform and competition policy. The third obvious feature is the significance of the services sector, for both productivity and employment.

Like all advanced economies, the Australian economy is evolving from agriculture and industry to services. This evolution is the natural result of rising incomes—as household incomes increase, a larger proportion of total spending is shifting towards the services, just as it shifted from food to manufactured goods earlier this century. New technologies are also causing manufacturing and services to converge in many industries. As a result, services now account for 70 per cent of Australia's total employment.

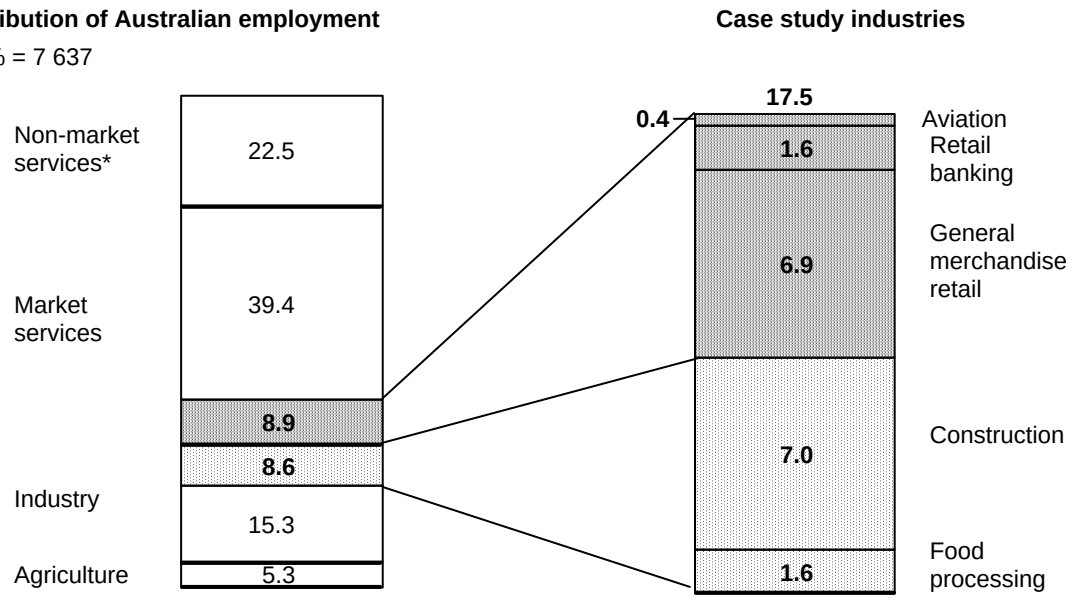
This size means the services sector plays a large role in determining Australia's overall productivity level and thus its economic prosperity. This is an important observation, given that most of Australia's economic reforms to date have focused on the traded sectors of the economy and left non-traded sectors like services largely unchanged. The growth occurring in the sector also makes it critical for employment growth. Almost all new jobs being created are now in market services (Exhibit 6).

Given the importance of market services to both overall productivity and job creation, we chose three of our case industries from this part of the economy—general merchandise retailing, retail banking, and aviation. The other two are food processing and construction (Exhibit 7).

Together, these five industries comprise nearly 18 per cent of the Australian economy, measured in terms of total employment, and about 24 per cent of the

Exhibit 7

Thousands, percent



* Health care, education, social services and general government

Source: ABS

market economy. They represent a broad sample, coming from different parts of the economy, and include one high-wage sector and one low-wage sector. They are also industries about which McKinsey, through our client work in Australia and other parts of the world, has built up substantial knowledge.

* * *

The next section presents an overview of our findings in the five case industries. We then explore the implications of these findings for Australia and suggest some issues and actions that flow from our analysis. We hope governments and business leaders will explore these suggestions further. The findings for each case industry are presented in the case study section.

Overview of our case study findings

In four of the five industries we studied—food processing, general merchandise retailing, retail banking and aviation—Australia's labour productivity is significantly below that of the best performing country, the United States (Exhibit 8). The size of the gap varies from 40 per cent in retail banking to 16 per cent in aviation. In the remaining case, construction, Australia is near best practice, achieving 95 per cent of the US productivity level.

In each of these industries there are a range of causes for differences between Australia's productivity level and that achieved in the United States. Our findings for each industry are discussed in detail in the case study section of this report. We also looked across the industries to see if there was a common pattern to these causes that would help us to draw out the implications of our research for Australia, and to understand what effect improving productivity is likely to have on employment. Three main findings emerged from this overview:

- Of the factors within firms' control, lower management aspirations and less innovation are the primary causes of lower labour productivity in the Australian case industries.
- Of the factors largely outside firms' control, those that can be influenced by governments—for example, product market regulation and competition policy—are more important causes than factors Australia has little ability to change, such as its lower income levels and smaller market size.
- If Australia can tackle these significant causes and make substantial productivity gains, the result will not necessarily be a large net loss in employment. Productivity growth and job growth can be combined, especially in the services sector.

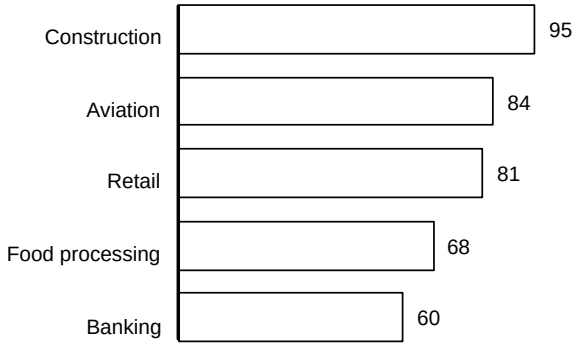
LOWER ASPIRATIONS AND LESS INNOVATION ARE THE PRIMARY FIRM-LEVEL CAUSES OF AUSTRALIA'S LOWER PRODUCTIVITY

Australia, like Europe and Japan, is slower than the United States to develop innovations or adopt those developed overseas (Exhibit 9). We identified 15 major innovations in products, service and production processes that occurred over the period we studied—asset / mortgage securitisation; direct and telephone banking; new retail formats including category killers, hypermarkets and specialty chains; new dairy products and breakfast cereals; tailoring food

products to export markets; lean manufacturing; flexible production; personal

Exhibit 8

Index: best practice country = 100



* Measurement period varies, depending on latest available information: 1992 in construction, retail, and food processing; 1993 in aviation; 1994 in banking

Source: Industry cases; OECD *National Accounts*

Exhibit 9

AUSTRALIA IS SLOWER TO ADOPT INNOVATIONS THAN THE US *EXAMPLES*

Major innovation	US	Australia	Europe	Japan
Banking				
• Asset/mortgage securitisation (US)	●	○	✘	✘
• Direct/telephone banking (UK, US)	●	○	●	✘
• ATMs/EFTPOS/credit cards (US, Europe)	●	○	●	○
Retail				
• Category killers (US, Sweden)	●	○	○	✘
• Hypermarkets/discounters (US, France)	●	○	○	○
• Stage 3 specialty chains (US)	●	○	○	✘
Food processing				
• New dairy products (US, Europe)	●	○	○	✘
• Breakfast cereals (US)	●	○	○	○
• Tailoring to export markets (US, Australia)	●	●	○	○
Construction				
• Design and construct (The Netherlands)	○	○	○	○
• Prefabrication (US)	●	○	○	○
Other industries				
• Lean manufacturing (Japan)	○	○	○	●
• Flexible production (Sweden)	○	○	○	○
• Personal computers (US)	●	○	○	✘
• Packaged software (US)	●	○	○	✘

● Developed in country ○ Transferred after some delay
○ Transferred quickly ✘ Limited transfer

Exhibit 10

FIRM-LEVEL CAUSES OF AUSTRALIA'S PRODUCTIVITY PERFORMANCE*

○ Less significant
● Significant

	Retail	Banking	Aviation	Food processing	Construction
Management aspirations and behaviour	●			●	
Process innovation	●	●	●		●
Product and service innovations	●			●	
Supplier* relationships	●			○	
Capital (intensity, age, technology)				●	
Scale			○	●	

* In retail, banking, aviation and food processing, these factors are significant causes of lower productivity. In construction, they are causes of relatively high productivity

Source: Industry case studies

computers; and packaged software. The United States developed or co-developed 11 of these innovations and rapidly transferred two—Australia co-developed one and was quick to transfer five.

Our research shows that this difference in the innovation record of Australia and the United States is a major cause of the difference in their productivity levels. When we looked at the firm-level factors driving Australia's lower productivity performance, we found that the three most important factors all relate to innovation (Exhibit 10). They include slower adoption of innovative processes, slower product and service innovation and lower use of supplier relationships for innovation. Lower capital intensity and smaller scale also explain some of the difference with the United States, but are less significant. In each of the industries we studied, one or more of these innovation factors is a critical driver of productivity performance. In turn, we found that lower innovation levels are driven by lower management aspirations, particularly in the food processing and retailing industries.

Slower adoption of innovative processes

How quickly innovations in production, service and management processes are adopted throughout an industry is the most important firm-level factor affecting the productivity of the Australian case industries. The four case industries where we found relatively low productivity have been slow to adopt new processes developed overseas. This is particularly the case with general merchandise retailing, retail banking and aviation:

- In retailing, interviews with senior managers in Australian department stores and specialty chains revealed that less adoption of best-practice management processes developed in the United States is the major barrier to achieving US levels of productivity in these formats. The key areas in which Australian retailers are below best practice include human resources, merchandise planning, distribution, supplier management and use of information technology.

- In retail banking, Australia's high branch density is the main cause of lower productivity. Australia has only recently adopted higher productivity alternatives to branches, such as mobile sales forces for mortgages and phone-based services, that appeared in the United States in the early 1980s.

- Similarly, the Australian aviation industry has been slow to adopt internal operating improvements developed elsewhere in the world. Had it done so, productivity in the airport handling, ticketing, customer administration, and engineering and maintenance functions would be higher.

In contrast, the Australian construction industry is near best practice because it has been quick to adopt many of the most efficient production processes. Two examples of process innovations that have been or are being adopted include the design-and-construct business system, where one organisation or partnership has end-to-end responsibility for the entire design and construction phase, and the increased use of prefabricated materials.

Slower product and service innovation

Firms throughout the Australian retail and food processing industries are also slower to develop new products and services. The evolution of the retail sector towards newer and more productive store formats trails the United States by some 15 to 20 years. As a result, stores with the least advanced and least productive formats still account for 60 per cent of employment in the Australian industry compared with around 40 per cent in the United States.

It is a similar story in the food processing industry. Australian firms have been much slower to rethink their product categories and innovate to meet new consumer demand. This has prevented them expanding their existing markets. In the United States, food processors have launched many more new products than firms in Australia, and have achieved much greater growth in the value-added component of their output. This is one of the reasons why value added consumed in Australia is 25 per cent lower than in the United States.

Lower use of supplier relationships for innovation

Supplier relationships, an important subcomponent of how the overall production process is managed, was the third major firm-level cause of lower productivity. Our research with the Australian Manufacturing Council on the role of linkages in innovation and growth[3] found that best-practice firms see close supplier relationships as an important means of improving their own performance, and suppliers as a significant source of ideas and information for innovation.

In the retailing industry, interviews revealed that most Australian specialty chains keep their suppliers at arms length rather than building more collaborative relationships. As one CEO said, 'The philosophy has always been that the supplier is another competitor'.

The same is true in the food processing industry. Genuine relationships between suppliers and food processors were rare until recently. There is considerable potential to create value through closer supplier relationships. For example, such

3 *The Wealth of Ideas* 1994

collaboration could reduce packaging costs, as packaging materials such as glass, plastics and tin plate cost 20 per cent more than in the United States.

Lower capital intensity

Capital intensity was also one of the important firm-level causes of lower productivity in some Australian industries, but it was less significant than the three innovation-related factors. Differences in capital intensity—and, by implication, in the age and advancement of the technology, plant and equipment used in the industry—were found to be important only in food processing. In this industry, accumulated real investment per employee was 40 per cent lower in Australia than in the United States over the period 1983 to 1990. It is likely that this low investment was due to widespread overcapacity during this period, which meant firms had more incentive to rationalise existing plant and equipment than to invest in leading-edge plant. If these firms had aspired to achieve a significant increase in the amount of product they exported, they would probably have made different capital investment decisions.

Smaller scale

It is not surprising that given Australia's small and widely dispersed population, we found significant differences in the scale of production in some of the case industries. But although the median Australian employee works in a smaller plant or firm than the median US employee in every case industry except banking, the US operations receive marginal benefits from their greater size in these industries. We arrived at this finding by looking at the firm or plant size at which labour productivity peaked or stopped increasing. Firms or plants below this scale were considered to be below minimum efficient scale for labour productivity. Aviation maintenance and three of nine food processing sectors were the only areas in the Australian case industries where scale differences were found to be important:

- In aviation maintenance, the smaller fleet size of Australian airlines reduces their ability to capture economies of scale in scheduled maintenance. Minimum efficient scale in this area can be up to 40 to 48 planes per plane type. Australian carriers have an average of 12 planes per type, while US majors have around 95 per type.
- In food processing, Australian plants are smaller than US plants in most sectors of the industry. But this does not always lead to lower productivity. Only the bakery, biscuits and cheese sectors have many plants below minimum efficient scale for labour productivity.

In banking and retailing, both US and Australian firms are well above the minimum efficient scale.

Lower management aspirations

The rate and extent of innovation transfer is more likely to increase when ambitious managers push for change or when competitive pressures force firms

Exhibit 11

○ Less significant
○ Significant
● More significant

	Retail	Banking	Aviation	Food processing	Construction
Market conditions					
• Customer tastes/ income levels	○				
• Geography (e.g. population, proximity to export markets)		○	○		
• Infrastructure	○				
Product market					
• Regulation, competition policy, and corporate control rules	●	●	●	●	●
Labour market					
• Work rules and practices	○		○	●	●

* In retail, banking, aviation and food processing, these factors are significant causes of lower productivity. In construction, they are causes of relatively high productivity

Source: Industry case studies

Exhibit 12

ENTRY BARRIERS INHIBIT INNOVATION TRANSFER

Case study	Barrier	Impact
Food processing	• Legacy of state-based competition in dairy, bakery and biscuits	• Less intense competition has contributed to low company aspirations and innovation/growth
Construction	• Relatively free entry	• Transfer of development of key business system innovations
General merchandise retailing	• Zoning regulations restrict available retail space • High concentration in department store segment	• Less development of higher productivity Stage 3 formats
Retail banking	• Lack of deposit insurance scheme limits non-bank access to deposits	• Banks with access to cheap funds could fight entry; slow adoption of new mortgage business system
Aviation	• 20-year leases/branded terminals • Fully integrated business system, including control of retail channel	• No third airline

to lift their performance to survive. The fact that some case industries have been slower to adopt key innovations implies that management has failed to seize the initiative to implement change themselves and / or that the necessary competitive pressures were absent.

Our interviews with people in the food processing and retailing industries support this view. For much of the 1980s and even into the early 1990s, Australian food processors did not focus on exporting despite Australia's high-quality and inexpensive raw materials. In retailing, established local firms had the resources to adopt innovative higher productivity store formats developed abroad in the 1980s but in many cases did not do so until overseas retailers entered or threatened to enter.

PRODUCT MARKET REGULATION IS THE MOST SIGNIFICANT EXTERNAL CAUSE OF LOWER PRODUCTIVITY

Looking outside firms at the environment in which they operate, factors that governments are able to control are the most important causes of lower productivity in the Australian case industries. We found that product market regulation is the most significant external cause, followed by labour market regulation. Perhaps surprisingly, factors that have long been thought to be major constraints to Australia's productivity but which are difficult to influence—such as its average income levels, geographic position, market size—were found to play only a minor a role in explaining the productivity gap with the United States (Exhibit 11).

More restrictive product market regulation

The regulatory environment in Australia creates entry barriers that limit the ability of new firms to enter the market or existing firms to introduce innovations (Exhibit 12). Some of these barriers were relaxed in the late 1980s and early 1990s, but many still remain. Examples of these regulations include competition rules, corporate control rules, zoning laws and store opening hours. They are a key driver of productivity performance in all five case industries:

- In retailing, zoning regulations set largely by local governments limit the supply of retail space and thereby increase its cost. These regulations also slow the evolution of the industry towards more productive formats, which need large areas of space at reasonable rents to be viable. Similar regulations also restrict productivity growth in Europe and Japan. Restrictions on trading hours that still exist in many states also constrain industry productivity.

- In aviation, legacies of the two airlines policy—such as the incumbents' 20-year leases on branded terminals and fully integrated business

systems—limit the ability of new competitors to enter the market. Policymakers would need to introduce explicit measures to ensure access, as they have in the telecommunications industry, to overcome these entry barriers and enable greater competition.

- Similarly in retail banking, regulatory barriers such as restrictions on industry mergers have limited the ability of banks to rationalise branches and thereby achieve substantial productivity gains.

- And in the food processing industry, past regulations that limited interstate competition have led to lower productivity in dairy, bakery, and biscuits. Competition rules have prevented rationalisation in subscale sectors such as bakery and flour milling.

While regulation has been a marked constraint in these four industries, the construction industry has reaped the benefits of a more relaxed regulatory environment. Low barriers to entry have resulted in a highly competitive industry with a large number of players. These conditions have meant that innovative production processes—such as the design-and-construct business system pioneered by Lend Lease—have started to spread quickly throughout the Australian industry. The transfer and spread of innovations developed overseas has also been facilitated by foreign firms, which have been able to forge alliances with local companies and establish a presence in the Australian market.

More restrictive labour market regulation

Although unions and work practices are often seen as major causes of Australia's lower productivity, our findings in the case industries suggest that they are less important than product market regulation and other entry barriers. The introduction of enterprise bargaining has better aligned the interests of workers and management and led to the relaxation of work rules that limited productivity:

- In construction, we found that the dramatic improvement in industrial relations since the late 1980s is a key driver of the industry's relatively high labour productivity. For example, the number of days lost to industrial action has fallen by more than 90 per cent since 1989, and changes in work practices has led to a reduction in days lost to bad weather. These improvements have resulted in significant cost savings.

- In food processing, poor labour relations tended to slow down rationalisation, investment and process innovation in manufacturing and distribution over the period we studied. However, in many firms, management, unions and employees are now making significant progress in establishing the effective working relations required to increase productivity.

In other industries, labour rules still limit productivity, but their effect is much smaller than that of product market regulation. In retailing, for example, minimum wage rules, penalty rates and casual loadings have reduced staffing flexibility. But the impact of higher rents due to the restriction of retail space is four to five times larger than the impact of labour rules on the viability of Stage 3 specialty stores.

Lower income levels, smaller domestic market and distance from export markets

Factors which are often thought to limit Australia's productivity and ability to compete in global markets—like its lower average income level, its relatively small population and distance from export markets—have minor effects on labour productivity in some industry cases. Since higher income levels increase the potential outputs of each industry, Australia's lower aggregate income levels limit productivity to some extent in general merchandise retailing and retail banking.

The smaller size and dispersion of the Australian market contribute to the scale problems in aircraft engine maintenance. But the rapid growth in the population is a source of advantage to the Australian construction industry as it has increased demand for new residential housing.

Australia's geographic distance from export markets did not appear to be an issue in any of our case industries. In fact, in food processing, our proximity to the large and growing Asian markets is considered to be a source of advantage. While distance may have been a constraint in the past, it seems that modern communication and transportation systems enable firms to overcome it.

PRODUCTIVITY GAINS AND JOB GROWTH CAN BE COMBINED

It seems logical that increasing labour productivity will lead to a reduction in employment, both at the firm level and in the economy as a whole. After all, greater labour productivity means doing the same amount of work with less people. Yet our research and MGI's earlier study, *Employment Performance,* shows that this is not always the case.

Growth in productivity and employment are often combined, especially in the service industries. In all five case studies, the overseas industry that had the highest productivity performance in the world also had stronger employment-creation performance than its counterpart in Australia. The most dramatic example is in the retailing industry, where the highest productivity performer, the US industry, created almost five new jobs per thousand working age population over the period we studied. In contrast, the Australian industry showed a net job loss of nearly eight jobs per thousand working age population.

In addition, productivity and employment-creation performance are often strong for the same reasons. In retailing, the same zoning laws and restrictions to opening hours that slowed the industry's evolution and led to lower productivity

Exhibit 13

HIGH PRODUCTIVITY CAN LEAD TO EMPLOYMENT GROWTH

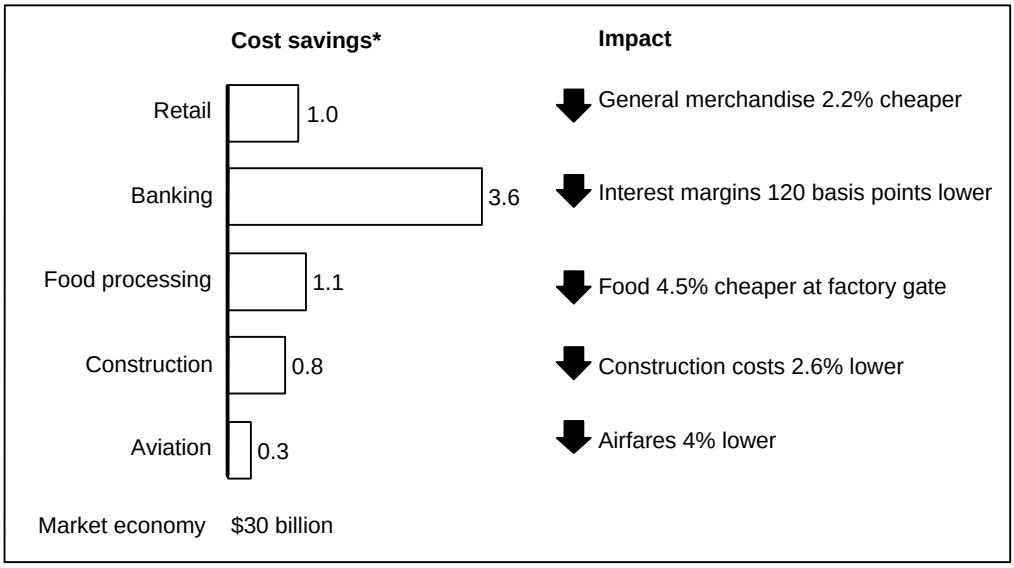
Industry	Effect of high productivity	
Banking (US)	drove refinancing and home equity loan booms	Employment in mortgages more than doubled to 450 000
	Deregulation of and four-fold drop in brokerage commissions contributed to increased demand for trading services	Employment in securities increased 70% to over 500 000
Retail (US)	• US mix of Stage 3 stores emphasised those that combined high productivity with higher levels of service/convenience	Employment increased 22% to 8.4 million
Film/TV (US)	• High productivity of Hollywood led to exports and employment growth	Employment in production increased 70% to 170 000
Video stores (US, Japan)	• Chains like Blockbuster (US) and 7-Eleven (Japan) drove consumer demand by offering better selection/convenience	135 000 jobs in the US and 100 000 in Japan, all new; employment 4–5 times higher per capita than in Western Europe
Auto (Japan)	• Better price/performance drove increased domestic penetration and higher value added per car and helped maintain strong exports	Employment increased 16% to 800 000
Trucks (Sweden)	• Highest productivity in Europe led to doubling of European market share	Employment remained at high level while France and Italy declined

Source: McKinsey Global Institute, *Employment Performance*, November 1994

Exhibit 14

REACHING BENCHMARK PRODUCTIVITY IN CASE INDUSTRIES COULD BE WORTH $30 BILLION A YEAR *ESTIMATE*

A$ Billions, 1992–93



* Reduction in labour cost of producing current level of output from labour productivity improvement

Source: McKinsey analysis

in Australia, Europe and Japan have also led to much lower industry output. As a result, employment levels and job creation were much lower in these countries than in the United States. Similarly in the Swedish construction industry, low productivity has led to high construction costs, making new construction almost non-viable now that the Swedish government has reduced housing subsidies. Employment levels have fallen sharply in Sweden—but have remained almost constant in the higher productivity industries in the United States and Australia.

Previous MGI work has identified six examples of industries where strong productivity growth has made a substantial contribution to strong job creation (Exhibit 13). The Swedish truck industry is one. It achieves the highest productivity in Europe, which has enabled it to double its European market share and retain high employment levels. In contrast, jobs in the lower-productivity French and Italian industries have declined. The video store sector in the United States and Japan is another example. The introduction of large chain stores offering a better selection and greater convenience has increased demand—as a result, the sector has created 135 000 jobs in the Untied States and 100 000 in Japan. In all six industries, the absence of product market barriers that constrain entry, competition and thus innovation is the common factor in their success. The actions that are required to increase productivity are therefore also likely to have positive effects on employment.

Employment will not necessarily grow in every industry in which productivity increases. But to achieve higher living standards, employment levels need only be maintained while productivity rises. If the constraints to higher output (and productivity) are removed in the service industries, experience has shown that employment creation there can offset job destruction elsewhere.

* * *

If business and government can act to close Australia's productivity gap in the five industries we studied, benefits worth $7 billion per annum could flow to Australians through lower prices and higher economic living standards (Exhibit 14). Capturing similar benefits in other market sectors could be worth $30 billion a year—a figure that is comparable with the estimated gains from the major micro-economic reform initiatives undertaken since 1980. We discuss some of the actions we believe need to be taken to realise these benefits in the next section.

Implications for Australia

The clear message from our case studies is that Australia has a real opportunity to increase its labour productivity—and therefore its economic prosperity. The main causes of lower productivity are within the control of our business leaders and governments. They are not geographic and historical factors, such as our small population and distance from major export markets.

Considering the extensive reforms that have already been undertaken, the obvious question is, where should Australia focus next? In thinking about this question we looked at our case study findings again, focusing more on the dynamic relationships between the different causes of Australia's productivity performance.

Economic prosperity and productivity can be seen as a result of interacting forces (Exhibit 15). Factors that make up a nation's market conditions—such as the size of its market, the nature of customer demand, inflation rates and international trade agreements such as GATT—influence the incentive structures that governments and policymakers put in place. These incentive structures—which include product market regulation, competition and corporate control rules—influence the competitive environment that firms operate in and so drive their managements' aspirations and behaviours. In turn, the nature of industry competition and the aspirations and behaviour of management determine the pace at which firms adopt best practices and innovate, which influence their productivity. Reflecting on the Australian case study findings in terms of this cycle suggests that:

- Governments can have a critical impact on productivity growth by ensuring that their policies create incentive structures that compel Australian companies to achieve much higher productivity—this should be the next stage of Australia's reform agenda.
- Business leaders must take action at the firm level to adopt aspirations, management practices and innovation levels that will allow them to achieve world-class productivity.

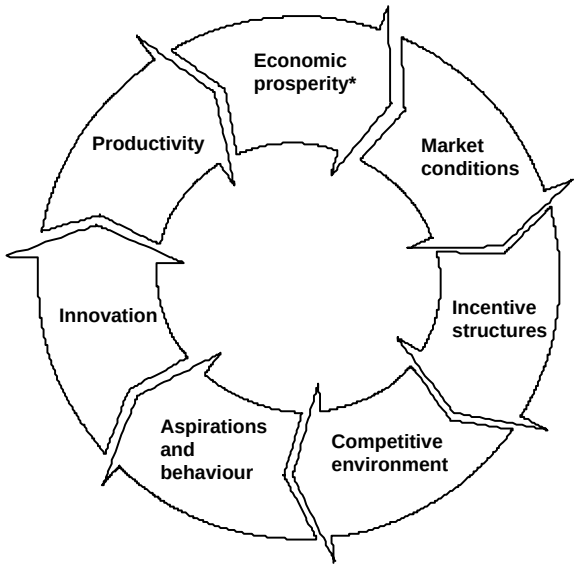
GOVERNMENTS MUST CREATE INCENTIVE STRUCTURES THAT WILL COMPEL FASTER PRODUCTIVITY GROWTH

Over the past decade or so, Australia has undertaken a program of reforms that has transformed its competitive environment. In doing so, it has extended its

capability platform in a number of ways. While we have always had a

Exhibit 15

ECONOMIC PROSPERITY IS THE RESULT OF INTERACTIVE FORCES

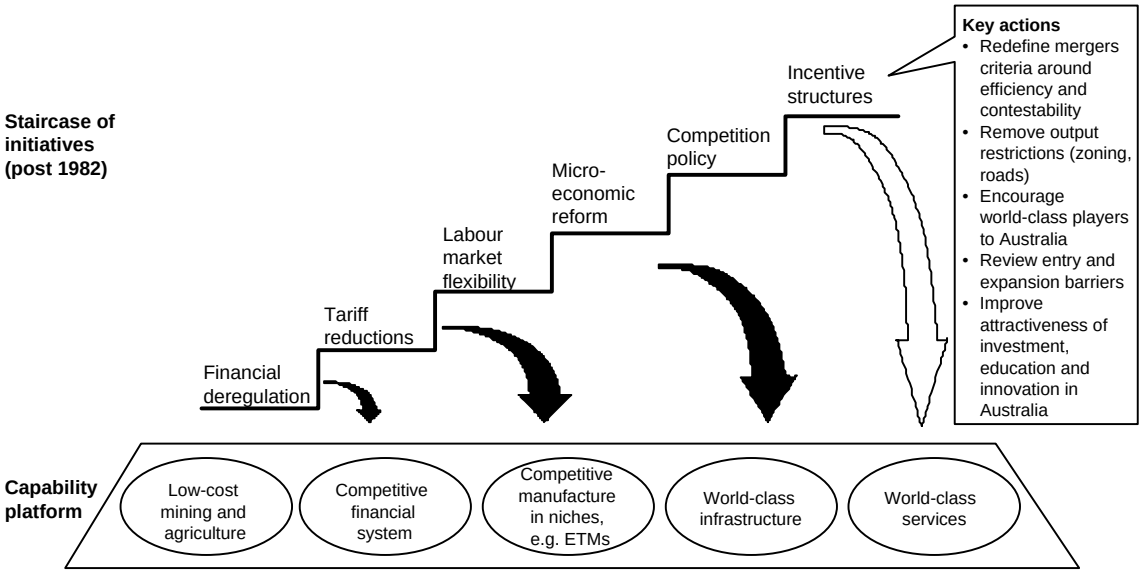


* If employment does not fall

Source: McKinsey Global Institute, *Manufacturing Productivity*, October 1993

Exhibit 16

ADDRESSING INCENTIVE STRUCTURES COULD BE THE NEXT STEP IN AUSTRALIA'S REFORM AGENDA



competitive resources sector in mining and agriculture, the first step in the reform agenda—financial deregulation—drove the development of a financial system now considered to be on par with its major regional competitors in countries like Hong Kong and Singapore, particularly in important areas such as trading, payments processing and funds management.

Later steps to reduce tariffs and promote greater labour market flexibility have encouraged greater competitiveness of Australian goods and the export success of niche players in the elaborately transformed manufacturing (ETM) sector. The more recent micro-economic reform and competition policy initiatives aim to produce infrastructure, including transport, communications and energy systems, that is world class.

We believe that the next step in this staircase of government-led reform initiatives should address incentive structures. This would be a key step to achieving faster productivity gains—particularly in the services sector which has been sheltered from the impact of many reforms—and extending Australia's capability platform as a competitive and productive nation (Exhibit 16). This belief is based on two findings.

The first is that in the industries we studied, government policies and regulation, do not always create compelling incentives for firms to aspire to or achieve world-class levels of innovation or productivity. For example, lower productivity industries—such as retail banking—which have low rates of innovation and modest aspirations also have incentive structures that serve to maintain the status quo. These incentives are either at the product market level (for example, regulations about mortgage securitisation) and / or in the market for corporate control (such as competition rules that prevent the rationalisation of branch networks). In contrast, the relatively high-productivity construction industry has adopted innovations and best practices rapidly—it has incentive structures that encourage an intensely competitive industry.

The second finding is that the regulatory barriers to higher productivity are very different in each industry we studied. This suggests that further work is needed to understand and refine these incentive structures at an industry level—it is unlikely that 'one size will fit all'. Using industry incentive structures as a key lever to drive faster productivity growth will require governments to reconsider their approaches to competition policy and the impact of many regulations. In some industries, creating incentive structures that encourage high levels of productivity and innovation may involve rethinking mergers policy. For example, in food processing sectors such as bakery and flour milling, it may be necessary to allow mergers currently considered to lead to a substantial lessening of competition so that firms can achieve scale economies and rationalise overcapacity. For this to occur, new tests of contestability would need to be defined. In retail banking, mergers might need to be permitted to facilitate branch rationalisation, provided contestability conditions were satisfied.

In other industries, different incentive structures would be needed to step up competitive intensity by further reducing market entry barriers. For example, in retailing, current zoning practices that create barriers to new more productive formats might need to be changed. Similarly, in aviation, specific measures to address entry barriers for new entrants such as long airport terminal leases may be necessary.

Policymakers should consider how to make much more explicit use of incentive structures to drive changes in firm behaviour to lift industry performance to world-class levels. This would involve a review of incentive structures that addressed the following issues:

- **Should merger criteria be redefined around market contestability and efficiency?** At present mergers and takeovers are not evaluated in this way. In its recent decision not to oppose Westpac's acquisition of Challenge Bank, the Trade Practices Commission pointed out that, 'the TPC's approach is dictated by the provisions of the Trade Practices Act relating to mergers and acquisitions and does not take into account possible increases in business efficiency or other public benefits (unless they affect competition), as these are only available when an authorisation is sought for a merger'.

- **Can competitive intensity be increased by reducing entry barriers?** Our work in this study has been confined to the market sector of the economy and has included some market service industries. Similar issues relating to productivity and competitive intensity are likely to exist in other services areas such as education and health care.

- **Are there restrictions on industry output which create entry barriers?** In the industries we studied, policymakers could evaluate changes aimed at reducing the barriers to greater industry output and thus encouraging innovation and job creation. These include:

  - Adopting a more open attitude towards retailing land use
  - Instituting faster processes for assessing construction and retail development applications
  - Continuing to remove retail trading hour restrictions
  - Continuing to improve infrastructure. Australia's poor road system imposes higher distribution and land costs on Australian businesses.

  According to the Business Council, a program of regulatory reviews of Commonwealth and State activities has been proposed. We recommend that this review encompass these issues.

- **Can we further encourage world-class companies to compete in Australia by making it more attractive to invest?** Previous MGI work

suggests that foreign direct investment (FDI) from global best-practice firms can accelerate productivity improvement and innovation transfer—in fact, FDI seems to be a far more important factor than trade as a force for improving productivity. While Australia has had some notable successes in winning regional headquarters and support centres recently, there is also evidence that our share of FDI in Asia is declining.

- **Are all government incentives to educate the workforce, train managers and to innovate clear and well-defined?** These are significant factors in determining how firms and management perform. Governments need to think hard about the incentives that they could provide to ensure the training needs of this pivotal group are addressed.

That incentive structures are such a major driver of industry performance in all the case studies is an important finding—by putting in place the 'right' incentive structures at an industry level governments have the ability to step up the pace of productivity growth and substantially lift Australia's economic prosperity.

BUSINESS LEADERS MUST LIFT THEIR ASPIRATIONS AND INNOVATION LEVELS

Although incentive structures are a major influence on average industry productivity, the aspirations of individual firms also make a difference. A major part of the solution to Australia's productivity performance problems rests with the leaders of all Australia's corporations—large and small.

Currently, there are pockets of firms which have high management aspirations and are achieving dramatic improvements in performance by pursuing aggressive best-practice initiatives. But to lift Australia's average industry productivity levels, many more firms must set aggressive objectives and performance targets and buy into the change agenda by actively pursuing world-class levels of productivity performance. They can do this in many ways: deciding to export, developing a new product in conjunction with an overseas customer, or collaborating with their employees to create more productive ways of working.

The importance of implementing world best practice in areas such as supplier management, logistics, workflows, management training and development has been widely recognised and talked about. However, as the business leaders who attended our conference discussed, many firms continue to lag behind world-best practice in these areas. This lag seems to be greatest in firms not exposed to international competition.

Our experience and discussions with business leaders suggest that if more firms are to achieve higher levels of productivity and growth, they will need to focus

on two important areas: developing the quality and effectiveness of their middle management and creating a pro-innovation culture.

Develop the quality and effectiveness of Australian middle managers

Middle managers will play a pivotal role in determining the fate of Australian business efforts to close the productivity gap. They hold the key to the success or failure of the major effort required to implement change. How quickly and wholeheartedly employees and other stakeholders, such as union leaders, adapt to the new culture—which may embrace innovative work processes, different systems, procedures and training methods—will largely rest on the commitment and level of skill of these men and women in the middle layers of management. Without them CEOs and the senior management team cannot hope to quickly change the attitudes and behaviours of employees.

It is therefore vital for business to raise the capabilities of its middle managers. Several suggestions emerged in our discussions with business leaders:

- **Give large numbers of middle managers international exposure and experience**. This is one of the factors that has made Australian scientists so successful in consistently delivering world-best performance. Pitted against the best from a very young age, they are continually reviewed against world leaders and have many opportunities to work outside Australia and to exchange ideas globally. Business managers would benefit in similar ways from greater international exchange. Seeing excellence first hand would help them to visualise the possibilities for Australian firms. They would learn about the change process required to successfully move an organisation toward best-practice levels of performance—and build their desire and commitment for change.
- **Set clear expectations and goals for achievement and hold managers accountable**. Our experience in working with organisations undergoing major change has identified clear goals and accountabilities as critical factors in lifting performance. Business leaders confirmed this with comments such as '. . . we made tremendous improvements in our business once middle management had clear performance targets'.

Develop a pro-innovation culture

Australian firms, with their small market base, are unlikely to ever match the levels of innovation development of leading overseas economies such as Japan, Europe or the United States. But they can foster the exchange of ideas and information, and facilitate the transfer of successful overseas innovations by effectively tapping into these demanding and sophisticated markets. The critical

issue for Australia, therefore, is how to quickly access and transfer overseas innovations.

The construction industry offers some lessons here. Our case study work found that in this industry the best firms are fuelled by their linkages into overseas markets—through partnerships, joint ventures and strategic alliances. This enables them to tap into overseas R&D and gain access to improvement ideas.

These lessons are backed up by our work with the Australian Manufacturing Council. The report, *The Wealth of Ideas*, found that the best Australian manufacturing firms see their links with overseas businesses as an important source of innovation and ideas. Companies need to look outside their own organisation for new ideas and actively develop linkages—with leading-edge customers, suppliers, publicly funded R&D providers and specialist firms—that will help them stay ahead of the game.

Probably the most important first step Australian business can take is to see innovation as a key driver of shareholder returns—to maximise the value of a firm's existing businesses and be a major source of growth options. Our research shows that typically, growth options account for between 30 and 60 per cent of a firm's sharemarket value. This potential value is only captured in a firm's share price when investors recognise how innovations are likely to create value. Once this value-creation potential is widely understood, innovation will begin to be seen as a core management process—rather than being tackled in a piecemeal manner. When we see more rapid innovation, transfer of new ideas and active cannibalisation of existing products and services then we'll be making faster progress.

* * *

Our case studies point to a major opportunity for Australians to raise our economic prosperity. While we expect to see continuing gains from the competitive dynamic that has been established through the significant reforms already been made and underway, fully realising Australia's opportunities will depend on further substantial efforts from business and governments. Much work is now needed to understand how governments should develop incentive structures to encourage higher aspirations and performance and facilitate what Paul Romer of the University of California, Berkeley, terms a 'pro-innovation economy'.

Case study 1

Food processing

The food processing industry is a vital part of the Australian economy. It employs 137 000 people, accounts for about a quarter of all jobs in the manufacturing sector, and is Australia's biggest earner of export income from manufactured goods. It also appears to be well positioned for growth. The industry has access to an abundant, relatively low-cost supply of inputs from Australian food growers, a 'clean, green' image overseas and is close to the large and growing markets of Asia. These advantages, together with the fact that labour costs are a low proportion of its total costs, may suggest that improving labour productivity is less crucial for this industry than some others.

But this is not so. Food processing is becoming an increasingly global industry. Australian companies are facing growing competition from imports at home while competing with the world's best as they build exports. And multinationals are moving investments around the globe to site facilities where costs are low and quality is high. The Australian industry must be able to succeed against increasing levels of global competition to realise its growth potential.

Our research shows that the industry's performance in terms of labour productivity and employment is well behind the United States and Denmark. Closing the performance gap with these two countries will not be easy. But our findings suggest that most of the barriers to achieving higher productivity are within the control of food processing firms themselves—including their levels of aspiration, product innovation and export development. The fact that firms within the Australian industry have made significant progress in recent years makes us optimistic that industry-wide productivity improvements can be achieved.

HOW DOES AUSTRALIA COMPARE WITH LEADING COUNTRIES?

The Australian food processing industry's performance is significantly behind the United States and Denmark—the benchmark countries for food processing worldwide.

ABOUT OUR METHODOLOGY

In this case study, processed food is defined as all food products that do not go directly from farm to market but instead are modified in a manufacturing plant. It excludes beverages and tobacco.

The food processing industry is the most diverse of all our case study industries. It includes a wide range of sectors—meat, dairy, fats and oils, fruit and vegetables, cereals, bakery and other foods. Each of these sectors is subject to different regulations and levels of trade and involves different types of processing.

The relative productivity of a given country vis-a-vis the global benchmark can differ significantly across products, as can the factors in the external environment and production process that cause these differences. Generalising across the entire industry can be helpful in drawing conclusions, but the differences between sectors must be kept in mind.

Although the business system differs considerably by product, the general value chain is easy to describe. Food processors buy raw materials from farmers and agribusiness enterprises and packaging material suppliers and deliver them to wholesalers, retailers and institutions.

Productivity in food processing is measured as value added (the difference between the value of production and the cost of raw material and other inputs) per hour worked. Value-added figures are converted to a common currency using adjusted OECD final expenditure PPP. Value added at PPP is used as an output measure because the diverse nature of processed food products makes physical measures (such as tonnes) problematic.

Lower labour productivity

Although the labour productivity of the Australian food processing industry is twice that of Japan—one of its important and growing export markets—it is only 68 per cent of US levels, and a similar gap exists with Denmark (Exhibit 1.1). Looking sector by sector, it appears that very low productivity in the bakery, cereals and other foods sectors accounts for much of this gap (Exhibit 1.2). Bakery, the second largest Australian sector, achieves 58 per cent of US productivity, cereals only 35 per cent, and other foods—which includes sugar, confectionery, seafood and animal and bird food—achieves 53 per cent. Even Australia's higher performing sectors—meat, fruit and vegetables, and fats and oils—have not reached a productivity level equivalent to the average level achieved by the US industry.

In addition, the productivity gap between Australian food processing and the world's leading industries is widening. Although the industry increased its labour productivity by 3.3 per cent per annum or 47 per cent cumulative between 1980/81 and 1992/93, the US and Danish industries improved at the same rate from a higher base (Exhibit 1.3). As a result, the gap between Australian and US productivity levels grew in absolute terms, from A$14 to A$22 value added per hour.

Negative employment growth

The employment performance of the Australian industry was poor compared to the United States and Denmark. One quarter of the people employed in food processing lost their jobs between 1980/81 and 1992/93.

The main reason for these job losses was the industry's relatively low output growth. Exhibit 1.4 shows that output in the Australian industry grew by only 11 per cent during the 1980s and early 1990s, compared to the 54 per cent growth achieved in the United States and 32 per cent in Denmark. Given the low output growth, Australia's productivity gains translated into a 24 per cent drop in employment. In contrast, in the United States output growth offset job losses resulting from increased productivity, enabling employment to grow by 2 per cent. In Denmark, a similar process led to employment falling by only nine per cent.

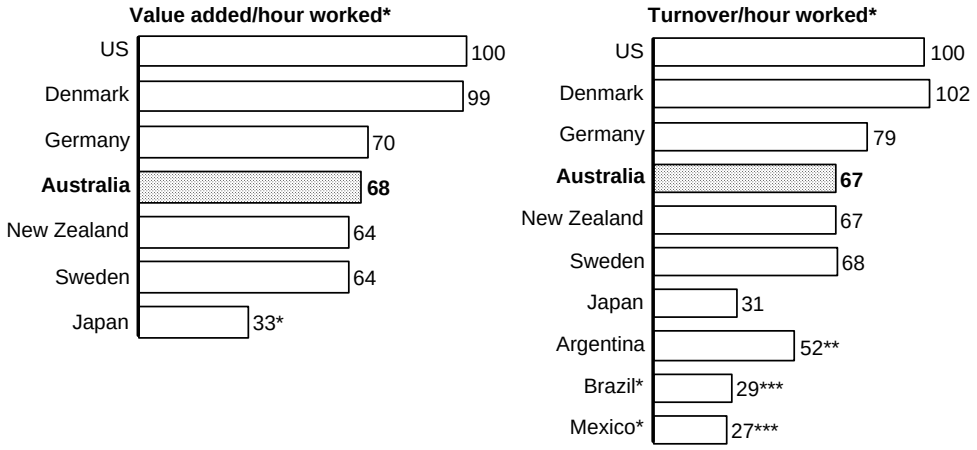
WHAT IS DRIVING AUSTRALIA'S POOR PERFORMANCE?

Through comparative analysis and industry interviews, we have identified six factors that contribute to the food processing industry's relatively poor performance over the last 15 years. Most of these factors are within the control of individual firms within the industry.

Exhibit 1.1

LABOUR PRODUCTIVITY IN FOOD PROCESSING IS 32 PER CENT BELOW THE US

Index US = 100, 1992



* 1992/93

** 1991/92 labour productivity comparison

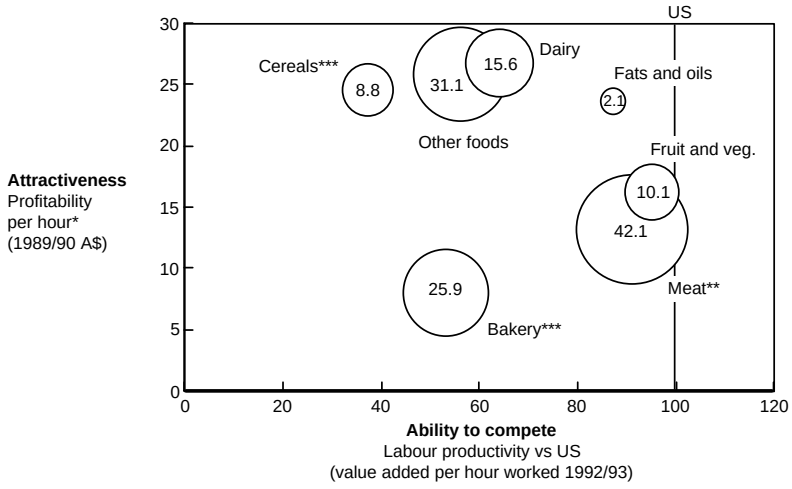
*** 1990 labour productivity comparison

Source: MGI, *Manufacturing Productivity*; *Census of Manufacturers*; ABS 8203.0 and 8221.0; *Labour Statistics Australia*, 1987 and 1993

Exhibit 1.2

PRODUCTIVITY IS PARTICULARLY LOW IN THE CEREALS, BAKERY AND OTHER FOODS SECTORS

Index US = 100; size of bubble = employment (thousands), 1990 A$



* Estimate based on turnover less wages and salaries, purchases and investment (before interest and tax)

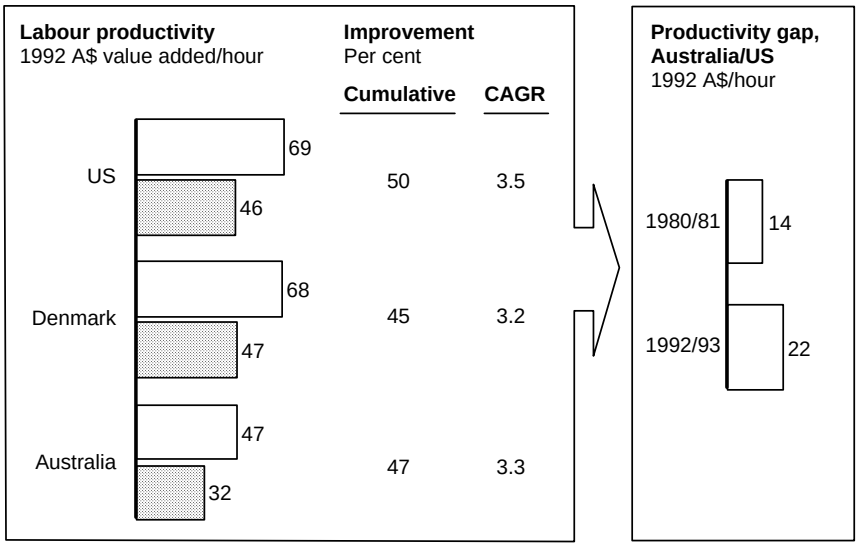
** PPP for red meat double deflated to adjust for low input prices in Australia

*** Bakery and cereals profitability may be affected by transfer pricing which raises flour mill profitability and lowers bakery productivity; hot bread shops and instore bakeries have been removed from the bakery sector

Source: *Food Australia*, 4th edition, 1994; *US Census of Manufacturers*; OECD PPP tables; *Australian Manufacturing Industry and International Trade Data*, 1995; Booz Allen & Hamilton, 1993

Exhibit 1.3

IN ABSOLUTE TERMS, THE GAP BETWEEN AUSTRALIAN AND US PRODUCTIVITY LEVELS IN FOOD PROCESSING IS GROWING

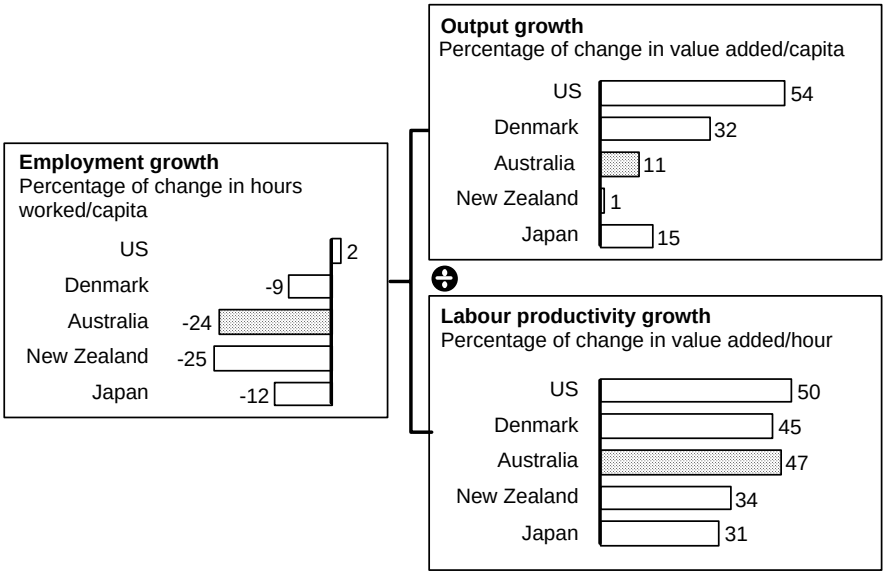


Source: *Food Australia*, 4th edition, 1994; *US Census of Manufacturers*; OECD PPP tables; *Australian Manufacturing Industry and International Trade Data*

Exhibit 1.4

LOW OUTPUT GROWTH MEANS PRODUCTIVITY GAINS LED TO JOB LOSSES IN AUSTRALIAN FOOD PROCESSING

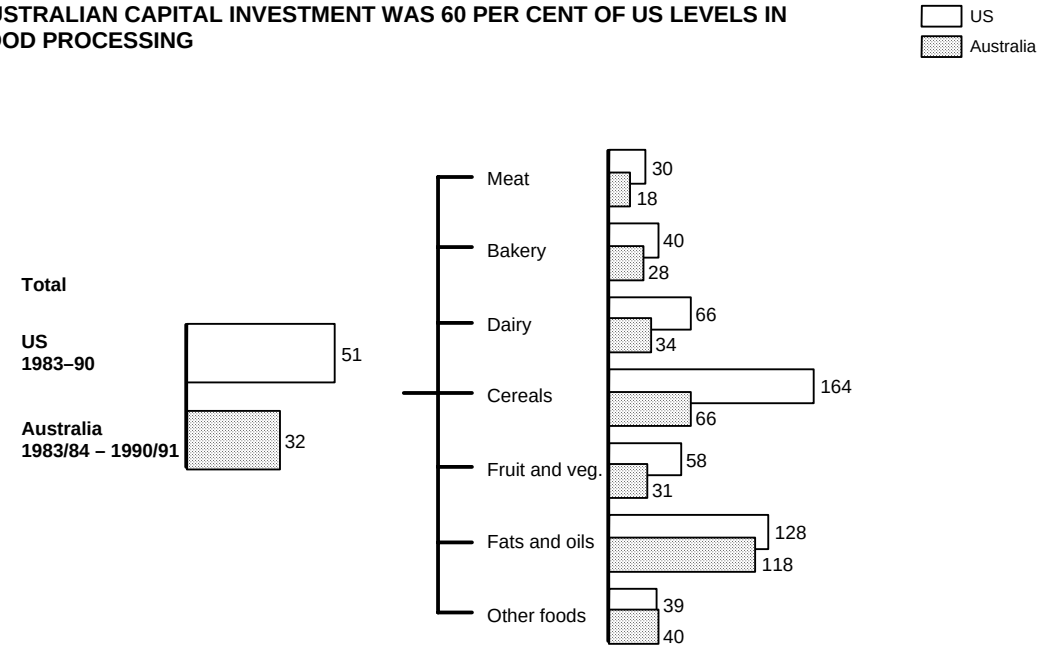
Per cent



Source: MGI, *Manufacturing Productivity; Census of Manufacturers*; ABS 8203.0 and 8221.0 special request; Labour Statistics Australia, 1987 and 1993

Exhibit 1.5

AUSTRALIAN CAPITAL INVESTMENT WAS 60 PER CENT OF US LEVELS IN FOOD PROCESSING



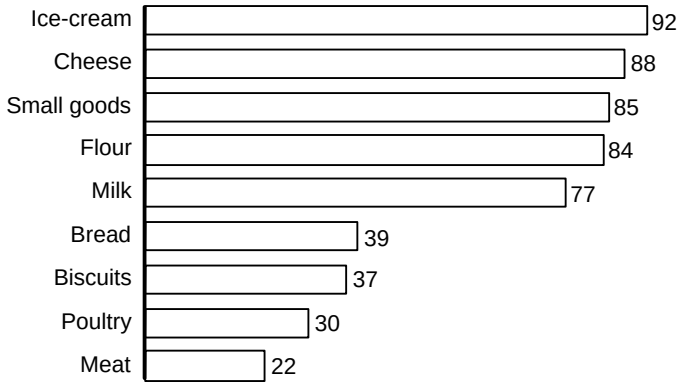
* Acquisitions–disposals adjusted using OECD machinery and equipment deflators and purchasing power parities

Source: *Census of Manufacturers,* US, Australia; Industry Commission; OECD; McKinsey analysis

Exhibit 1.6

AUSTRALIAN PLANTS ARE SMALLER THAN US PLANTS IN MOST SECTORS

Index US = 100, relative size of plant where 75th percentile employee works, 1992



Source: *Census of Manufacturers*; ABS; Industry commission; McKinsey analysis

Drivers of lower labour productivity

The main factors inhibiting productivity growth are lower levels of capital investment within the industry, the smaller scale of its processing plants and poor labour relations.

Low capital investment levels. Investment levels are an indicator of the state of the plant within an industry—high investment means firms are more likely to be operating leading-edge plant, enabling them to achieve higher labour productivity. On average, investment in Australia's food processing industry was only 60 per cent of the US level, and in some sectors it was particularly low (Exhibit 1.5). In cereals, for example, US firms invested A$164 000 per employee compared to only A$66 000 invested in Australia. In the dairy and the meat sectors, Australian investment levels were about half those in the United States. It is likely that this low investment was partly due to the widespread overcapacity, which meant that firms had more incentive to rationalise existing plant and equipment than to invest in new technology.

Smaller scale. In most sectors of this industry, Australian plants are smaller than US plants (Exhibit 1.6). Although this does not always lead to productivity problems, in some sectors, such as bread, biscuits and cheese, our research indicates that many plants are below minimum efficient scale for labour productivity.

Poor labour relations. Poor labour relations have tended to slow down rationalisation, investment and process innovation in manufacturing and distribution. A number of industry managers we interviewed mentioned 'the appalling record of working effectively with workers and unions in our industry'. One commented that labour regulations made it 'uneconomic to further automate meat plants'. Others found communication difficult: 'We can't talk to the union in Queensland'; 'We're still dealing with 15 unions'; and 'Unlike the US, Australian management and workers do not speak a common language—abroad we find the desire for productivity more commonly shared'.

Despite this gloomy picture, enormous strides have been made over the last 5 to 10 years to establish the effective working relations necessary to increase productivity. Many firms have successfully negotiated with unions and employees to introduce multiskilling, flexible working hours and shift arrangements, and staff reductions.

Drivers of lower growth in output and employment

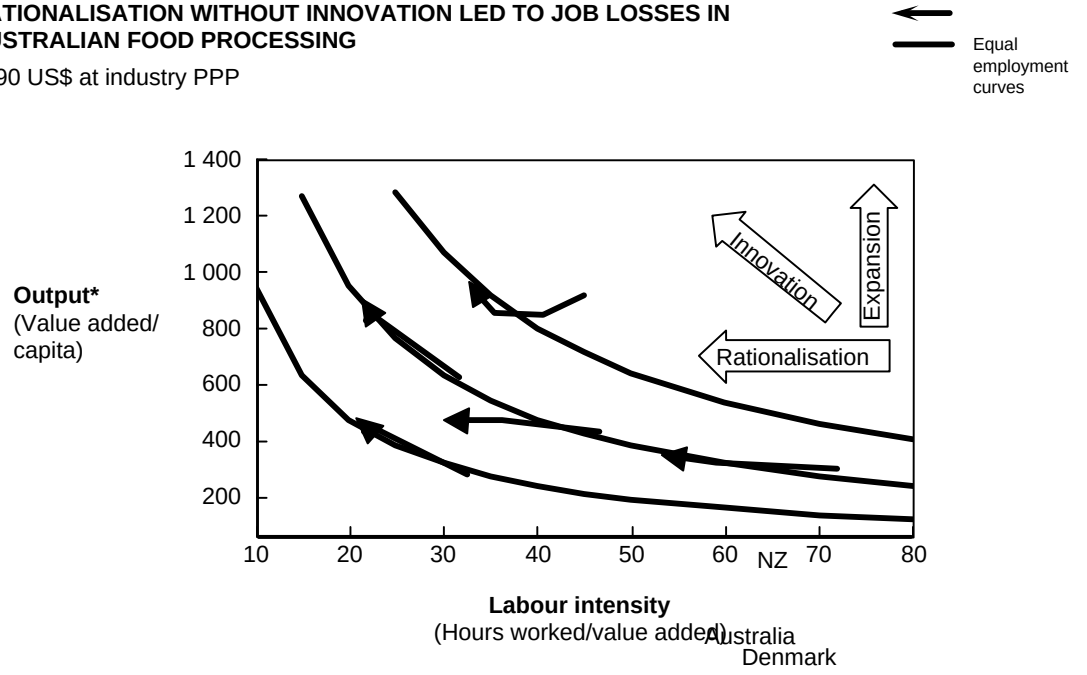
The critical factors in explaining the low output growth and resulting job losses are less innovation, poor export performance and weak industry-chain linkages. Some of these factors also have a negative affect on labour productivity.

Lack of innovation. Over the last 15 years, most Australian food processing companies have concentrated their efforts on cutting their costs and rationalising

Exhibit 1.7

RATIONALISATION WITHOUT INNOVATION LED TO JOB LOSSES IN AUSTRALIAN FOOD PROCESSING

1990 US$ at industry PPP



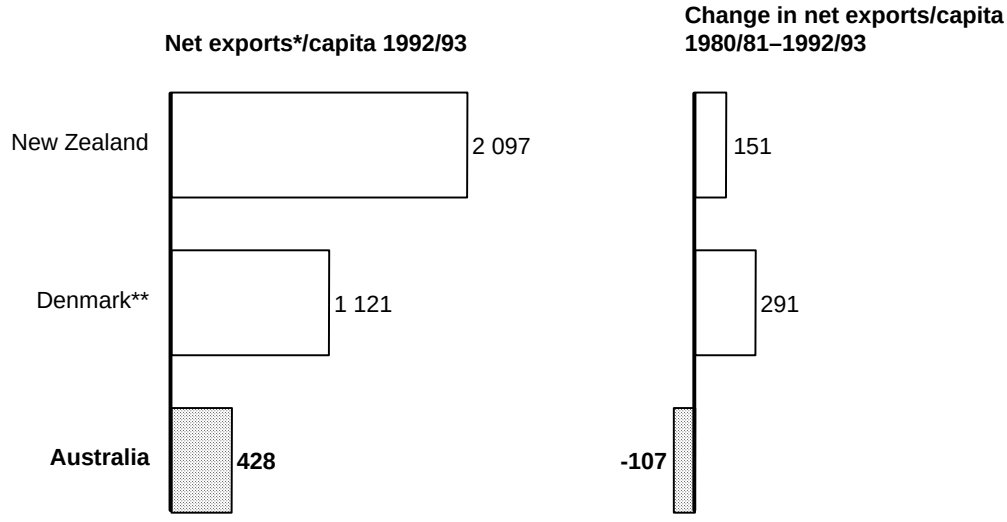
* Includes consumption and exports. On consumption basis US is above Australia

Source: *MGI Manufacturing Productivity; Census of Manufacturers*; ABS 8203.0 and 8221.0 special request; *Labour Statistics Australia*, 1987 and 1993

Exhibit 1.8

AUSTRALIA'S NET EXPORTS OF PROCESSED FOODS HAVE FALLEN

1992 A$ capita at industry PPP



* Net exports = exports – imports

** 1980 and 1992 calendar years used

Source: *Food Australia*, 4th edition, 1994; OECD; Danish statistical office; NZ statistical office

their operations. The United States and Denmark chose a different productivity route. These countries also cut costs and rationalised, but they innovated to increase market demand as well—enabling them to increase output at the same time.

The impact on employment of these different routes can be seen in Exhibit 1.7. The horizontal axis, reading right to left, shows how Australian food processors' rationalisation efforts reduced the number of hours required to produce the same amount of value added. On the vertical axis, however, we can see that Australia's output in this time barely changed, compared with significant growth in the United States, Denmark and, in the last few years, New Zealand. This increase in output enabled these three countries to maintain similar industry employment levels, whereas in Australia significant job losses occurred.

McKinsey's experience in the European food industry indicates that product innovation that increased demand is a key factor enabling the Danish industry to achieve its impressive output growth. Other indicators of less innovation in the Australian industry are the relatively low number of new products it launched, and the lower growth in the value-added component of its output compared to the United States.

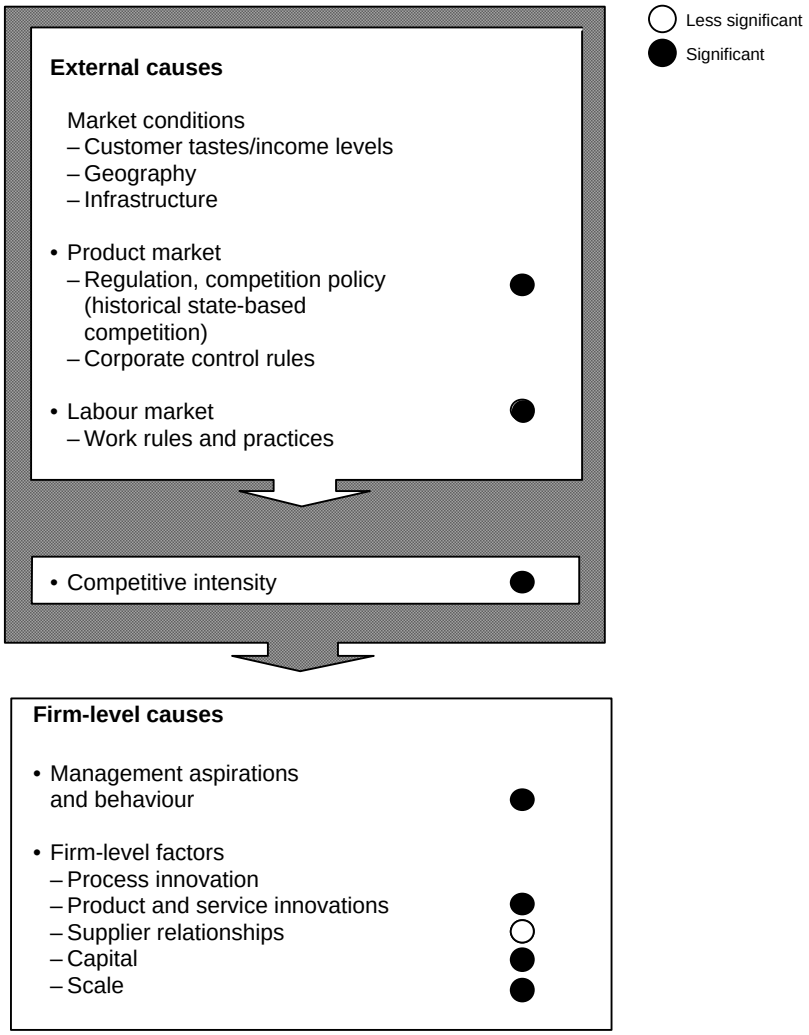
Lower export growth. Between 1981 and 1993, the value of Australian net exports of processed foods declined by A$107 per capita. In contrast, New Zealand's and Denmark's exports grew by A$151 and A$291 respectively, even though these countries were already exporting much more per capita than Australia (Exhibit 1.8). Since 1993, the Australian industry's exports have been growing modestly but, as imports of processed food also increased, net exports have changed little.

Weak industry chain linkages. Historically, linkages between food growers and processors have been poor in several sectors, and market signals have not flowed effectively along the chain, from consumer to retailer to processor to individual growers. Many industry leaders we spoke to highlighted the negative impact of this situation with comments like, 'Most sectors still lack a clear shared vision and effective cooperation between suppliers, processors and retailers'. In addition, poor relationships with suppliers have contributed to industry packaging material costs being an average of 20 per cent above US levels. Until recently, genuine partnerships between suppliers and food processors were rare. Finally, a concentrated and powerful grocery retailing sector has exerted pressure on processors' prices.

WHAT ARE THE UNDERLYING CAUSES?

Our research, and interviews with industry leaders, suggest that there are three interrelated causes of the six factors discussed above: the historical legacy of industry fragmentation, which has resulted in low competitive intensity in some

Exhibit 1.9


Less significant
Significant
External causes
Market conditions
– Customer tastes/income levels
– Geography
– Infrastructure
• Product market
– Regulation, competition policy (historical state-based competition)
– Corporate control rules
• Labour market
– Work rules and practices
• Competitive intensity
Firm-level causes
• Management aspirations and behaviour
• Firm-level factors
– Process innovation
– Product and service innovations
– Supplier relationships
– Capital
– Scale

sectors, which in turn, has led to limited aspirations within companies (Exhibit 1.9).

Historical industry fragmentation and low competitive intensity

Historically, the food processing sector has comprised a large number of relatively small businesses—often owned by families or cooperatives and focused on state rather than national or regional markets. Past market regulation that limited interstate competition was a major contributor to the development of this situation. As one executive said, 'Until 5 years ago we were a state-based organisation, influenced by local families and we manufactured almost the full product line at each of our sites'. Also, until recently, local branches of multinational companies were often viewed as outposts, rather than important platforms for Asian expansion.

As a result, many companies operated dispersed plants of suboptimal scale, and lacked the critical mass required to make long-term investments in developing Asian markets, undertaking R&D, and building deep functional competences. More recently, takeovers by multinationals and ongoing rationalisation among domestic players have improved economies of scale significantly at the enterprise level. However, firms in several sectors—such as bakery and cereals—still have a way to go to achieve the minimum scale necessary for high productivity.

This industry fragmentation meant many firms were sheltered from the competitive pressures that have compelled food processors in the United States to improve their performance. In sectors or categories where competition was limited, companies did not have the incentives to improve. In turn, this lower competitive intensity was one of the reasons many Australian food processors maintained limited aspirations for much of the 1980s and even into the early 1990s.

Limited aspirations within companies

That the management of many firms had low aspirations over the period we studied can be seen in the constrained way they defined their business along three dimensions—their geographical reach, the design of their business system and production process, and product innovation and marketing.

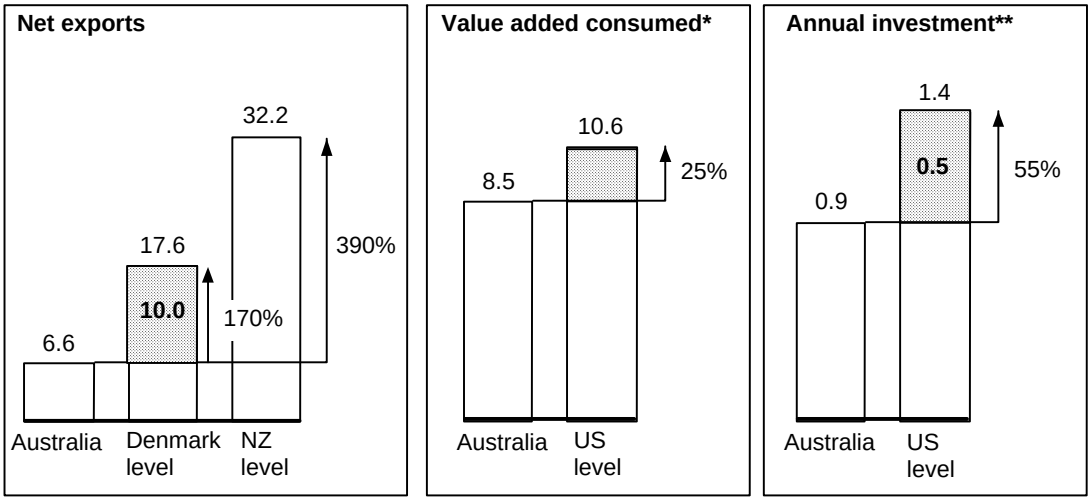
First, most firms continued to see themselves as competing in a local or national market, rather than aspiring to be a player in the Asia-Pacific or world markets and pursuing the growth that this implies. The industry's traditional attitude to exports has been to take advantage of low input costs and surplus production

capacity to export existing products, with minimal tailoring or product development to cater to differences in foreign consumer tastes.

Exhibit 1.10

CLOSING THE PRODUCTIVITY GAP WITH LEADING COUNTRIES IS A SIGNIFICANT CHALLENGE

A$ Billions, increase from base year, 1992/93



* Assumes value added/value is the same for net exports and consumption

** Acquisitions less disposals

Source: *MGI Manufacturing Productivity; Census of Manufacturers*; ABS; Danish statistical office; NZ statistical office; McKinsey analysis

Although this picture is definitely changing, recent interviews suggest the traditional view is still widely held. 'There is this historical sense of isolation. We believe we do not have to compete internationally and, as a result, can accept local performance standards', said one industry executive. This attitude is reflected in the way companies invest their resources: 'We tend to export from excess capacity. We rarely dedicate new capacity to it'.

Second, few companies invested in leading-edge technologies or developed innovative production processes that would have enabled them to achieve world-class performance standards. Instead, they retained traditional processes and plant.

And third, many Australian food processors continued to use traditional, narrow category definitions (often based on the manufacturing process they use) with limited focus on new products and brand development. Broadening their category definitions would have opened the door for product innovation to meet new consumer demand, allowing them to expand their existing markets. Examples of this kind of redefining include biscuit manufacturers seeing themselves as providers of ready-to-eat snack foods, and dairy manufacturers expanding their category definition to encompass healthy dairy snack foods.

If these companies had challenged traditional views of their products, markets and processes, both labour productivity and employment would be higher—as they are in the United States, where aggressive companies aim to double shareholder value every 5 to 7 years. The boards, chief executives and senior executive teams of such companies are committed to the long haul and maintain a strong belief in future profitability so they can motivate people to develop and implement growth plans. While there is evidence that Australian companies are lifting their aspirations, many more must do so if the whole industry is to improve its performance.

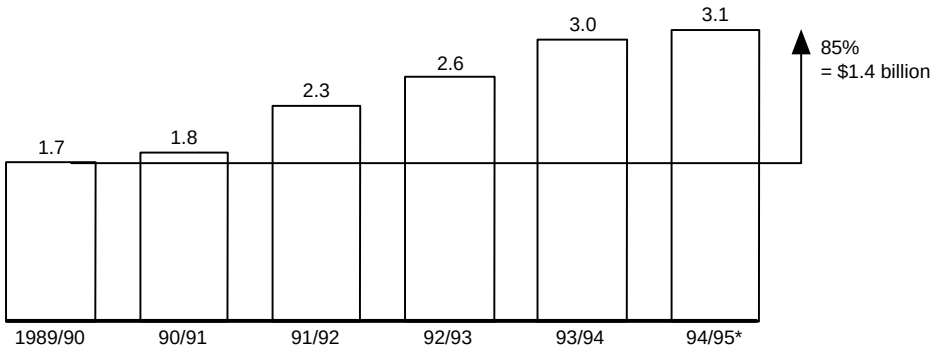
WHAT ACTION IS REQUIRED TO CLOSE THE PRODUCTIVITY GAP?

Closing the gap with leading countries represents a significant challenge, as can be seen in Exhibit 1.10. Australian food processors need to increase net exports by $11 billion or 170 per cent to achieve the same export intensity as the Danish industry. They need to increase value added consumed domestically by $2.1 billion or 25 per cent to be as innovative as the United States in stimulating consumption. To reach the same capital intensity as the United States, Australian food processors must invest a further $500 million per annum, which is a 60 per cent increase. Most of the actions required to meet this challenge must be taken by food processing companies. But governments can play a valuable role in providing incentives and support for the industry.

Exhibit 1.11

AUSTRALIA'S EXPORTS OF HIGHLY PROCESSED FOODS HAVE INCREASED DRAMATICALLY OVER THE LAST 5 YEARS

A$ Billions



* Estimate

Source: *Food Australia* 5th edition, ABS 5422; press search; interview

Company-led actions

Over the last few years, Australia's leading-edge companies have begun to take steps to improve labour productivity. Their aspirations and actions to increase exports, improve employee relations, raise investment levels, build effective supplier relationships and increase product innovation point the way for the rest of the industry. These types of actions are needed throughout all sectors of the industry to close the productivity gap and increase employment.

Increase exports. In the 5 years between 1989/90 and 1994/95 Australia's exports of highly processed foods increased by 85 per cent or $1.4 billion (Exhibit 1.11). Behind these figures are successful processed food exporters like Uncle Ben's, a division of Mars Inc. The company first started selling products in Japan in 1972 but made little progress. Working with Mars' local distribution operation, Effem Japan, Uncle Ben's spent nearly 2 years researching the market, developing new products and getting to know the complex Japanese retailing sector. In 1983 the company launched two new products in Japan: Pedigree Chum, an up-market canned dog food, and Kal Kan canned cat food. With exports worth around $120 million per annum, Uncle Ben's is now number one in the competitive branded canned pet food market.

The dairy industry is another example. Its leading companies have recently achieved very substantial export growth. Exports of milk products, ice-cream, cheese and yoghurt grew by an impressive 13 per cent to be worth $940 million in 1993 to 1994.

Improve employee relations. Several companies are working better with unions and employees and are making major breakthroughs which have allowed them to achieve significant productivity growth. For example, in the last 18 months, Heinz has achieved a 40 per cent increase in productivity in its Dandenong plant. It has done this by successfully negotiating to reduce the number of unions it deals with from 14 to 4, and to cut its staff by 300 workers, reorganise into product-based work teams and reduce the number of industrial stoppages per week from three to none. Edgell-Birdseye has also achieved substantial improvements.

Raise investment levels. Other companies have made, or are in the process of making, quantum leaps in productivity through substantial investment in leading-edge plants. For example, Kraft has announced a $200 million plant investment, and Arnott's is halfway through a program that will lead to a 91 per cent increase in labour productivity through its $400 million investment in state-of-the-art manufacturing facilities over 5 to 7 years.

Build effective supplier relationships. Many companies are beginning to improve linkages with suppliers. Several are working in 'partnership' with suppliers of tin plate, cardboard boxes, glass and plastic containers to think through opportunities to reduce total system cost. Reforms of statutory

marketing authorities and grower cooperatives in industries such as wheat, dairy and fruit and vegetables have also had a major impact over the past 5 years.

Increase product innovation. Finally Australia's leading-edge food processing companies are redefining the way they think about their products and increasing innovation. Arnott's, for example, no longer thinks of itself as simply a biscuit company. It has moved from thinking of itself as having a 70 per cent share in Australia's slow-growth biscuit market to a mindset of having a 10 per cent share of the huge and growing 'macro snacks' market. Similarly, Heinz has broadened the way it defines its product categories, from processed baby foods to kids' cuisine. As a result, it released about 60 new products in 1994. There has also been a boom in domestic consumption of yoghurts and dairy desserts as a result of the successful launch of innovative products, with sales growing at 22 per cent per annum. Pasta and healthy snacks are two other success stories.

Government-led actions

Governments should consider taking a range of new actions to support and provide incentives for industry, in addition to continuing many of its current programs and priorities. Many of these are laid out in the Prime Minister's Science and Engineering Council paper, *Food Into Asia: The Next Steps*, including:

- Continue to support export development (particularly in smaller companies) through AUSTRADE offices with food industry expertise while redoubling inter-governmental efforts to improve market access.
- If pilots are successful, increase the funding of the 'Clean Green' marketing program to extend it to other Asian markets with high export potential.
- Extend the 150 per cent R&D tax deduction to include product design and market research in export locations, not just research in laboratories.
- Continue micro-economic reform efforts to remove structural and cost impediments to business investment in the industry, including implementing the Hilmer Report on National Competition Policy, and reviewing the 1993 Memorandum of Understanding to accelerate workplace reform.

Governments also face a challenge in achieving the right balance in public policy between protecting consumers from potential abuses of market power and allowing the development of efficient scale enterprises. In particular, we believe that governments should reconsider allowing rationalisation in obviously subscale industry sectors, such as bread and flour milling.

WHAT ARE THE IMPLICATIONS FOR EMPLOYMENT?

If the Australian food processing industry can achieve significant growth in output by innovating to increase local demand for high-value-added products and increasing its exports, there is every reason to believe that industry could maintain or even increase its current employment level. Output growth could offset job losses resulting from productivity gains, as it has in the United States and Denmark.

* * *

Australia's food processing industry has enormous growth potential, as well as many of the competitive advantages required to realise this potential. Both business and governments recognise this and in the last few years momentum has clearly been building through their initiatives. But when we compare the industry's progress to that made by other countries, it is clear that there is no cause for complacency. The United States and Denmark are outpacing the industry in labour productivity growth, output growth and employment growth. New Zealand and Denmark are way ahead in increasing exports. Our research shows that most of the barriers holding Australian firms back are internal factors that are in the control of their CEOs, not government. If leaders throughout the industry act to eliminate these barriers with a sense of urgency and lift their sights to the highly competitive global markets, Australia's food processors can begin to close the gap between them and the world's best.

Case study 2

Construction

The last 15 years have been turbulent times for the Australian construction industry. Its two biggest unions continued a long-running battle until one—the Builders Labourers' Federation—was deregistered in 1986. A commercial building boom in the late 1980s over stretched the industry's capacity and led to trade and management skill shortages. Overcapacity coupled with an economic recession contributed to the devastation of the commercial property markets in the early 1990s. And in New South Wales, a Royal Commission found that tendering processes and union behaviour had severely affected the productivity and efficiency of the industry.

In the wake of these traumas, much positive change has occurred in the industry, with the introduction of multiskilling and more harmonious working relationships. These changes seem to have had a dramatic effect—our research shows that the industry's average productivity level is close to world best, and its performance in creating employment is equally impressive. The challenge for this industry, which accounts for seven per cent of GDP and employs just under five per cent of the working age population, is to continue to improve.

HOW DOES AUSTRALIA COMPARE WITH LEADING COUNTRIES?

Compared to the industries in leading countries such as the United States, Germany and France, the Australian construction industry's performance is impressive. Productivity in this industry—which includes the full range of construction companies from small and self-employed subcontractors to large commercial firms—is high by world standards. In addition, the industry has maintained its high employment levels compared to European countries.

High labour productivity

The industry's productivity level is close to world best practice. It stands at about 95 per cent of the US levels, which is comparable with France and Germany, and is more than 25 per cent ahead of Sweden and Japan (Exhibit 2.1). This finding may come as a surprise, given that a number of industry reports have highlighted a sizeable productivity gap between the average Australian construction firm and the best firms worldwide.

ABOUT OUR METHODOLOGY

Our construction case study looks at the three main subsectors: residential, commercial and public construction (including public buildings and infrastructure).

Construction productivity is difficult to compare between countries. Climatic conditions, and thus performance requirements, differ substantially and influence materials and processes. We have tried to get around this difficulty by using value added per hour worked in the industry as our productivity measure. We have calculated our figures using sector GDP, employment, and hours per employee data from the OECD National accounts and OECD Final Expenditure PPPs. On this basis, we found Australian productivity to be close to best practice over the period 1980 to 1993.

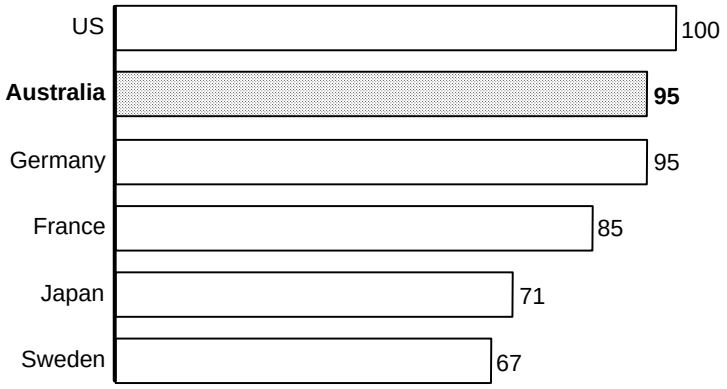
At the same time, it is worth pointing out that OECD National accounts data show that construction productivity appears to be declining in both the United States and Australia. In the United States this decline has been measured at 1 to 2 per cent per annum since 1963. Declining measured construction has been widely discussed in the United States. A commonly held explanation is that quality increases in construction had been recorded as price increases and not output increases. Inflation had therefore been overstated, and output and productivity growth understated. Some adjustments have been made in the OECD deflators to correct for these problems, but some experts believe that figures still tend to overestimate inflation.

These problems have led us to rely on the deflators as little as possible in our construction case. Assuming a potential error in the deflators of 2 per cent per year could introduce an error of 6 to 8 per cent into the 1980 to 1993 average. We judged that Australia was near best practice and had output per capita that was 25 per cent higher than other countries.

Exhibit 2.1

LABOUR PRODUCTIVITY IN AUSTRALIAN CONSTRUCTION IS CLOSE TO WORLD BEST PRACTICE

Index US = 100

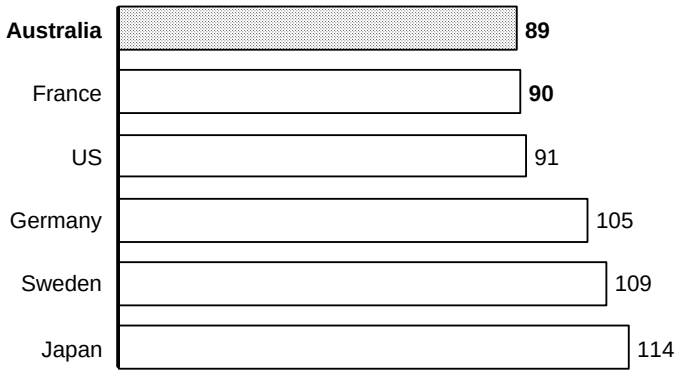


Source: OECD *National Accounts*

Exhibit 2.2

AUSTRALIAN CONSTRUCTION COSTS ARE VERY COMPETITIVE

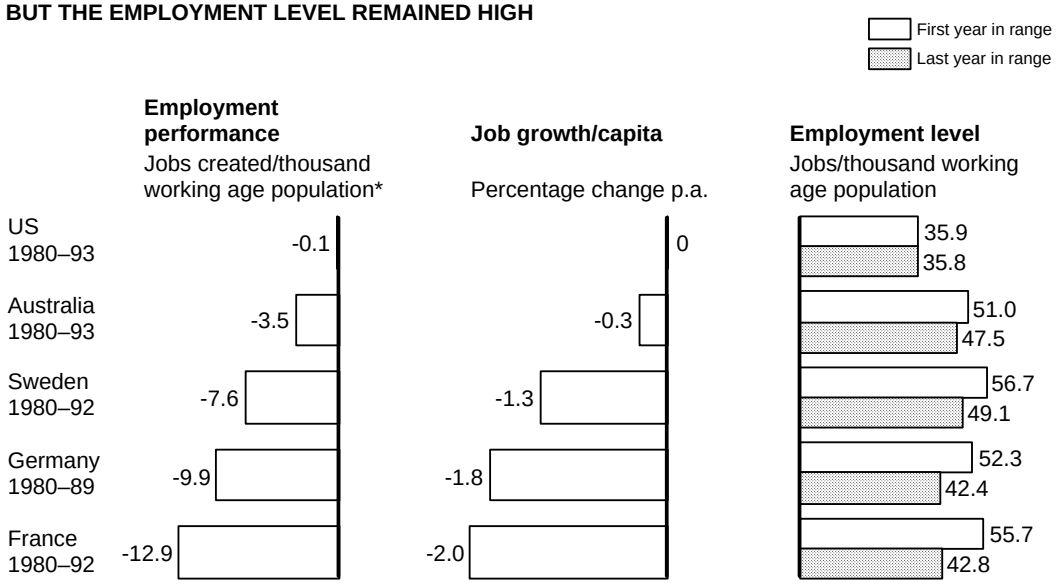
Index = 100, 1990



Source: OECD *National Accounts*

Exhibit 2.3

EMPLOYMENT IN CONSTRUCTION FELL SLIGHTLY BETWEEN 1980 AND 1993 BUT THE EMPLOYMENT LEVEL REMAINED HIGH



* Adjusted for growth in working age population

Source: OECD *National Accounts;* OECD *Labour Force Statistics*

We believe that these findings are not inconsistent. Although the average company may be below best practice, our results suggest that the Australian industry as a whole is comparable with industries in leading countries.

In addition to high labour productivity, Australia's relative construction costs are very competitive. Australian construction prices are 89 per cent of the OECD average, which is comparable with prices in the United States and France, and much lower than those in Japan, Germany and Sweden (Exhibit 2.2).

High employment levels

Another encouraging finding is that the Australian industry's performance in creating employment was the second highest of the countries we studied. Between 1980 and 1993, the number of construction jobs per thousand working age population in Australia fell only slightly. This compares well to European countries which, like Australia, have a much higher proportion of people working in construction than the United States. These countries experienced much higher job losses (Exhibit 2.3). In 1993, the Australian industry's employment level was 47.5 jobs per thousand working age population, which was only three per cent below Sweden and 33 per cent above the United States.

The main reason the Australian industry has been able to combine high employment with high productivity is that its output per capita is very high. Over the period 1980 to 1993, its average annual output per capita was 28 per cent more than the US industry's and over 40 per cent more than the European industries' (Exhibit 2.4). This high output is due to a greater demand for housing and infrastructure in Australia and the lower prices here.

WHAT IS DRIVING AUSTRALIA'S GOOD PRODUCTIVITY PERFORMANCE?

The main drivers of the high productivity in construction are the intense competition in the industry, which has encouraged the widespread transfer of innovative production processes, and improved industrial relations since the late 1980s (Exhibit 2.5).

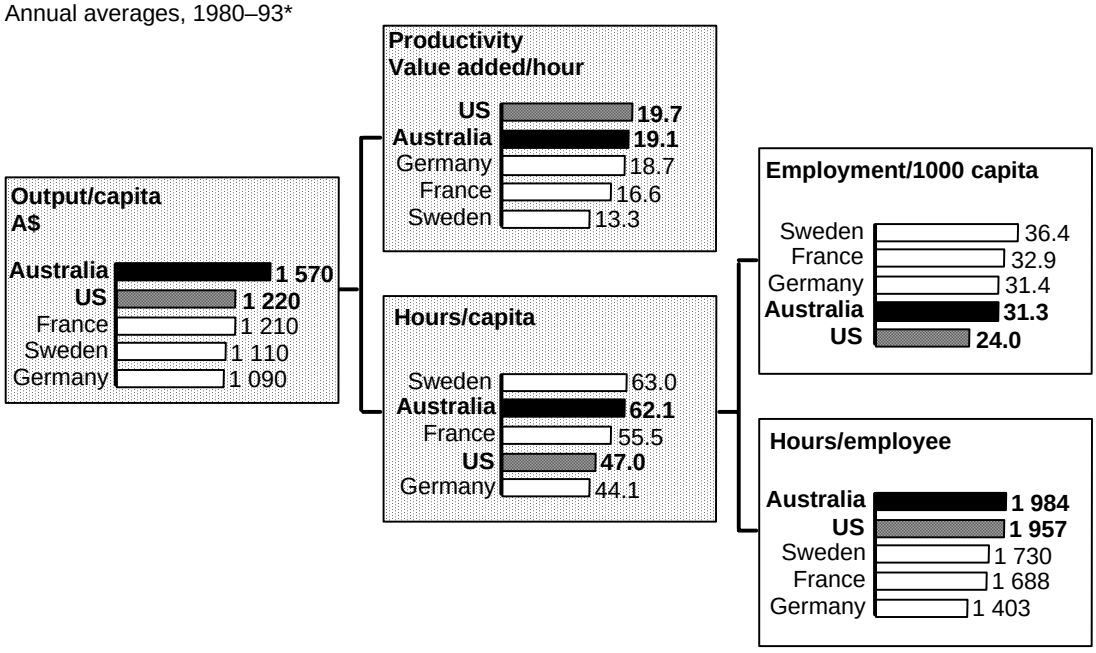
Intense industry competition

Construction is a fragmented and intensely competitive industry in many parts of the world. Small companies and subcontractors with less than 20 employees and the self-employed account for more than half of total employment in most developed countries. In both Australia and the United States, these small players account for over 60 per cent of employment.

Exhibit 2.4

HIGH OUTPUT PER CAPITA ENABLED AUSTRALIAN CONSTRUCTION TO COMBINE HIGH PRODUCTIVITY WITH HIGH EMPLOYMENT

Annual averages, 1980–93*



* 1980–89 for Germany, 1980–92 for France and Sweden

Source: OECD *National Accounts*

Exhibit 2.5

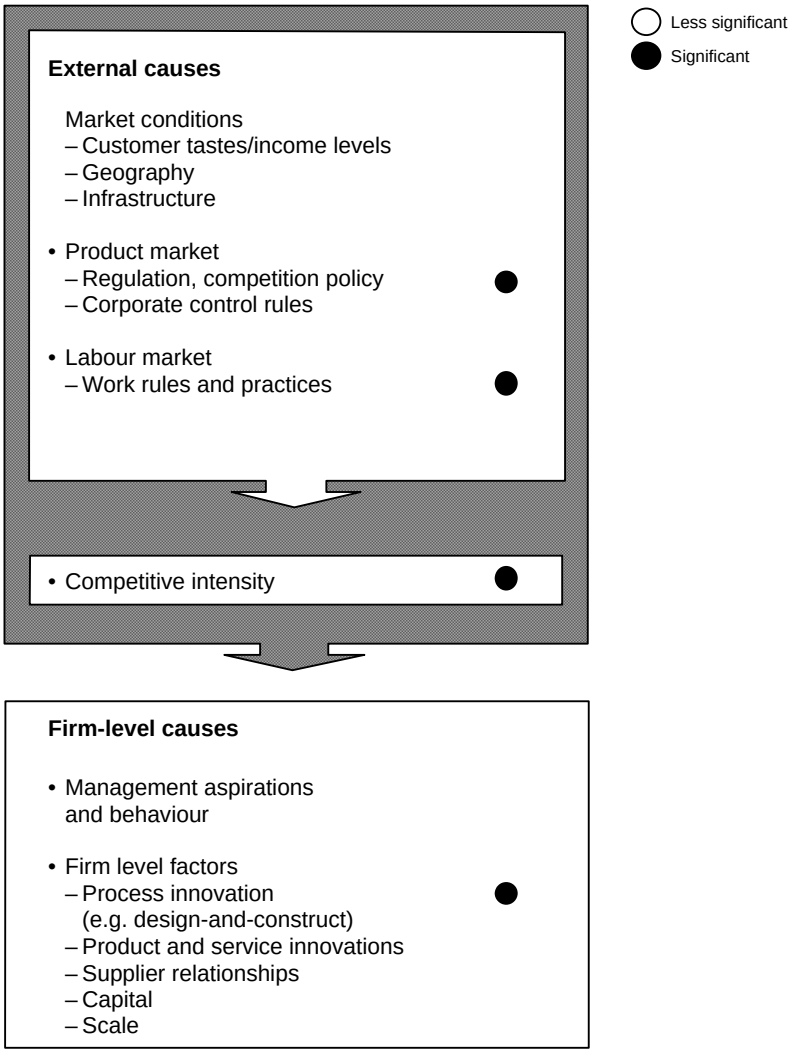
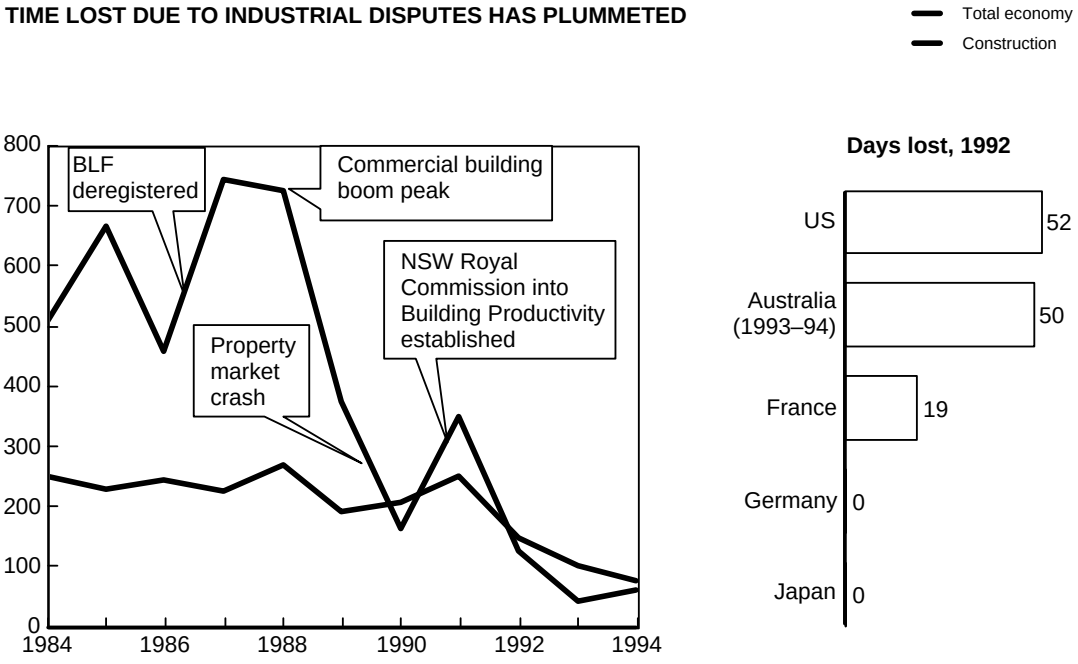

Less significant
Significant
External causes
Market conditions
– Customer tastes/income levels
– Geography
– Infrastructure
• Product market
– Regulation, competition policy
– Corporate control rules
• Labour market
– Work rules and practices
• Competitive intensity
Firm-level causes
• Management aspirations and behaviour
• Firm level factors
– Process innovation (e.g. design-and-construct)
– Product and service innovations
– Supplier relationships
– Capital
– Scale

Exhibit 2.6

TIME LOST DUE TO INDUSTRIAL DISPUTES HAS PLUMMETED

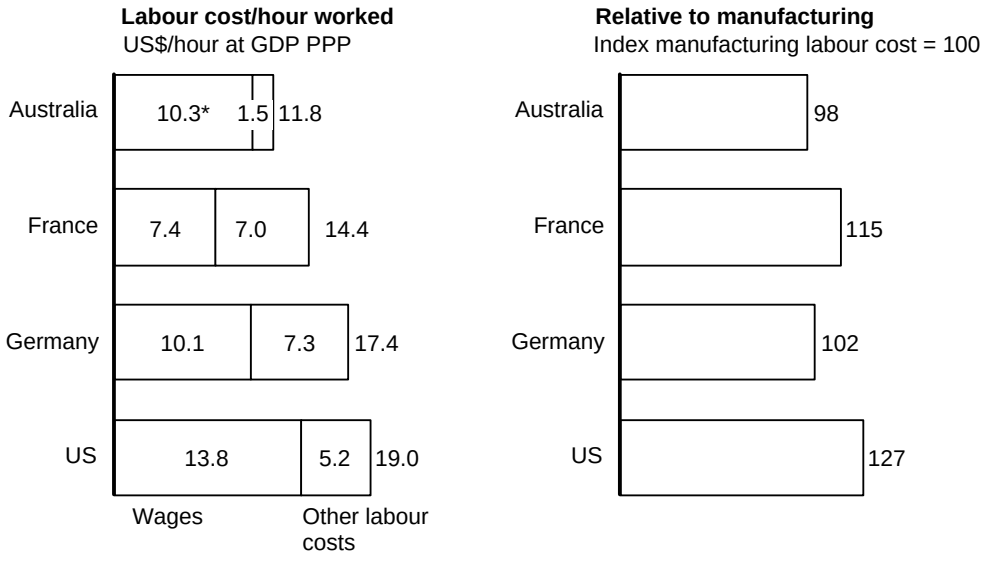


Source: ABS *Industrial Disputes in Australia*; ILO *Yearbook of Labour Statistics*

Exhibit 2.7

AUSTRALIAN CONSTRUCTION LABOUR COSTS ARE LOW IN BOTH ABSOLUTE AND RELATIVE TERMS

1990



* Bad weather money included in wages for Australia and in other costs for other countries

Source: National statistics; OECD *National Accounts*; *Baustatistisches Jahrbuch*; McKinsey analysis

Innovative processes in this industry tend to transfer quickly around the world. This is partly because companies in competitive industries have strong incentives to look overseas for potential advantages over their competitors. In addition, many big firms, such as the Australian companies Baulderstone Hornibrook and Transfield, have linkages with major foreign construction firms either as parent companies, joint venture partners or common shareholders. Important examples of best practices that have been or are being adopted in Australia include the design-and-construct business system and greater use of prefabricated construction materials.

The design-and-construct business system—where one organisation or partnership has end-to-end responsibility for the entire design and construction phase—intensifies collaboration between the owner, the builder and all specialists by aligning incentives. This stimulates innovation leading to reduced construction time, increased quality and lower costs.

Prefabrication of construction materials, such as wall and flooring systems, enables the quality and cost benefits inherent in the manufacturing process to be brought to the site. The use of prefabrication in construction is being applied increasingly in Australia's commercial construction sector at rates similar to the United States. However, Australia's residential sector seems to have been slower to apply this technology.

Improved industrial relations

Industrial relations have improved dramatically in the Australian industry since the late 1980s. The time lost due to industrial disputes has plummeted from more than 700 working days per thousand employees in 1987 to less than a hundred in 1994. This new low rate is slightly below US levels, but still much higher than in France, Germany or Japan (Exhibit 2.6). Changes in work practices have also led to a reduction in the number of days lost due to bad weather.

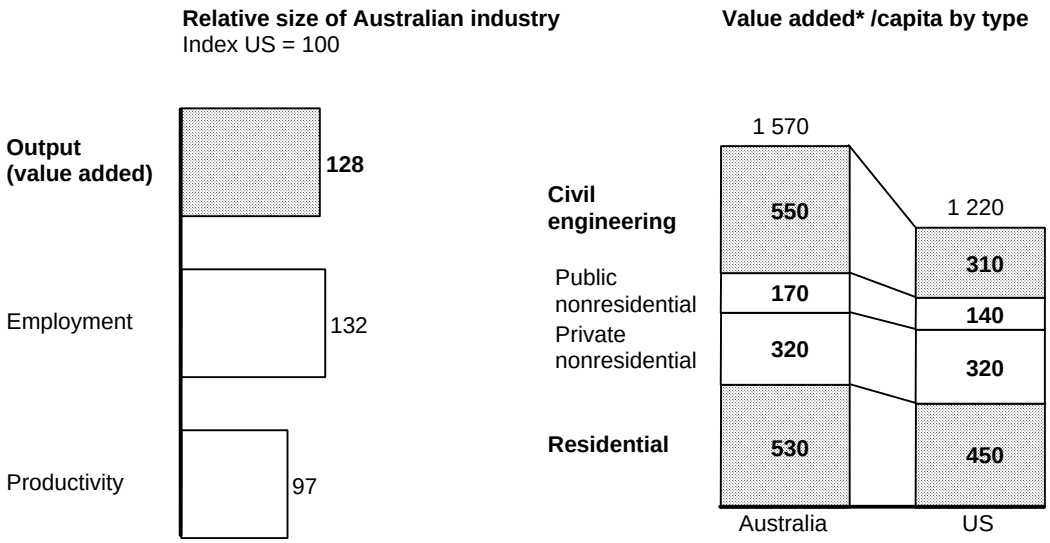
These improvements have led to significant cost savings, especially in project financing. For commercial projects in Sydney, for example, the share of total completion time lost due to disputes or weather dropped from 39 per cent to about 11 per cent between 1989 and 1994—and the cost of these delays dropped from around 12 per cent of total project cost in 1989 to only 2.4 per cent in 1994.

WHAT IS DRIVING AUSTRALIA'S HIGHER OUTPUT AND EMPLOYMENT LEVELS?

The Australian construction industry's high output and strong employment performance are mainly due to the relatively low prices charged within the industry and the significantly higher demand for housing and civil engineering construction.

Exhibit 2.8

RESIDENTIAL AND CIVIL ENGINEERING CONSTRUCTION



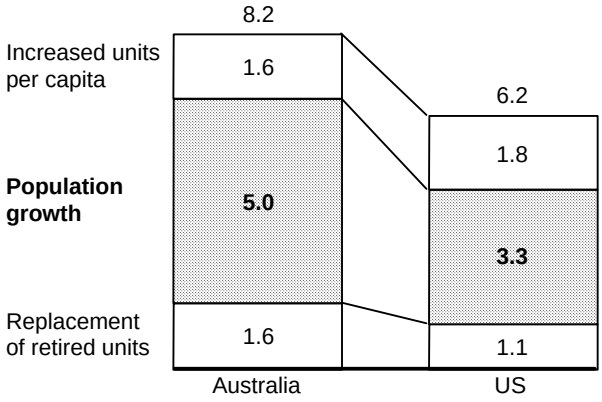
* Value added estimated using value added to activity ratios for each subcategory from national construction censuses

Source: OECD *National Accounts*; national construction censuses and construction activity surveys

Exhibit 2.9

AUSTRALIA'S FASTER POPULATION GROWTH IN THE 1980s EXPLAINS THE HIGHER DEMAND FOR RESIDENTIAL HOUSING

Units p.a./thousand population*



* Annual average of 1980–90 for US, 1986–91 for Australia

Source: National housing censuses; statistical yearbooks

Lower construction prices

Construction prices in Australia are 11 per cent below the OECD average, which is lower than any of the countries we benchmarked against, including the United States. These low prices stem partly from the industry's high productivity and competitiveness, and also from the low cost of key inputs—labour and materials.

Australian labour costs are only 60 per cent of labour costs in the United States, and lower than in any other country used as a benchmark. They are also lower than manufacturing labour costs in Australia, but are higher than manufacturing labour costs in all other countries used as a benchmark (Exhibit 2.7).

The cost of materials used in construction are lower in Australia than in the United States for every category of material except those made from timber, which are 65 per cent more expensive. Concrete and aluminium materials are more than 20 per cent cheaper in Australia.

Higher demand

Australia's higher construction output was largely due to significantly higher residential and civil engineering construction over the period 1980 to 1993 (Exhibit 2.8). The main factor driving these higher output levels was the higher demand for construction per capita than in the United States, largely due to Australia's rapid population growth and a catching up period in the construction of infrastructure.

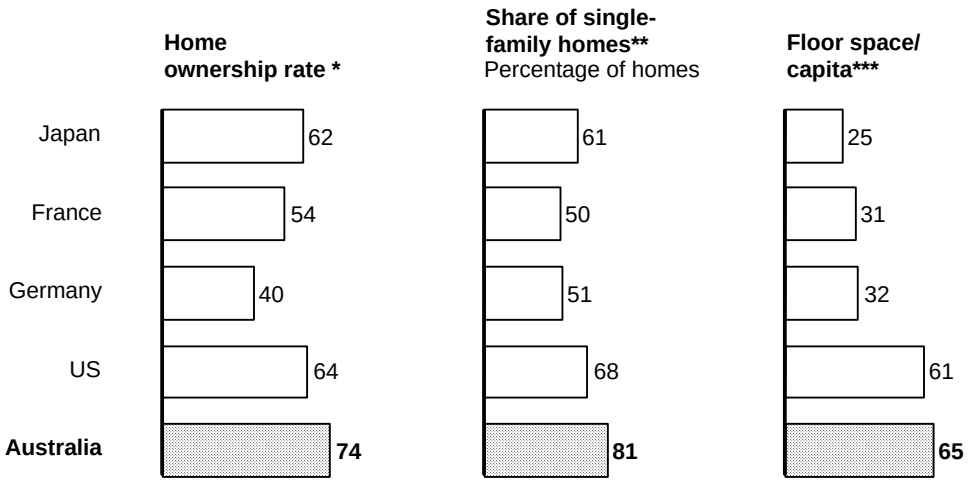
During the 1980s, faster population growth accounted for 50 per cent more residential housing in Australia than in the United States (Exhibit 2.9). In addition, both Australia and the United States have a higher share of single-family homes than do France, Germany, or Japan, and they have more than twice the residential housing space per capita of these countries (Exhibit 2.10). The difference is largely due to land use laws in Europe and Japan that limit residential development.

Australia's spending per capita on civil engineering projects between 1980 and 1993 was 77 per cent higher than in the United States (Exhibit 2.11). Australia spent more than twice as much as the United States per capita on utilities and industry, and twice as much on roads. Our large mining industry helps to explain the high industrial expenditure while the fact that Australia currently has only 25 per cent of the surfaced road density of US states with comparable population densities helps explain the high spending on roads (Exhibit 2.12).

Nonresidential building construction was about the same in Australia and the United States. Australia spent much more per capita on office space and hotels in the 1980s, but this was offset by lower spending on health, education and government buildings than in the United States (Exhibit 2.13).

Exhibit 2.10

AUSTRALIA AND THE US HAVE MORE SINGLE FAMILY HOMES AND RESIDENTIAL HOUSING SPACE PER CAPITA THAN FRANCE, JAPAN AND GERMANY

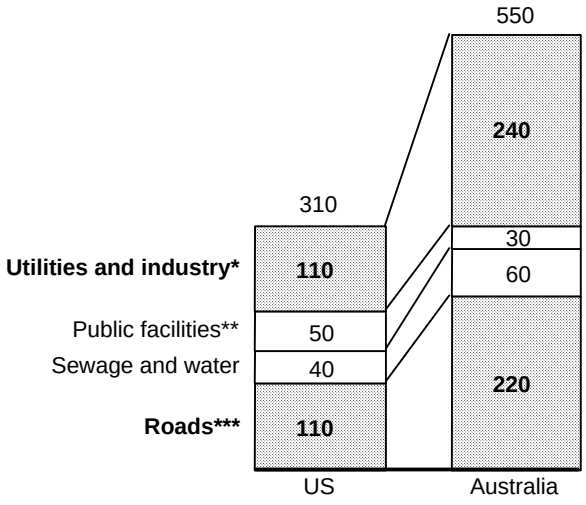


* Percentage of population living in all dwellings that they own or are in the process of buying
** Includes detached and semidetached units
*** Estimated by applying average size of new units to existing housing stock
Source: Statistical yearbooks; EUROCONSTRUCT; *Baustatistisches Jahrbuch*; *Börsch-Supan*; McKinsey analysis

Exhibit 2.11

GREATER SPENDING ON UTILITIES AND ROADS EXPLAINS AUSTRALIA'S HIGHER CIVIL ENGINEERING OUTPUT

Annual average in 1989–90 A$/capita at civil engineering PPP, 1980–93

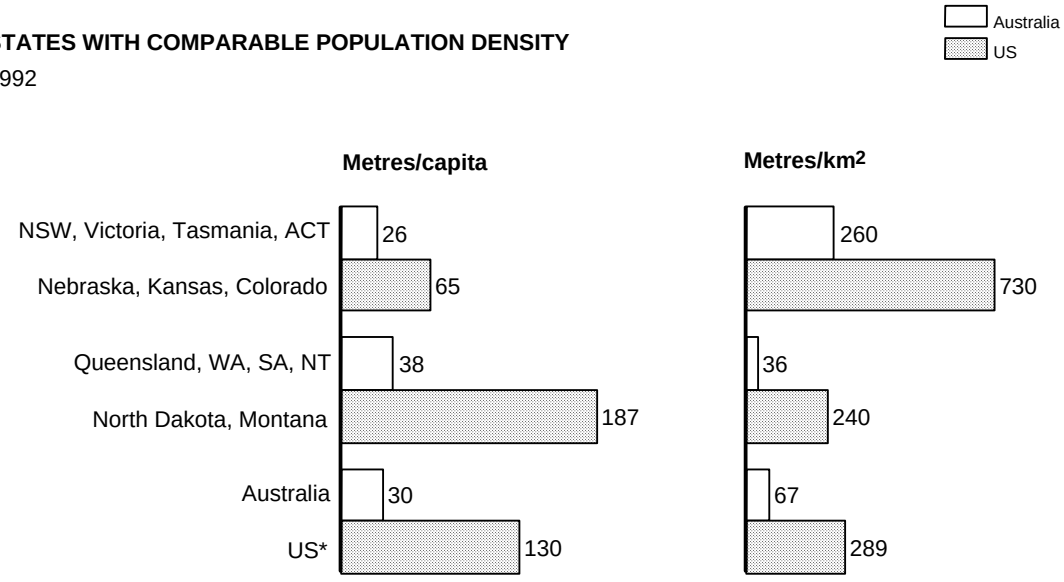


* Includes industrial engineering, mining, telecom, electrical utilities, pipelines, railroads, private recreation
** Includes airports, harbours, public recreational facilities
*** Includes roads, highways, bridges, subdivision streets
Source: US Bureau of the Census *Value of New construction Put in Place*; ABS *Building Activity Australia*

Exhibit 2.12

STATES WITH COMPARABLE POPULATION DENSITY

1992



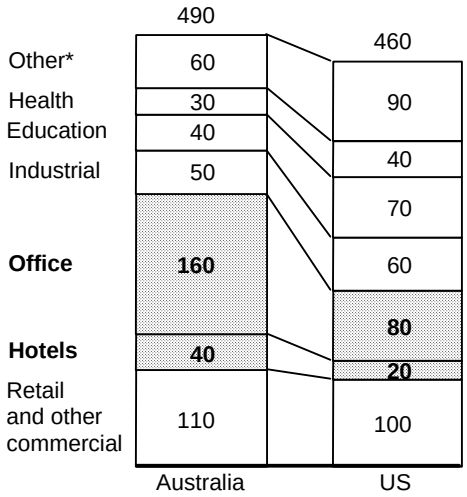
* The 2 groups of US states were weighted to derive an average with the same population density as Australia

Source: Statistical yearbooks

Exhibit 2.13

TOTAL AUSTRALIAN AND US SPENDING ON PRIVATE AND PUBLIC NONRESIDENTIAL CONSTRUCTION VALUE WAS SIMILAR

Annual average in 1989–90 A$/capita at nonresidential construction PPP



* Includes entertainment, government administration, police, fire and religious buildings

Source: US Bureau of the Census *Value of New Construction Put in Place*; ABS *Building Activity Australia*

HOW CAN THIS INDUSTRY CONTINUE TO IMPROVE?

Australia's relatively strong performance in the construction industry should be no cause for complacency. Many more firms need to adopt world-best-practice techniques and processes.

The industry must maintain or increase the rate at which it develops and transfers new techniques and innovations to further improve productivity and stimulate growth. It should also continue to explore opportunities to expand construction services into overseas markets.

The fact that construction productivity is high also means that there is a great opportunity for construction firms to collaborate with their large customers, especially industrial firms, to reduce their capital expenditure and improve project economics, for example in mining and new factory development. If construction firms can structure working relationships with these types of customers, the result will be increased capital productivity and profitability.

* * *

The Australian construction industry's labour productivity is high by world standards. This is largely because the intense competition within the industry and its tendency to adopt key innovations have resulted in efficient production processes. Also, improvements in industrial relations and work practices since the late 1980s have increased labour flexibility and minimised time lost due to industrial disputes and bad weather. The key challenge for the industry is to ensure that it keeps pace with productivity growth in other leading countries, and uses its current strong position as a platform for growth through innovation and expansion into overseas markets.

Case study 3

General merchandise retailing

During the post-war period, retailing in Australia has undergone dramatic structural shifts. The grand department stores, like Anthony Horderns or Mark Foys in Sydney and Georges and Buckley & Nunn in Melbourne, have disappeared. The 1940s shopping experience for families—getting dressed up for a day in town—has been largely displaced by the suburban shopping mall, close to home and conveniently surrounded by car parks.

Today the Australian retailing industry contributes a substantial 7.3 per cent to Australia's GDP while one in every 10 Australian men and women of working age is employed in shops, stores and boutiques across the nation. This case study focuses on general merchandise retailing, a segment of the Australian retailing industry that provides about one-third of the industry's total employment and turnover.

Our findings show that the industry has not changed as fast and is much less productive than in the United States, the benchmark country. Job creation in Australian retailing has also been lower. Closing this gap will require firms to adopt best management practices developed overseas and governments to address regulatory barriers that have slowed industry evolution.

HOW DOES AUSTRALIA COMPARE WITH LEADING COUNTRIES?

The labour productivity of the general merchandise retail industry in Australia lags 20 per cent behind the US industry (Exhibit 3.1). It is also behind advanced European countries such as Germany and France, although ahead of Japan and New Zealand.

In addition, the industry's employment performance has been weak compared with the United States. As Exhibit 3.2 highlights, between 1980 and 1992 the total number of jobs hardly changed in Australia compared with 2 per cent growth in the United States. In 1992 there were 7.8 fewer jobs for every one thousand people of working age than there were in 1980. By contrast, during the same period the US industry employed five more people for every one thousand people of working age. In addition, part-time employment in the Australian industry almost doubled to 41 per cent, so the total hours provided by the sector has declined by nearly 10 per cent.

ABOUT OUR METHODOLOGY

We compared the Australian general merchandise retail industry's productivity performance with other countries by measuring value added per full-time equivalent employee (FTE).

We defined value added as earnings before interest and tax (EBIT), depreciation, rent and wages. This is close to gross margin but excludes marketing and other selling expenses. We used this measure because it provides the best combined pre-tax return to capital, labour and space. It balances the trade-off between quality (high margin) and quantity (high throughput). One weakness of this measure is that it may overstate true productivity in a situation of low competitive intensity. The simpler measure of sales per FTE ignores the differences in margin between different retail formats and is limited to the purely distributive function of retailing. Another commonly used measure in the industry is sales per square metre. However, differences in availability in space in different countries create distortions and accurate measures of aggregate retailing space are not available for some countries.

As an indirect measure of productivity, we analysed industry structure in each country and compared what proportion of employees in the industry were employed in small retailers (less than 50 employees), department stores, and specialty chains (non-department stores with more than 50 employees). Although this cut of industry structure is a simplification, it provided us with some insight into structural reasons for international productivity differences.

To gain an industry perspective on external and internal factors affecting productivity in Australian retailing, we interviewed more than 30 CEOs and senior managers in the industry including department store owners, specialty chains, shopping centre owners and industry associations.

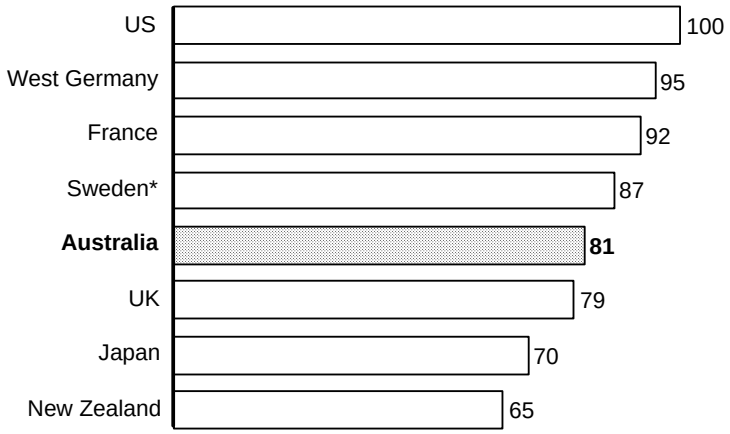
Our primary source of data for productivity comparisons was national retailing censuses and labour force statistics. The most recent census year in the countries we compared was 1992. We acknowledge that some changes in international productivity performance may have taken place since then. To compare rents and available space, we also used reports of industry associations and industry consultants' surveys of retail space and rents.

While our work is based on the best publicly available information on the retail industry, we acknowledge that the data may have limitations.

Exhibit 3.1

LABOUR PRODUCTIVITY IN RETAIL IS 19 PER CENT BEHIND THE US

Value added/FTE; index US = 100



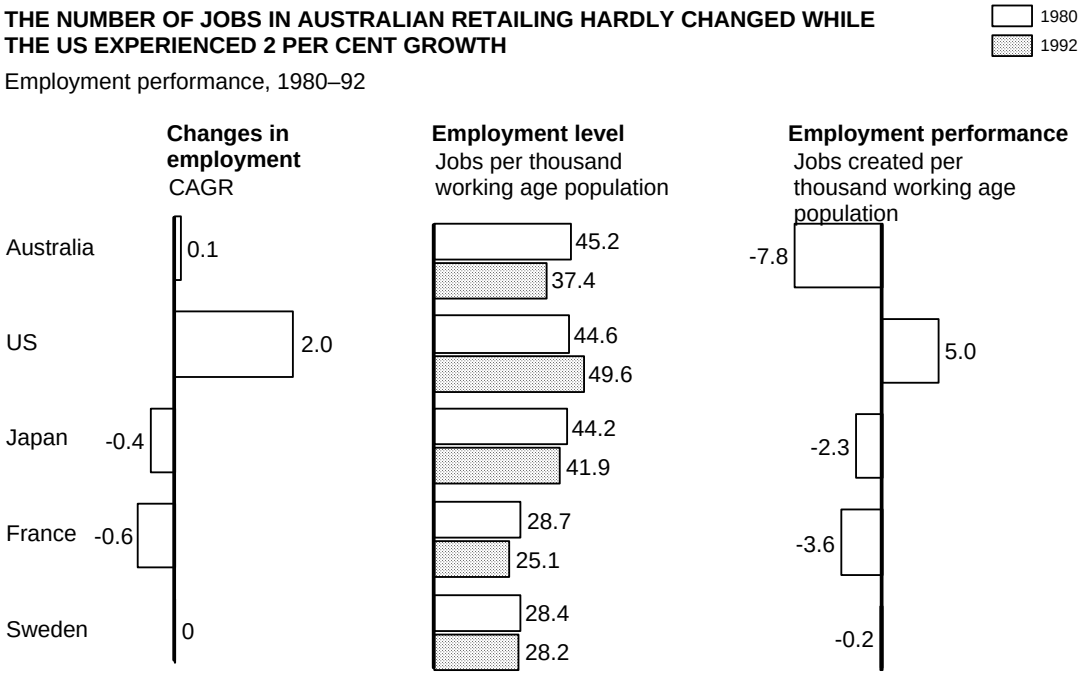
* Sweden's calculation based on format mix rather than value added per FTE

Source: National statistics; annual reports; McKinsey analysis

Exhibit 3.2

THE NUMBER OF JOBS IN AUSTRALIAN RETAILING HARDLY CHANGED WHILE THE US EXPERIENCED 2 PER CENT GROWTH

Employment performance, 1980–92



Source: National statistics; McKinsey analysis

Exhibit 3.3

RETAILING IS EVOLVING THROUGH 3 STAGES OF INCREASINGLY PRODUCTIVE FORMATS

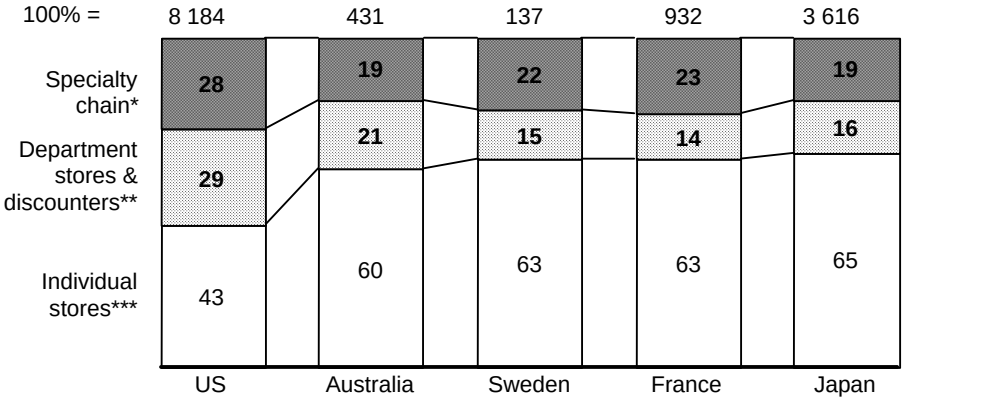
Examples	• Local store • Small boutique	• Myer-Grace Bros • Big W	• Just Jeans • Harvey Norman • Toys 'R' Us

Source: McKinsey analysis

Exhibit 3.4

AUSTRALIA HAS FEWER OF THE MORE PRODUCTIVE STAGE 2 AND STAGE 3 FORMATS THAN THE US

Per cent; thousands of employees



* More than 50 employees and more than 10 outlets plus advanced franchise formats; specialty figures include all stores with more than 50 employees which may overstate format development

** Department stores and discount department stores

*** Less than 50 employees

Source: ABS; SCB corporate statistics; interviews; McKinsey analysis

WHAT IS DRIVING AUSTRALIA'S POOR PERFORMANCE?

Australian retailing's poor labour productivity can be explained by two almost equally significant factors: its less evolved industry structure, and lower productivity within the two more evolved formats compared with equivalent formats in the United States.

Less evolved industry structure

As in all developed countries, Australia's general merchandise retailing industry is evolving to more productive formats. In simplified terms, the industry structure can be thought of as having three stages (Exhibit 3.3). Typically, labour productivity increases with each stage, so that Stage 2 retailers are more productive than Stage 1, and Stage 3 are more productive than Stage 2. The first stage is characterised by small individual stores with less than 50 employees. They began to appear in the earliest days of the colony and remained dominant despite the appearance of early department stores like David Jones which opened its doors in 1838.

In the second stage, department stores dominated the scene. Individual stores continued to exist, but by the 1920s and 1930s, department stores offering a wide range of goods at reasonable prices had come into their own. Their target market of middle-class Australians was growing and new public transport links were opening close to their central city locations. In addition to the traditional department stores, new discount department stores offering lower prices, such as Woolworths and Coles Variety Stores, appeared in increasing numbers on Australian high streets, and later in the suburban shopping centres built during the 1950s and 1960s.

The third stage of Australian retailing features specialty chain stores such as Just Jeans and Toys 'R' Us. Specialty chains target precise groups of customers, sell a wide range of specific types of merchandise and aim to offer a high level of service and convenience. Harvey Norman's first two computer superstores, which opened in 1993 in Newcastle and in the western Sydney suburb of Auburn, exemplify this type of format.

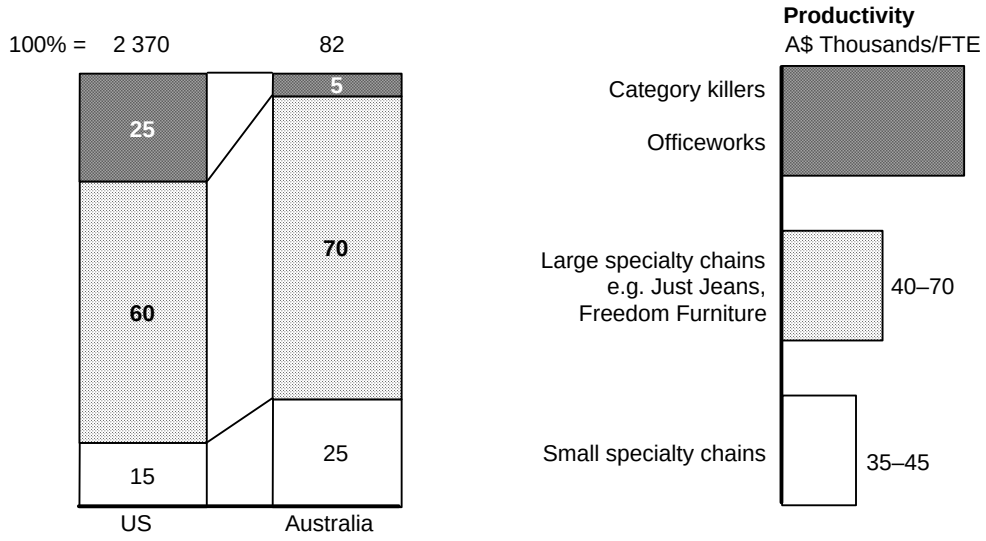
Our research shows that the Australian industry has been slower to move towards the more innovative and higher productivity Stage 3 formats. This slower evolution accounts for about half the industry's productivity gap with the United States. Small, less-productive Stage 1 retailers still dominate the Australian industry accounting for 60 per cent of industry employment here compared with just over 40 per cent in the United States, and Australia has far fewer of the more productive Stage 2 and Stage 3 retailers (Exhibit 3.4). In the United States, we estimate that one in four employees works in the most productive Stage 3 stores known as category killers, such as Home Depot and

Toys ‘R’ Us, compared with an estimated one employee in 20 in Australia (Exhibit 3.5).

Exhibit 3.5

FEWER PEOPLE ARE EMPLOYED IN THE MOST PRODUCTIVE STAGE 3 STORES THAN IN THE US *ESTIMATE*

Percentage of total Stage 3 employment

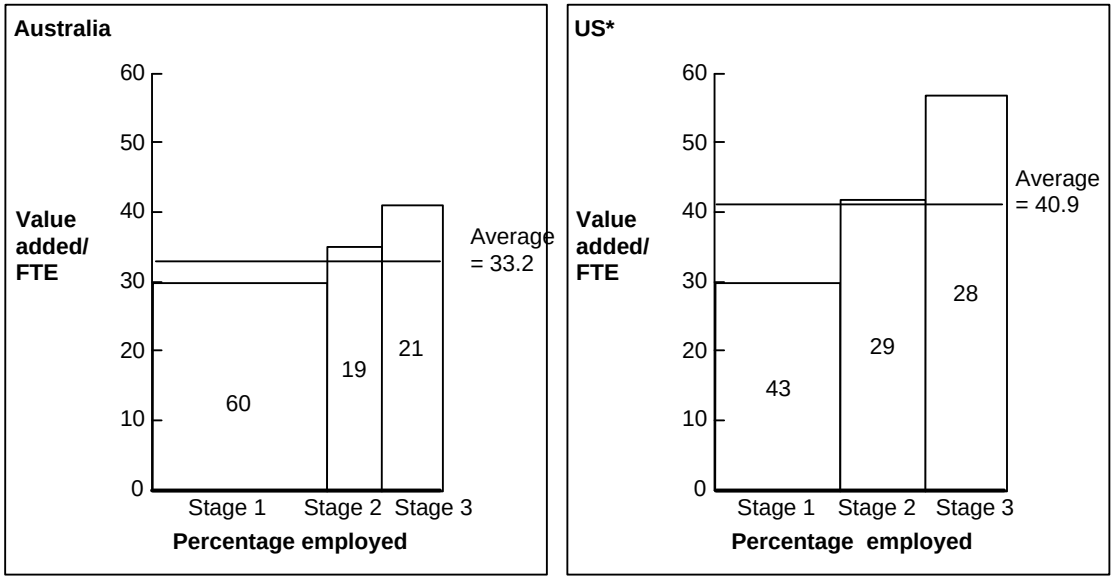


Source: Annual reports; *Value Line Investment Survey*; US National Retail Federation; interviews

Exhibit 3.6

AUSTRALIAN STAGE 2 AND STAGE 3 STORES ARE LESS PRODUCTIVE THAN SIMILAR FORMATS IN THE US* *ESTIMATE*

A$ Thousands adjusted at PPP 1992



* Stage 1 and Stage 3 productivity per FTE estimated for the US based on a sample of retailers

Source: ABS; US Department of Commerce *Retail Census*; US company annual reports; McKinsey analysis

Lower productivity within industry stages

The other half of the gap is driven by Australia's lower productivity within comparable industry stages. Australian Stage 2 and 3 stores are less productive than similar formats in the United States. On average, Australian department stores are about 10 per cent behind the United States in productivity, and Australian specialty chain stores are about 25 per cent behind (Exhibit 3.6).

We interviewed more than 30 CEOs and senior managers of department stores, specialty chain retailers, shopping centre owners and industry associations to understand productivity levels in specific companies in Australia and how they compared with equivalent businesses in the United States. Although our findings are only indicative, it appears that Australia does have some retailers with productivity levels at or above comparable US retailers. For example, one Australian clothing chain compares favourably with US clothing chain, The Gap.

WHAT ARE THE UNDERLYING CAUSES?

Three factors underlie the less evolved industry structure and lower productivity within stages in Australian retailing: less adoption of best practice management approaches within firms; lower management aspirations; and the more restrictive regulatory environment (Exhibit 3.7). The first affects productivity within industry stages, and the second and third factors affect both productivity and industry evolution.

Less adoption of best management practices

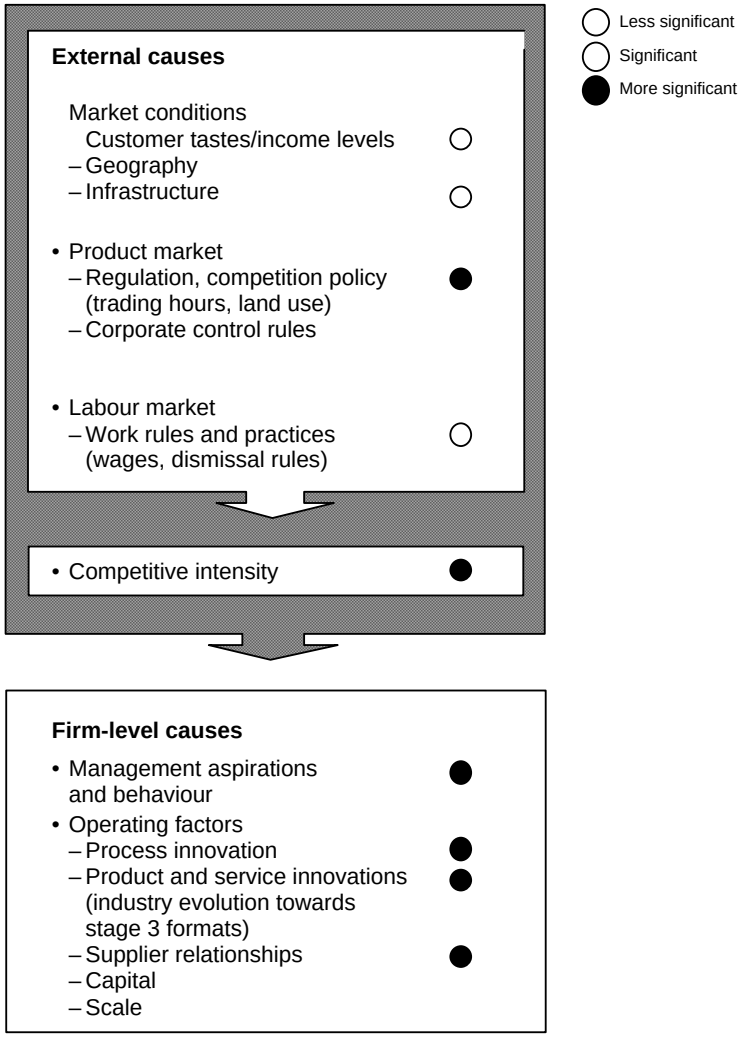
Our findings from our interviews with retailers suggest that the most important cause of lower productivity in department stores and specialty chains is less adoption of best practice management approaches. Important areas where the average Australian retailer lags best practice include merchandise planning, supplier management, distribution, use of information technology, and human resources management.

Merchandise planning. The importance of planning is often neglected, the cost of complexity in assortment is underestimated, and assortment performance is not well controlled. As a department store director noted, 'Our number of stock keeping units (SKUs) is enormous. This makes planning difficult.' In relation to tracking assortment performance, the CEO of a large specialty chain said, 'We would like to measure to that level of detail but our systems don't allow it'.

When we looked at how stores made decisions about their merchandise, we found a number of best practice examples of stores that managed to maintain an efficient balance between decisions made centrally and those that were decentralised. But in other stores the person in the best position to make

decisions about what merchandise to stock was often not responsible for that

Exhibit 3.7


Less significant
Significant
More significant
External causes
Market conditions
Customer tastes/income levels
– Geography
– Infrastructure
• Product market
– Regulation, competition policy (trading hours, land use)
– Corporate control rules
• Labour market
– Work rules and practices (wages, dismissal rules)
• Competitive intensity
Firm-level causes
• Management aspirations and behaviour
• Operating factors
– Process innovation
– Product and service innovations (industry evolution towards stage 3 formats)
– Supplier relationships
– Capital
– Scale

decision. ‘Hierarchies make decision making painfully slow and inefficient’, said the CEO of a manufacturer supplying a major Australian retailer.

Supplier management. Best-practice retailers rely on a small number of vendors, share information systems and monitor their performance. Australian retailers put a low priority on vendor management. For example, they give vendors minimum lead times so vendors often deliver goods late. This issue is highlighted in comments we heard from managers of large retailers: ‘Our purchasing system is totally inefficient’; ‘Late deliveries are a constant problem for us’; and ‘The philosophy has always been that the supplier is another competitor’.

Distribution. We found some best practice examples of distribution—stores that had low receiving and handling costs, high inventory turns and few stockouts—but these were rare. For the average retailer in Australia, distribution costs are high, stockouts common and logistics often not integrated with those of vendors. An industry expert remarked, ‘Big Australian retailers stockout far more often than the best in the United States and Europe’. A wholesale manufacturer summed up the opinion of many interviewees when he said, ‘Getting product on to shelves in the major stores here is a nightmare of bureaucracy and inefficiency’.

Use of information technology. Although Australian stores and their customers have enthusiastically adopted point-of-sale technology, other systems are generally low-tech and not integrated. Sales information is rarely used for marketing or merchandise planning (other than simple reordering). ‘We are light years behind an equivalent US company’, remarked the CEO of a chain of hardware stores.

Human resources management. The average Australian retailer offers its staff little training by world-best-practice standards and incentive-based remuneration is rare outside top management. Staff turnover levels are relatively high. ‘Staff are uncommitted. Our turnover is too high by any measure’, said one Australian retailer. Another commented, ‘For a long time we have been content with mediocrity in our staff’. In contrast, the best-practice retailing companies in both Australia and the United States offer training programs and high incentives and have fewer levels of hierarchy and lower turnover of staff.

Lower aspirations within firms

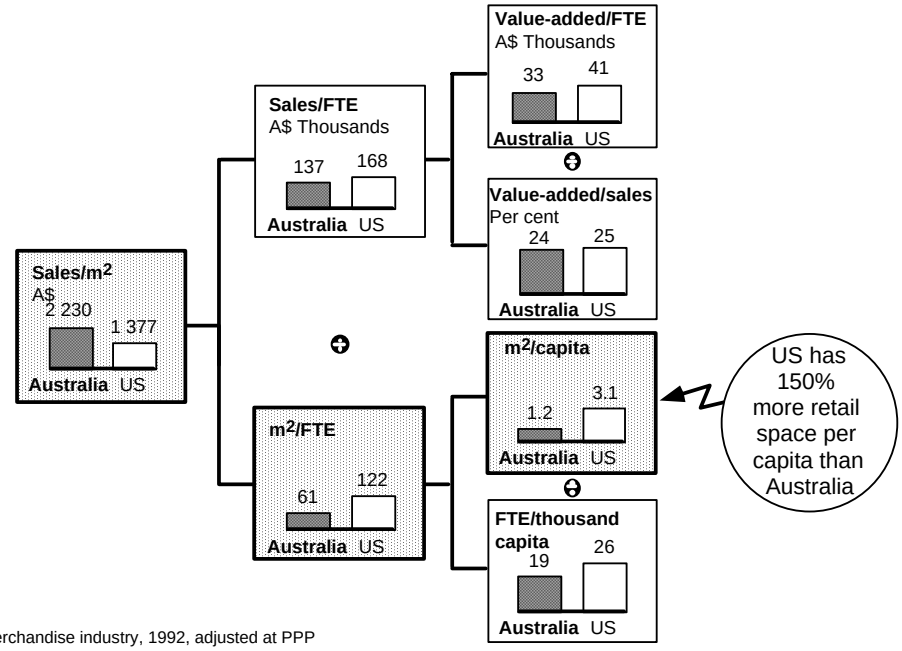
Lower management aspirations are a contributing factor to the slower industry evolution of Australian retailing, which is some 15 to 20 years behind the United States in adopting major delivery and service innovations developed overseas. Category killers like Toys ‘R’ Us, Home Depot, Circuit City and Sports Authority first appeared in the United States in the late 1970s and early 1980s. Australian firms did not choose to open similar stores until the 1990s. This suggests that

management aspirations for the productivity and sales growth which these stores have led to in the United States was relatively low. For example, Coles

Exhibit 3.8

ARE CAUSED BY A SHORTAGE OF RETAIL SPACE, NOT HIGHER LABOUR PRODUCTIVITY*

ESTIMATE



* General merchandise industry, 1992, adjusted at PPP

Source: ABS; US Department of Commerce *Retail Census*; interviews; McKinsey analysis

Exhibit 3.9

REGULATION IS THE MAIN CAUSE OF AUSTRALIA'S RETAIL SPACE SHORTAGE

● High importance
○ Medium importance
○ Low importance

✔ Advantage in Australia
– No difference
✘ Disadvantage in Australia

		Australia's relative position		
Possible cause	**Importance**	**vs US**	**vs EC**	**Comment on Australian position**
Regulation of retail development	●	✘	–	Regulation of retail development makes developing available land in Australia much slower and more difficult
Concentration of ownership of retail space	○	✘	✘	While the biggest players are powerful, no company is in a position to assert market dominance
Lack of available land/poor infrastructure	○	✘	–	High urban population density in Australia makes available land scarce
Lack of anchor tenants	○	✘	✘	Only 3 or 4 Australian companies have sufficiently large businesses to anchor new centre developments
Construction costs	○	✔	✔	Construction costs for buildings of a similar type are lower in Australia

Source: Interviews; press articles; McKinsey analysis

Myer did not open its World 4 Kids store until the 1993 entry of US toy retailer Toys 'R' Us threatened its market share. As one CEO of an Australian specialty chain commented, 'The industry here typically looks overseas . . . waits . . . looks some more . . . waits . . . and then copies what works'.

More restrictive regulatory environment

The most important factors outside the control of individual firms are regulation of land use, restrictive trading hours and labour rules and practices.

Regulation of land use. Restrictive zoning and land development laws have reduced the supply of retail space thereby increasing its cost and slowing the evolution towards more productive formats. We estimate that, on a per capita basis, Australia has less than half as much general merchandise retail space as the United States, and about one-third as much shopping centre space. Thus the Australian industry's high sales per square metre are driven by a shortage of retail space rather than high labour productivity (Exhibit 3.8). There are several possible causes for this shortage of retail space, listed on Exhibit 3.9, but we believe the main cause is the regulation of retail development.

Given the limited space available for retailing, it is not surprising that average rents per square metre for specialty retailers in Australia are more than three times those in the United States (Exhibit 3.10). High rents are a major reason why the development of Stage 3 formats, such as category killers, has been slower in Australia than in the United States. The economic viability of these stores depends on large areas and reasonable rents (Exhibit 3.11). As one CEO of a specialty chain told us, 'Difficulty in developing our own sites forces us into shopping centres at much higher rents than we would like'.

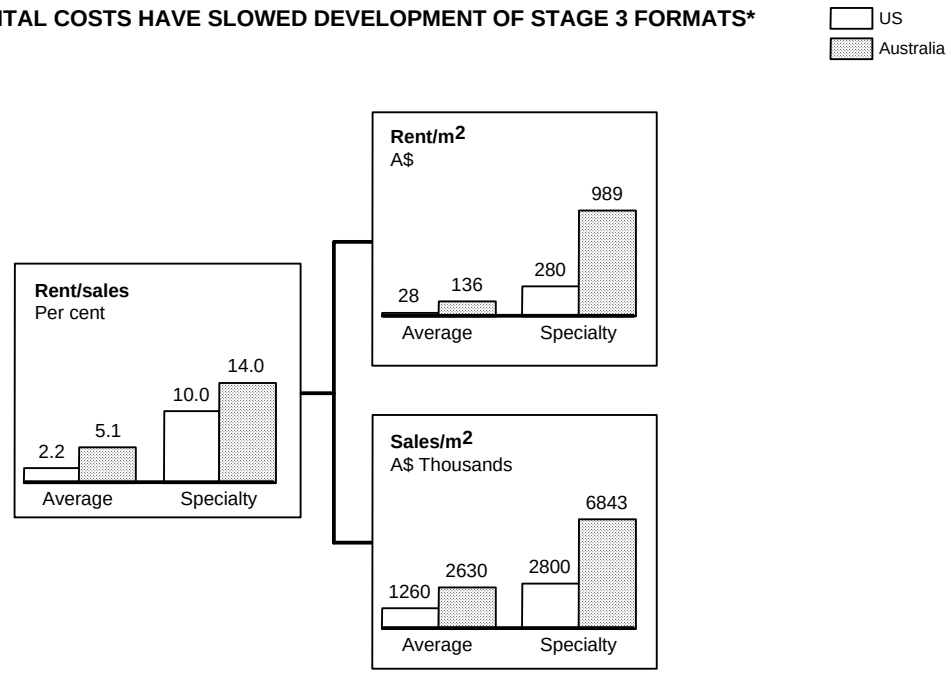
Restrictive trading hours. Restrictions on trading hours have protected low-productivity businesses. Although progress has been made in many states in the last 10 years, these restrictions continue to act as a barrier to better productivity and higher employment levels. Only New South Wales is close to achieving full deregulation of shopping hours. In Victoria, Sunday trading outside the CBD is still restricted to 10 days per year. This is confusing to shoppers, who do not know which Sunday shops will be open, and disruptive to shop owners who are forced to close for the other 42 Sundays in the year.

Labour rules and practices. Rules related to wages and dismissal have also slowed productivity improvements although they are less significant than high rents caused by regulation of land use. As Exhibit 3.12 shows, Australia's labour rules and practices put the industry at a disadvantage compared to the US industry, but on a similar footing to the European countries we studied. Many CEOs commented on the severity of Australia's minimum wages, penalty rates and casual loadings in comparison to the United States. They argued that these

reduced staffing flexibility and ultimately decreased both productivity and employment levels.

Exhibit 3.10

HIGHER RENTAL COSTS HAVE SLOWED DEVELOPMENT OF STAGE 3 FORMATS*



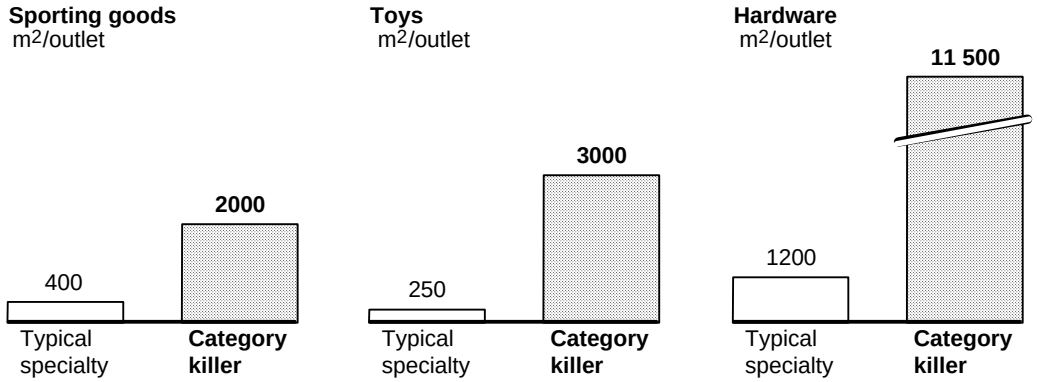
* General merchandise, 1992, adjusted at PPP; includes at least one full-line department store

Source: Urban Land Institute, Jebb Holland Dimasi

Exhibit 3.11

STAGE 3 CATEGORY KILLERS REQUIRE LARGE STORE SPACE

EXAMPLES



Source: Interviews; press analysis

Exhibit 3.12

LABOUR RULES AND PRACTICES DISADVANTAGE AUSTRALIAN RETAILERS COMPARED WITH THE US

● High importance
○ Medium importance
○ Low importance

✔ Advantage in Australia
– No difference
✘ Disadvantage in Australia

	Importance	vs US	vs EC*
Penalty rates and other loadings	●	✘	–
Minimum wages	○	✘	✔
Dismissal laws	○	✘	–
Incentive-based compensation	○	✘	
Professionalism of workforce	○	✘	✘

* UK, France, Germany and Sweden

Source: Interviews; press articles; McKinsey analysis

One CEO commenting on the award structure said, 'The penalty system is anachronistic and a constant drag on our productivity'. Award wage rates were seen as a barrier to implementing effective incentive-based compensation. As one manager said, 'The base rates are so high in Australia that introducing commission selling is almost impossible.' Another said about unfair dismissal laws, 'We have to be extra careful about who we hire—it adds time and cost to every employment decision and probably means we keep on poor performers too long'.

Other factors. Lower national income levels, smaller market size, and poor transport infrastructure also adversely affect productivity relative to the United States but are more difficult to influence. Lower national income levels may affect the type of store we have here resulting in fewer up-market, high-value-added stores which tend to be the most productive. Smaller market size could result in less economies of scale in rolling out a successful chain store concept. Poor transport infrastructure was an issue that several CEOs we spoke to commented on but we have not been able to quantify its effects.

WHAT ACTION IS REQUIRED TO CLOSE THE PRODUCTIVITY GAP?

Change is required at both company and government levels for the Australian retailing industry to lift its labour productivity to US levels.

At the company level, enormous opportunities to increase labour productivity exist in specialty retailing and department stores—these formats have not reached close to their full potential in Australia. The opportunities can be captured through greater adoption of world-best practices (especially in merchandise planning, supplier management, distribution, information technology and human resources). Of the Australian businesses we interviewed, those that have made progress towards or achieved best practice in some or all of these areas have productivity levels that match the world's best in their field. But many more have to raise their aspirations to match these levels for the industry to achieve higher productivity overall.

Governments as well as business have a vital role in facilitating change especially where productivity in the sector is being burdened by regulation of the industry (zoning, trading hours) and by labour laws and practices. Both these factors are largely within government control. Reducing these burdens, by allowing more flexible land use and ending trading hour restrictions will lead to higher industry productivity and more varied shopping opportunities for Australians.

WHAT ARE THE IMPLICATIONS FOR EMPLOYMENT?

There is some evidence to suggest that increasing retail productivity can also lead to higher employment. The United States experienced an increase in both high-efficiency formats (category killers) and high-service formats (specialty chains) in the 1980s, and its industry achieved both higher productivity and employment growth. In Europe and Australia, the shift to Stage 3 formats was more limited and, especially in Europe, more orientated toward high-efficiency formats. Productivity growth was slower, and employment declined.

But whether Australia gets a highly productive and employment-intensive industry like the United States depends to a large extent on further deregulation. Businesses that are highly productive and also employment intensive thrive in the United States, where extended opening hours and reasonable rental environments exist. High rentals due to council regulation of zoning and land development plus restricted trading hours make these sort of businesses less viable in Australia.

* * *

The key challenges for Australian general merchandise retailers are to improve their management approaches, become much faster to adopt new processes developed overseas, and build closer linkages with suppliers to capture productivity improvements from process innovations. We also urge governments to consider further deregulation in areas such as zoning. This would create incentives for Australian retailers to move to more productive formats.

Case study 4

Retail banking

The Australian banking industry is a critical part of the economy. Its importance goes well beyond the 170 000 people employed in the industry: it brings together lenders and borrowers and allows the flow of money. This case study focuses on retail banking, the sector that provides services to individuals and small businesses—including deposit facilities, loans and the transfer of funds.

The Australian retail banking sector comprises the Big 4 national banks—the ANZ, the Commonwealth Bank of Australia, the National Australia Bank and Westpac—as well as regional banks, building societies, credit unions, foreign banks, cash management funds and mortgage originators. Since deregulation began in the early 1980s, the Big 4 have experienced increasing competitive pressure from the smaller players. This pressure, along with the possibilities for new entrants created by deregulation and new technologies, is having a profound effect on the way retail financial services are delivered. It is also creating significant potential and incentive for higher productivity.

Yet our research shows that the Australian retail banking sector's overall level of labour productivity is still low by world standards. Changes in back-office organisation and bank operations are well under way and will go some way to closing the gap. But for significant productivity increases to be achieved, employment in retail banking needs to fall. Governments should consider measures to create greater competitive intensity and increase the pace of change towards rationalisation.

HOW DOES AUSTRALIA COMPARE WITH LEADING COUNTRIES?

We compared Australia's retail banking sector with the United States—the benchmark in the retail banking industry—and with European countries. This comparison shows that although the Australian industry is comparable with those in some European countries, it is significantly behind the US industry in both labour productivity and employment growth.

Lower labour productivity

Productivity in Australia's retail banking sector is up to 40 per cent behind the 1992 US benchmark (Exhibit 4.1). This indicates that the sector could save

between $2 billion and $3 billion if it achieved average US levels of productivity (Exhibit 4.2).

ABOUT OUR METHODOLOGY

This case study draws on MGI's recent work that compared the relative labour productivity of the retail banking sectors in Sweden, Germany and the United States. This work used a physical measure of output to compare labour productivity in the retail banking sector across countries, rather than the more usual, indirect comparison of the ratio of costs to income. Productivity is calculated by estimating physical output (transactions, deposit customers and loan accounts) per FTE employee.

The rationale for this methodology is that conventional measures of bank productivity and profitability are often neither conclusive nor very meaningful when comparing industries in different countries. National differences in business mix (for example, between wholesale and retail business) and in real prices and interest rates make it difficult to compare productivity and profitability measures based on cost, revenue, assets or profit. The MGI methodology—which was adapted from a methodology used by the US Bureau of Labor Statistics for its international comparisons—attempts to overcome these drawbacks.

We have used the same methodology to calculate the Australian industry's labour productivity for the purpose of comparison. However, whereas the Swedish work used 1992 data for all countries, we have used 1994 data for Australia. This is because reliable data on the outputs of the retail banking sector over time were not publicly available. Data limitations also made it necessary to estimate the number of over-the-counter transactions and loan accounts. We assumed deposit customers to be 95 per cent of the adult population in all countries, which is within a few per cent of the banking account penetration in all advanced economies.

Estimates of deposit accounts per head vary from 1 to 3.5 for Australia. Using deposit accounts in preference to customers would not affect estimated productivity for Australia compared with Sweden or Germany (which have between three and four accounts per head), but the productivity of all three countries would be about 10 percentage points higher relative to the United States (which has two accounts per head) using this measure.

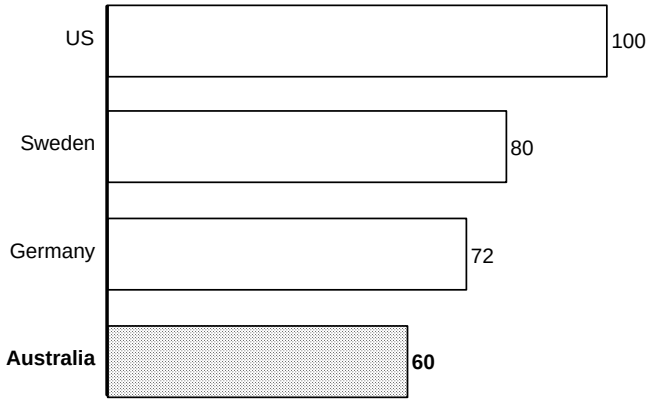
We also adjusted retail banking sector employment to exclude employment in the commercial and wholesale activities of the major banks. Finally, through interviews with a number of retail bank executives, we have estimated the allocation of employment across transactions, deposit taking and lending. Aggregate productivity is relatively insensitive to this

estimate.

Exhibit 4.1

RETAIL BANKING PRODUCTIVITY IS UP TO 40 PER CENT BEHIND THE US *ESTIMATE*

Activity/FTE; index US = 100*



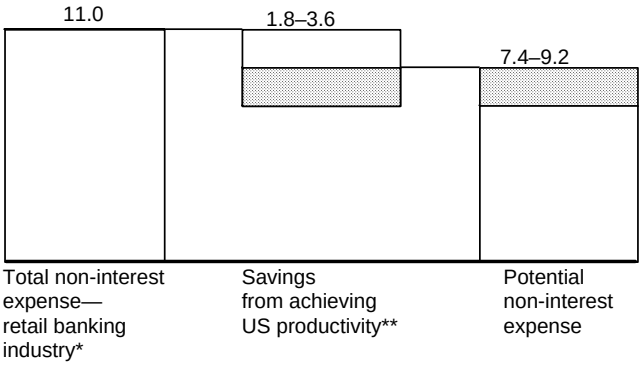
* Composite index of productivity for payments, deposits and credit services, weighted by functional labour input; US, Swedish and German data are for 1992, Australian for 1994

Source: McKinsey analysis

Exhibit 4.2

ACHIEVING US RETAIL BANKING PRODUCTIVITY LEVELS COULD SAVE UP TO $3.6 BILLION *ESTIMATE*

$ Billions



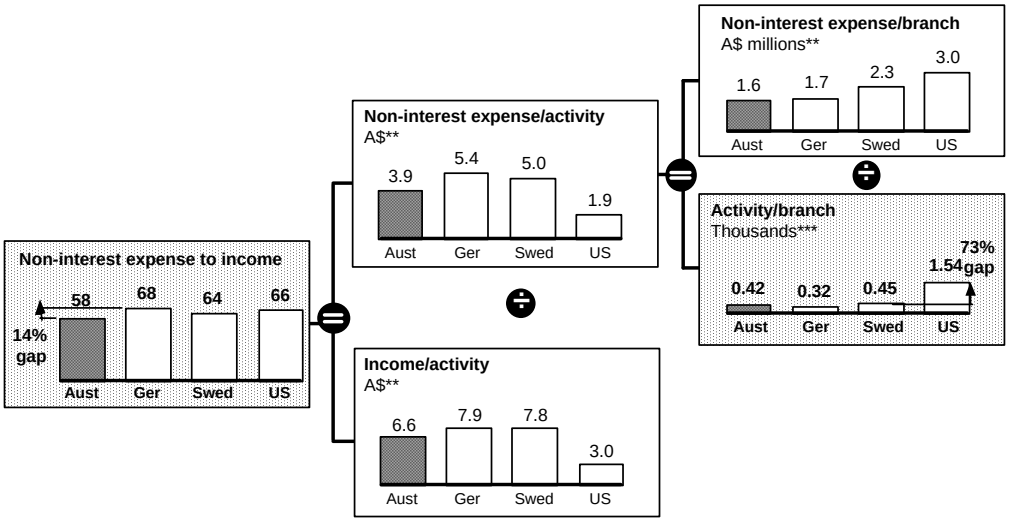
* Assumes that average non-interest expense for a branch is $1.6 million for major banks and $0.8 million for all other institutions

** Upper bound assumes branch closures spread proportionately across major banks and others. 50% expansion in employees per branch assumed to be required in remaining branches. Lower bound of saving assumes that productivity improvement takes form of employment reductions without savings in premises, cost. Employment accounts for around 50% of non-interest expense

Source: Annual reports; McKinsey analysis

Exhibit 4.3

Breakdown of non-interest expense to income*



* Figure for Australia is based on four major banks' domestic operations. Average for financial years ending 1993, 1994 weighted by total assets; data for Germany and Sweden is 1992; figure for US is average for top 134 US bank holding companies, comprising 80% of total assets of US commercial banking industry. Average for 1993, 1994

** Calculated from domestic currency using average exchange rate for June 1994

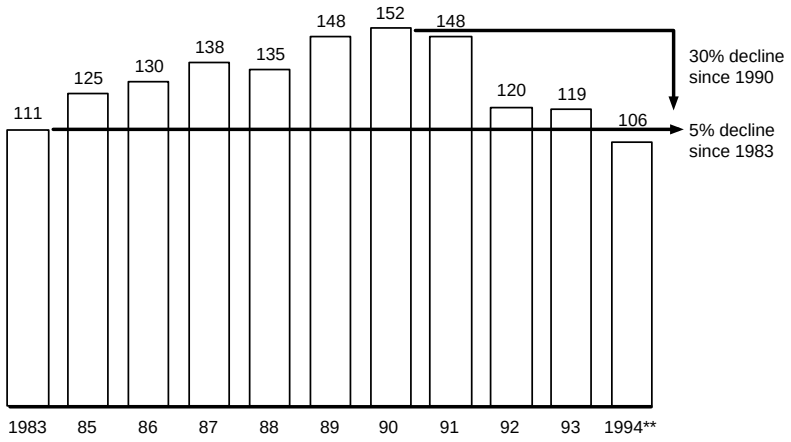
*** Unweighted sum of transactions, deposit accounts and loan accounts

Source: Annual reports; McKinsey analysis

Exhibit 4.4

EMPLOYMENT IN RETAIL BANKING HAS DECLINED SHARPLY SINCE 1990

Thousands*



* Employment figures include all banks but exclude the central bank, building societies and credit unions. A reduction has been made to trading banks' employment to reflect assumed employment in wholesale and corporate banking activity

** Estimate

Source: ABS; KPMG; RBA; McKinsey analysis

Australian activity levels per capita are well below those in the United States, but are similar to European levels. Transactions per capita are around 47 per cent of the US level, while estimated loan accounts outstanding are around 60 per cent of the US level. These relatively low per capita activity numbers, when combined with Australia's high number of branches per capita, result in low activity per branch. This finding is not reflected in the usual measure of comparative efficiency—the ratio of costs-to-income, because of the industry's high income-to-activity ratio (Exhibit 4.3).

The average US number conceals a wide range of performance levels within US banks. High-performing US banks achieve significantly higher productivity than the US average. For example, regional banks such as Wells Fargo, Wachovia and Bank One achieve 40 per cent higher transaction volumes per employee than their US competitors, and 74 per cent higher account numbers per employee.

Negative employment growth

Between 1983 and 1993 employment across the Australian banking and securities industry fell by 0.8 people per thousand working age population. The Australian employment experience falls into two distinct periods (Exhibit 4.4). Between 1983 and 1990, employment in retail banking grew as the banking sector expanded, partly as a result of the asset price bubble of the 1980s. Since 1990, however, employment has fallen sharply in response to economic pressures resulting from loan losses, ongoing deregulation and increasing competition.

In the United States, over a similar period, the industry created 1.9 jobs per thousand working age population. These were all in the securities sector—and more than compensated for job losses in the retail banking sector.

WHAT IS DRIVING AUSTRALIA'S POOR PRODUCTIVITY PERFORMANCE?

Our research suggests that the major cause of lower labour productivity in Australian retail banking is high branch numbers. While total employment in the retail banking sector has fallen by around 30 per cent since its peak, the number of branches has fallen by only around 12 per cent (Exhibit 4.5).

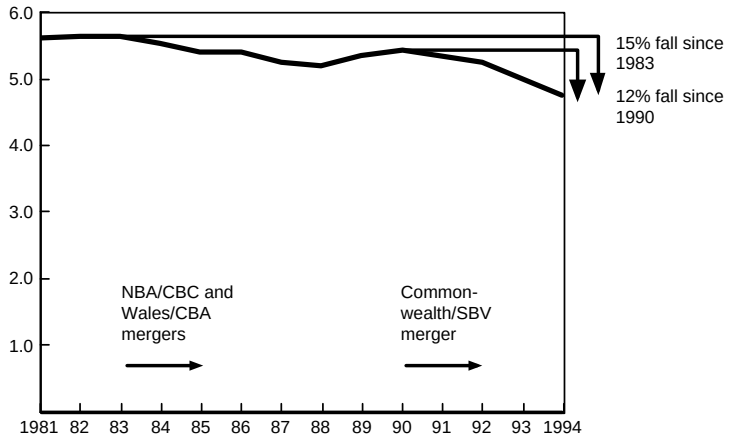
Australia has more branches per million population than the United States and many European countries (Exhibit 4.6). This is mainly due to the low population densities outside major cities and regional centres, and the nature of competition before deregulation, when the convenient location of branches was one of the few competitive levers available to banks. Although industry participants have long recognised the benefits of industry consolidation and the value of alternative distribution channels, they have been deterred from pursuing large-

scale branch closures because of historical market and regulatory factors (Exhibit 4.7):

Exhibit 4.5

BRANCH NUMBERS HAVE FALLEN BY ONLY ABOUT 12 PER CENT SINCE 1990

Thousands*



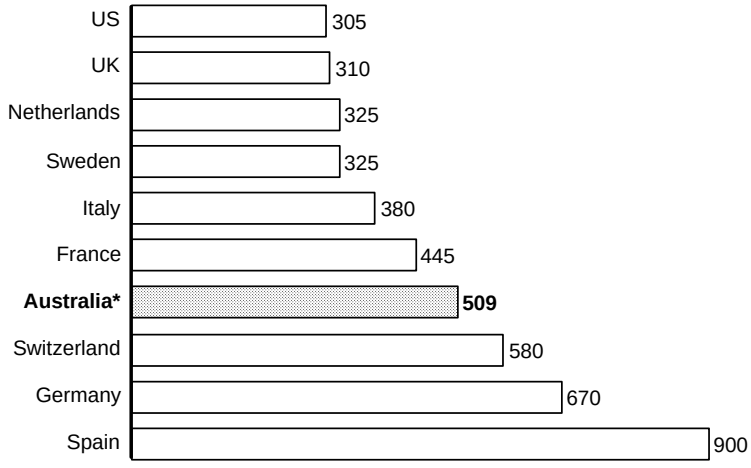
* Includes banks which make up 4 major banks today. Commonwealth Bank's figures have been adjusted to exclude Auckland Savings Bank; ANZ's figures exclude NMRB and Town & Country Bank (277 branches at peak)

Source: ABS; KPMG; RBA; McKinsey analysis

Exhibit 4.6

AUSTRALIA HAS ONE OF THE HIGHEST BRANCH DENSITIES IN THE WORLD

Branches/million population, 1993



* *1994 Business Establishment Survey*. All branches of banks, building societies and credit unions included

Source: ABS; McKinsey analysis

Exhibit 4.7

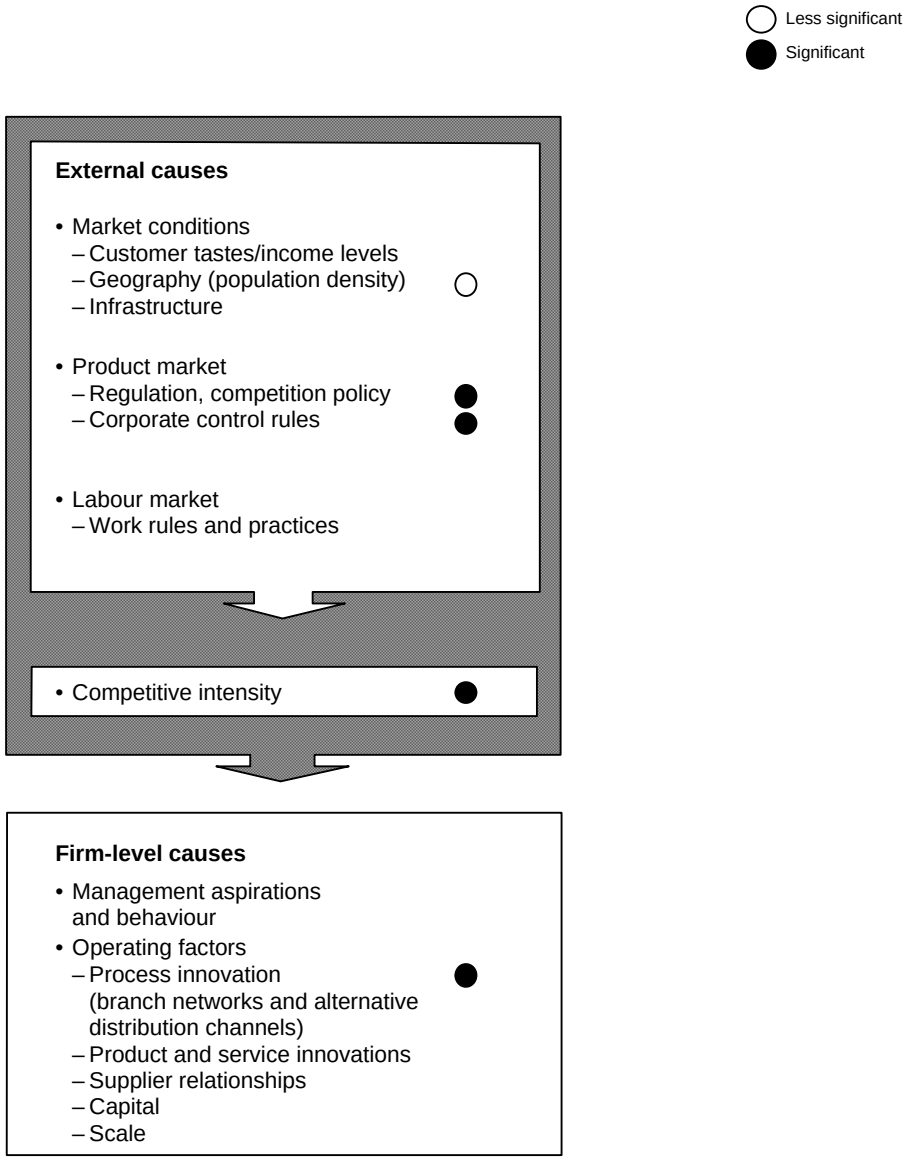

Less significant
Significant
External causes
• Market conditions
– Customer tastes/income levels
– Geography (population density)
– Infrastructure
• Product market
– Regulation, competition policy
– Corporate control rules
• Labour market
– Work rules and practices
• Competitive intensity
Firm-level causes
• Management aspirations and behaviour
• Operating factors
– Process innovation (branch networks and alternative distribution channels)
– Product and service innovations
– Supplier relationships
– Capital
– Scale

Exhibit 4.8

PERCEIVED CUSTOMER AND COMPETITOR REACTIONS DETER BANKS FROM CLOSING BRANCHES

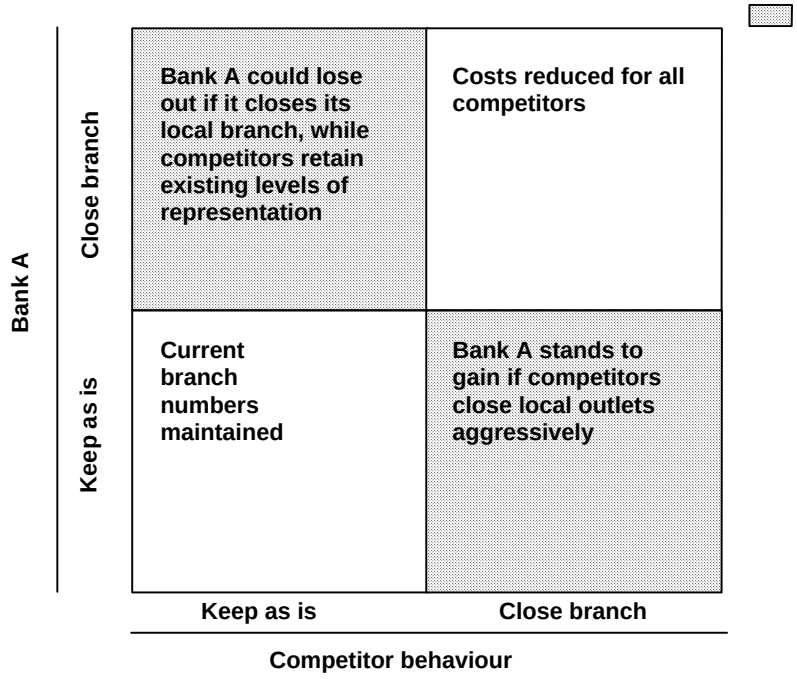
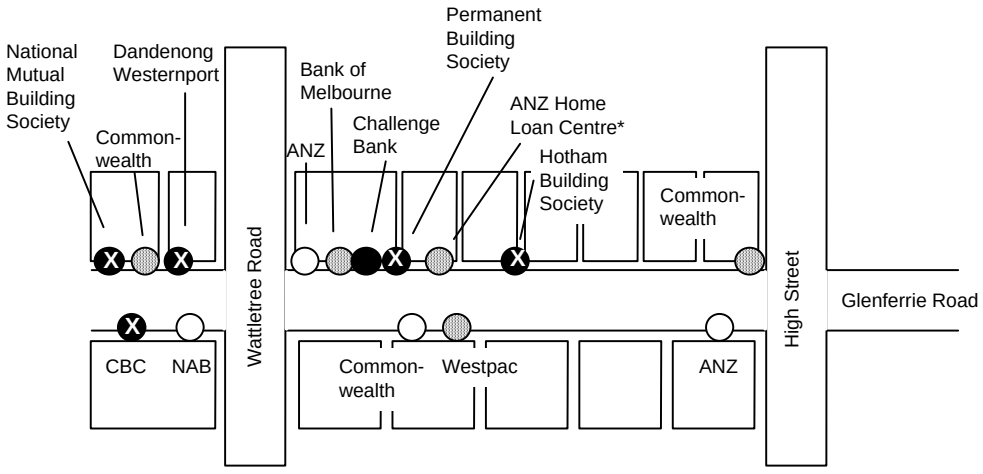


Exhibit 4.9

OVERBRANCHING IS COMMON IN URBAN MARKETS

Branches in Malvern shopping centre outlets, 1982–1995



* 1982 CBA branch replaced by ANZ Home Loan Centre

** Only 1 bank branch closed, 4 building society branches closed, merging with other building societies (e.g. Statewide and RESI merged, becoming Bank of Melbourne) or into banks (National Mutual Building Society was absorbed into National Mutual Royal Bank)

Source: McKinsey analysis

Perceived customer and competitor reactions have made it difficult for any bank to close its branch in a micro-market. If it did, competitors would be inclined to stay and exploit customers' willingness to switch banks for the convenience of having a local branch (Exhibit 4.8). This dilemma has resulted in significant overbranching especially in the cities and suburbs. For example, in less than a kilometre in the Melbourne suburb of Malvern, there are as many as 10 branches (Exhibit 4.9). Banks are moving very slowly to reduce the total number of branches, because of community concerns about branch closures, particularly in rural areas.

- In addition, regulations such as the Trade Practices Act restrict the extent of consolidation that can occur through merger and takeover. In his 1995 Western Australia's Challenge Bank decision, former Trade Practices Commissioner and new head of the Australian Competition and Consumer Commission, Allan Fels stated that, although the Commission would examine each case on its merits, 'it would scrutinise any major trading bank acquisition very carefully. In any state with only one major regional bank the TPC would be especially concerned.' This suggests that there would be less likelihood of a merger between one of the Big 4 and a significant regional bank.

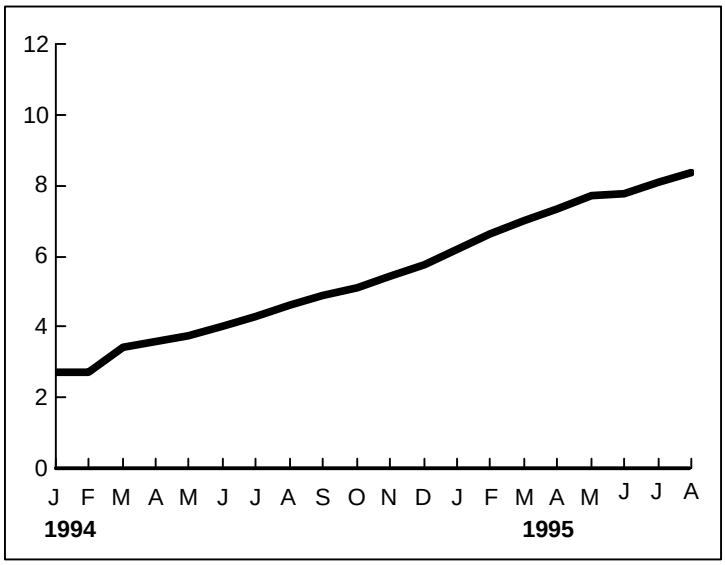
Current market forces, however, are placing increasing pressure on banks to reduce their extensive branch networks. The current positive yield curve is making deposits less attractive as a funding source, and so the branches' traditional role as deposit points is less valuable. At the same time, technology is making alternative channels, such as ATMs, EFTPOS and telephone banking, both feasible and much lower cost. And customers are increasingly willing to use them. This is enabling new entrants to create profitable businesses using non-traditional, high-productivity delivery channels.

The recent success of new mortgage originators illustrates these pressures on traditional banks. Companies such as Aussie Home Loans are capturing a growing share of the home loan market (Exhibit 4.10). They access funds in institutional markets, using financial derivative products to match fund managers' requirements with mortgage cashflows. They lower their distribution costs by extensive use of mobile salespeople and by streamlined payment and customer query handling. This enables them to achieve productivity levels that are around four times those of the traditional branch-based banks (Exhibit 4.11). The customers of these new mortgage originators' appear similar to the banks' since the average size of their mortgages is similar. In addition, up to 40 per cent of the mortgage originators' loans are refinancings. This suggests that the traditional banks are losing business to the new players.

Exhibit 4.10

NEW MORTGAGE ORIGINATORS ARE CAPTURING A GROWING SHARE OF THE HOME LOAN MARKET

Percentage of volume*



* Home loan originator finance vehicle. Includes, for example, Aussie Home Loans, PUMA's single largest customer for funds raised through its securitised loans

Source: ABS; *Housing Finance*, 5609, August 1995

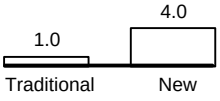
Exhibit 4.11

NEW MORTGAGE DELIVERY SYSTEMS ENABLE HIGHER PRODUCTIVITY

EXAMPLE

Function	Traditional	New
Origination	• Alternative channels – Branches – Dedicated centres – Mobile sales force	• Mobile sales force • Real estate agents • Loans by phone, e.g. Aussie Home Loans, RAMs
Portfolio management	• Internal treasury operation handles funding • Mortgage processing centre handles mortgage cashflows	• Fundraising outsourced – No warehousing function – No internal fundraising capacity • Cashflow management outsourced
Servicing	• Choice of repayment mode – Cash – Direct debit – Cheques • Different channels available for queries	• Direct debits only source of payment accepted • Centralised phone-based back office handles all customer contact

Loans per employee per month*



* Assumes total employment under new model of 420 people (300 in distributor, 70 in mortgage securitiser, 50 at trustee) and 2 000 for traditional model (50% of loan account employment, major Australian bank). Loans calculated at $232 million/month

Source: Interviews; press reports; McKinsey analysis

Exhibit 4.12

AUSTRALIAN RETAIL BANKS HAVE UNDERTAKEN INITIATIVES TO IMPROVE

Component	Lever	Selected examples
Transactions	Shift routine transactions to cheaper channels, e.g. ATMs, EFTPOS, etc.	promotion
	Realise scale economies in processing	site for mortgages
Deposits	• Maximise teller productivity	
	– Peak load staff	• Bank of Melbourne's high use of permanent part-time tellers
	– Route inquiries to centralised units; phone-based services	• Citibank's 'Bank of Future' sites
Loans	• Improve sales force effectiveness through centralisation and specialisation	• NAB's specialised outlets, e.g. district commercial branches, consumer service centres, banking suites, etc.
	• Improve sales force performance through incentive-based payments	• St George's Mobile Personal Banker sales force
	• Reduce back office processing through automated credit scoring	• Advance Bank's on-line automated credit scoring processes

Source: Press reports; McKinsey analysis

WHAT ACTION IS REQUIRED TO CLOSE THE PRODUCTIVITY GAP?

To improve Australian labour productivity so that it reaches US levels requires a significant reduction in labour input. Banks can achieve this by either closing branches or reducing employment per branch, or by a combination of these two actions. Banks are currently making efforts to reduce employees per branch and the competitive forces at work mean that they need to continue to do so. However, given the magnitude of the change required, they also need to act to reduce branch numbers. Today's regulatory and structural environment means that government action is required to encourage rationalisation.

Further bank-led actions

The banks need to achieve changes that dwarf those of the post-deregulation period. To achieve US productivity levels, they need to:

- Reduce branch numbers by 40 per cent, or some 3 600 branches. That is two and a half times the number of branches belonging to any Big 4 bank network.
- If no branches are closed, reduce staff numbers by 40 per cent—from seven to four people per branch.

Banks are already trying to improve productivity by reducing the number of staff in each branch. For example, they have undertaken a number of initiatives including shifting routine transactions to cheaper channels such as ATMs and EFTPOS; maximising teller productivity by using additional part-time staff during peak times and directing inquiries to centralised units or phone services; and improving sales force effectiveness and productivity by centralisation, specialisation and incentive-based payments (Exhibit 4.12). Current innovations, such as further centralisation of processing and the increasing use of mobile sales forces, are likely to lead to further staff reductions.

As profits are eroded from high-return areas such as home loans, however, banks will be forced to reduce branch numbers, despite the market constraints discussed earlier. Active reviews of the scope of branch networks will be necessary, along with the substitution of lower cost distribution networks, perhaps through the use of branch substitutes such as the Australia Post Giro Bank.

Some relatively focused financial institutions are already achieving productivity levels that match US levels. The Bank of Melbourne, for instance, achieves higher productivity in deposit-taking than the Big 4 banks on average, measured either as retail deposits per employee or per branch. Both building societies and credit unions already have very few employees per branch, compared with the average for the sector as a whole. For example, 72 per cent of building society branches have less than five employees compared to the industry average of seven. Either

of these models, if adopted sector-wide, would enable retail banking to achieve US productivity levels. However, this is a huge challenge, and requires an understanding of how these and similar institutions achieve these outcomes, as well as a well-planned change process.

Government-led actions

Ten years of deregulation in the Australian banking industry has produced enormous change. But given the substantial effort required and the momentum that currently exists, the industry is unlikely to achieve world best practice levels of performance within at least 5 years. Policymakers should consider a number of options including:

- **Allowing non-traditional players wider access to the payments system.** Rapid emergence of low-cost channels, such as non-traditional entrants like retail chains, would increase the pressure on banks to make productivity gains.
- **Unifying financial sector regulation across banking, insurance and superannuation.** This would enable existing networks to offer more banking, insurance and superannuation products, thus improving the productivity of existing distribution channels. Barriers to ownership between large banks and insurance companies could be removed.
- **Removing barriers to further industry consolidation.** Mergers between banks would produce productivity gains by eliminating duplication in branch networks and increasing utilisation of spare capacity. Contestability in the business lending market would need to be considered. Unless non-banks enter the transactions and deposit-taking functions, however, these gains are unlikely to be available given the Trade Practices Commission's stance on the retail banking market. The barriers to efficient competition inherent in existing regulations need to be addressed if world best practice productivity levels are to achieved.

WHAT ARE THE IMPLICATIONS FOR EMPLOYMENT?

To lift labour productivity to US levels, employment in the retail banking sector will have to fall. The effect of this fall could be partly cushioned by using more part-time staff, in line with US practice. In addition, overseas experience suggests that the securities industry has been a net creator of jobs in recent years. Australia may follow this pattern, although the focus of the compulsory superannuation system on employer provision, rather than individual provision as in the United States, may result in a different industry growth pattern than has been the case overseas.

* * *

Australia's big retail banks need to seriously tackle the challenge of reducing branch numbers and adopting lower cost distribution networks. They also need to quicken the pace at which they adopt process innovations to improve labour productivity. If the Australian economy is to reap the benefits of a highly productive retail banking sector in the near future, policymakers need to look again at regulations across the financial services industry and remove the major impediments to productivity growth.

Case study 5

Aviation

The Australian aviation industry has undergone many changes in the last decade, evolving from a heavily regulated industry under the two airlines policy through deregulation, the entry and exit of a new competitor and, most recently, privatisation. Throughout this period, carriers have made considerable efforts to improve productivity.

Yet our research indicates that improvements are still possible. Although Australian airlines compare well with European and American airlines in terms of capital productivity, the industry's labour productivity is 16 per cent lower than the US industry, which is the leading aviation industry worldwide. To close this gap, Australian airlines need to pursue internal operational improvements, particularly in on-the-ground activities. It is also possible that government policy changes to increase competitive intensity could lead to higher labour productivity. If significant improvements are achieved in aviation, evidence suggests that the industry could create a significant number of new jobs.

HOW DOES AUSTRALIA COMPARE WITH LEADING COUNTRIES?

The Australian industry's labour productivity has been steadily increasing since 1981, by around six per cent a year (Exhibit 5.1). Yet it still lags behind the US industry, achieving 84 per cent of US productivity levels. On the positive side, it is about six per cent in front of the European industry (Exhibit 5.2).

In addition, as the US industry's productivity grew by only 0.3 per cent a year over the same period, Australia has closed the gap significantly.

WHAT IS DRIVING AUSTRALIA'S LOWER LABOUR PRODUCTIVITY?

The main causes of the Australian industry's lower overall labour productivity are its lower productivity levels in on-the-ground activities, which are exacerbated by smaller scale and less flexibility in staffing, and the lower competitive intensity that arises from its regulatory environment (Exhibit 5.3).

ABOUT OUR METHODOLOGY

Our productivity analysis is confined to major scheduled and charter passenger airlines. This means that for this case study, the Australian industry is defined as comprising Ansett, Qantas (both international and domestic), and, where appropriate, East West, Compass and TAA / Australian airlines. For international productivity comparisons, a sample of US and European airlines has been used as appropriate data for the whole industry was not available.

There are two measures of productivity in aviation—capital productivity (aircraft and seat utilisation rates) and labour productivity (the proportion of available aircraft seats sold divided by the number of full-time-equivalent employees).

It is difficult to compare the capital productivity of the Australian industry with the United States and European industries because of their significantly different route structures and stage lengths. However, the aggregate numbers indicate that Australia is performing at a comparable or better level than the United States and Europe:

- Each Australian plane flies two per cent more hours per year than American planes, and 20 per cent more hours per year than European planes.
- Seat utilisation rates are also higher. Australian revenue passenger kilometres (RPKs) are 72 per cent of available seat kilometres (ASKs) compared with 63 per cent for the United States and 69 per cent for Europe.

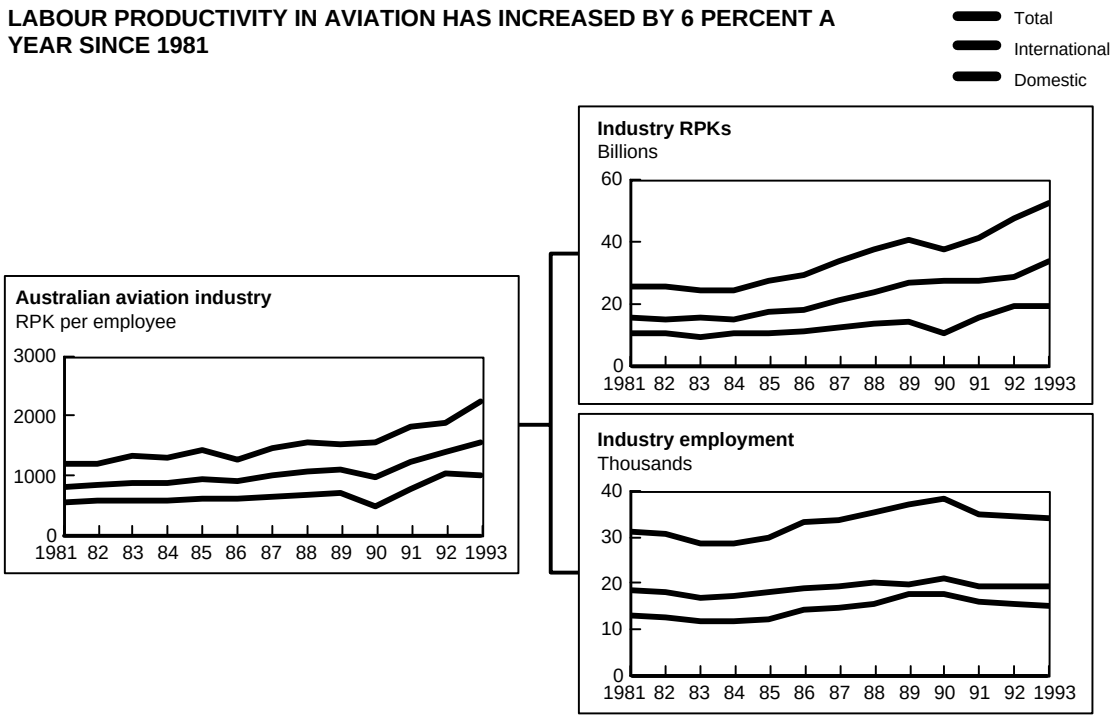
To accurately determine the full capital productivity would require detailed adjustments for operating conditions and stage lengths, so given the small aggregate gap, we focused our analysis on labour productivity.

Labour productivity is measured at a macro revenue passenger kilometre (RPK) level. The productivity figure for each country was determined by calculating the productivity measures for six key functional components of an airline's business system. These include the in-air activities undertaken by the cockpit crew and the cabin attendants, and the on-the-ground activities of airport handling (including ramp, passenger and baggage handling, catering, cleaning and security), engineering and maintenance, and ticketing and customer administration. We then divided a weighted average of these measures by the number of employees for each industry to determine an overall labour productivity figure. Only direct employees of the airlines were included, not third-party outsource providers. We have made adjustments where outsourcing was involved. Various other public reports have provided us with data including company annual reports, ABS reports and the PSA monitoring report. We also interviewed and spoke with industry experts and aviation managers.

Finally, the data used throughout this case study are drawn from international aviation databases and reports, including AVMARK, AEA, AVSTATS, for 1993, the latest year that comparable internal benchmarking data were available. We acknowledge that changes may have taken place since then.

Exhibit 5.1

LABOUR PRODUCTIVITY IN AVIATION HAS INCREASED BY 6 PERCENT A YEAR SINCE 1981

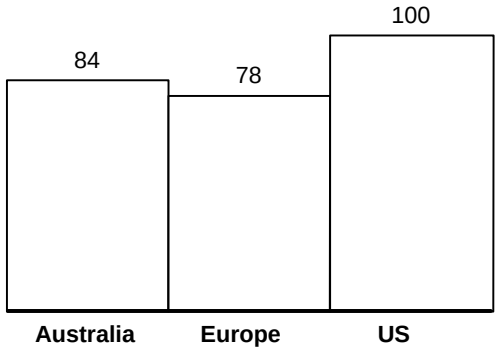


Source: Department of Transport, *Air Transport Statistics: Digest of Statistics* , 1992; *Major Australian Airlines* , 1993; BTCE *Progress of Aviation Reform*; McKinsey analysis

Exhibit 5.2

LABOUR PRODUCTIVITY IN AVIATION IS AHEAD OF EUROPE BUT BEHIND THE US

Index US = 100, 1993



Source: ICAO; IATA; AVSTATS; McKinsey analysis

Exhibit 5.3

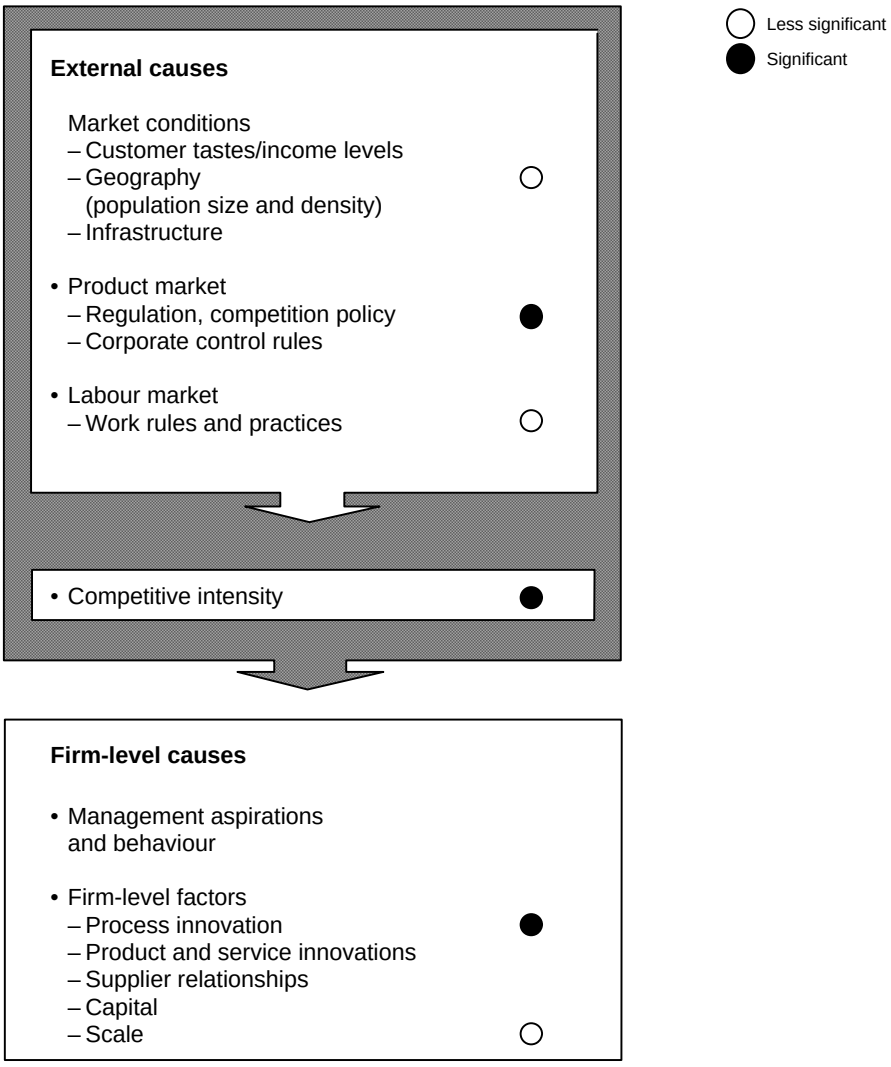
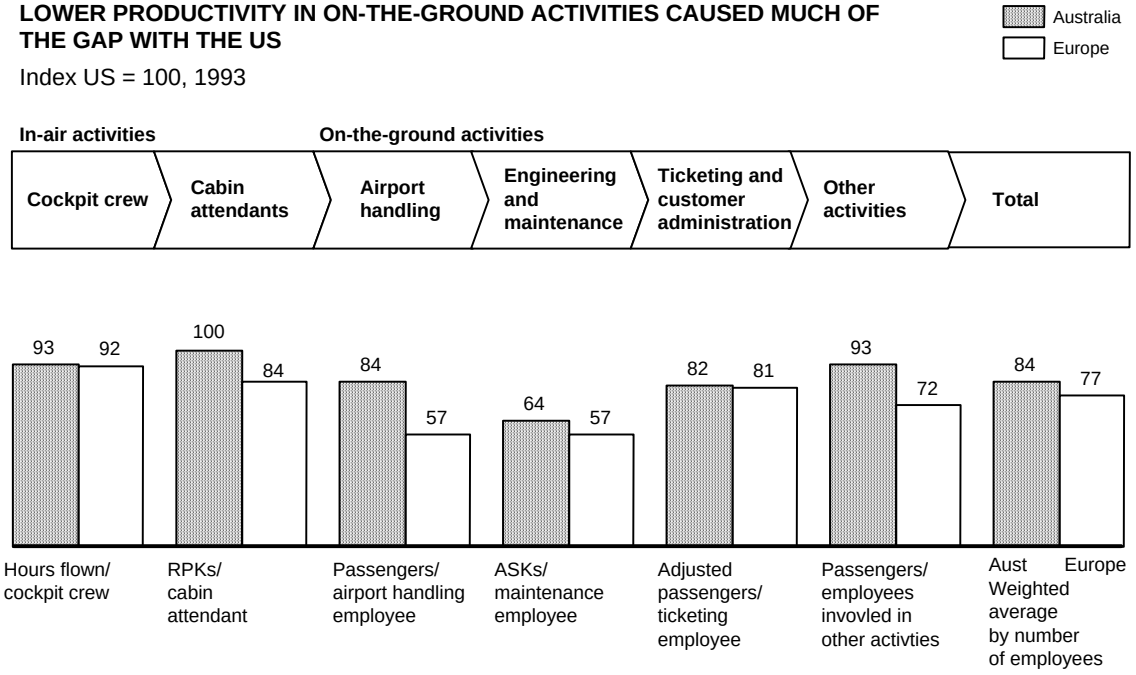

Less significant
Significant
External causes
Market conditions
– Customer tastes/income levels
– Geography
(population size and density)
– Infrastructure
• Product market
– Regulation, competition policy
– Corporate control rules
• Labour market
– Work rules and practices
• Competitive intensity
Firm-level causes
• Management aspirations and behaviour
• Firm-level factors
– Process innovation
– Product and service innovations
– Supplier relationships
– Capital
– Scale

Exhibit 5.4

LOWER PRODUCTIVITY IN ON-THE-GROUND ACTIVITIES CAUSED MUCH OF THE GAP WITH THE US

Index US = 100, 1993

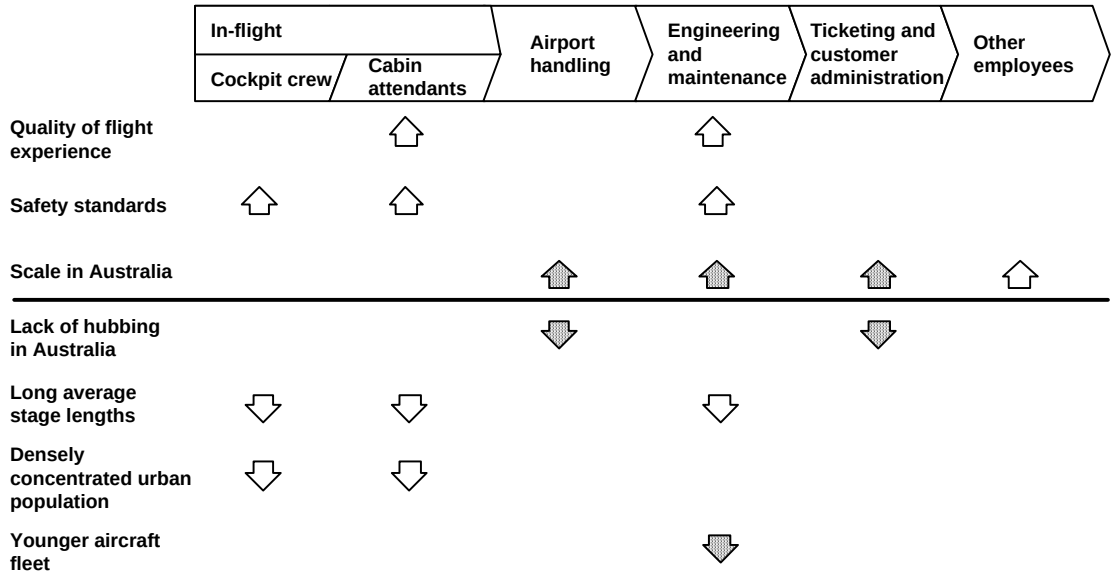


Source: ICAO; IATA; AVSTATS; McKinsey analysis

Exhibit 5.5

SOME DIFFERENCES BETWEEN THE US AND AUSTRALIAN AVIATION INDUSTRIES NEED TO BE TAKEN INTO ACCOUNT

Unquantifiable adjustments to Australian productivity relative to US level



Source: McKinsey analysis

Lower productivity in on-the-ground activities

Looking at the Australian aviation industry's performance in the functional components of the business reveals a major source of its lower productivity (Exhibit 5.4):

- Australia is considerably behind the United States in three of its on-the-ground activities. Low productivity levels in airport handling, engineering and maintenance, and ticketing and customer administration are the main drivers of Australia's lower overall labour productivity.
- For in-air activities and other on-the-ground activities, Australia is at or near US productivity levels. Hours flown per cockpit crew and RPKs per cabin attendant, as well as passengers per employee involved in other activities are at or close to US levels and significantly higher than the levels achieved by the European industry.

There are some difficulties in comparing the labour productivity of the Australian and US industries, due to differences between the two industries that are hard to adjust for (Exhibit 5.5). For example, it is argued that the Australian industry provides higher levels of service, quality and safety. If this is so, its 'true' productivity would be slightly higher than we measured in the in-air and engineering and maintenance activities. Conversely, the relatively low age of the Australian fleet combined with advantages created by the longer average stage lengths and concentrated population centres in Australia suggest that the industry's productivity in these same activities are slightly inflated. If we were able to make these adjustments, we estimate that these differences would largely compensate for each other, leaving the total productivity measure slightly lower (Exhibit 5.6).

Australia's relatively small and dispersed market creates a scale problem that contributes to the Australian industry's lower productivity in on-the-ground activities. For example, in maintenance, a substantial portion of the work is scheduled aircraft maintenance, an area where there is significant potential for scale economies. Minimum efficient scale in this area can be up to 40 to 48 planes per type, which allows two planes of the same type to be serviced simultaneously. The Australian carriers have an average of only 12 planes per plane type, while US majors have approximately 95 planes per plane type (Exhibit 5.7).

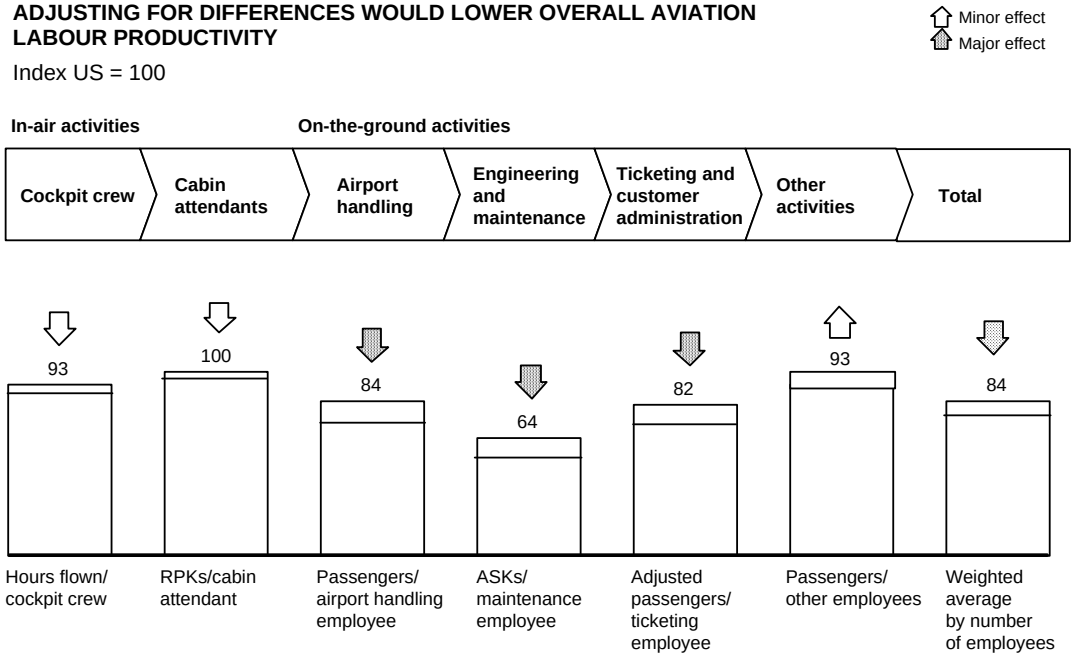
Problems of scale also affect airport operations. In a 1993 survey, the average number of passenger movements per airport in Australia was 5.5 million compared with more than 11 million in the United States. While this has a major effect on capital productivity for the industry as a whole, its effect on labour productivity is most likely to be felt in areas such as the three we have identified

as the key drivers of Australia's lower productivity—airport handling, engineering and maintenance, and ticketing and customer administration.

Exhibit 5.6

ADJUSTING FOR DIFFERENCES WOULD LOWER OVERALL AVIATION LABOUR PRODUCTIVITY

Index US = 100

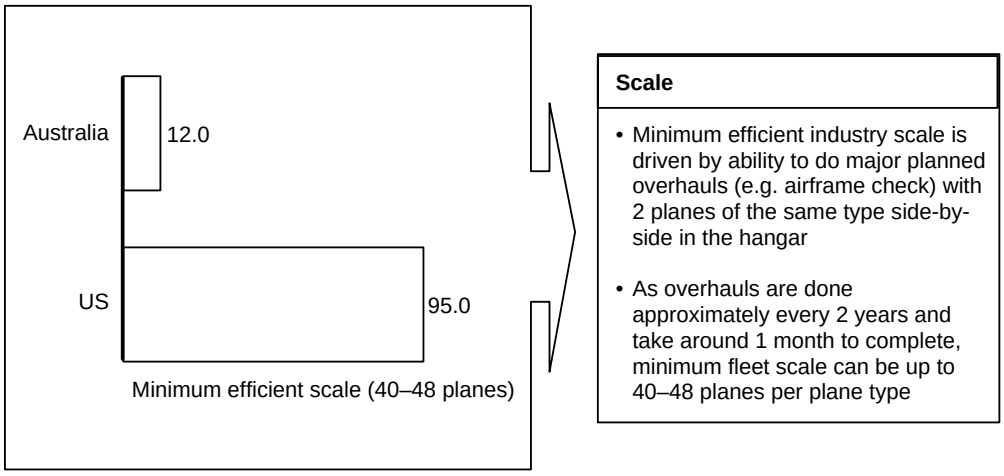


Source: ICAO; IATA; AVSTATS; McKinsey analysis

Exhibit 5.7

LACK OF SCALE IN AUSTRALIAN AVIATION LIMITS ITS PRODUCTIVITY

Average number of planes/plane type/airline, 1993*



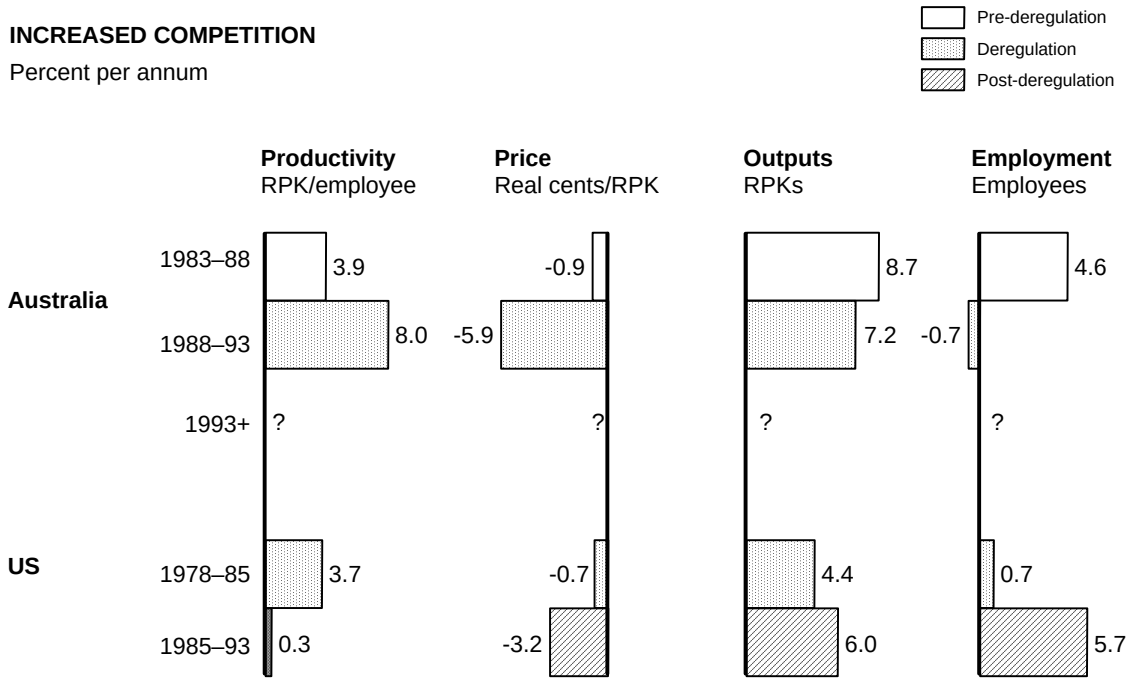
* Australia: total of 12 plane types, US: total of 25 plane types

Source: AVMARK; AEA; AVSTATS; McKinsey analysis

Exhibit 5.8

INCREASED COMPETITION

Percent per annum

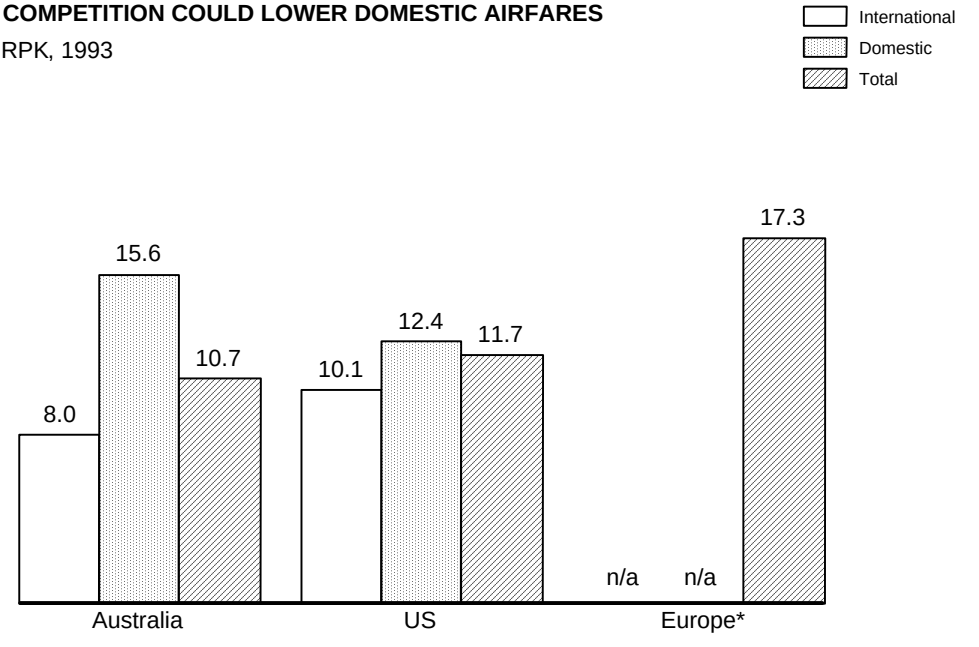


Source: ATA; AVSTATS; OECD *National Accounts* ; McKinsey analysis

Exhibit 5.9

INCREASED COMPETITION COULD LOWER DOMESTIC AIRFARES

US cents per RPK, 1993



* 1992

Note: Exchange rate: 1992 A$ = US$0.7235, 1993 A$ = US$0.6973

Source: ATA; IATA; *PSA Airfare Monitoring Report; RBA Bulletin* ; McKinsey analysis

Lower competitive intensity

Between 1988 and 1993, as the effects of deregulation and competition took hold, the Australian aviation industry substantially improved its productivity levels. Productivity growth accelerated from around four per cent per year in the 1983 to 1988 period to eight per cent per year in the 1989 to 1993 period, and real yields per RPK fell by six per cent per year (Exhibit 5.8). Further increases in competition could also increase the competitive pressure on prices and productivity. Australian consumers pay 25 per cent more per kilometre than US consumers for domestic travel (Exhibit 5.9), as revenue passenger yields have risen since the failure of Compass. While it is not clear how much volume is required to sustain an additional entrant—or indeed whether the Australian industry is large enough to sustain a third entrant—most US routes with the same traffic levels as the major Australian routes are served by at least three carriers, most of which have large dense networks (Exhibit 5.10).

There are a range of barriers, in addition to scale in activities like maintenance for example, that limit the entry of new competitors. Most are the legacy of past regulation under the two airline policy. They include:

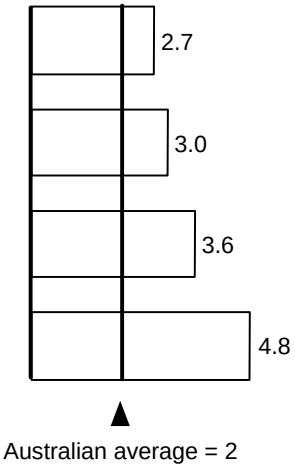
- **20-year leases on terminal facilities.** The long-term leases of Qantas and Ansett make it difficult to get access to gate and ticketing facilities for new entrants, unless policymakers introduce explicit measures to provide access, as they have in the telecommunications industry.
- **Fully integrated business systems.** New competitors would not have easy access to third-party ticketing, baggage handling, catering or maintenance services, and would have to build their own or interconnect with the Qantas or Ansett systems. Misuse of this power by the incumbents could result in higher costs or lower grades of service for a competitor.
- **Branding and airport structures are set up around the incumbents.** The explicit branding and separation of terminals, combined with their fully integrated business systems, would make full brand penetration difficult for a competitor.
- **Significant ownership of the retail (travel and ticketing agent) network by the incumbents.** Ninety per cent of travel agents use systems supplied by Qantas, Ansett or Air New Zealand. The Trade Practices Commission is currently looking at this issue. Airline cost cutting tends to suppress margins and direct airline marketing reduces agent turnover. Airlines own or partly own a number of travel agents and have very close relationships with other travel groups.

Exhibit 5.10

AUSTRALIAN MAIN ROUTES AND US ROUTE DENSITY COMPARISON*

( ) = Number of US carriers per route

Route density 1000 seats/ week	**Average number of US carriers**	**Australian route examples**	**US route examples**
12.5–15.0	2.7	• Melbourne–Perth • Perth–Sydney	• Atlanta–Pittsburgh (3) • Phoenix–San Francisco (3)
15.0–20.0	3.0	• Brisbane–Cairns	• Seattle–Oakland (3) • Chicago–Columbus (4)
20.0–30.0	3.6	• Adelaide–Melbourne • Canberra–Sydney	• Seattle–Portland (7) • Dallas–Denver (4)
30.0+	4.8	• Melbourne–Sydney • Brisbane–Sydney	• Chicago–Minneapolis (6)



* Based on sample of 542 direct routes

Source: ABC database; AVSTATS

WHAT ACTION IS REQUIRED TO CLOSE THE LABOUR PRODUCTIVITY GAP?

Closer comparative analysis and industry interviews suggest that two types of actions could bring the Australian industry's labour productivity to US levels. Australia's airlines could close much of the gap through targeted internal operational improvements to lift the labour productivity of their on-the-ground activities to the levels they currently achieve in their in-air activities. In addition, governments should explore whether further policy changes to explicitly address entry barriers created by past and current regulation could increase industry competitive intensity.

Company-led operational improvements

Significant improvements in labour productivity can be achieved in Australian aviation by individual companies in the industry. Our findings indicate that companies need to focus on airport handling, ticketing and customer administration, and engineering and maintenance.

Improve airport handling, ticketing and customer administration. Based on our work in the aviation industry worldwide, we believe there are three key improvement levers in this area:

- Modifying physical layouts and workflows to streamline activities. For example, this could include redesigning physical layouts for smooth traffic flows and considering flexible, non-dedicated work stations and service islands; and identifying and eliminating non-value-adding steps, such as double-handling.
- Increasing flexibility in the staffing system to manage peak loads with minimal extra staff. This could be achieved through multiskilling between baggage handling and other functions, part-time employment, promoting flexible, minute-by-minute staffing decisions, and integrating back-office function schedules with airline traffic patterns.
- Increasing automation—for example, by developing automated systems for repetitive, low-value-added functions.

Improve engineering and maintenance. The industry can also capture improvement opportunities in engineering and maintenance by focusing on a small number of key levers and detailed, rigorous evaluation of workflows and decision making. Areas to focus on include:

- Balancing workloads in the maintenance function by carefully evaluating maintenance strategies, and balancing ramp maintenance, minor overnight (A/B) maintenance and major overhauls; striving for scale economies where possible through location consolidation and

outsourcing; and carefully sequencing plane types for major overhauls to allow two planes of the same type to be worked on simultaneously and to minimise the time spent moving major equipment in the maintenance area.

- Increasing the flexibility of working structures by creating flexible maintenance schedules in conjunction with Australian aviation and air safety authorities, and creating labour flexibility through multiskilling and matching skills on individual plane types to workloads.
- Reducing throughput times by focusing on the value delivered by each activity, material and information flow and eliminating unnecessary tasks and prioritising low-value-added activities.
- Considering end-to-end effects—for example, considering the full-life maintenance costs of purchase, deployment and servicing decisions, and carefully planning inventory purchase and management to coordinate with maintenance schedules.

Government-led actions to increase competitive intensity

The second option for lifting labour productivity—reviewing government policy to enable increased competitive intensity—could result in industry benefits if successful. Policymakers would need to introduce explicit measures to ensure access to overcome entry barriers—such as the incumbents' long terminal leases and fully integrated business systems.

In addition, our analysis has not included the effects on industry profitability and returns to the incumbents' shareholders that would potentially be at risk if competition were increased. This issue will need to be carefully considered in the local context.

WHAT ARE THE IMPLICATIONS FOR EMPLOYMENT?

Improved labour productivity can either come from decreased levels of employment or increased levels of output (in aviation, this means more hours flown, passengers or revenue passenger kilometres). After a period of stagnant employment and increased output, the Australian aviation industry could create significant job growth.

Prior to deregulation, aviation employment in Australia was growing at 4.6 per cent per year. Since then employment has declined slightly. This seems to suggest that the productivity gains have come at the expense of employment, and that further job stagnation in the sector can be expected.

The experience in the United States is more encouraging. The US industry was deregulated in 1978. Initially, employment growth slowed, as carriers were able to meet increasing demand by improving labour productivity. By 1985, however, US carriers found the easy improvements had already been made. And as demand continued to increase—stimulated by falling airfares—they had to take on additional staff. Since then, employment has increased by 5.7 per cent per year.

As demand continues to rise in Australia, our aviation sector should also create a significant number of new jobs after the productivity gains have been made. If the industry were to achieve output growth of between five and 10 per cent, it could reach productivity levels comparable to the United States and create between 14 000 and 32 000 jobs by the year 2002.

* * *

The challenge for the aviation industry is to focus on internal productivity improvements to create a stable, wealth-creating industry that capitalises on Australia's natural advantages of long stage lengths and dense population centres, and uses innovation, flexible working systems and careful planning to overcome major scale disadvantages. We also urge governments to further examine the issue of competition in Australia's aviation industry to see if, and how, greater competitive intensity could be achieved to stimulate productivity—and reduce airfares for travellers in Australia.

Appendix 1

The relationship between productivity, output and employment

The relationship between productivity and employment is complex and often misunderstood. Business leaders, policymakers and the general public often fear that aggregate employment will decline if worker productivity improves. This concern is understandable. Productivity improvements can result in fewer people required to produce the same output. As a result, employment in relatively mature industries, like many of those examined in this report, declines as productivity increases.

But this negative relationship between productivity and employment holds only if output remains constant. If productivity improvements help stimulate output, productivity and employment can rise simultaneously. When workers are displaced through productivity gains, either the products they once produced become cheaper, shareholders returns increase or their former colleagues earn higher wages. All of these factors increase consumer buying power and create demand for additional goods and services. To satisfy this additional demand, companies must hire new workers. It is this dynamic process that allows people who have been displaced from traditional industries to become re-employed in new sectors. The wages paid and shareholder income earned in these new industries allow aggregate national income and GDP to rise. When this redeployment is blocked, however, national income and therefore demand remains constant and the country suffers increased unemployment.

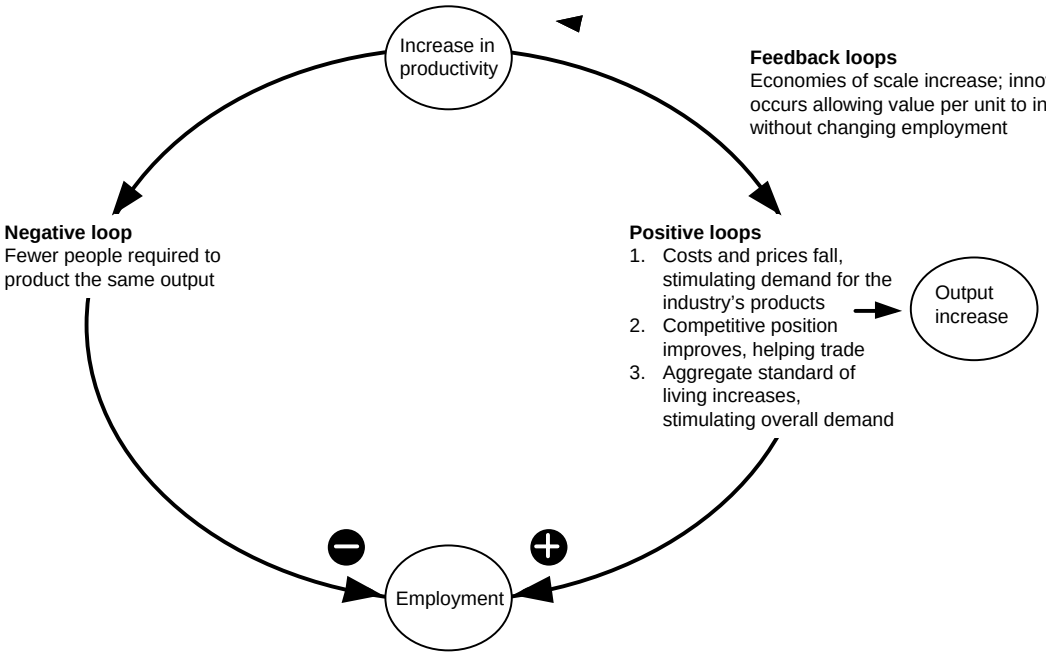
Exhibit A.1 illustrates these different effects. The negative relationship between productivity and employment is shown on the left-hand side of the chart—where fewer people are required to produce the same output. This is the type of correlation we found in Australia's food processing and retail banking case studies. In these industries, employment declined because fewer people were required to produce each unit of value, and output did not increase enough to absorb those displaced. The middle of the chart describes the three types of positive effects that productivity increases can have on output and employment. Types 1 and 2 are perhaps the most easily understood. Type 3 effects are harder to see since they cut across industries. This kind of positive relationship occurs when the income generated from increases in productivity creates additional demand, such as occurred in the United States retailing and entertainment industries. MGI work suggests that this type of aggregate positive productivity loop has occurred much more strongly in the United States than elsewhere.

The far right of the chart illustrates the feedback effects in this process. Productivity can rise as a secondary effect of an increase in output without

affecting employment. This can occur in several different ways. First, output growth in industries with significant economies of scale can result in higher

Exhibit A.1

RELATIONSHIP BETWEEN PRODUCTIVITY, OUTPUT AND EMPLOYMENT *CONCEPTUAL*



Source: McKinsey analysis

productivity. This might result in fewer additional workers for each incremental unit, but would still lead to more employment than would have been the case without the output and productivity increase. Second, if increased demand for new products results in higher value added per hour worked, there is no negative impact on employment.

Appendix 2

Performance measurement: productivity and employment creation

The key performance measures we use in this report are productivity and employment creation. This section explains the approach we have used in calculating each of these measures.

APPROACH TO PRODUCTIVITY MEASUREMENT

In each case study, we measured and compared the level of industry productivity in a range of countries and analysed the causes of productivity differences. When measuring and comparing productivity across countries, we had to address two major issues—productivity measurement and currency conversion rates. The methodology we have used to address these issues is described below. Specific methodology issues are discussed more thoroughly in the individual case studies.

Productivity measurement

Productivity reflects the efficiency with which resources are used to produce outputs. It is measured by computing the ratio of an index of output to an index of inputs. For example, average labour productivity is the ratio of the output produced in a country or an industry to the number of workers employed to produce it. Difficulties in measuring productivity arise for both outputs and for inputs, and mean that in practice there is no single productivity measure that can be applied across all cases—the demands of the available data and the way in which the productivity measure is to be used will determine the specific approach to be taken. As a result, we have used more than one productivity measure in this report.

Measuring output. An obvious way to measure industry output is to use physical units of a single commodity—for example, the number of passenger kilometres flown can be used as the output of an airline. Unfortunately this approach is not possible for all industries, and there are often complications even where there is a natural physical output to measure. For example, productivity based on passenger kilometres may have to be adjusted to take into account differences in the average length of flights. If no adjustment was made, the

productivity measure of an airline in a country where average flights are longer due to it size or geographic position would be biased.

In the aviation and retailing banking case studies, we used a functional productivity measure. Functional productivity analysis breaks the business activities of an industry down into its major components, and measures the output and input of each component. In aviation, for instance, we were able to construct separate measures of productivity for the six key functions—the in-air functions undertaken by the cockpit crew and the cabin attendants, and the on-the-ground activities of airport handling, engineering and maintenance, ticketing and customer administration. In banking, we used three physical output measures of retail banking services—transactions processed, deposit customers, and loans outstanding. We also compared the quality of service provided to determine whether using physical measures would bias the results.

However, in many industries, output is not homogeneous. One way to deal with the diversity of outputs is to use value added as the output measure. Value added in a given industry is the market value of its output minus the purchased goods and services used in production. We used value added in our retailing case study as this industry has no physical output measure and our retailing value added provides an appropriate output concept. For example, the value added by a store is the amount that it receives for goods sold, less the amount the store paid for those goods. High-value-added stores provide a larger retailing service to their customers than do low-value-added stores, in the form of such things as better service or greater selection.

We also used value added as the output measure for our construction and food processing case studies, where value added was defined as the value of goods produced less the cost of materials and energy used to produce them. This measure is generally preferable to traditional physical measures of output as it aims to correct for differences in vertical integration and product quality.

Measuring input. Output per employee (labour productivity) is a widely used measure of productivity—we used this as our primary productivity measure, and therefore labour as the primary input. Labour is a primary factor in most industries and for GDP as a whole. But not all productivity analysis focuses on labour productivity. One alternative measure is total factor productivity (also called multifactor productivity). This is the ratio of output to an index of capital as well as labour inputs. Its advantage is that it allows explicitly for the contribution of capital to the production of output including the stock of machinery and structures and, in some cases, the stock of R&D and human skill capital. Its disadvantage is that it is much harder to compute than average labour productivity. Finding consistent data on capital and its contribution to output for several countries is very difficult.

That we chose to use labour productivity over total factor productivity for most of our analyses does not mean we are ignoring the contributions of other inputs

to production. We recognise that labour productivity can increase because of increases in the amount of capital used by each worker or because of improvements in technology, or management organisation or because of improvement in the skills of the workforce. If, in a given industry, average labour productivity in one country was found to be higher than in another, we have provided a general assessment of the extent to which differences in capital or other inputs have contributed to the difference. This can be done even without formal estimates of total factor productivity. We have used average labour productivity as our productivity measure, but recognise the contributions of other inputs as causal factors in our discussion of the results.

Currency conversion rates

The second major difficulty we faced in comparing productivity across countries was finding suitable currency exchange rates. One way to compare GDPs and industry value added in different countries is simply to convert the national currencies at market exchange rates. If this procedure is used, however, comparisons of per capita income can vary erratically from year to year and bear no relation to relative living standards. For this reason, we used the Purchasing Power Parity (PPP) exchange rates that are prepared and published by the OECD.

To understand PPP, suppose someone spent US$10 000 on a selection of different goods and services in the United States. Then he or she flew to Australia and bought the same goods and services. If the cost were A$13 000 then the PPP exchange rate would be A$1.3 to US$1.

PPP exchange rates are often very different from market exchange rates. One reason is that market exchange rates reflect not only flows of traded goods, but also reflect capital flows. For example, the US dollar was so high in 1985 because high interest rates attracted a huge inflow of capital. As foreign investors purchased dollars to take advantage of these rates, the value of the dollar was pushed up. Another reason for the divergence between market and PPP exchange rates is that many countries have large value added, sales or excise taxes. A 20 per cent difference in price for the same item in two different countries can simply reflect the fact that one country has a 20 per cent value-added tax and the other does not. A final reason is that not all items are traded. In particular, services are not usually traded so their price can be very different in two countries. Even with manufactured goods, there are tariffs, transportation costs and other restrictions on trade that prevent a full price equalisation. Such distortions of market exchange rates reinforce the usefulness of using PPP exchange rates for comparisons of productivity.

APPROACH TO EMPLOYMENT CREATION MEASUREMENT

We measured employment creation performance using the measure developed for MGI's employment performance report: net jobs created per thousand in the working age population, adjusted for the growth in working age population. This measure incorporates both the size and the growth rate of employment in an industry, and is additive. In other words, the employment performance of each industry in the economy can be added together to get the employment performance of the entire economy. It also adjusts for working age population growth.

Data for the employment performance measure was taken from either household or establishment surveys, depending on what was believed to be more accurate for a given industry. Employment performance at the sector or economy level was always measured using household survey data, since household surveys avoid double-counting people with multiple jobs and include self-employed and unpaid family members.