

AUSTRALIAN CONSTRUCTION PRODUCTIVITY: INTERNATIONAL COMPARISON

prepared for

Australian Constructors Association

by

ACCESS ECONOMICS



and

World Competitive Practices Pty Ltd

Canberra
August 1999

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1. Executive Summary

1.1. The study

Access Economics and World Competitive Practices Pty Ltd, have undertaken a study of the international competitiveness of the Australian construction industry. The study uses recently published data, compiled by the OECD, to compare Australia's performance with that of leading countries: Germany, Japan, Sweden, the USA and the UK.

The comparisons cover the whole of the construction sector (engineering construction, residential and non-residential building). The data are based on purchasing power parities, and are therefore genuine "like-with-like" comparisons. In most cases, the latest year is 1996.

1.2. The Australian construction industry's performance: key findings

According to the OECD data, on productivity, workforce effort and price to the customer, the Australian construction industry has been one of the best performers in the developed world.

Labour productivity is high (second only to the UK amongst the countries in the comparison).

Annual hours worked per construction employee are high (second only to the US).

Australia had the lowest construction output prices of any country in the sample (in 1993).

Construction prices were also low relative to other prices in the economy.

Compared to other countries, Australia has achieved high construction output through high productivity and employee effort, rather than through high absolute levels of employment

In the ten years to the mid 1990's, construction output (scaled by population) was second only to that of Japan. But construction employment (also scaled) was third lowest (well behind Japan, Germany and Sweden).

Australia's excellent productivity performance reflects: strong competition at all levels in the industry; flexible management structures and work organisation; a strong skill and technological base; strong international linkages; and flexible industry regulation.

In achieving its excellent performance by international standards, Australia has followed a path of: high productivity; high skills; long working hours; and high hourly wages.

Construction wage levels in Australia ranked second amongst the countries in the sample (behind those in Sweden). By international standards, Australian construction wages were also high compared to those in other industries.

Australia's excellent performance has been marred by a comparatively high level of industrial disputes in construction.

The number of days lost was well ahead of all other countries in the sample, except possibly Sweden.

1.3. Construction performance and industrial relations systems

The countries in the sample have widely differing industrial relation systems, nationally and in construction.

They differ in: the extent of regulation of trade unions and bargaining processes; and the role of collective representation and degree of centralisation in bargaining processes.

The two worst performers in terms of productivity and output price (Germany and Japan) have very different industrial relations systems: the one with centralised bargaining, the other site and company specific; the one with strong collective action, the other with strong mutual obligations between employer and employee.

While this is changing, both have a history of weak competitive pressures and limited flexibility – in the organisation of construction jobs, between service providers and in the construction workforce.

The three top performers (Australia, UK and USA) have in common strong competition between service providers and flexible organisation of construction jobs.

The UK and the US have weak collective representation of the workforce, as is the case in Australia for some parts of the industry. All three countries have a focus on site-specific negotiations (in two cases against a backdrop of national agreements, or national minima set by awards).

In the competitive context in which the Australian construction industry operates, the guaranteed role of unions and the high level of union membership have led to a comparatively high level of industrial disputation. This has been aggravated by moves to change the system, and the presence of multiple unions in the construction industry.

In the UK and the US industrial tensions have been contained by limiting the role of unions through legislation and the legal system.

Within their overall good performance, there are differences in outcomes between the US, UK and Australia. Labour productivity and construction wages are lower and hours worked longer in the US, than in Australia or the UK. This correlates with comparatively low levels of skill formation and a comparatively poor safety record in the US.

Performance differences reflect longer term differences in industry traditions and culture, as well as the current industrial relations and competitive environments in the various countries.

2. Introduction

In March 1999, the Australian Constructors Association commissioned Access Economics, in conjunction with World Competitive Practices Pty Ltd, to undertake a study of the international competitiveness of the Australian construction industry.

2.1. Methodology

The study broadly follows, and updates, an earlier study by McKinsey & Company, *Growth platforms for a competitive Australia*. That report, published in 1995, included a case study on the Australian construction industry. It compared Australia's productivity performance against leading countries such as the United States, Germany and France, using data compiled by the OECD, and found that productivity was high by world standards.

The present study is mainly based on recently published OECD industry data¹ that allow comparisons – in most cases- up to 1996. Additional information on industrial disputes is drawn from International Labour Organisation sources – updated, in the case of Australia from Australian Bureau of Statistics publications.

Importantly, the OECD comparisons² are based on purchasing power parity – that is, common bundles of construction output, or of the full range of goods and services produced in a developed economy. They therefore obey an important principle of international benchmarking: they are genuinely “like-with-like comparisons”.

An important addition to the earlier McKinsey study is a systematic attempt to link comparative industry performance across countries to differences in industrial relations regimes in the construction industry. It is not possible to undertake a quantitative analysis of this issue, given the limited number of countries in the sample. However, some notable insights do emerge, as a result of the wide variations in performance and IR regimes across countries.

¹ OECD *ISDB International Sectoral Database, Version 98.1*, Paris. The ISDB was created at the OECD as part of the continuing study of the industrial structure and economic performance in OECD member countries. It combines a range of data series, drawn from national and international sources, relating primarily to industrial output and primary factor inputs in OECD member countries.

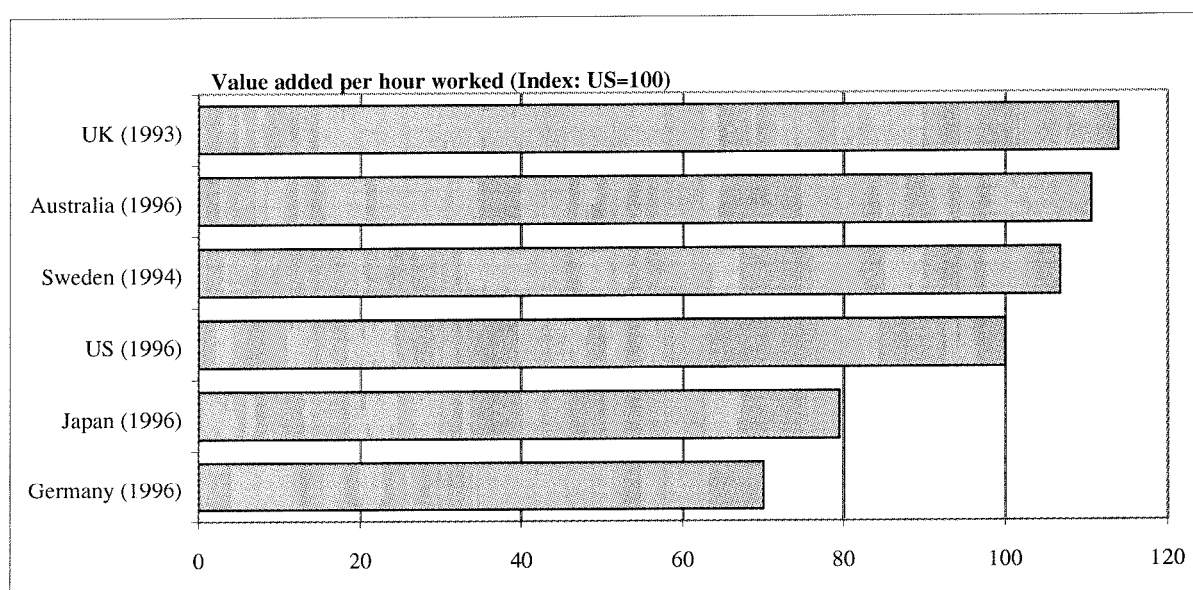
² Additional purchasing power parity comparisons were obtained from the OECD publication *Purchasing power parities and real expenditures 1993*, Paris

3. How does Australia compare with leading countries?

3.1. Labour productivity

According to the latest OECD data (for 1996) Australian labour productivity in construction³ is amongst the world's highest.

Figure 1: Labour productivity in Australian construction



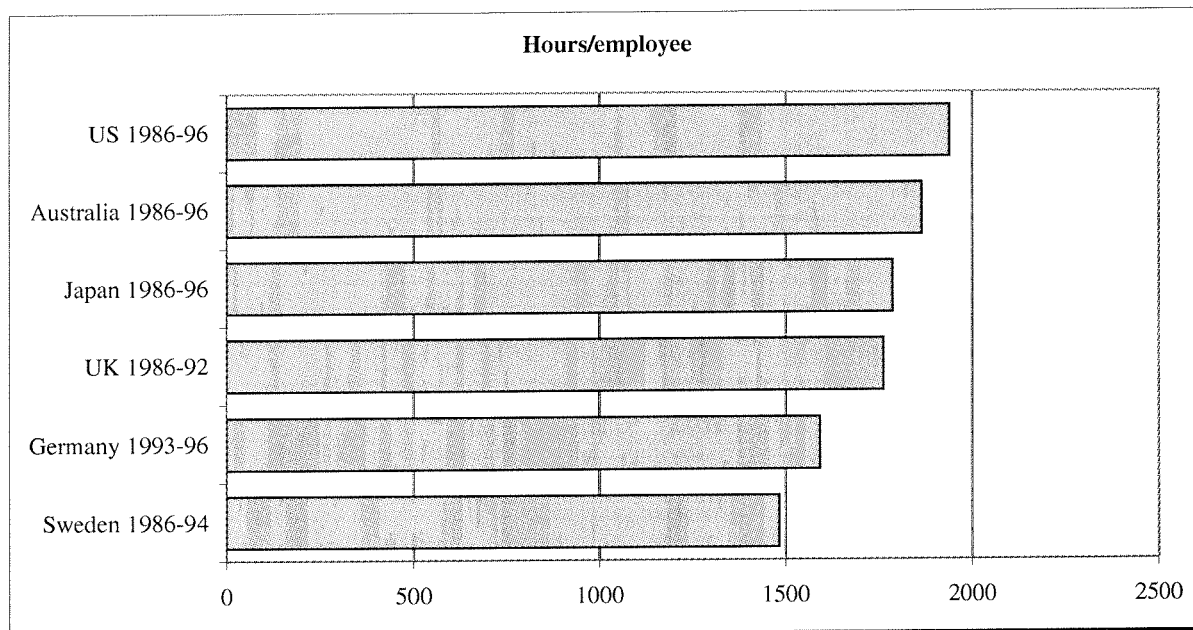
- Figure 1 shows *value added per hour* in construction for the latest available year in each country.
- *Value added* is defined as gross revenue from construction work less purchases of materials etc. Each country's value added is divided by total hours worked, and then converted to \$US, at purchasing power parity.
- On this basis, Australian labour productivity in construction ranked second amongst the countries in the sample.
- Productivity was about 3 percent less than in the UK, and about the same distance ahead of that in Sweden. Productivity was 10 percent above that in the US, and some 40 to 60 percent higher than in Japan and Germany⁴.

³ Construction covers residential and non-residential building, and engineering construction. In Australia in 1998, the value of work done on construction was almost A\$49 billion, of which new residential building contributed 34 percent, non-residential building 28 percent and engineering construction 37 percent. Alterations and additions to dwellings, which are often included in residential building, amounted to another \$3 billion.

⁴ The German estimates include East Germany.

Australia combined excellent productivity performance with a high annual commitment of hours per construction employee.

Figure 2: Annual hours worked per construction employee

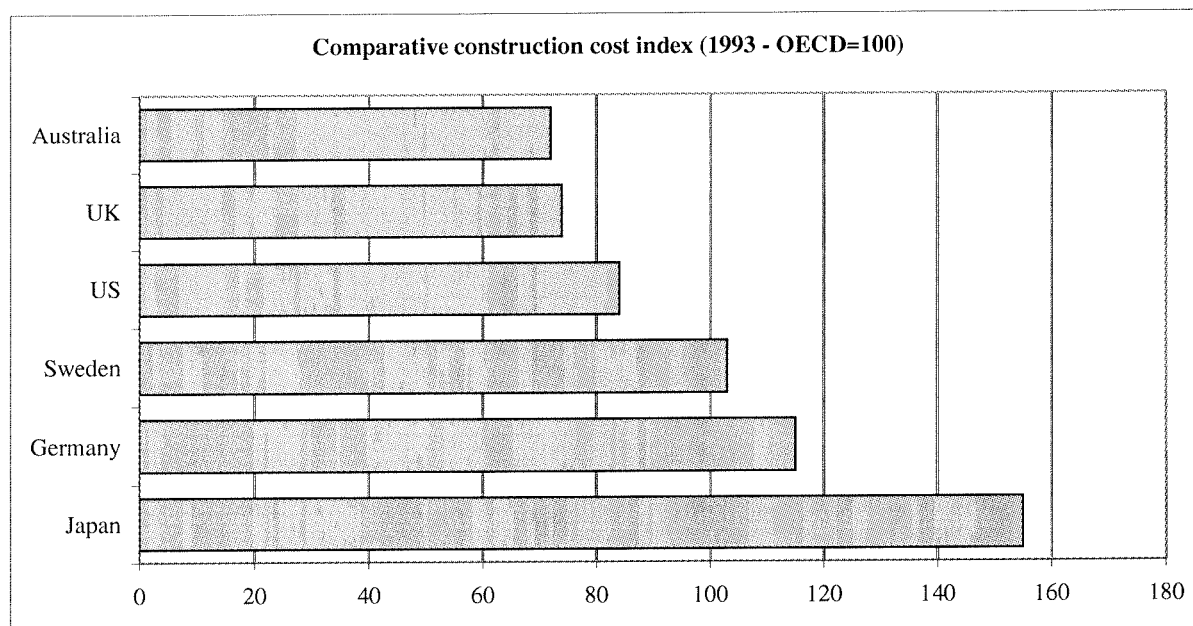


- Australian construction employees worked an average of 1866 hours a year in the decade to 1996.
- Annual hours per construction employee were second only to those in the US (1840 hours).
- Australian annual hours were 4-5 percent longer than those in Japan and the UK, and 15-20 percent ahead of those in Germany and Sweden.

3.2. Construction prices

Overall construction prices in Australia are very competitive – (though the information is a little dated).

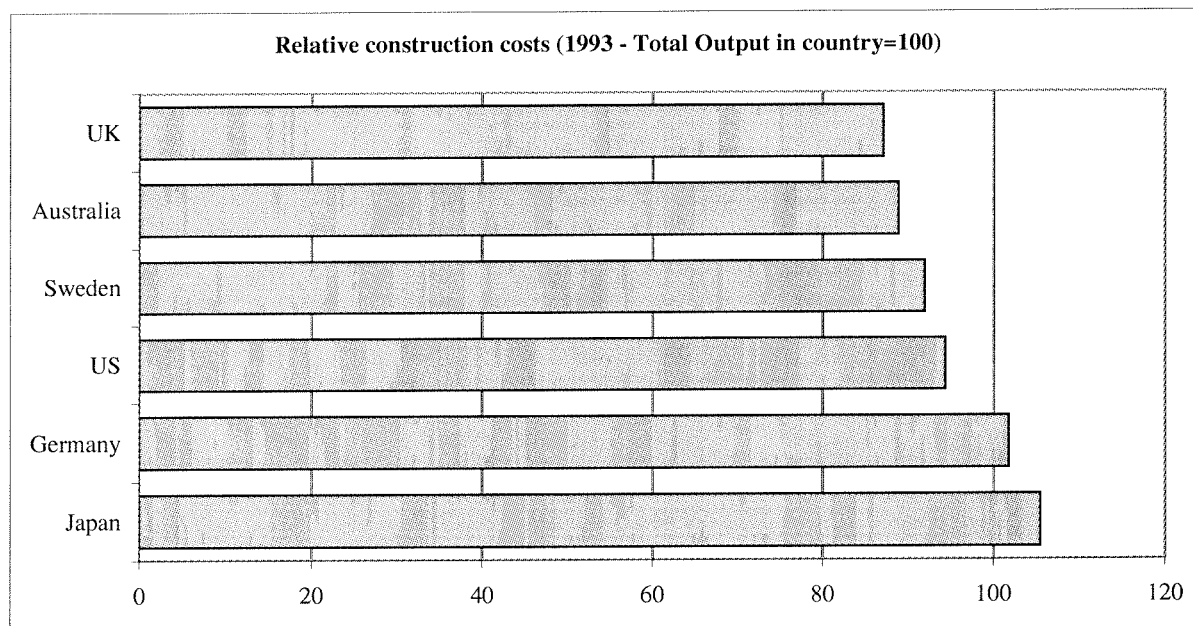
Figure 3: International comparison of construction prices



- Figure 3 shows the cost of construction in each country in 1993 (latest available OECD data), converted to \$US using construction purchasing power parities, and expressed as a ratio to the OECD average.
- Australia had the cheapest cost of construction, 18 percent below the OECD average.
- Costs of construction in the UK and US were also below the OECD average. Costs in Germany and Japan were well above the average.

Australia also had nearly the cheapest construction prices, compared to other prices in the economy, in 1993.

Figure 4: Construction prices relative to other prices in the economy



- Figure 4 shows the cost of construction relative to cost of overall output in each country, where both costs are measured against OECD averages.
- In Australia, compared to the OECD average, construction costs were 11 percent below the cost of overall output in 1993.
- On this measure, only the UK performed better than Australia (just 2 percentage points ahead). Sweden and the US also had construction costs below the cost of overall output. Construction costs were relatively high in Germany and Japan.

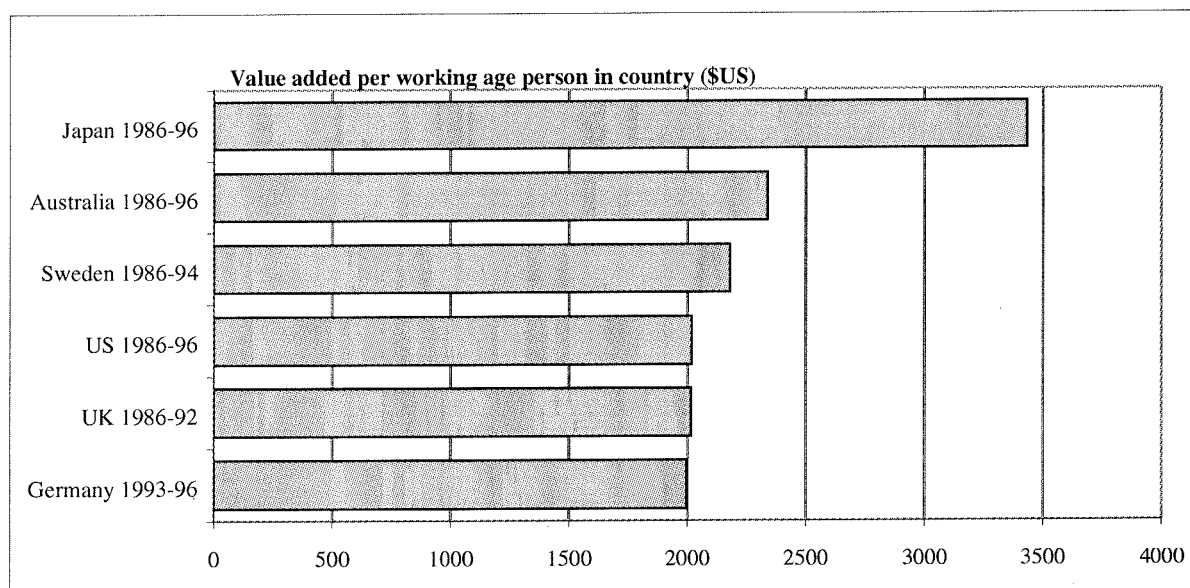
To summarise:

Based on the latest data from the OECD: on productivity, workforce effort and price to the customer, the Australian construction industry is one of the best performers in the developed world.

3.3. Construction output and employment

Australia has had a high level of construction output compared to most other countries in the sample.

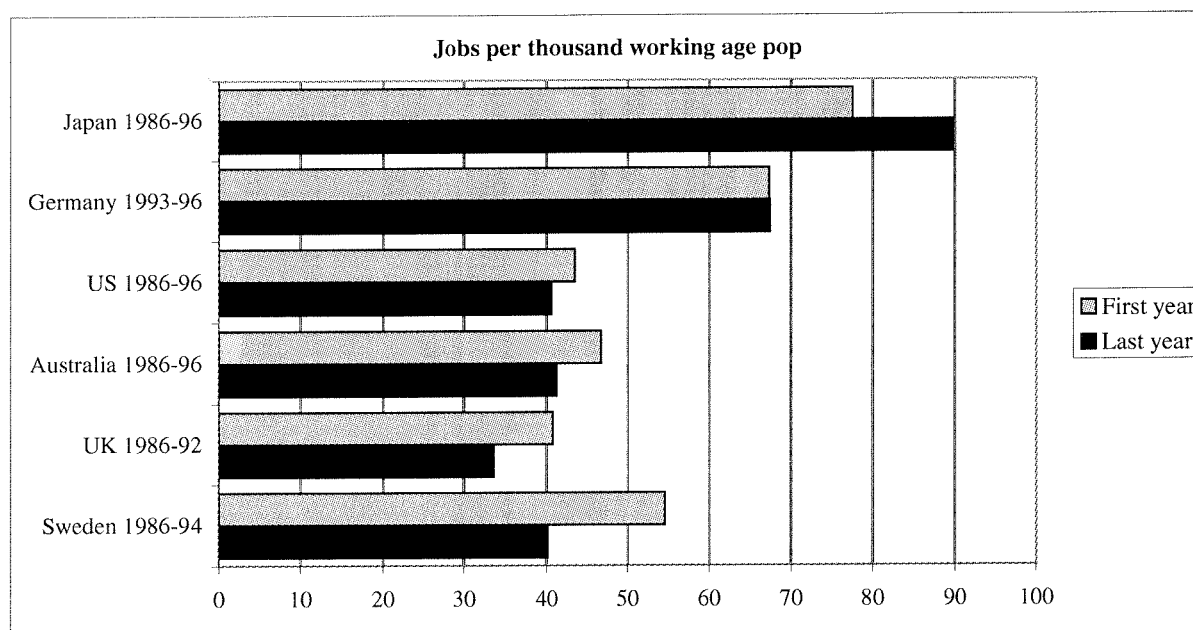
Figure 5: Construction output relative to working age population



- Figure 5 shows construction output valued in \$US in each country. To allow for the differing sizes of the countries, the value of output is divided by working-age population in each case.
- On this basis, Australia produced more construction output in the decade to 1996 than most of the other countries in the sample
- The only country with a higher rate of construction output was Japan, whose construction output per capita was nearly 50 percent higher than in Australia – and 70 percent above the level in the US and the UK. Construction forms a large part of government expenditure in Japan, and has been used to offset weakness elsewhere in the economy.

Reflecting high labour productivity and long average working hours in construction, Australia achieved a high rate of construction output without a correspondingly high rate of employment in construction

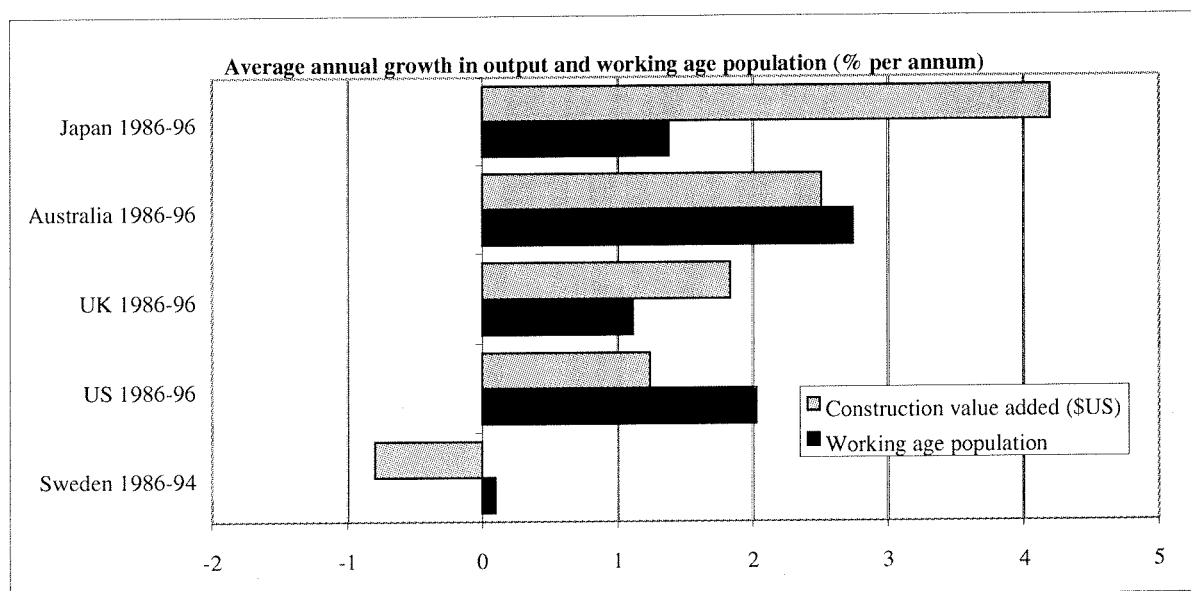
Figure 6: Construction employment per thousand working age population



- Figure 6 shows the proportion of the working-age population employed in construction in each of the countries.
- The proportion was highest in Japan (rising to almost 90 per thousand of working-age population by 1996), reflecting the exceptionally high level of construction output, and low labour productivity in construction (as shown in Figure 1).
- The proportion was low in the UK and the US, which had low levels of construction output – but low also in Australia (41.6 per thousand), despite a higher level of construction output in this country.
- The low share of construction employment in Australia is consistent with high levels of labour productivity and long average annual hours worked by construction workers, compared to most other countries.
- Germany also had high levels of construction employment, but low levels of construction output (Figure 5) – reflecting low labour productivity and low annual working hours.

Australian construction output grew more strongly than in most other countries in the sample over the past decade – keeping pace with the comparatively strong growth in the working-age population.

Figure 7: Growth in construction output and working age population



- Figure 7 shows average growth rates of construction output and working-age population in the decade to 1996.
- Again Japan was at one extreme, with very strong growth in construction output relative to population.
- Australian construction output and working-age population both grew at a comparatively strong 2.5 to 2.7 percent per annum.
- Sweden experienced a fall in construction output, and scarcely any growth in population.

Unlike Japan, Australia achieved strong growth in construction output without a corresponding increase in the proportion of the working age population employed in construction.

4. What is driving Australia's excellent productivity performance?

4.1. Industry views

We sought views from industry leaders on what was driving the industry's excellent productivity performance. The responses were as follows.

Intense competition drives the quest for efficiency

"Competition is a way of life in the Australian construction scene. The market is relatively small, the barriers to entry for new players are low and competition from overseas companies is unrestrained. There is no protection for Australian construction companies and projects are won on the ability to satisfy a client's needs. Collusive tendering, government props and crony deals do not shield the Australian industry. We grow and prosper on our ability to learn new skills and hone old ones."

"Intense competition has led to reductions in costs due to design refinements and construction methodology on a project by project basis. The downside has been the reduction in research and development personnel being employed by companies which were directed toward improving productivity across the whole of company activities."

The construction environment is changing

"Organisation and management of Australian construction projects is changing through:

- allocation of risk to the party best equipped to manage it;
- packaging of work to suit industry capabilities and resources;
- increasing size and complexity of projects – and longer periods in turning an opportunity into a project;
- projects subject to increasing legal, environmental and community constraints – with specialist staff being developed and employed to establish processes and handle implementation on these issues."

Leading-edge management skills

"Australian education and respect for learning drives our management skills to be leading edge. The desire to learn, to experience and to seek knowledge from others is an Australian characteristic which is paying dividends in Australian management. The nation has a great pride in its construction achievements and high calibre young people are drawn to the industry. Today we see many of our brightest young people turning to engineering or construction as their chosen profession. The leaders of our major construction companies are seen as business and community leaders – they have a reputation and a recognised responsibility to promote and maintain our managerial leadership."

"Teamwork is essential in any successful project. Experienced and competent staff will enhance project performance."

Industry views (continued)

Choice of project vehicle

“Finding the most appropriate delivery vehicle for a project will give contractors and their clients the most competitive management approach and maximise the opportunities for value added. This is a projects and relationships issue. The improvements have to be demanded by all parties.

The ACA report on ‘Relationship Contracting’ recognises the need for innovation and alternative project delivery and proposes a model for determining the most appropriate delivery vehicle for a project. Case studies of three recent major Australian projects are presented.”

The sub-contract system

“The industry requires a huge range of specialist skills. In Australia, these skills are applied under intense and continual competition through the sub-contracting system. Rather than developing and retaining intermittently used specialist skills in each competing construction company, the industry shares the skills of a number of sub-contractors. In this way efficient usage of skills is possible and a ‘cross-industry’ development and refinement of those skills is facilitated.”

“The sub-contract system employed in the building industry has encouraged specialisation. The benefits achieved in applying new techniques and products are transferred from one project to another across company boundaries. The learning curve on many trades has effectively been eliminated. The sub-contract system has not been applied so successfully in the heavy industry and civil works side of the industry to the same degree. This is mainly due to the risks involved and the magnitude of the sections of the work inherent in the contracts. To some degree this is due to the form of contracts now being used by government agencies whereby all risk is passed on to the contractor.”

“The sub-contracting system enables projects to obtain suitable expertise and resources at the time they are required on site. The risk is allocated to the party best able to deal with it – the specialist sub-contractor. Some disadvantages exist, for example in ensuring standards are maintained in areas such as training, safety and environmental management. Recognising this, the company has established systems and processes to include all site employees in these processes.”

“High productivity and output are achievable where the head contractor can assist sub-contractors to manage and organise their resources.”

The focus is on self regulation

“Standards in the Australian construction industry are maintained through evolving industry standards, an imperative to satisfy and exceed client requirements, a need to survive in an open competitive environment which demands quality and superior performance, a moral demand to serve and protect our people and our community, and of course some industry regulation. But industry regulation in Australia serves as a guide rather than a restriction.”

“Self regulation has succeeded in the major construction companies. Safety is a good example where the need to operate at the highest standard is dictated by the market. The majority of companies strive to exceed community and regulatory expectations, not only to ensure safe working conditions for employees, but also to gain competitive advantage with safety conscious clients.”

“There is increased reliance on self regulation in many areas, including safety, environmental management and human relations. The group has developed appropriate systems conforming to relevant ISO Standards to ensure that obligations are met and appropriate standards enforced on all sites that it operates.”

Industry views (continued)*A strong technology base built on international linkages*

“The techniques and practices of the Australian construction industry are equal to the best in the world. There is an eager exchange of knowledge with the industry outside of Australia and the introduction of the latest technology into Australian projects is a sure way to maintain the all important competitive edge. Australia has had the opportunity to lead the world in some areas, for example in heavy haul railways, in hard rock mining and in water treatment. In others it has embraced and refined the latest technology as applications have arisen, for example in systems building, tunnelling and bridge construction.”

“Within large contractors there exist many examples of the use of technology and innovation to solve problems and to improve project delivery and outcomes. New technology has been introduced in major projects. The Eastern Distributor project featured many innovations in solid rock design. These included the world’s first piggy back tunnel with the upper carriageway carried on pre-stressed planks and the world’s widest tunnel span in a road tunnel (exceeds 24 metres).

The Wandoo B Offshore Oil Platform in the North West Shelf of Western Australia is an example of bringing together a number of design and construction technologies from overseas, and delivering them through an innovative project alliance structure. The members of the alliance were linked through IT, sharing common data transfer and design capability, and enabling designs to be generated in Australia, checked in UK and translated into workshop fabrication drawings in Singapore.

Australian construction has always featured innovation in the area of prefabrication and off-site assembly as a means of more efficient construction. The Olympic Dam Expansion Project at Roxby Downs in South Australia utilised large scale prefabrication of steel structures, switchrooms, pipebridges and pipework off site in Port Augusta, and then transporting complete modules by road the 260 kilometres for installation on site.”

4.2. Reasons for the excellent productivity performance

To summarise, the construction industry is one of Australia's most effective industry clusters:

- *customers are themselves subject to strong competition, and therefore impose stringent demands for performance on time, cost, quality and the apportionment of risk;*
- *intense competition at all levels in the industry drives the continuing quest for improvements in product and production technology, cost reduction and management practices;*
- *the sub-contract system reaps the advantages of specialisation, combined with flexible deployment to meet project requirements;*
- *project and construction management firms bring leading-edge management skills to jobs of every size and complexity – fostering team work;*
- *the industry has a strong skill and technological base, and an emphasis on education and skill formation;*
- *international linkages at many levels allow rapid inflows of new design concepts, technologies, and management and financing practices. Prefabricated construction technologies have become widespread in recent years;*
- *industry regulation has become more flexible in the past decade. It maintains community standards of health, safety and amenity – without adding unnecessarily to costs or stifling innovation.*

Australia's excellent overall productivity and price performance reflects high levels of achievement in all the main sectors of the industry:

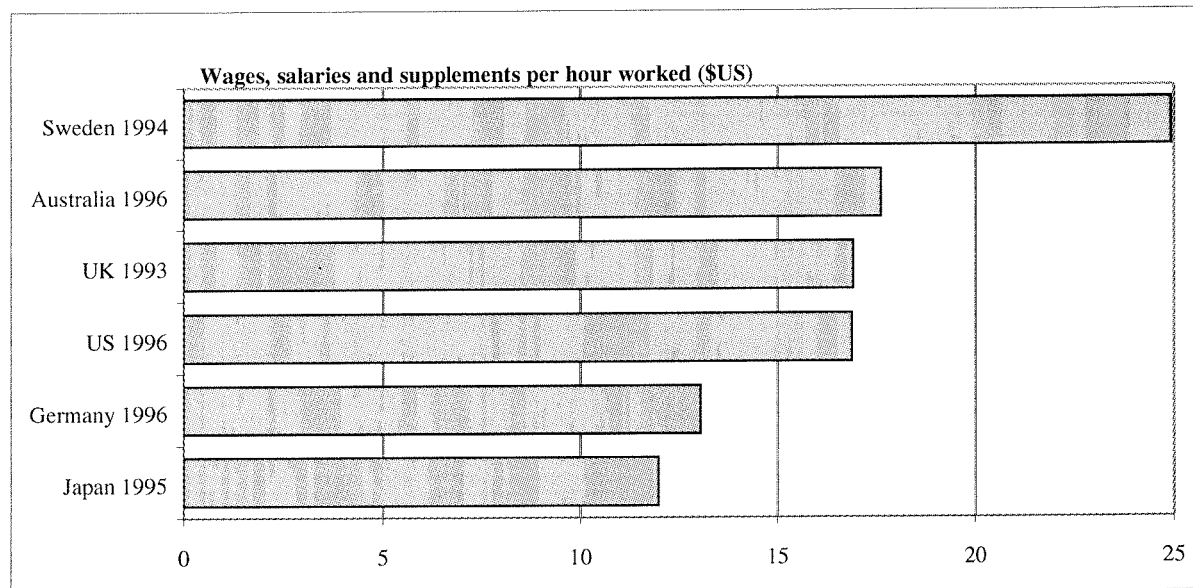
- *residential and non-residential building, and*
- *engineering construction.*

4.3. Labour costs

While productivity is high:

Construction wage levels are also comparatively high in Australia.

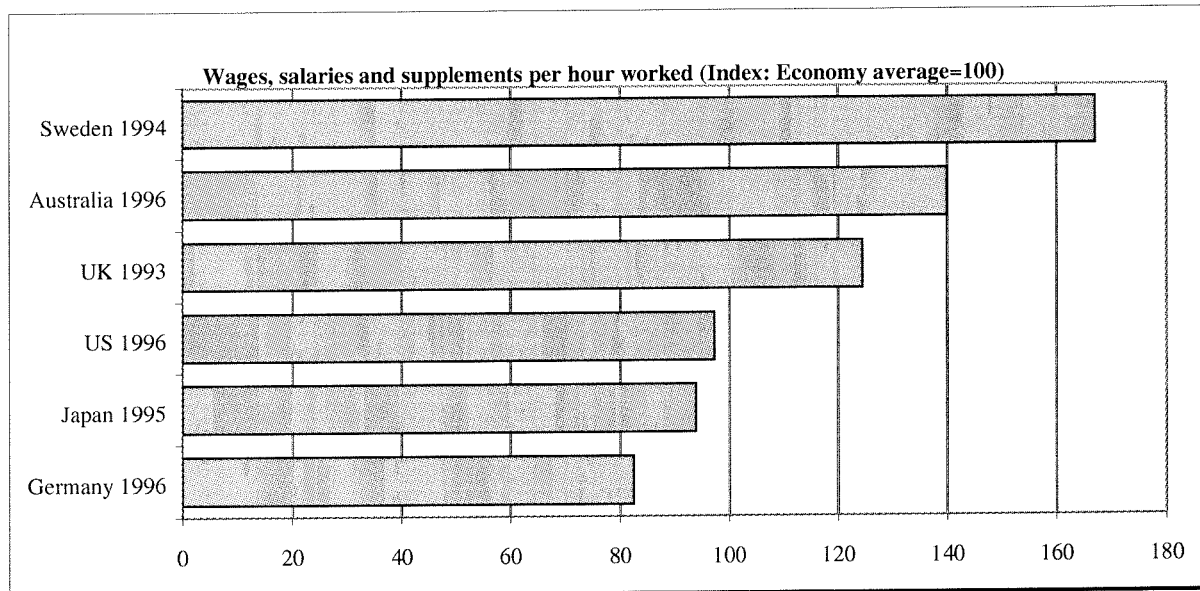
Figure 8: Labour cost per hour worked (purchasing power parity)



- Figure 8 shows average wage levels in construction, measured in terms of their purchasing power in \$US.
- Australian construction wages ranked second amongst the countries in our comparison (behind those in Sweden). Australian construction wages were very similar to those in the UK and the US, but ahead of wages in Germany and Japan.

Australian construction wage rates were also high compared to those in other industries.

Figure 9: Wages per hour relative to other industries



- Figure 9 shows construction hourly wage rates relative to the economy-wide average in each country.
- In 1996, Australian hourly construction wages were 40 percent above the average across all industries.
- Sweden and the UK also had relatively high wages in construction. In the US, Japan and Germany, average construction wages were below the average in all industries.

In achieving its excellent construction performance by international standards, Australia has followed a path of:

high productivity;

high skills;

high number of working hours and

high hourly wages.

Industry views (continued)*Workforce organisation*

“We still have some way to go, but the organisation of labour in Australia supports our drive to be internationally competitive. The workforce is well educated and training is recognised as a major contributor to productivity – whether it be in construction techniques, trade skills or safety. The development, maintenance and support of a skilled workforce is recognised as a task of prime importance by all our construction companies.”

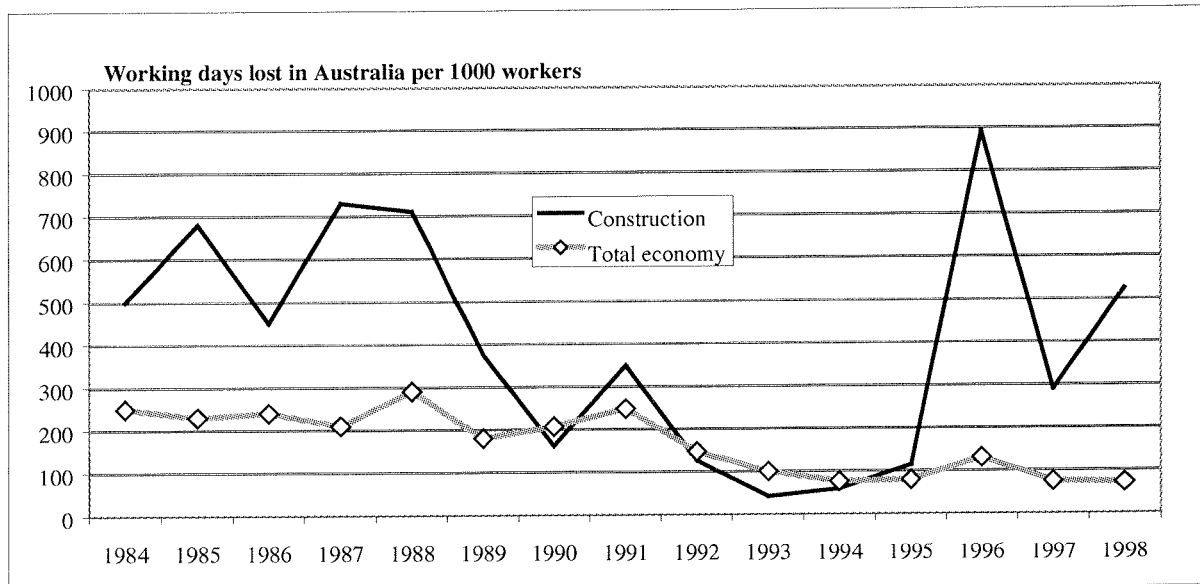
Skills, hours worked and wage levels

“The link between productivity, skills, working hours and hourly wages is complex. The use of long working hours as a means of increasing take home pay, to reduce the number of employees and to provide flexibility on the project with regard to maintaining schedules has been an integral part of the industry for years. It has been a successful strategy and encouraged good productivity and the selection of skilled personnel.”

4.4. Industrial disputes

Australia's excellent performance has been marred by a comparatively high level of industrial disputes in construction.

Figure 10: Days lost due to industrial disputes; per thousand workers

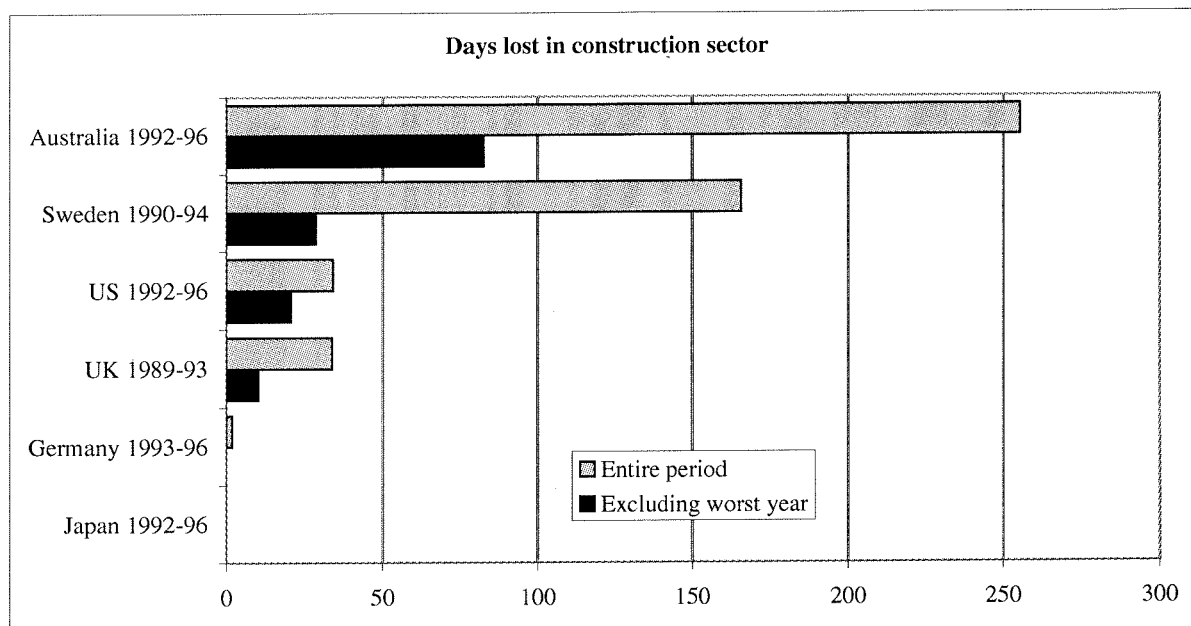


Source: Australian Bureau of Statistics

- Figure 10 shows average days lost in Australia to industrial disputes per thousand workers, in construction and in all industries.
- The level of disputation increased sharply in 1996 after four good years. The rise was due to a long-running dispute in which workers sought pay rises to compensate for the federal government's decision to remove a tax exemption on travel allowances.
- The number of days lost fell sharply in 1997, but rose somewhat in 1998.

The level of industrial disputes in construction in Australia is higher than in other countries in the sample.

Figure 11: Days lost due to industrial disputes, per thousand workers



Source: International Labour Organisation

- Figure 11 shows the average days lost to industrial disputes in Australia and other countries.
- The number of days lost in Australia was well ahead of the other countries in our comparison, except perhaps Sweden.
- Although the figures for industrial dispute are not as good as in other Australian industries or in the overseas comparisons, the overall number of days lost is still quite low in absolute terms.

A comparatively high level of industrial disputes has not been sufficient to dent the Australian industry's otherwise excellent performance by international standards. Nevertheless there is still scope to improve the industry's performance in relation to industrial dispute.

5. Construction performance and industrial relations systems

We seek in this section to answer the question: “what is the relationship between international differences in construction industry performance and the differences in the approach to industrial relations in the industry?”

5.1. Industrial relations systems in the selected countries

The six countries examined represent a broad spectrum of industrial relations systems – summarised in Appendix A:

- In **Australia**, regulatory authorities with interventionist statutory roles administer minimum employment conditions, supervise collective and individual bargaining and regulate trade union affairs.
- In the **UK**, there is high degree of regulation of trade union activities but largely unregulated bargaining.
- In the **US**, there is legalistic supervision of bargaining processes but little concern for the structure of bargaining or the regulation of bargaining outcomes.
- The **Japanese** system has similarities to that of the US, but is underpinned by lifetime employment and seniority arrangements in the larger corporate sector.
- **Germany** and **Sweden** give strong statutory support for (A) highly centralised national and industry level collective bargaining and (B) collective representation at the enterprise level.

5.1.1. Industrial relations in the construction industry

Industrial relations in the construction industry in the six countries reflects the underlying characteristics of the industrial relations systems.

The structure of bargaining is relatively centralised in European building and construction, including at least to some extent, the UK. Particularly in Germany and Sweden, national and industry level bargaining exerts considerable influence on site industrial relations.

In contrast, bargaining in the Pacific Rim countries is much more strongly site oriented, with little national or industry level bargaining exerting an overarching influence.

The impact of formal industrial relations systems is muted in Australia and the US by the high level of self-employment and small business participation, particularly in the residential building sector. This is less of a factor in Japan and continental Europe, where land availability is a constraint on residential development, and much building is higher density.

In most of the countries examined, large-firm, non-residential, CBD building and construction is more likely to be organised for industrial relations purposes than small firm, residential, non-CBD activity.

6. Industrial relations systems and construction industry performance

To highlight the possible relationships between industrial relations systems and construction sector performance, we first summarise key dimensions in Table 1 and Table 2.

Table 1: Construction performance ranking

	Output price	Labour productivity	Hours worked	Construction wage	Industrial disputes	
High	Japan	UK	US	Sweden	Australia	
		Australia	Australia		Sweden	
	Germany	Sweden	Japan	Australia	US	
	Sweden	US	UK			UK
			Germany			US
	US	Japan	Sweden	Germany	Germany	
			Sweden			
Low	UK	Germany	Japan	Japan		
	Australia	Japan	Japan	Japan		

Comparing the rankings in Table 1 and Table 2 it appears that:

1. the three top-performing countries (Australia, UK and US) have low construction prices, high labour productivity and moderate construction wages. One country (Sweden) has high labour productivity, combined with high construction wages and a high output price. The other two countries (Germany and Japan) have high output prices, low labour productivity and low construction wages;
2. the two worst performers (Germany and Japan) have very different industrial relations systems: the one with centralised bargaining, the other site and company specific; the one with strong collective action, the other with strong mutual obligations between employer and employee. What they have in common is weak competitive pressures and limited flexibility – in the organisation of construction jobs, between service providers and in the construction workforce. There are signs, however, of increasing competitive pressures, particularly in Germany as a result of reduced barriers to cross-border competition;
3. the middle ranking country (Sweden) has used centralised bargaining and collective representation to achieve high construction wages and labour productivity, but at a cost of comparatively high prices for construction output, and a comparatively poor industrial relations record. The Swedish performance contrasts with that of Germany, which has a similar industrial relations system;

Table 2: Industrial relations dimensions

Bargaining process	Collective representation	Sub-contract system
<u>Centralised</u>	<u>Strong role</u>	<u>Strong role</u>
Germany	Germany	Australia
Sweden	Sweden	UK
UK (to some extent)	Australia (except residential)	US
<u>Site-specific</u>	<u>Weaker role</u>	<u>Weaker role</u>
Japan	UK	Japan
Australia	US	Germany
US	<u>Lifetime employment</u>	Sweden
	Japan	

4. the three top-performing countries (Australia, UK and US) have in common strong competition between service providers and flexible organisation of construction jobs. The UK and US have weak collective representation of the workforce, as is the case in Australia for some parts of the industry. All have a focus on site-specific negotiation (in two cases against a backdrop of national agreements or national minima set by awards. In Australia, site-specific negotiations are appropriate in current circumstances, given that construction contractors bear the industrial relations risk in project agreements;
5. in Australia and the US there are tensions between unionised and non-unionised portions of the industry. In Australia's case tensions over the guaranteed role of unions, and pressures to change the system, have led to comparatively high levels of industrial disputation. A current source of friction in Australia is the increasing activity of labour hire companies, that is challenging unions in some of their traditional relationships with workers. Tensions are also aggravated by the presence of multiple unions on construction sites. In the US and the UK tensions have been contained by limiting the role of unions through legislation and the legal system;
6. within their overall good performance, there are differences also in outcomes between the US, UK and Australia. Labour productivity and construction wages are lower and hours worked higher in the US, than in Australia or UK. This correlates with comparatively low levels of skill formation and a comparatively poor safety record in the US.
7. Performance differences reflect not only the current industrial relations and competitive environments in the various countries, but also longer term differences in the industry traditions and culture. In Australia, the contribution of industrial relations to performance is most evident in the commitment to occupational health and safety; to high levels of skill (and high pay); and to the ability to combine direct labour with sub-contract and labour – hire labour. However, this has come at a cost, in terms of a traditionally comparatively high level of industrial disputation.

Industry comment*Industrial relations management*

“Projects are effectively managed in the Australian industrial relations environment through people management and personal involvement. The Australian workforce is educated, capable, forthright and well represented. Management enrolls the workforce in project issues such as safety, the environment and productivity, often with incentives to support project objectives. A respected and appropriately managed Australian workforce is second to none in productivity, commitment and innovation.”

“Industrial relations has been managed firstly through the Enterprise Bargaining Agreement framework for each company and then at site level for specific matters such as site allowances and day to day issues. The EBAs have been for periods of 2 or 3 years and have been relatively successful in sustaining a manageable industrial relations environment. Most significant industrial action has been a product of government or client actions which lead to the unions to seek to defend their position. Action directed at contractors arises primarily from individual projects that are managed at that level.”

“Techniques used to manage industrial relations effectively include:

- requiring all contractors to advise the head contractor of all persons coming on to site in advance of their commencement;
- comprehensive induction of all labour before they commence on site, including verification of their skills and qualifications (tickets) and clearly explaining the details of the site and the project;
- packaging work in manageable packages so that sub-contractors do not have to employ additional labour to complete their responsibilities. Ideally a site workforce of up to 30 should be aimed for. Few sub-contractors have a core workforce of more than 30;
- design to incorporate any special requirements for IR or safety or environmental management.”

“The management of industrial relations is not helped by governments and clients trying to force reform without accepting industrial risk themselves. If the client bodies wish contractors to take all risk then they must stand aside once they have set legal boundaries. The alternative is to share in the risk of industrial action and costs, and then be involved in the industrial relations management process. Forcing reform and expecting others to absorb the cost is shortsighted; it will not obtain the optimum result.”

7. Appendix A: INDUSTRIAL RELATIONS REGIMES IN SELECTED COUNTRIES

	Australia	UK	USA	Germany	Sweden	Japan
Main sources of regulation	The Australian Constitution; Federal laws on industrial relations and trade practices	National legislation on union activity, internal affairs and bargaining practices; common law	The US Constitution; Federal laws on industrial relations; minimum wage laws	Federal laws on worker representation, co-determination and bargaining practices	Laws on worker representation, co-determination and bargaining practices	The Japanese Constitution and national laws on collective bargaining and trade unions
General nature of IR system	Prevents and settles industrial disputes and sets minimum wages and conditions, in some cases by compulsory arbitration; regulates voluntary collective and individual bargaining, activities of trade unions and employers and individual rights	Non-enforceable or common law voluntary and individual bargaining underpinned by minimum wage laws and laws on procedural aspects of bargaining and individual rights	Provides for workers in an enterprise to vote by majority to be represented exclusively by a union with whom the enterprise must then bargain collectively in good faith; regulates representation activities, unfair labour practices and collective bargaining	Centralised collective bargaining through multi-industry unions combined with a statutory system of labour representation through autonomous works councils formed separately from unions	Centralised collective bargaining at the national and industry level combined with a statutory system of employee representation through unions at the enterprise level	Collective bargaining for legally binding collective agreements. Regulation of unfair labour practices. Enterprise employment relations characterised by lifetime employment and seniority based pay and promotion

	Australia	UK	USA	Germany	Sweden	Japan
Regulatory machinery	An independent, tribunal for dispute settlement and for supervising collective bargaining; a statutory office holder supervises individual bargaining and rights; courts enforce awards and agreements and individual and collective rights	An independent statutory body provides conciliation services. One party may request the dispute be referred to arbitration. Industrial action must be preceded by secret ballot.	An independent statutory body supervises representations and elections and determines whether unions or employers engage in unfair labour practices; courts enforce agreements	Parties to a collective bargaining agreement can stipulate settlement by an arbitration board. The final decision by the board is enforceable by the Labour Court. The Court jurisdiction is compulsory in all other labour disputes. eg individual complaints	Government has a limited role in settling disputes. "Rights" disputes which are normally referred to National Labour Court.	Tripartite labour relations commissions adjudicate unfair labour practices, settle disputes, give recognition to trade unions and decide whether to extend the coverage of collective agreements
Minimum employment conditions	Established by comprehensive awards, frequently on an industry basis, made by the tribunal using powers of compulsory arbitration	Minimum wage laws introduced recently	Established by collective agreements or otherwise by minimum wage laws. There are few laws on minimum employment conditions	Minimum wages vary in different labour agreements. Extensive legislation of other minimum entitlements exists.	Minimum pay established by collective agreements. Extensive legislation of other minimum entitlements exists.	Minimum standards are legislated. Employees are entitled to report violations. The working week has been reduced, but change has been slow.

	Australia	UK	USA	Germany	Sweden	Japan
Bargaining characteristics	Enterprise based collective bargaining involving unions but with some non-union collective bargaining and considerable individual bargaining, either formal or informal.	About 50% of employees covered by single enterprise collective bargains with the remainder under individual contracts of employment	Enterprise based collective bargaining combined with unregulated individual employment arrangements	National industry level collective bargaining between each of 16 multi-industry unions (following the lead of IG Metall) and one of two highly coordinated business federations. The government may extend collective agreements to non-members of the federations	Bargaining between national trade union and employer organisations for “basic agreements” are adapted at industry and enterprise levels by industry unions and industry associations and individual enterprises and relevant unions	Heavily enterprise based collective bargaining in the context of centrally managed national bargaining “offensives”.

Regulation of bargaining	Australia	UK	USA	Germany	Sweden	Japan
	Unions, employees and employers are permitted to take industrial action against each other in some circumstances during collective bargaining. Most other industrial action is unlawful and subject to legal remedies. Secondary action is unlawful.	Industrial action not immune from damages claims or in circumstances in which procedural and other requirements not followed (eg secret ballots before industrial action, seven days notice). Secondary action, including picketing, is proscribed.	Much employee action to establish representation and in bargaining is protected. Some lockouts are lawful. Bargaining in good faith is required. Strikes during the life of an agreement are usually unprotected.	Government establishes the general framework for bargaining but not outcomes. Various laws on the circumstances in which unions may strike and employers lockout.	Laws establish the right of unions to reach enterprise level agreements and require information sharing. Industrial action is only permitted when contracts do not exist. Secondary action is permitted. Industrial action is not permitted in “rights” disputes.	Extensive right to strike, but not on political matters or before bargaining demands are made. Employers are required to bargain in good faith with the unions representing employees

	Australia	UK	USA	Germany	Sweden	Japan
Unionism	<p>Union coverage for bargaining purposes is established administratively. Substantial regulation of internal union affairs</p>	<p>Union recognition for bargaining purposes depends on employee support and employer willingness to recognise. Previous assistance to unions, to achieve recognition for bargaining has been removed.</p>	<p>Representation elections establish exclusive union coverage for bargaining purposes</p>	<p>Any workplace with more than 5 employees is entitled to elect a works council to represent employees in consultation on plant issues, especially hiring, firing overtime and payment systems. At company level, large firms and the coal and steel industries have worker representatives on boards.</p>	<p>Unions are predominantly organised on an industrial basis with one union for each company or site. Unions can collectively bargain in the private sector. Unionism is extremely concentrated with 90% blue and 80% white collar covered. Unions provide extensive support for the Social Democratic Party which has dominated Government.</p>	<p>Representation elections but without provision for exclusive bargaining units or exclusion of minority unions. Unions are enterprise based, either as stand alone unions or as branches of enterprise-wide federations. Unions are accorded the right to bargain collectively</p>

	Australia	UK	USA	Germany	Sweden	Japan
Individual rights	A range of prohibitions protects individuals from coercion, including from discrimination in relation to membership of trade unions	Union members able to pursue complaints against unions; unions cannot discipline members for refusing to participate in industrial action; closed shops unlawful; periodic authorisation of union dues required; secret ballots for union elections and for authorising political donations	Individual rights protected by various laws (eg employment discrimination) and through regulation of unfair labour practices	Individual rights are extensive and strong anti discrimination laws exist. An employee may not be disadvantaged as a result of membership or non-membership of a union.	Individual rights are extensive and strong anti discrimination laws exist. There is no legal right for anyone to stand outside a trade union but a worker cannot be dismissed for not belonging to a union.	Trade union law protects workers from discrimination on the grounds of union membership and activities

	Australia	UK	USA	Germany	Sweden	Japan
Construction Industry	<p>Self employed persons or small builders/ contractors often carry out residential construction.</p> <p>Non-residential construction is mainly carried out by head contractors and sub-contractors.</p> <p>Collective bargaining is organised at site level where common employment conditions often apply to all contractors and sub-contractors.</p> <p>Increasing stability in direct employment combined with rising labour hire. Multiple unionism</p>	<p>Many small firms/contractors with a few very large businesses.</p> <p>Working Rule Agreement which guarantees minimum wages and provides a base rate, skill allowances and a productivity bonus.</p> <p>Conciliation panels are used to settle grievances</p>	<p>Employer is obligated to recognise a certified union for 1 year.</p> <p>70% of collective agreements in the construction industry contain arbitration clauses compared with 95% of collective agreements generally.</p> <p>Grievance arbitration is usually available at the request of only one party to a collective agreement.</p> <p>Non union construction work is spreading, especially in the south.</p>	<p>National collective agreement generally valid for all of Germany.</p> <p>Agreements last one year for wages and four for conditions.</p> <p>Wages are structured by skill and responsibility levels with the same pay for all employees at specified levels regardless of trade.</p> <p>Sub-contracting is growing accounting for between 20-40% of work done.</p>	<p>Similar to Germany</p>	<p>Predominance of small companies with low rates of pay.</p> <p>Ministry of Construction controls large contracts and is responsible for dispute resolution.</p> <p>The ratio of public to private construction is 1:2</p> <p>50% of private construction is residential.</p> <p>Contracts less adversarial and based on long-term trust relationships.</p>

	Australia	UK	USA	Germany	Sweden	Japan
Comment	The system has undergone major reforms in the last fifteen years. The principal purpose of the reforms has been to encourage greater productivity in enterprises by reducing the role of the tribunal	Major change in law and practice over the last fifteen years with a decline of multi-employer bargaining and stricter regulation of trade union activity	The US industrial relations system is a largely settled system with institutional change being driven mainly by individual rights laws and litigation	Partial decentralisation of bargaining since the 1980s as German industry restructured.	Change of Government in 1976 led to change, accentuated by biggest ever industrial dispute in 1980. Economic pressures contributed to change.	Economic pressures have been driving changes to the traditional heavy investment in firms' internal labour markets