State of Play

The Australian Construction Industry in 2008

November 2008

AUSTRALIAN CONSTRUCTORS ASSOCIATION

AUSTRALIAN INDUSTRY GROUP

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Preface

The Australian Industry Group is pleased to be working with the Australian Constructors Association (ACA) on this important report. Engineering and commercial construction are key activities in the Australian economy, and critical to the membership of both Ai Group and ACA.

The fortunes of the construction sector play a vital role in determining the direction and strength of the manufacturing sector and the Australian economy. Periods of strong, sustained growth in construction are often matched by similarly strong growth in manufacturing and the Australian economy. In recent months we have seen these fortunes edge downwards, with the global economic and financial crisis hitting the industry.

Recent official survey data, collected by Ai Group-Housing Industry Association in its **Performance of Construction Index®**, has pointed to a substantial easing in overall construction activity, particularly in house-building and apartments.

Australian constructors face many other challenges, in addition to the global credit crisis. These include, remaining competitive with high steel and oil prices squeezing margins, increasing domestic competition for major contracts, and skills shortages limiting the capacity for companies to be more innovative. Over recent years, we have seen the sector experience much stronger productivity growth and defy an overall trend towards weaker productivity. As well, in the vital area of environmental sustainability, the sector has shown considerable understanding of the importance of lowering greenhouse gases and has taken action to improve its practices and behaviour.

State of Play – The Australian Construction Industry in 2008 is an important document in that it considers the current economic health of the sector, and provides a comprehensive overview of the key indicators of performance. It also provides insight into the likely direction of the industry in the immediate future.

State of Play – The Australian Construction Industry in 2008 provides a valuable benchmark to measure future performance. I'd like to thank all the construction companies who took part in the survey, underpinning the official data in the study.

Heather Ridout
Chief Executive
Australian Industry Group

The Australian Constructors Association is pleased to present ***State of Play – The Australian Construction Industry in 2008*** in collaboration with the Australian Industry Group.

The report is intended to be a stocktake of the industry – a report on current market conditions and the outlook for the industry in the medium term. The report also identifies impediments to the sector's future growth and development.

Whilst the construction sector has enjoyed a period of relative prosperity, its future development will be constrained by a number of factors, some of which are within the control of the industry, others are national public policy issues, whilst others are heavily influenced by developments in the global economy and world financial markets.

Indeed, the global economic and financial crisis is threatening to undermine the success of recent years, with fragile consumer and business confidence contributing to both weaker demand for construction and cancellation/delays for significant projects. As well, finance for major projects is becoming more difficult to access for the industry's clients.

We welcome the continued commitment of federal and state governments to renewing ageing infrastructure and to the development of new social and economic infrastructure to meet the needs of our growing communities. The Australian construction industry is also rising to the challenge of the private sector's investment in the development of our cities and regional centres, the expansion of our industrial capacity and the development of the nation's resources.

State of Play – The Australian Construction Industry in 2008 will be a timely reminder to policy makers and to industry participants that we need to take ownership of the issues confronting the industry and we need to do it now.

Wal King AO
President
Australian Constructors Association

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Key points

- The global economic and financial crisis has brought an end to a period of sustained strong expansion in the construction sector. While demand for mining and engineering projects will continue to remain strong, the remainder of the construction sector is experiencing significantly weaker conditions.
- Nevertheless, over the next two years, nearly $90 billion is planned to be invested by the State and Territory governments on infrastructure, with expenditure primarily directed at water, port and transport projects.
- The Australian Government's 2008-09 Budget included an initial commitment of $20 billion to the Building Australia Fund, which is in addition to $22.3 billion transport infrastructure funding from 2009-10 to 2013-14 announced by the previous federal government.
- Construction has increased its importance as a share of the Australian economy over the past 10 years, from 5.6% of gross industry value added in 1996-97 to 7.3% in 2006-07.
- The construction industry in Australia comprises around 320,000 enterprises. Overall, the sector employs more than 1,000,000 people. 9.3% of the workforce is currently employed in construction as at August 2008, a rise from 7.3% a decade ago.
- The construction industry has registered strong growth in employment during recent years, rising by 6.1% per annum between 2002 and 2007, compared to 2.3% for the aggregate economy.
- Up to now, the buoyant labour market has aided solid growth in construction wages. Between 2002 and 2008, average annualised wage increases for the construction sector have grown by an average rate of 4.6%, compared with 4.0% for all sectors.
- The construction industry has experienced a significant reduction in industrial disputation in recent years, with the number of working days lost per 1,000 employees falling from 86.3 days in the March 2003 quarter to a record low of 2.0 days in the June 2008 quarter.
- Despite exhibiting volatility, capital expenditure in the construction industry has expanded over much of the period from 2000 to 2008, increasing in real terms by a total of $18.4 billion.
- Construction sales growth has continued uninterrupted since 2002, rising at an annual average rate of 9.6% over the past six years, and peaking at an 18.6% annual trend growth rate in the September quarter 2007. Sales have moderated in 2008 and the global economic and financial crisis is likely to have a significant impact on sales growth over the coming year.
- Revenue from overseas business has registered growth since the late 1990s. Leading firms have improved their presence in overseas markets including, establishing alliances; joint ventures and partnerships with local contractors; sharing information with strategic partners; and establishing overseas operations.
- During the past three years productivity in the construction industry has exceeded that of the aggregate economy, due to a much stronger level of multifactor productivity; 1.4% on average over this period. (Multifactor productivity measures gross value added per unit of capital and labour input, and is often referred as a measure of technological change).
- Despite this growth, there are a range of issues impacting on the industry, including labour and capital supply constraints and escalating costs, which constitute a significant risk to the growth and development of individual firms and the industry as a whole.
- Since 2002, construction profit margins (profits as a proportion of sales) have generally remained within a band of 4% to 5%, lower than for all other sectors of the economy, excluding retail trade and wholesale trade.
- Strong growth in the price of oil and metals in recent years has lead to significant increases in the cost of construction inputs. Since 2001, rises in costs have outpaced growth in output prices, resulting in sustained pressure on margins.
- Despite the weaker employment outlook, a shortage of skilled labour remains a challenge facing the construction industry. (Based on Ai Group's survey *Skilling for Innovation* released in May 2008, the skills gap for the construction industry is estimated to be 17,000 full-time employees with this scarcity impacting on all industry segments at every stage of the project life cycle).
- Skills formation and training is needed by the industry to assist in alleviating the shortage of skilled labour and to address the long-term imperatives of changes to work organisation, technology advancements, and the needs of clients.
- Increased public expenditure on infrastructure will coincide with tightening capacity levels in the non-residential building construction sector and will consequently add further demand pressure on the materials, equipment and labour.
- Whilst there has been a significant improvement on the safety performance of the industry, fatalities remain unacceptably high and the incidence rate of serious compensated workers' compensation claims remains higher in the construction industry (25.3 claims per 1,000 employees in 2005-06), compared to the aggregate for all industries (15.6 claims).
- A significant proportion of the industry is dissatisfied with information released to the market during the tender process claiming that the inadequacy and poor quality of the information places upward pressure on their costs.
- The inappropriate allocation of risk remains one of the most significant challenges facing construction contractors.
- Firms in the commercial construction sector possess a relatively high level of environmental awareness compared with firms in other sectors of the economy.

Executive Summary

Executive summary

The global economic and financial crisis has brought an end to a period of sustained strong expansion in the construction sector

The global economic and financial crisis has brought an end to a period of sustained strong expansion in the construction sector. While demand for mining and engineering projects will continue to remain strong, the remainder of the construction sector is experiencing significantly weaker conditions.

There is a range of other issues also impacting on the industry, including labour and capital supply constraints and high costs, which constitute a significant risk to the growth and development of individual firms and the industry as a whole.

This report updates the current state of the Australian construction industry, and provides insights into the major issues and challenges confronting construction firms. The report is supplemented by the findings of the ***Australian Industry Group Construction Update***, a survey of 78 companies, employing around 48,500 people and with a combined turnover of almost $31 billion. Target participants included leading companies engaged in commercial building, civil engineering and infrastructure, mining and resources and house/apartment building.

The survey sought to obtain a deeper understanding of the specific issues and challenges facing the industry in the current environment, including an assessment of operational constraints and critical risk exposure areas in the tendering, contractual management and project delivery phases.

Industry overview

Construction has increased its importance as a share of the economy over the past 10 years, from 5.6% of gross industry value added in 1996-97 to 7.3% in 2006-07.

The non-residential building construction industry which encompasses infrastructure, commercial property, mining and resources projects, has been one of the strongest performers in the Australian economy over the past eight years. Since 2000, growth in the value of construction output has exceeded that of the overall economy, expanding at an average annual rate of 9.7%, and reaching a record value in June 2008 of $79.7 billion. While work done across the industry will benefit from a solid project pipeline and substantial government infrastructure plans, reduced demand as a result of the global economic and financial crisis is likely to curtail activity growth in 2009.

Overall, the pace of growth is expected to moderate over this period, with levels of activity and rates of growth likely to vary across the industry.

Industry structure

The construction industry in Australia comprises around 320,000 enterprises. Of these enterprises, over 60% are sole traders, with nearly 30% employing between 1 and 4 people. Overall, the sector employs more than 1,000,000 people.

Given the high proportion of sole traders in the industry, it is likely that highly aggregated data overstates the competitive pressures in some parts of the sector.

Housing Industry Association (HIA) data, for example, indicates that in 2006-07, the largest 100 commercial construction companies won contracts worth 68% of all work started in the year to March 2007. The 10 largest companies won 55% of the work won by the largest 100 companies in the sector in 2006-07, while the largest 20 firms accounted for 71%.

There is also a wide diversity in activities undertaken, company size and level of capital intensity, which also gives rise to highly competitive conditions. This accords with the findings of the ***Australian Industry Group Construction Update*** **Survey**, which reported that 67.5% of respondents rated the level of competition as high, while a further 13.0% rated the level as extreme. Furthermore, more than half of firms surveyed reported that the extent of competition had increased in the past year.

Nevertheless, there are a range of factors that do act to inhibit competiveness for major infrastructure projects, including the high costs of tendering; the number of tenderers on short-lists to develop detailed bids; protracted delays in awarding projects; the protection of bidder's innovation/intellectual property; projects not proceeding beyond bid stage; and unreasonable risk transfer to the private sector.

In general there are few barriers to entry in the industry, and the majority of tier one contractors are foreign-owned, if not foreign-controlled. A key challenge for the industry will be to create a commercial environment that allows the next tier of largely Australian-owned contractors to participate.

Public infrastructure investment

A strong expansion in infrastructure investment has commenced, driven by previous decades of relative under-spending by the private and government sectors. Over the next two years, nearly $90 billion is planned to be invested by the State and Territory governments on infrastructure, with expenditure primarily directed at water, port and transport projects.

The following two years will see some moderation to around $80 billion, although there is the potential for State government estimates to be upgraded over time.

The Australian Government's 2008-09 Budget outlined a number of infrastructure initiatives, including an initial commitment of $20 billion to the Building Australia Fund, which is in addition to $22.3 billion transport infrastructure funding from 2009-10 to 2013-14 announced by the previous federal government.

This lift in expenditure on infrastructure will coincide with tightening capacity levels in the non-residential building construction sector and will consequently add further demand pressure on the materials, equipment and labour inputs requirements of construction firms. This poses challenges for both the growth outlook and the delivery of the nation's future infrastructure needs.

The industry, therefore, welcomes the establishment of Infrastructure Australia, and its critical role in delivering a greater level of state and federal government co-ordination to improve project planning and execution.

Executive summary

Strong growth in input costs has squeezed construction profit margins

Challenges to the outlook

As a result of the global economic and financial crisis, the industry is facing a range of pressure points which pose a risk to the medium term outlook. This includes continued slowing in the domestic economy, volatile financial conditions, and the increased difficulty in raising funds, which are the potential source of increasing delays in project commencements, or the cancellation of work planned. The **Australian Industry Group Australian Business and the Global Economic and Financial Crisis Survey** for October showed that one-quarter of constructors expect the
crisis will have a strong negative impact on production over the next six months, with another 27.8% anticipating a moderate negative impact.

Aside from the global credit crisis, construction firms identified five issues as being the most significant challenges they face. These include: the impact that the current economic slowdown will have on securing future workloads (51% citing this as a significant challenge); managing risks (42.3%); reducing costs (37.2%); avoiding cost over-runs (30.8%); and capacity constraints (29.5%).

Input costs

Strong growth in the price of steel, other metals and fuel in recent years has lead to significant increases in the cost of construction inputs.

The price of steel grew by 40% in 2007 and jumped a further 61% in the first half of 2008, driven by surging demand from China and India, before falling 18.8% in the September quarter. The price of fuel has also risen strongly in recent years, rising by 34.7% since the end of 2007. The strong growth in the price of steel and fuel has also flowed through to higher increases in the price of other construction materials such as cement, glass, plaster and ceramics.

In recent months, in the wake of the global economic and financial crisis, steel, oil and other input prices have moderated, with recessionary conditions in developing countries acting to lower overall demand.

Output prices

The construction industry has experienced continuous growth in output prices since mid-2001. The rate of growth peaked at an annual level of almost 12% in late-2004, before averaging close to 8% annual growth from late-2006 to mid-2008. Since 2001, rises in costs have typically outpaced growth in output prices, resulting in sustained pressure on margins.

The combination of slowing demand for construction; increased competitive pressures; and the need for constructors to undertake discounting, is likely to lead to a moderation in output cost increases, possibly back to around 3%.

Productivity

During the past three years productivity in the construction industry has exceeded that of the aggregate economy, due to a much stronger level of multifactor productivity; 1.4% on average over this period.

Multifactor productivity measures gross value added per unit of capital and labour input, and is often referred as a measure of technological change.

Stronger productivity has also been a by-product of stronger output growth over recent years, with the construction sector making a significant contribution to overall economic growth in recent years.

Econtech has estimated that reforms to the building industry through the Office of the Australian Building and Construction Commissioner were a significant factor in this improvement, contributing to an additional 10% improvement in labour productivity. The Allen Consulting Group has estimated that in the absence of the stronger productivity growth, GDP growth would be more than 0.5% (or $5 billion) lower today.

Sales

Construction sales growth has continued uninterrupted since 2002, rising at an annual average rate of 9.6% over the past six years, and peaking at a 18.6% annual trend growth rate in the September quarter 2007.

Nevertheless, sales have moderated in 2008 and the global economic and financial crisis is likely to have a significant impact on sales growth over the coming year. In fact, the October **Australian Business and the Global Economic and Financial Crisis Survey** showed that almost 50% of constructors had already attributed a decline in sales to the credit crunch.

The order books of construction firms have also been battered by the global credit crisis, with the October **Australian Business and the Global Economic and Financial Crisis Survey** revealing that more than one-third have experienced a strong negative impact on new orders.

Profits and margins

The growth in the construction industry since 2002 is also apparent in data on profits and profit margins. Profits grew at an average quarterly rate of just 1.1% between 2002 and 2006, before expanding at a solid quarterly rate of 9.8% during 2007. This upturn, coincided with improved conditions in house building activity, and the continued strong stimulus from mining and resource-based projects.

Since 2007, annual profit growth has moderated, with the persistency of capacity constraints, skill shortages, tighter liquidity and the rising cost of funds starting to bite across a number of market segments. In the March quarter 2008, profits fell for the first time since the September quarter 2005.

Since 2002, construction profit margins (profits as a proportion of sales) have generally remained within a band of 4% to 5%, lower than for all other sectors of the economy, excluding retail trade and wholesale trade. With the exception of a slight pick-up in 2004, profit margins trended downward between 2002 and 2006, consistent with subdued growth in total profits. Thereafter, profit margins lifted, rising from 3.9% to 4.9% in December 2007.

However, in line with factors directly impacting on profits and increasing competition for available work, profit margins have since moderated and are expected to come under increasing pressure due to the global credit crisis and range of other factors.

Executive summary

Around half of construction firms are dissatisfied with information released to the market during the tender request phase

Overseas business

Revenue from overseas business has registered growth since the late 1990s, in line with the trend for construction activity to become increasingly globalised. The ***Australian Industry Group/Australian Constructors Association Construction Outlook*** **Survey** findings reveal that overseas revenue expanded by 7.3% (current dollars) in 2007, representing the 10th consecutive year of growth.

Facilitating this growth has been the adoption of a range of strategies by leading firms to improve their presence in overseas markets including: establishing alliances; joint ventures and partnerships with local contractors; sharing information with strategic partners; and establishing overseas operations. Total revenue from overseas business is expected to register stronger growth of 11% in 2008, before easing to a rate of 4.6% in 2009.

Capital expenditure

Despite exhibiting volatility, capital expenditure in the construction industry has expanded over much of the period from 2000 to 2008, increasing in real terms by a total of $18.4 billion.

This strength in capital expenditure has been underpinned by strong demand by project firms for capital inputs, while technological innovation has also played a key role in supporting growth, reflecting the increasing scale, specialisation and sophistication of major construction projects. Nevertheless, annual growth in capital expenditure has moderated in recent quarters, with this trend likely to be sustained over the coming year.

Tendering process

The ***Australian Industry Group Construction Update*** **Survey** sought feedback from construction firms on the market request phase of projects. This is the phase when the principal invites bidders in the market to tender for the project and evaluates bids lodged.

The survey found that 49% of firms are dissatisfied with information released to the market during this tender phase.

Most of the companies reporting dissatisfaction claimed that the inadequacy and poor quality of the information made available placed upward pressure on their costs, due to such factors as time delays; disputes and disagreements; increased risk transferred to the constructor; and the additional workload required in finalising and checking tender documentation.

Bid costs form an increasingly significant element of overall project costs. This can mean that only large firms have the capabilities to put in tenders for work and this may have the impact of reducing competition by raising barriers to entry for large projects.

Transfer of risk

The inappropriate allocation of risk to the constructor is one of the significant challenges facing construction firms in the tendering process.

Just over half of the respondents to the ***Australian Industry Group Construction Update*** **Survey** found that the transfer of risk has increased moderately in recent years, with an additional 19.5% advising that it had risen significantly.

Some of the areas of risk that are unreasonably transferred to contractors commercially include: unreasonable indemnities; inadequate documentation; poor scope and successive variations to plans; timeframes pressured by change to plans and approval processes; and non-payment by clients.

It is thought that almost 70% of constructors accept these risks that are passed on to them. Some of the risks they believe they should not bear include: delays caused by events over which they have no control; site conditions; and approvals.

Project management

The ***Australian Industry Group Construction Update*** **Survey** also sought feedback on the most significant causes of contractual dispute. Issues of scope are clearly the most significant cause of contractual dispute, with 57.7% of survey respondents citing 'variations in scope' and 55.1% identifying the 'poor scoping of projects'.

The recruitment of qualified labour is considered the operational area of most difficulty for construction firms. By contrast, the hiring and/or purchasing of plant and equipment is considered the operational issue of least difficulty for Australian construction firms, behind the sourcing of sub-contractors and the sourcing of business materials.

Occupational health and safety

In recognition of the considerable social and economic costs incurred by employees affected by workplace incidents, the Australian construction industry is committed to achieving a significant and on-going improvement in its OHS and rehabilitation performance. Nevertheless, the incidence rate of serious compensated workers' compensation claims remains higher in the construction industry (25.3 claims per 1,000 employees in 2005-06), compared to the aggregate for all industries (15.6 claims).

The ***Australian Constructors Association OHS Performance Assessment*** **Survey** of the nation's major building contractors has reported 22 fatalities in the period June 2001 to March 2008, although the number of fatalities expressed in terms of numbers of hours worked has trended down since September 2004.

In addition, the ACA survey, which is designed to drive continuous improvement in OHS practices within the construction industry, has reported improving trends since 2001 in the key performance measures: medical treatment injury frequency rate (occurrences per million hours worked); lost time injury frequency rate (occurrences of injury or disease per 1 million hours worked); and average lost time (number of working days lost per lost time injuries recorded).

Executive summary

Attracting and retaining skilled labour is a major challenge for constructors

The ACA survey complements the industry's support and involvement in the ***Australian Government Building and Construction OHS Accreditation Scheme***.

Industrial relations

The construction industry has experienced a significant reduction in industrial disputation in recent years, with the number of working days lost per 1,000 employees falling from 86.3 days in the March quarter 2003 to a record low of 2.0 days in the June quarter 2008. While this marked decline has been associated with growth in wages, employment and productivity over the last four years, the policy and legal environment has also been a contributing factor.

This includes the Royal Commission into the Building and Construction Industry (2001-2003) and implementation of many of its recommendations, and changes to the industrial relations system through the *Workplace Relations Amendment (Work Choices) Act 2005*. Despite this recent period of industrial stability, the next 18 months will be challenging as Australia moves to a new IR system; the Office of the Australian Building and Construction Commissioner reaches the end of its life; and the industry negotiates its way through a new bargaining round.

Employment and wages

The construction industry has registered strong growth in employment during recent years, rising by 6.1% per annum between 2002 and 2008, compared to 2.3% for the aggregate economy. The number of people employed in construction has also grown in relative terms, with 9.3% of the workforce currently employed in construction as at May 2008, a rise from 7.3% a decade ago. These positive labour market trends have coincided with strong infrastructure and resources investment. However, by December 2007, the pace of employment growth moderated to an annual rate of 3.5%, due mainly to the slowdown in the house and apartment building sectors.

The outlook points to employment growth remaining subdued over the next 12 months, with the possibility that construction employment might even decline as a result of the global credit crisis.

The, up to now, buoyant labour market has aided solid growth in construction wages. Between 2002 and 2008, average annualised wage increases for the construction sector have grown by an average rate of 4.6%, compared with 4.0% for all sectors.

The ability to attract and retain employees has become a key focus of the industry, with many construction firms seeking skilled migrants. The number of skilled migrants entering the industry rose from 4,170 in 2006-07 to 5,690 in 2007-08, representing an increase of 36%. Despite the recent softening in employment conditions, skill shortages remain an issue, and it is therefore unlikely that there will be any abatement in the skilled migrant intake under the 457 Visa Program over the short-term.

Skill shortages

Despite employment growth slowing in the construction sector and the possibility of job-shedding in 2009, shortages in the skills required by the industry remains a significant issue.

Based on Ai Group's survey ***Skilling for Innovation*** released in May 2008, the skills gap for the construction industry is estimated to be 17,000 full-time employees with this scarcity impacting on all industry segments at every stage of the project life cycle.

Training

Skills formation and training is needed by the industry to assist in alleviating the shortage of skilled labour and to address the long-term imperatives of changes to work organisation, technology advancements, and the needs of clients. Initiatives that have been undertaken include the development of new qualifications aimed at improving training and meeting national skill shortages, and new training delivery options to enable qualifications to be delivered more quickly to new entrants.

Average training expenditure per employee is lower in the construction sector than most other industry sectors. The apprenticeship intake for the industry has however risen strongly, doubling in numbers since 2002, and accounting for more than half of the rise in total Australian apprenticeship numbers. Training provision will be also boosted by training places to be allocated under ***Skilling Australia for the Future***.

Environmental sustainability

In the 2007 Ai Group report, ***Environmental Sustainability and Industry: Road to a sustainable future***, it was found that firms in the commercial construction sector possess a relatively high level of awareness of the greenhouse gas emissions (14.3%). They were also the most likely to have a written environment policy (60.0%) and have a high understanding of an emissions trading scheme (31.4%).

Innovation and R&D

The first half of this decade has seen an increase in construction R&D as a share of sales, with the proportion standing at 0.3% in 2005-06 (compared with around 1.9% in manufacturing; 1.7% in mining; and 0.4% in services).

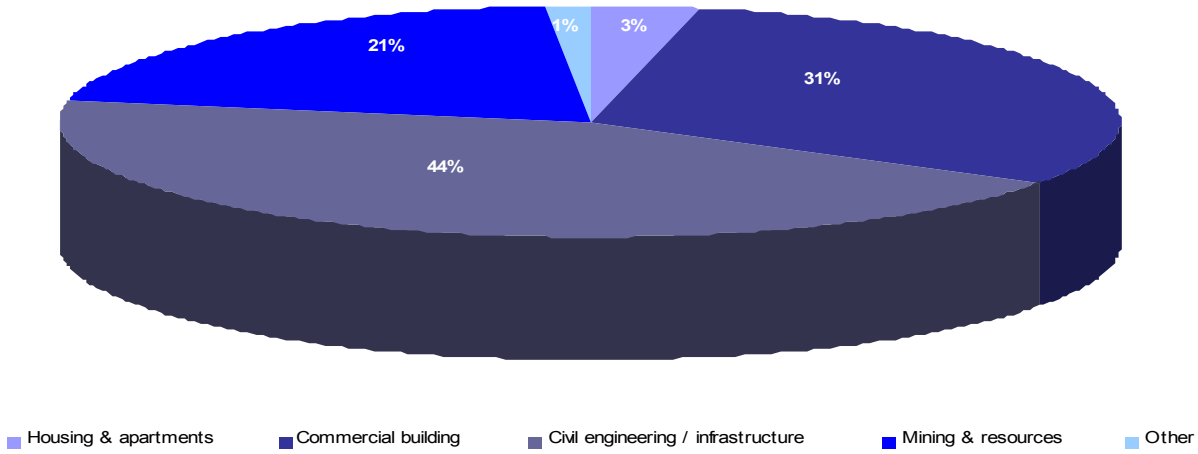
The ***IBM-Melbourne Institute Innovation Index*** shows that innovation in the construction industry increased strongly over the five year period between 1999 and 2005, reflecting patent, trademark and design intensity and a lift in organisational/managerial innovation and productivity. However, between 2005 and 2006, the innovation index fell by 18.2%.

The low level of construction R&D (compared to other sectors of the economy) and the recent reduction in innovation partly reflects the nature of the industry which is relatively less exposed to foreign competition and with potentially fewer benefits to be gained from R&D and new technologies than other industries.

Background and study details

Official data in the report is complemented by responses to a survey of 78 Australian constructors

Chart 1: Source of construction income for survey respondents



Source: Australian Industry Group Construction Update Survey, June 2008.

Report background

State of Play – The Australian Construction Industry in 2008 has been prepared by Australian Industry Group on behalf of the Australian Constructors Association (ACA). The ACA had identified the need for "a contemporary report on the performance of the national construction industry".

The report provides an up-to-date review of the construction industry, including the major issues and challenges it confronts. While the report has sought to focus on the non-residential construction sector, much of the official data is only available for total construction.

State of Play – The Australian Construction Industry in 2008 is based on the most up-to-date data available in November 2008. While the findings of the report are accurate at the time of the report's release, their use for business planning purposes should be entirely at the company's discretion.

Australian Industry Group Construction Update

While the findings in the ***State of Play – The Australian Construction Industry in 2008*** are predominantly based on the most up-to-date official data released by the Australian Bureau of Statistics, this information has been complemented by an analysis of responses to a survey distributed by Ai Group in June 2008 – the **Australian Industry Group Construction Update Survey**.

The questionnaire sought the views of companies on the current condition of the construction industry and an assessment of the major issues and challenges they are confronting.

The questionnaire was distributed to a random sample of non-residential construction firms, with a total of 78 companies responding to the survey. Respondent companies currently generate almost $31.0 billion of turnover and employ around 48,500 people.

Source of construction income

Three-quarters of the $31.0 billion in turnover for respondent firms came from civil engineering and infrastructure construction (44%) and commercial building (31%).

Around one fifth of the respondent income is generated through mining and resources related construction, with the remaining amounts coming from other construction (3%) and house and apartment building (1%).

The source of construction income for respondents reflects the survey's focus on non-residential builders.

Companies in the study by size

The survey generated a relatively even distribution across firm size. The largest proportion of responses was from medium-sized construction companies of 25-100 employees, representing 41.0% of respondents.

Small-sized construction firms of fewer than 25 employees accounted for 30.8% of respondents, while large firms of more than 100 employees represented 25.6%. 2.6% of respondents did not indicate the number of people they employ.

Companies in the study by state

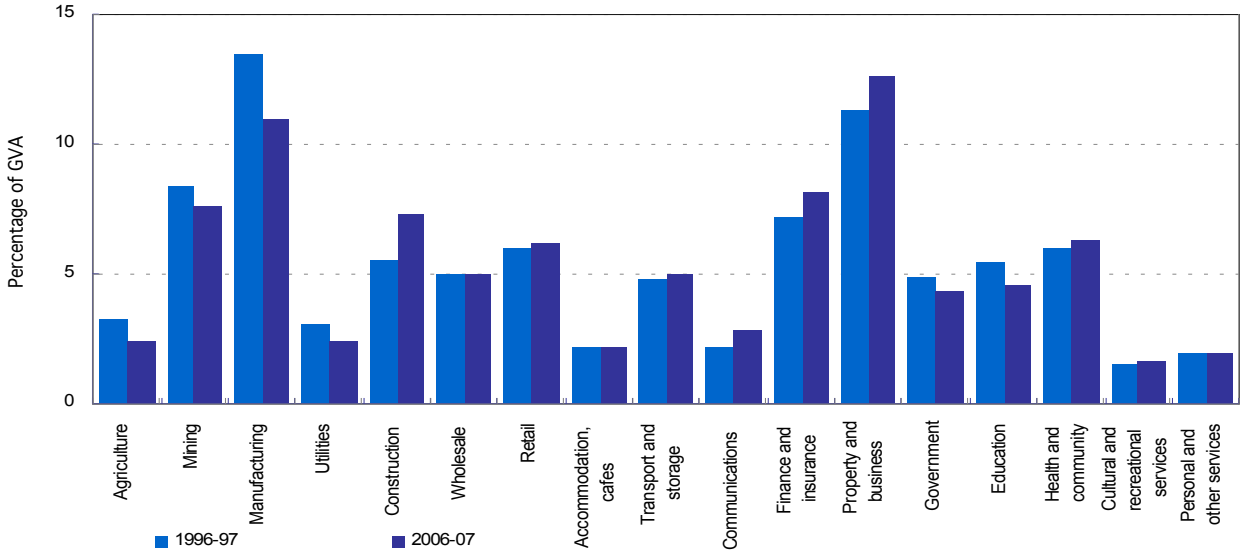
Data was collected from five of the six states and from the Australian Capital Territory.

New South Wales recorded the highest number of respondents (32.1%), followed by Queensland (24.4%) and Victoria (21.8%). Elsewhere, South Australia and Western Australia each provided 10.3% of respondents, with the Australian Capital Territory contributing the remaining 1.3%.

Relative importance of construction industry

Growth has boosted construction's share of the economy

Chart 2: Construction sector's share of industry value added



Source: ABS Cat No. 5204.0 Australian System of National Accounts, 2006-07

Construction has increased its importance as a share of the economy over the past 10 years, from 5.6% of gross industry value added in 1996-97 to 7.3% in 2006-07.

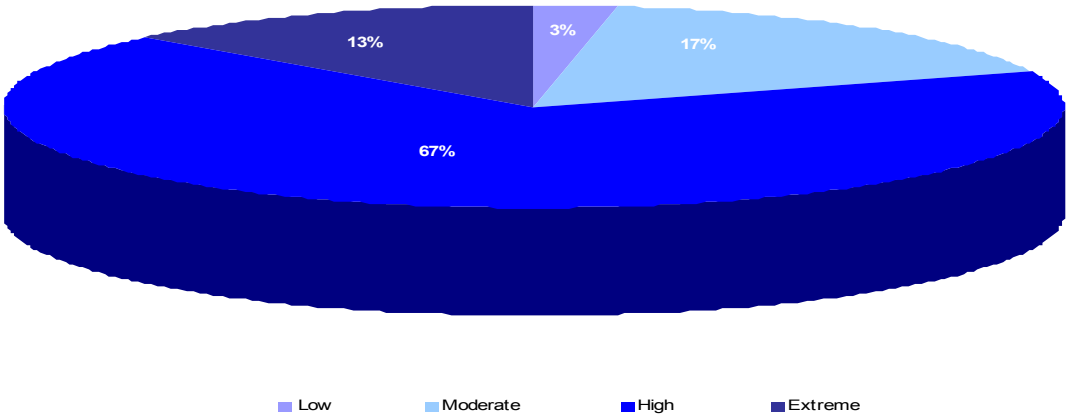
This increase, along with the increasing share of services in the economy, has come largely at the expense of the agriculture (down from 3.3% to 2.4%), mining (down from 8.4% to 7.6%) and manufacturing sectors (down from 13.5% to 11.0%).

It reflects the relatively strong growth of construction value added over the period. Construction grew at an annual average growth rate of 6.5% over the decade compared to the relatively weak performances by agriculture, growing by 0.6% a year, mining by 2.6% a year and manufacturing by 1.5% a year.

Industry structure

Diversity makes the construction industry highly competitive

Chart 3: Level of competition within the construction industry



Source: Australian Industry Group Construction Update Survey, June 2008.

The construction industry in Australia comprises around 320,000 enterprises[1]. Of these enterprises over 60% are sole traders, with nearly 30% employing between 1 and 4 people. Overall, the sector employs more than 1,000,000 people.

The recent IBISWorld construction survey, *Construction in Australia*, reported a low level of industry concentration with the top four firms accounting for less than 10% of total revenue. IBISWorld reported that construction was the second most fragmented after agriculture, and "*characterised by significant variations in the type of activity undertaken, the size of players, the level of capital intensity employed, etc*"[2]. This fragmentation and structural diversity gives rise to a highly competitive industry.

Given the high proportion of sole traders in the industry, it is likely that highly aggregated data overstates the competitive pressures in some parts of the sector. Housing Industry Association data shows, for example, that in 2006-07, the largest 100 commercial construction companies won contracts worth 68% of all work started in the year to March 2007[3]. The 10 largest companies won 55% of the work won by the largest 100 companies in the sector in 2006-07, while the largest 20 firms accounted for 71%.

The ***Australian Industry Group Construction Update* Survey** found that 67.5% of respondents rated the level of competition in the construction industry as 'high' and a further 13.0% rated the level as 'extreme'.

When asked to assess the extent that the level of competition has changed in recent years, 41.6% reported a moderate increase and 14.3% reported a significant increase (see chart 4 on page 20).

The competitive nature of the industry has taken a high toll on major contractors operating in the industry. Over the past 15 years a number have disappeared, merged or have been taken over, including:

- ABB EPT Constructions Pty Ltd
- Barclay Mowlem Construction Ltd
- Concrete Constructions Group Pty Ltd
- Eltin Ltd
- Fletcher Construction Australia Ltd
- Henry Walker Eltin Ltd
- Roche Bros Pty Ltd
- Transfield Construction Pty Ltd
- Walter Construction Group Ltd.

Whilst the majority of companies participating in the industry are Australian-owned, the majority of tier one contractors are foreign-owned if not foreign-controlled.

In general there are few barriers to entry in the industry. At the lower end of the market individual occupations are licensed and many states and territories have fair trading laws that apply to residential builders, but these are essentially consumer protection measures.

However, for contractors undertaking major building and engineering projects there are a number of market driven forces that impact on competitiveness.

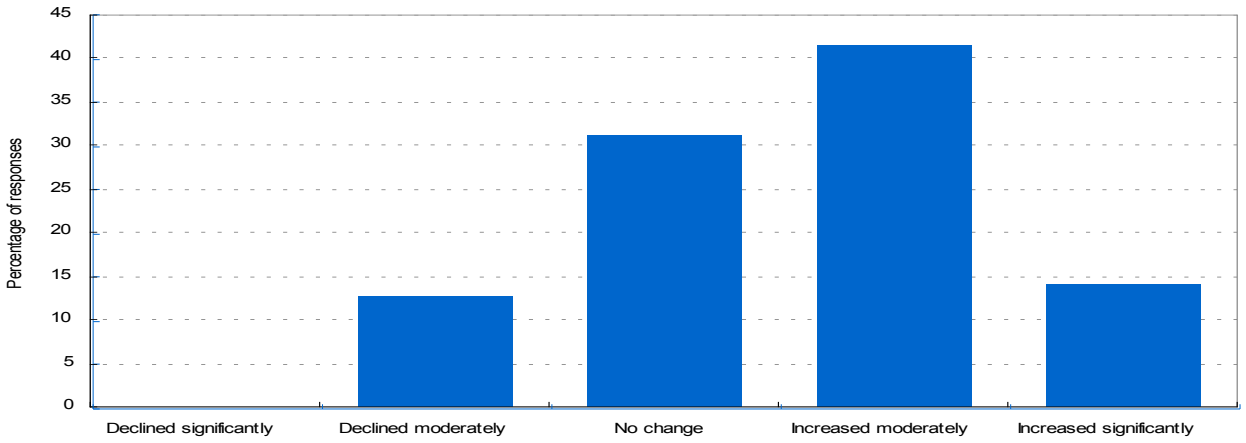
Major contractors are required to manage a range of risks which are passed to them in commercial terms. These can include planning, regulatory, financial, environmental, safety, industrial relations and cost escalation and all risks associated with project management.

In addition, many clients/principals require contractors to be pre-qualified – that is the clients determine the standards that they expect from their service providers. The most significant of these are the financial capacity and technical capability of the contractor.

Industry structure

Market driven forces heighten competitive pressures

Chart 4: Change in the level of competition within the construction industry in recent years



Source: Australian Industry Group Construction Update Survey, June 2008.

Technical capacity is often evidenced through the systems the company employs in addition to the quality of its personnel.

The larger the project the greater the test of a company's financial capacity. Contractors are often required to take equity in a project, particularly during the construction phase, and are required to provide bonds at the bid stage and against performance.

The larger the project the more common is the prevalence of joint ventures where two or more contractors will combine resources to bid for a large project. These arrangements are entered into for a variety of reasons, including the establishment of sufficient financial capacity to undertake major projects and the sharing of financial and performance risks and tender costs on large projects.

Joint ventures are usually "temporary" arrangements in the sense that they are typically formed by two or more parties to enable the parties to pool resources (such as people, skills, knowledge, specialist capabilities and assets) to be in a position to participate in a specific construction project (without such pooling the parties, separately, could not, or could not as effectively, participate in the project). Joint venture projects can range from relatively short-term jobs to long-term infrastructure developments where the term of the contract can be up to 10 years or longer.

Joint ventures allow parties to maximise the use of specialist personnel and skills, equipment, other resources, complementary skills and to utilise local knowledge. This results in the "offering" of the joint venture being more competitive than would otherwise be the case if the individual entities tendered on its own. They also often allow the participants to meet pre-qualification requirements for the project.

The private sector has become increasingly concerned about the tender costs associated with major infrastructure projects, (particularly, public sector projects) and their impact on competitiveness in the industry.

It was recently reported that the tendering costs for the three consortia bidding for the Airport Link project in Brisbane were "*expected to be upwards of $30-$40 million, tying up hundreds of people*"[4].

Apart from the cost of tendering, other factors inhibiting competition for large projects include:

- The number of tenderers on short-lists to develop detailed bids;
- The time taken to award projects – protracted delays adversely affect both contractors and banks, which have to ensure that banking lines are kept in place for the period of the bid process;
- The practice of selecting two tenderers to best and final offers (BAFO), rather than selecting a preferred bidder;
- The lack of face-to-face interaction with the client during the tender process;
- The protection of bidder's innovation/intellectual property;
- Projects not proceeding beyond bid stage; and
- Unreasonable risk transfer to the private sector.

Ultimately as the demand for construction resources has become more intense, the market has moved to use more relationship-based procurement models, with alliances being utilised on an increasing number of large projects.

At the Australia 2020 Summit, the ***Future Directions for the Australian Economy*** working group were presented with the question:

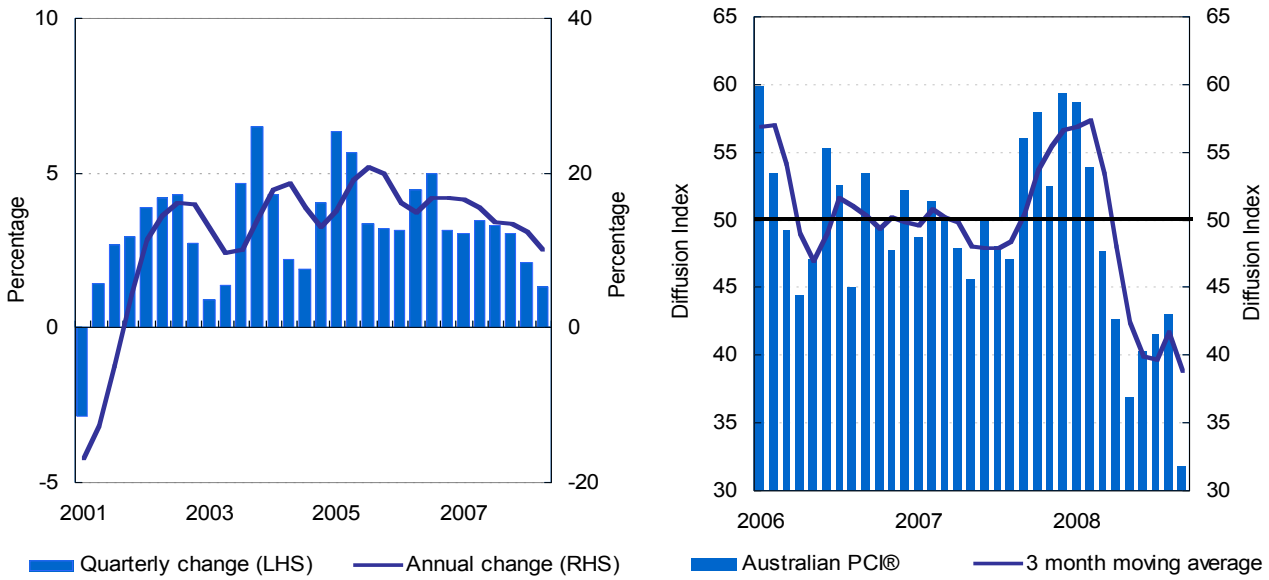
"Are there opportunities to get more international players into infrastructure, introducing true markets to replace existing oligopolies?"

The Australian experience suggests that international players already pervade the top tier of contracting. The real challenge appears to be how the nation's clients create a commercial environment that allows the next tier of largely Australian-owned contractors to participate.

Current market conditions

Australian construction sector growth moderating from high base of activity

Chart 5: Growth in the value of construction of work done (nominal, trend) and the Australian PCI®



Source: ABS Cat No. 8755.0 Construction Work Done, Australia: March 2008 and *Australian Industry Group/HIA Australian PCI®, June 2008.*

State of the industry

Reflecting strong infrastructure investment, a buoyant resources sector and sustained economic growth, the non-residential building construction market has recorded six years of uninterrupted growth.

As a result, the total value of work done across the private and public sector grew to a record level of $80 billion in June 2008, almost double the level of 2004.

The mining industry, heavy industrial resource-based construction and transport infrastructure have been the key sectors underpinning robust work levels in engineering construction.

For commercial construction, activity has benefitted, in particular, from strong demand for offices, retail building and increased capital investment in warehouses, consistent with the development of new transport routes and new population growth corridors.

Underlying global and domestic drivers of higher levels of investment in non-residential building construction, include:

- Continued strong economic growth in China and India;
- Rising commodity prices, including iron ore, coal, aluminium and nickel;
- Ageing infrastructure and past underinvestment by governments in economic infrastructure, particularly in utilities, road and rail infrastructure, and ports and harbor related construction; and
- Population growth from an increase in the birth rate and higher levels of immigration and interstate migration.

Despite the sustained lift in volumes of work, the growth momentum of the industry has moderated during the past two years.

In the June quarter 2008, annual growth in the value of work done stood at 10.1%, the lowest level in the past five years, and down from a peak of 20.8% in the September quarter 2005.

This easing in growth reflects the approaching of peak levels of activity in key industry sectors; capacity constraints; and more recently the impact of higher interest rates and tighter liquidity which has led to delays in project commencements, particularly in the commercial property sector.

Trends in 2008

The **Australian Industry Group/HIA Performance of Construction Index (Australian PCI®)** – the lead indicator of overall activity in the construction industry – indicated that industry conditions continued to soften during January and February 2008, followed by a deterioration in construction during the seven months to September 2008.

At 31.8 in September 2008, the Australian PCI® stood well below the 50.0 point mark separating expansion from contraction, representing the sharpest rate of decline in activity since September 2005.

Much of the recent weakness in activity can be attributed to the global economic and financial crisis. In the **Australian Business and the Global Economic and Financial Crisis Survey** for October, 16.2% of constructors indicated the crisis has had a strong negative impact on production with another 21.6% confirming a moderate negative impact.

Activity is likely to continue slowing sharply over the coming period as a result of the global economic and financial crisis. The October 2008 **Australian Business and the Global Economic and Financial Crisis Survey** showed that 25.0% of constructors expect the crisis to have a strong negative impact on production over the next six months, with another 27.8% anticipating a moderate negative impact.

Public infrastructure investment

Federal and State government infrastructure spending will underpin construction

Table 1: State government capital spending plans

	2007-08	2008-09	2009-10	2010-11	2011-12
NSW	11.3	13.9	14.1	14.6	15
QLD	14.3	17.0	14.0	13.0	12.0
WA	6.7	7.6	6.6	5.7	6.2
VIC	4.2	3.9	4.1	4.3	4.6
NT	0.7	0.9	0.6*	0.5*	0.5*
ACT	0.3	0.3	0.4	0.3	0.3
SA	1.5	2.2	2.6	3	2.4
TAS	0.3	0.4	0.4	0.4	0.3
Total	**39.3**	**46.2**	**42.2***	**41.3***	**40.8***

*Source: State Budget, State infrastructure publications. * Ai Group estimates.*

Recent trends

Previous decades have seen both the private and government sectors under-invest in infrastructure.

On the public sector side, the 2008-09 Australian Government Budget noted that, "the average age of Australia's public sector infrastructure has generally been rising since the 1970s, providing some support for the view that we are approaching, or past, the point where much of the large amount of public infrastructure put in place in the 1950s and 1960s will need to be renewed or replaced".

The inadequacy of Australia's infrastructure has been reflected in a range of indicators, including: transport constraints on exports of commodities such as coal and iron ore; and rising inflationary pressures as the economy hits capacity constraints.

Infrastructure investment now looks set to increase, at least in the near-term.

The current strength in non-dwelling construction owes much to the upswing in the mining sector infrastructure cycle over the past three years. As commodity prices have risen, due to solid global growth and, most importantly, the emergence of China, mine expansions, both green and brown-field, have driven increases in mine, transport and associated social infrastructure.

This private sector lift in infrastructure-related construction is being compounded by a lift in planned public sector infrastructure spending over the next few years following under-investment over recent decades.

Outlook

Table 1 shows that over the next two years, around $88 billion will be spent by the State and Territory governments on infrastructure. The following two years will see some moderation to around $82 billion, though there is the potential for these estimates to be upgraded over time.

While not all of this spending will be linked to 'hard' infrastructure with a direct impact on construction, a significant proportion will be linked.

For example, the NSW Government noted in its 2008-09 Budget that, "the record increase in investment in the public trading enterprise (PTE) sector is due primarily to continuation of and ramping up of major projects in rail, ports, water and electricity transmission and distribution". Further "in the government sector the increase is mainly due to increased funding for road construction… accommodation for the aged and disabled".

Similarly, in its 2008-09 Budget, the Victorian Government announced projects focussing on hospitals, schools and road and rail transport, sectors with a significant construction element. Similar projects have been announced recently in South Australia, Western Australia and Queensland.

The new Australian Government announced a number of infrastructure-related initiatives in its 2008-09 Budget.

A key example of the Federal Government's increased focus on infrastructure development was its initial commitment of $20 billion to the Building Australia Fund. Allocations from the fund will reflect the views of *Infrastructure Australia,* which is undertaking a national audit of existing infrastructure and prioritisation of new infrastructure projects. The list of projects will be presented at the December 2008 Council of Australian Governments (COAG) meeting.

By way of example, the Australian Government plans to spend $22.3 billion from the fund on land transport infrastructure over the period 2009-10 to 2013-14.

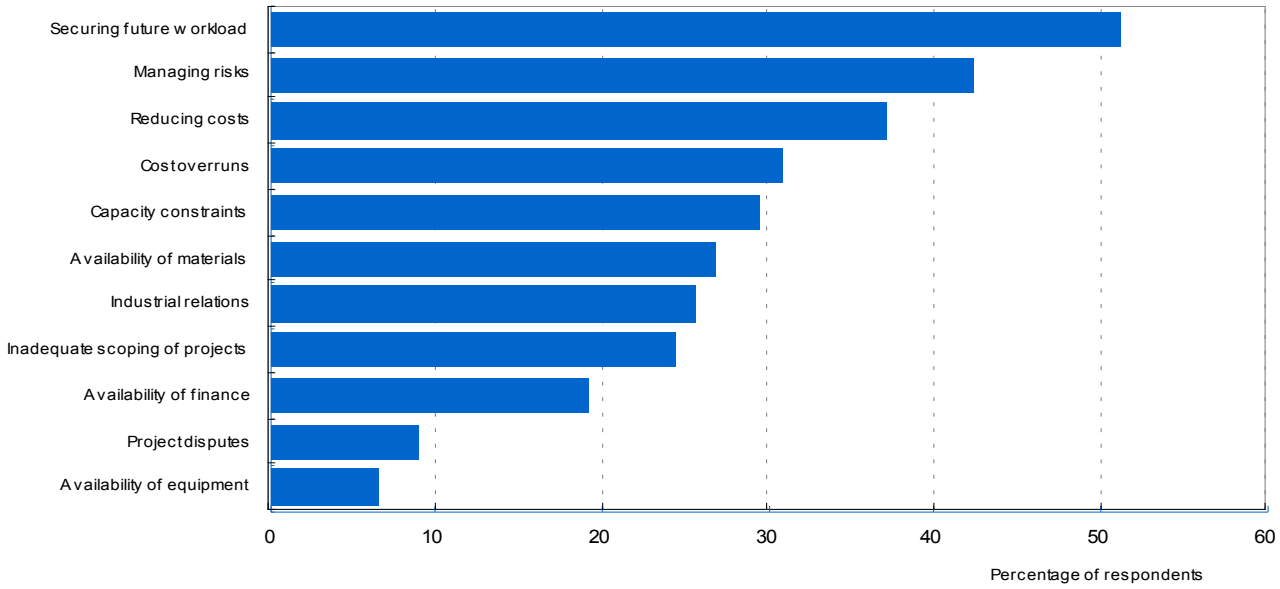
The projects mooted under the auspices of the Building Australia Fund are over and above the Australian Government's commitments to projects such as Auslink.

For example, in addition to the fund, the Government will invest $22.3 billion in land transport infrastructure from 2009-10 to 2013-14 under AusLink 2, including $2.6 billion to projects in Victoria and $2.5 billion to upgrade the Pacific Highway in New South Wales.

Challenges to the outlook

Aside from the global economic and financial crisis, securing future workloads is the most significant challenge to the construction outlook

Chart 6: Significant challenges facing construction firms (% of respondents)



Source: Australian Industry Group Construction Update survey, June 2008.

The global economic and financial crisis is likely to be the greatest challenge facing Australia's construction sector over the coming months. Responses on current market conditions showed that more than half of constructors expect the crisis to have a negative impact on production levels over the next six months.

Aside from the global economic and financial crisis, there are many other challenges to the construction outlook and the ***Australian Industry Group Construction Update*** **Survey** asked firms to identify which of these challenges are the most significant they currently face.

Linking closely to the concerns of construction firms regarding the current economic climate, more than half of all respondents (51.3%) suggested that securing future workloads is a significant challenge facing their firm. More than half of the firms citing this factor as a major challenge earn income through the construction of houses and apartments (the sub-sector more highly exposed to slower economic growth).

Managing risks was considered to be the next most significant challenge facing construction companies, with 42.3% of respondents identifying this factor.

The rising price of oil; the commodity boom; shortages in skilled labour; high interest rates; and the global credit crisis are all increasing the business costs of Australian construction firms. The impact this is having on firms in the sector is reflected in the survey responses, with 37.2% citing a significant challenge in reducing costs. Another 30.8% also identified cost overruns as a significant challenge facing their business.

A detailed discussion of input costs and project costs is provided later in the report.

While a majority of the respondents to the survey see a significant challenge in securing future workloads, almost one third (29.5%) of construction firms believe capacity constraints may limit their activity levels in the coming period. A majority of these firms identifying capacity constraints as a significant challenge are involved in engineering and mining construction.

Around one in every four respondents cited: the availability of materials (26.9%); industrial relations (25.6%); and inadequate scoping of projects (24.4%) as being a significant challenge to their outlook. Each of these important issues will be discussed in more detail in later sections of this report.

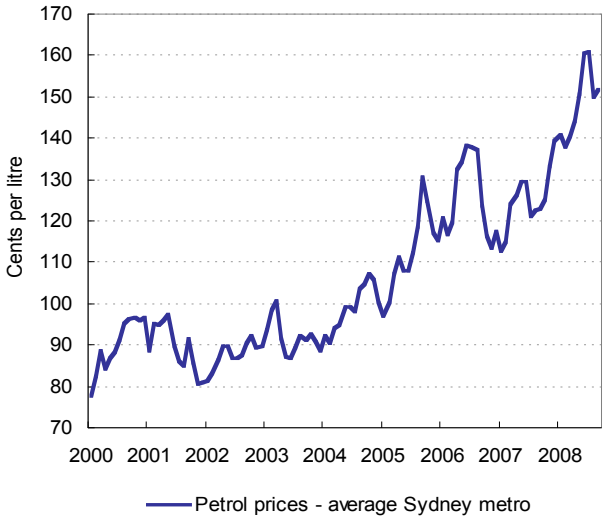
The impact the global credit crisis is having on Australian construction firms is illustrated by the fact that almost one in five is expecting the availability of credit to be a major challenge in the coming year.

Responses to the survey indicate that project disputes (9.0%) and the availability of equipment (6.7%) are less of a challenge for the construction sector.

Input costs

Input costs have increased strongly, underpinned by sharp rises in steel and fuel prices

Chart 7: Monthly average petrol prices and Asia Steel Prices Index (original)



Source: www.aaa.asn.au and www.crugroup.com.

Steel and other metals

Since the beginning of 2006, the price of steel has risen sharply, underpinned by surging demand from the large developing nations of China and India. While the 'boom' in commodity prices has benefitted Australian metals exporters and boosted the nation's income, it has added considerably to the production costs of local construction firms.

Following a 26% fall between 2000 and 2002, the Asian price of steel lifted by almost 50% in the three years to the end of 2005, driven by increasing demand from China and India. The Asian price of steel reaccelerated at the beginning of 2007, growing by 40% in 2007 and rising by an additional 61% in the first half of 2008.

In the three months since June 2008 the Asian price of steel has fallen 18.8%, although it remains very high in recent historical terms.

The strong growth in the price of steel has hit Australian constructors hard and has lead to significant downward pressure on their profit margins.

A similar trend has been apparent for copper and aluminum prices, with the price of both having lifted solidly over the past three years.

Fuel

The surging price of fuel has also placed strong downward pressure on the profit margins of Australian construction firms, particularly those who rely on large fleets to transport equipment and materials. Between January 2003 and December 2006, the average monthly price of fuel in metropolitan Sydney lifted by 25.2%. Since the end of 2007, growth in petrol prices has been even more pronounced, rising by 34.7%.

Diesel prices have also lifted significantly since the beginning of 2003, rising by more than 50% in most Australian capital cities.

Rising fuel prices have both a direct and indirect impact on the cost of construction.

Higher fuel prices increase the cost of transporting equipment, employees and other inputs to and from construction sites. It also increases the costs of producing construction materials, leading to an increase in the price paid by constructors.

Construction materials and bitumen

While growth in the price of construction materials has remained broadly steady in recent years, it has picked up slightly the beginning of 2007. The ABS definition of construction materials includes: glass & glass products; ceramic products; and cement, lime, plaster & concrete products. Construction materials exclude the metal products, oil and labour used in construction.

Annual growth in the price of construction materials has lifted from an average rate of 1.9% in 2006 to 2.5% in 2007. In the first half of 2008 it had risen further to an average annual increase of 3.0%.

The price of bitumen has increased considerably since 2004, rising by more than 50% to the beginning of 2008.

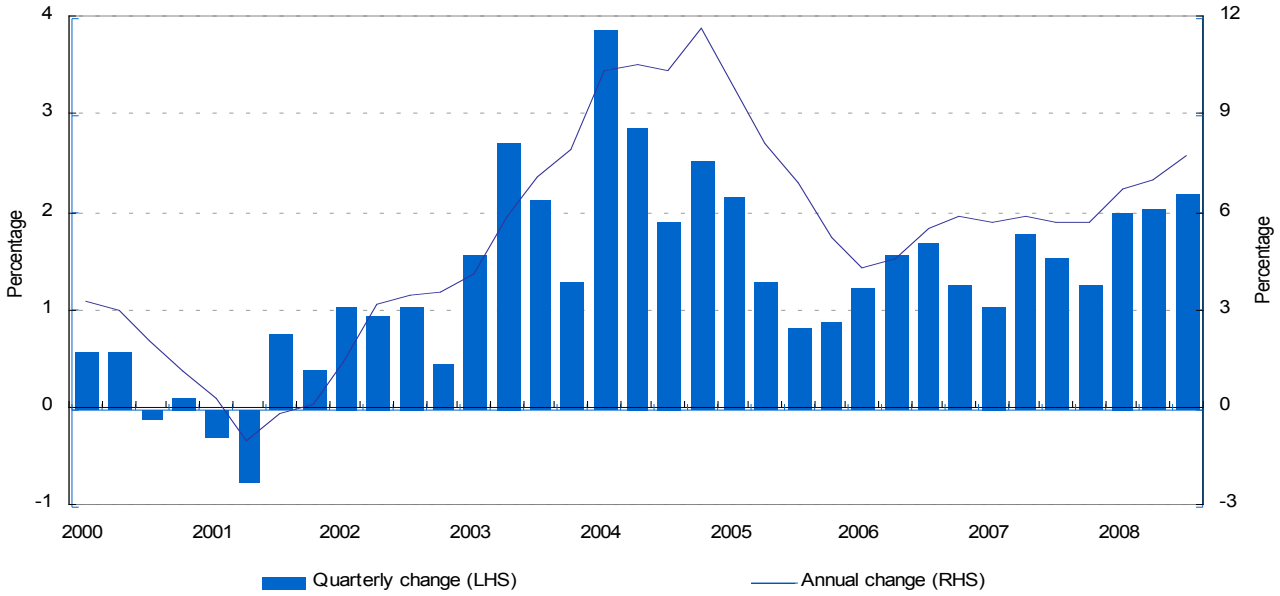
Outlook

The price of both steel and fuel have started to moderate in recent months. The outlook is for lower prices as a result of likely recessionary conditions in some developing countries, as well as slower growth in China.

Output prices

Growth in non-residential building output prices has trended up since early 2006

Chart 8: Growth in non-residential building construction output (original)



Source: ABS Cat No. 6427.0 Producer Price Indexes, Australia: September 2008

Recent trends

The construction industry has experienced continuous growth in output prices since mid-2001, with annual growth peaking at almost 12% in late 2004. Since then growth has moderated before again trending upwards, moving towards 8% by September 2008.

In the same period of time, input costs increased at a much faster pace, signaling continued strong pressure on margins.

The price index for the output of the general construction industry increased by 2.2% in the September quarter 2008, and by 7.7% through the year.

From March 2006, Western Australia has registered the strongest increase in output prices, with an average quarterly growth rate of 2.8%. This is followed by Victoria at 1.9%, Queensland at 1.4%, with New South Wales and South Australia both at 1.2%.

The increase in output prices was largely driven by a rise in the costs of steel, fuel and concrete.

Outlook

The combination of slowing demand for construction; increased competitive pressures; and the need for constructors to undertake discounting, is likely to lead to a moderation in output cost increases. Annual growth in output prices is likely to fall back to around 3% in the coming period, similar to the rate of increase registered throughout 2002

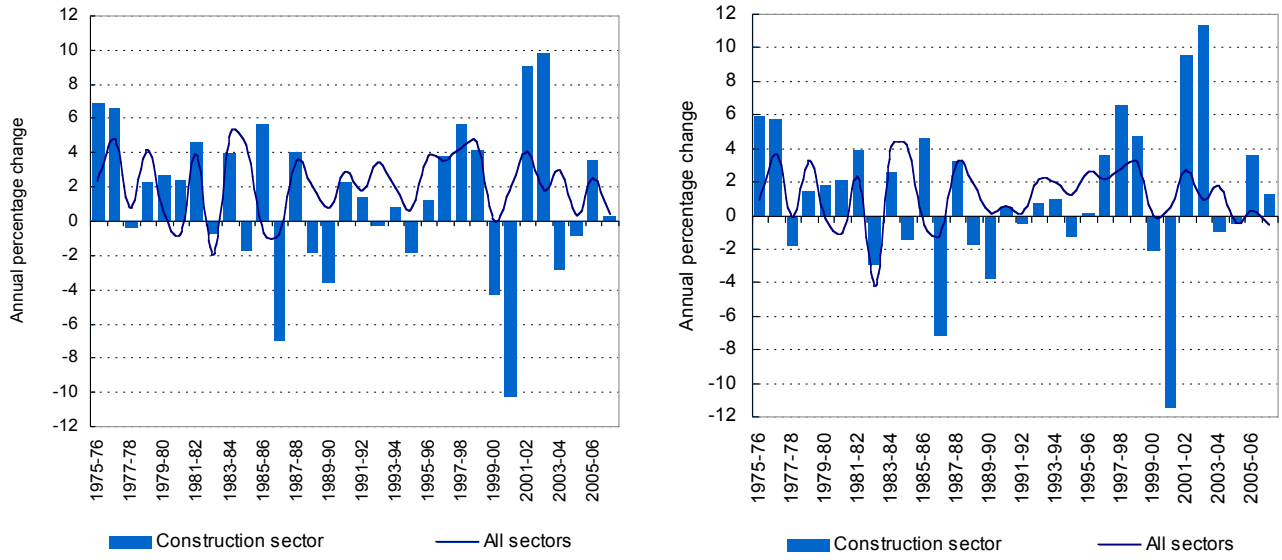
Competition for available work in the industry is strong, however, and this will further restrict the ability of firms to recover costs.

The softer growth in the price of construction outputs will place increasing pressures on the profit margins of companies in the industry.

Productivity

Strong output growth has contributed to improved productivity in recent years

Chart 9: Annual change in labour productivity (lhs) and multifactor productivity (rhs)



Source: Productivity Commission, Australia's productivity performance database.

Recent trends

In recent years, Australia's construction sector has seen a strong increase in overall productivity growth compared to the late nineties. Labour productivity is defined as the ratio of output to hours worked. Multifactor productivity (MFP) is defined as the ratio of output to combined inputs of labour and capital; and is often referred as a measure of technological change.

As the charts above highlight, productivity data is volatile from year to year and is also cyclical for a number of reasons, including that employment growth tends to lag output growth. To overcome these problems, the ABS measures underlying productivity trends by calculating annual average rates of growth between peaks in productivity cycles.

Labour productivity grew at an annual rate of 3.1% per annum in the late-1990s cycle (1993-94 to 1998-99); the fastest rate on record. This resulted from very strong multifactor productivity growth of 2.3% per annum, more than a full percentage point per annum above the long-run average. Industry productivity grew rapidly during the mid-nineties, including construction, although significantly weaker than most other sectors (see table 2).

Outlook

Productivity data has been unusually weak in recent years (since 2004-05 to 2006-07) across most sectors. Labour productivity (output per hour worked) in Australia's market sector increased by only 0.4% in 2006-07, while multifactor productivity (output per combined input of labour and capital) fell by 0.6%.

In contrast, productivity in the construction sector has been higher than the economy overall, due to a much stronger level of multifactor productivity; 1.4% on average over the last three years.

Table 2: Growth in industry productivity (1974 -1999)

	1974-1975 to 1981-1982	1981-1982 to 1984-1985	1984-1985 to 1988-1989	1988-1989 to 1993-1994	1993-1994 to 1998-1999
Agriculture	1.6	1.1	1.4	2.6	4.3
Mining	-1.7	0.5	2.6	2.5	1.2
Manufacturing	2.1	1.8	1.7	1.6	1.3
Electricity, gas & water	2.0	3.2	4.2	3.7	1.8
Construction	1.4	0.4	-0.3	-0.2	0.4
Wholesale trade	-0.7	-0.9	-0.5	1.2	3.2
Retail trade	1.0	0.6	-0.2	0.1	1.0
Accom. cafes & restaurants	-0.9	-1.3	-1.9	-1.6	-0.3
Transport & storage	2.2	1.2	1.0	1.4	1.9
Communication services	6.5	4.9	4.8	4.9	3.7
Finance & insurance	-2.0	-1.0	0.2	0.7	0.8
Commun. Rec. services	-1.4	-2.2	-2.9	-3.1	-3.3

Source: Parham, D, "Sources of Australia's Productivity Revival, Productivity Commission, 2004

Stronger productivity in the construction sector has also been a byproduct of stronger output growth over recent years. As well, Econtech has estimated that reforms to the building industry through the Office of the Australian Building and Construction Commissioner were responsible for 10% of the improvement in labour productivity.

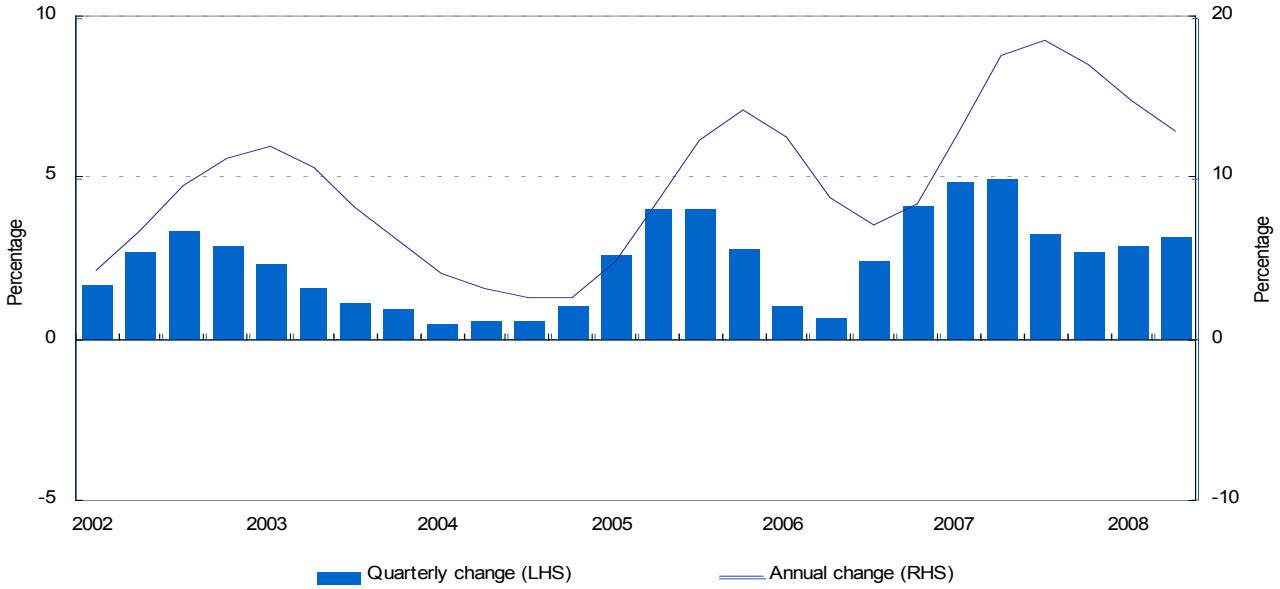
The sector's contribution to the overall growth in recent years has been significant, with Allen Consulting Group (for the ACA) estimating that, in the absence of the stronger productivity performance, GDP growth would be 0.5% lower today.

Whether this improvement can be sustained in the construction sector must be questioned in the light of the weakening performance across the rest of the economy and the declining fortunes of the housing and apartment sectors over recent years.

Sales

Growth in construction sales has eased following a strong performance in 2007

Chart 10: Growth in sales – total construction industry (nominal, trend)



Source: ABS Cat No. 5676.0 Business Indicators, Australia: June 2008.

Recent trends

Construction sales can exhibit significant volatility due to a wide range of factors, including:

- Long project lead-times and a wide diversity in the market segments of the industry;
- Rapid and substantial changes in demand, often based on the need for new accommodation, factories, shops, storage and offices;
- Economic drivers such as movements in interest rates; and
- Changes in demography.

Despite the volatile nature of construction sales, growth has continued uninterrupted since 2002 (see chart 10). This is consistent with the solid expansion in construction activity, in particular non-residential building, over the period.

Since the beginning of 2002, construction sales have been characterised by moderating growth though 2003 and 2004, with this trend linked closely to an easing in the house construction cycle. Further weakness was evident over the first half of 2006 due to an easing in house building and underlying non-dwelling construction investment.

The pick-up in construction profits in 2007 coincided with a period of strong growth in activity and sales and was supported by an improvement in house building activity and continued strong stimulus from the resources sector.

Outlook

In recent months, growth in construction sales has moderated, with annual growth easing 18.6% in September 2007 to 12.8% in the June quarter 2008.

The easing in sales growth reflected: renewed weakness in the housing sector as higher interest rates finally took their toll on activity; on-going declines in apartment construction; and softer conditions in the engineering and commercial sectors, following a prolonged period of solid growth.

Construction firms on a broad industry front linked these conditions to weakness in market demand. There have also been reports from firms operating in the non-residential building markets of delays in project commencements due to market uncertainty and difficulties in raising funds.

The global economic and financial crisis is expected to have a significant impact on construction sales over the coming months, leading to a further moderation in growth.

In fact, the October **Australian Business and the Global Economic and Financial Crisis Survey** showed that almost 50% of constructors had already attributed a decline in sales to the credit crunch.

The order books of construction firms have also been battered by the global credit crisis, with the October **Australian Business and the Global Economic and Financial Crisis Survey** revealing that more than one-third have experienced a strong negative impact on new orders.

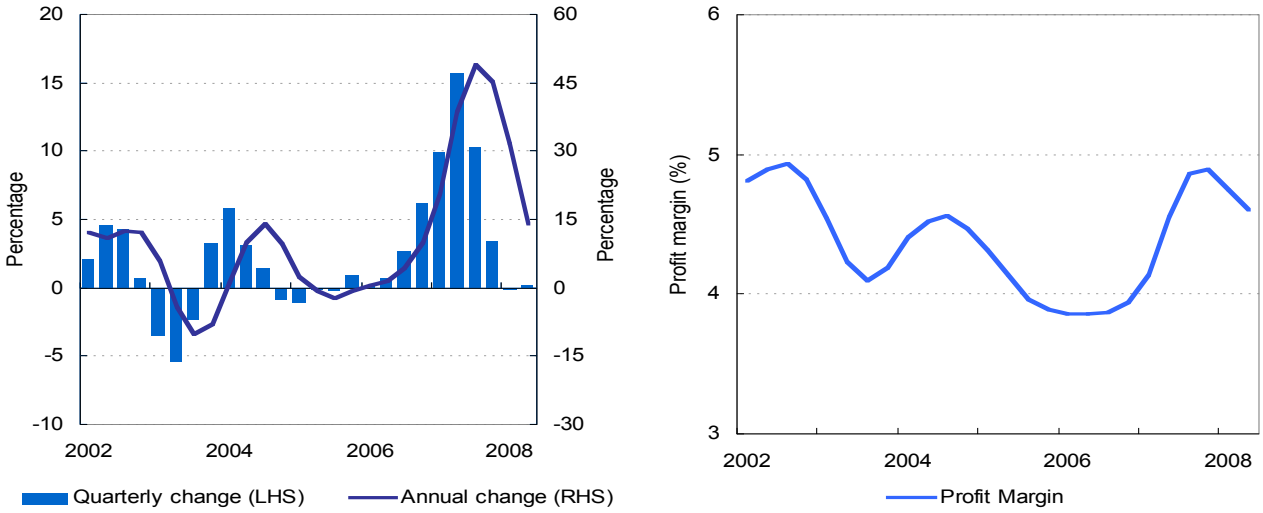
The weak outlook for new orders suggests the current weakness in construction sales is likely to be sustained over the coming months.

The uptake of new work by firms operating in the engineering and commercial sectors has been in decline since early 2008, although the high value of projects currently earmarked for commencement is expected to support firmer orders and sales.

Profits and margins

The surge in construction profits in 2007 has subsided in the first half of 2008

Chart 11: Growth in profits and actual profits margins – total construction industry (nominal, trend)



Source: ABS Cat No. 5676.0 Business Indicators, Australia: June 2008.

Trends in profits

Company profits, by nature, are especially volatile and this has historically been the case for Australia's construction sector. Despite this volatility, growth in construction sector profits was particularly strong throughout 2007, following relatively modest growth in the preceding five years.

Between 2002 and 2006, construction sector profits grew by an average quarterly rate of just 1.1%. By contrast, the average quarterly rate of growth in 2007 was 9.8%.

The pick-up in construction sector profits in 2007 coincided with a period of strong growth in activity and sales, and was underpinned by a strong domestic economy and a booming resources sector.

Consistent with the easing in activity and sales, quarterly growth in construction sector profits moderated from late 2007 to be flat in the first two quarters of 2008.

The turmoil in global financial markets is likely to impact negatively on construction sector profits in the coming year. In addition to reduced demand for construction, the credit crunch is likely to impact on construction profits through:

- A rise in the cost of debt; and
- Tighter credit conditions and subsequent delays in project commencements.

While demand for construction is likely to remain subdued, the cost of raw materials, namely steel and fuel, are expected to remain high, placing additional downward pressure on construction profits in 2009.

Trends in profit margins

Since 2002 construction profit margins (profits as a proportion of sales) have generally remained within a band of 4 to 5%, averaging 4.4% over the period. The average profit margin for the construction sector is lower than those for all other sectors of the economy (manufacturing, mining, property & business services and transport & storage); excluding retail trade (2.6%) and wholesale trade (4.1%)

Excluding a slight pick-up in 2004, profit margins for the construction sector exhibited a downward trend between 2002 and 2006, falling from 4.9% in mid-2002 to 3.9%, where margins remained throughout 2006. The lower profit margin ratios in 2006 coincided with subdued growth in total profits during the period.

Since late 2006, profit margins for the construction sector have resumed an upward trend, lifting back to 4.9% by the end of 2007. Thereafter, margins eased to a level of 4.6% during the June quarter 2008, and are expected to come under increasing pressure over the coming year.

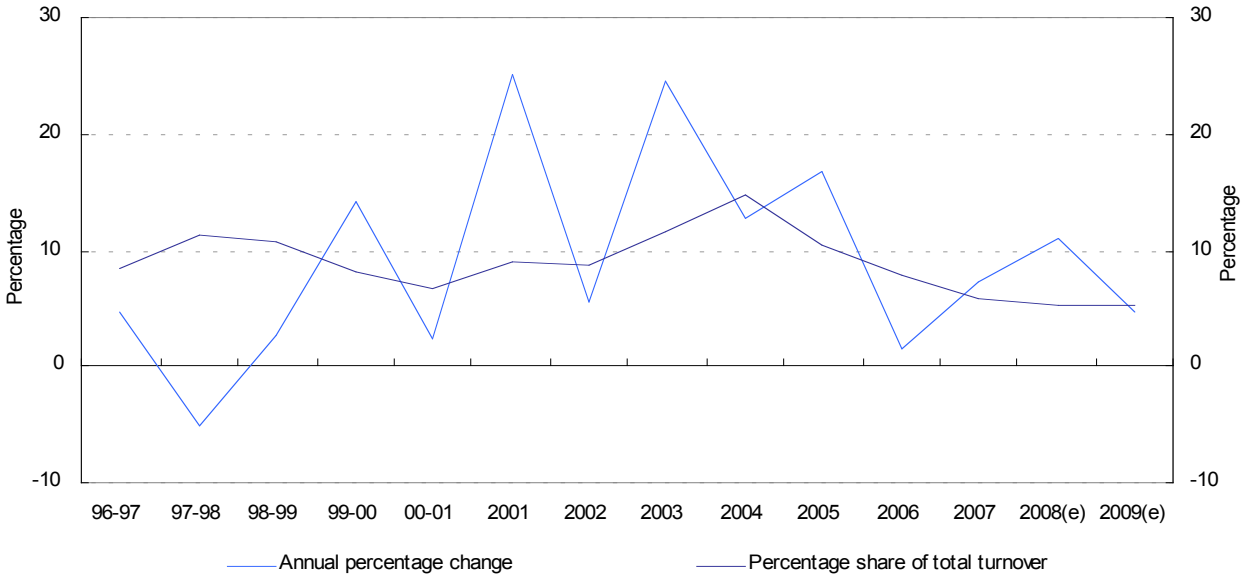
Underlying these pressures, are those factors directly impacting on profits, as well as the increasing competition for the available construction work.

Moreover, as growth in demand moderates further and the number of project cancellations potentially increases, construction companies will be more likely to take on work that delivers little or no profit, just to keep their labour and capital resources employed and to maintain cash flow. This will place firms in a vulnerable position, with little or no capacity to deal with unexpected risks when they arrive.

Overseas business

Australian constructors have adopted strategies for global engagement

Chart 12: Growth in revenue from overseas business and as a % of total turnover (current dollars)



Source: Australian Industry Group/ACA Construction Outlook survey, May 2008

Recent trends

The overseas construction market for Australian-based construction firms, defined by revenue from overseas business, has registered growth since the mid-1990s in line with the trend for construction activity to become increasingly globalised.

The ***Australian Industry Group/ACA Construction Outlook*** **Survey** reveals that revenue from overseas business expanded by 7.3% (current dollars) in 2007, representing the 10th consecutive year of growth, with the annual rate of increase since 2002 averaging approximately 13% per annum.

Moreover, revenue from overseas projects accounted for 5.8% of all construction revenue in 2007. While this was below the peak years of 2003 and 2004, it constituted the seventh largest market segment for respondent firms in 2007.

Additional research by the Australian Industry Group and ACA has found that the leading construction firms are adopting a more global outlook in their businesses in terms of engagement in overseas construction activities and adoption of strategies to improve their presence in the global market.

This degree of integration in the global economy also reflects a desire to remain competitive and keep pace with the necessary actions and investments to achieve global fitness.

Key trends emerging in the Australian Industry Group/ACA research include: a focus on improving business processes to increase productivity; a focus on lifting investment in new technology; and an emphasis on lifting the skills capabilities of staff through training.

Leading firms are also becoming more focused on globalising their operations geographically, and establishing a local presence in the markets in which they operate.

This trend involves a number of strategies, with a high proportion of firms reporting that they are likely to establish alliances and invest in joint ventures and partnerships with local contractors. This reflects the importance of factors such as: gaining access to overseas production networks; gaining cost advantages; gaining familiarity with the local market; and reducing risk by pooling expertise.

Other strategies include the intention to engage in the sharing of information with strategic partners and to establish overseas operations to grow market share.

The forces driving alliances and joint ventures also underpin intentions by some firms to be involved in mergers and acquisitions and to undertake joint R&D design.

Outlook

It is expected there will be continued deployment of the above strategies by firms new to the overseas market in order to facilitate entry and by established firms in order to build market share.

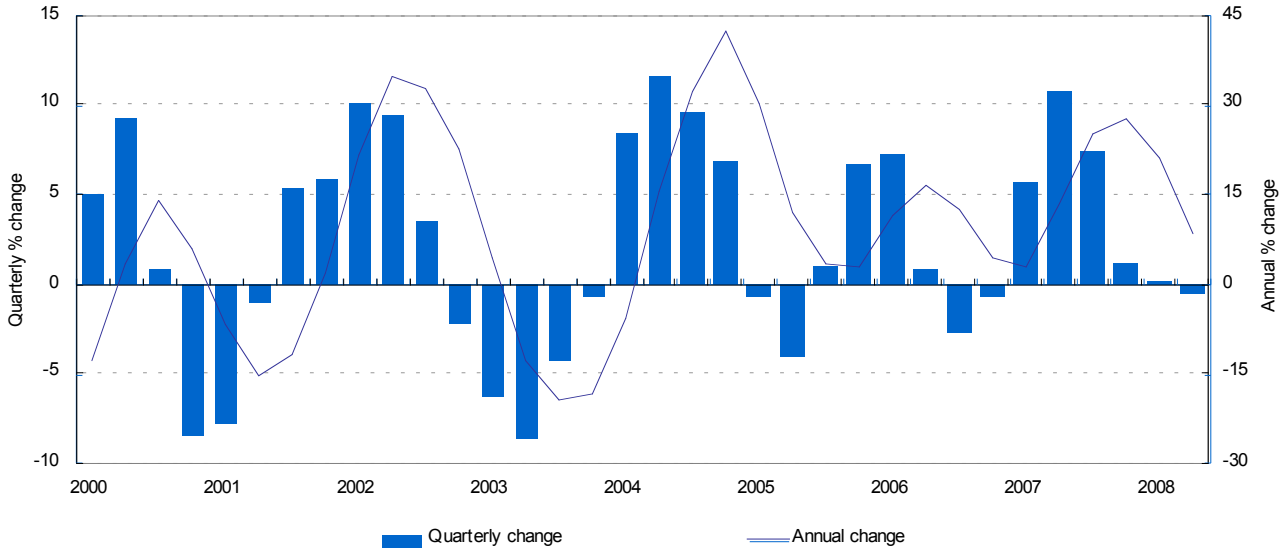
Total revenue from overseas business is expected to register stronger growth in 2008 of 11%, before easing to a rate of 4.6% in 2009. Nevertheless, this slower growth is off a high base, and the full two-year projected growth is expected to generate approximately $2 billion of additional work for respondents (100 leading companies) over this period.

Off-shore markets that are expected to offer the strongest growth prospects include the Middle East, China, India, New Zealand and South East Asia.

Capital expenditure

Australian construction capital expenditure appears to be entering a period of weakness

Chart 13: Growth in capital expenditure – total construction industry (nominal, trend)



Source: ABS Cat No. 5625.0 Private New Capital Expenditure and Expected Expenditure, Australia: June 2008.

Recent trends

Non-residential building construction has expanded for seven consecutive years and for much of this period, investment expenditure has been positive.

Trends in construction capital expenditure are illustrated in chart 13, which measures both quarterly and annual growth rates over the eight years to the June quarter 2008.

The strength in construction capital expenditure during this period has been underpinned by strong demand by project firms for capital inputs including: construction lifting and handling equipment; machine tools; cranes; earthmovers; drilling equipment; and lifts & elevators.

Technological innovation has been a further factor supporting the growth in investment, with firms increasing their uptake of information technology in design, engineering and construction processes and utilising new forms of on-site plant and equipment (including automation and robotics) and new components and assembly systems. This reflects the increasing scale, specialisation and sophistication of major construction projects.

While investment expenditure has been generally increasing since 2000, it has been subject to considerable volatility. This reflects the "lumpiness" of much of commercial and engineering construction investment activity, due to the long lead times and the irregular nature of major projects.

The pattern of investment since the start of the decade has been characterised by two periods of notable weakness, in 2001 and 2003-04.

The fall in investment in 2001 was largely GST-induced (after a significant amount of work was brought forward prior to the introduction of the GST), while the 2003-04 weakness corresponded with a pull back in private dwelling investment from the peak level of 2002.

Outlook

Recent trends reveal flat growth in construction investment in the last quarter of 2007 and the first half 2008. This led to a decline in the annual rate of growth, from 27.6% in December 2007 to 8.6% in June 2008.

The October 2008 **Australian Business and the Global Economic and Financial Crisis Survey** also showed that 53.1% of firms in the construction sector have seen the crisis have a negative impact on their capital investment plans, suggesting the sector is in for a period of weaker investment over the coming year.

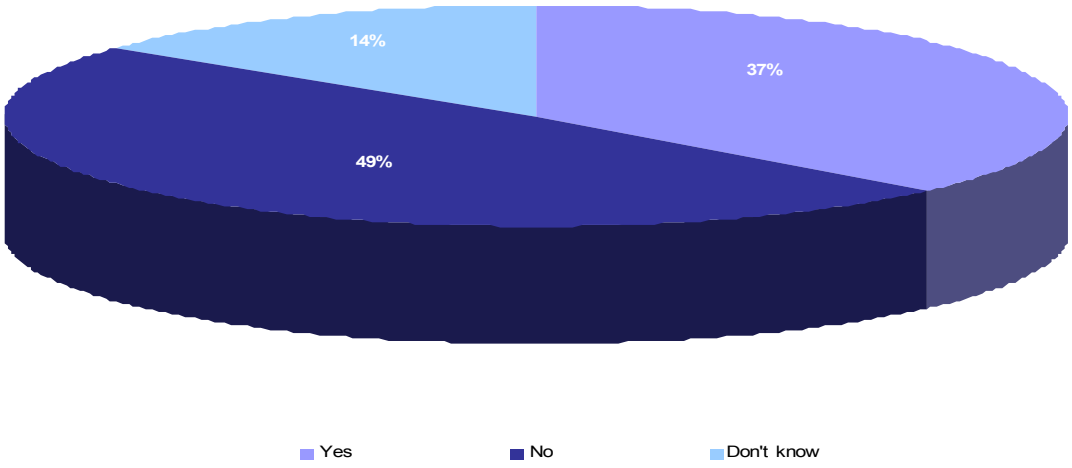
In addition to the impact of the global economic and financial crisis, the fact that key commercial property sectors, such as offices and retail building, are approaching or passing peak levels of activity suggests the moderation in construction capital investment is likely to continue over the next 12 months.

Any downturn in construction capital expenditure may, however, be limited by continued strength in Australia's engineering and mining construction sectors.

Tendering process

Almost half of construction firms are unsatisfied with the information released to the market during the tender request phase

Chart 14: Satisfaction with information released to the market during the tender request phase



Source: Australian Industry Group Construction Update survey, June 2008.

The ***Australian Industry Group Construction Update*** **Survey** asked firms whether they were satisfied with the information released to the market during the tender request phase. Almost half of the respondents (49%) indicated they are not satisfied with information released during the tender request phase, compared with 37% who are satisfied and 14% who are unsure.

The respondents unhappy with the tendering process gave many reasons for their dissatisfaction, all of which lead to increased costs. Some of the most commonly cited reasons for dissatisfaction are:

- Poor specifications, lack of detail, incorrect information;
- Poorly prepared plans and variations to plans;
- Increased risk to the builder;
- Disputes as to the extent of work being carried out;
- Time delays;
- Lack of available labour; and
- Unrealistic time lines.

Respondents stated that these problems lead to cost increases, which in turn lead to a reduction in profitability for the contractors carrying out the work.

Scope omissions and variations lead to an increased work load for builders; disputes with the client; and decreased margins. In order to override expected increases in project costs, many companies are raising their estimates to cover potential blow outs. By doing this, they are often losing their competitive edge and therefore losing bids.

Respondents who are not satisfied with the tendering process also noted that poor quality documentation and constant changes means they are retendering the same job several times.

They feel there is too much time being wasted and they do not have enough control over the process, which is leading to frustration.

The short timeframes available for tender often mean there is inadequate time for checking and too much risk is being transferred to the builder. Around 40% of construction projects are considered to have been inadequately scoped before going to tender[5]. Of these projects, 55% go over budget and around 40% run over time.

Releasing projects for tender without complete information means that, with constant revisions to the scope, the size of the project can become much larger. Contractors found that the time allowed for completion however, did not increase in line with the size of the project and that a lack of available labour meant that they didn't have the resources available to complete the project in a compressed time frame.

Contractors believe that many of these problems can be avoided if the firm bringing a project to the market is prepared. A focus on better defining the scope of projects from the outset and ensuring the design is complete will ensure many of these problems do not occur and help avoid future disagreements and disputes.

Bid costs

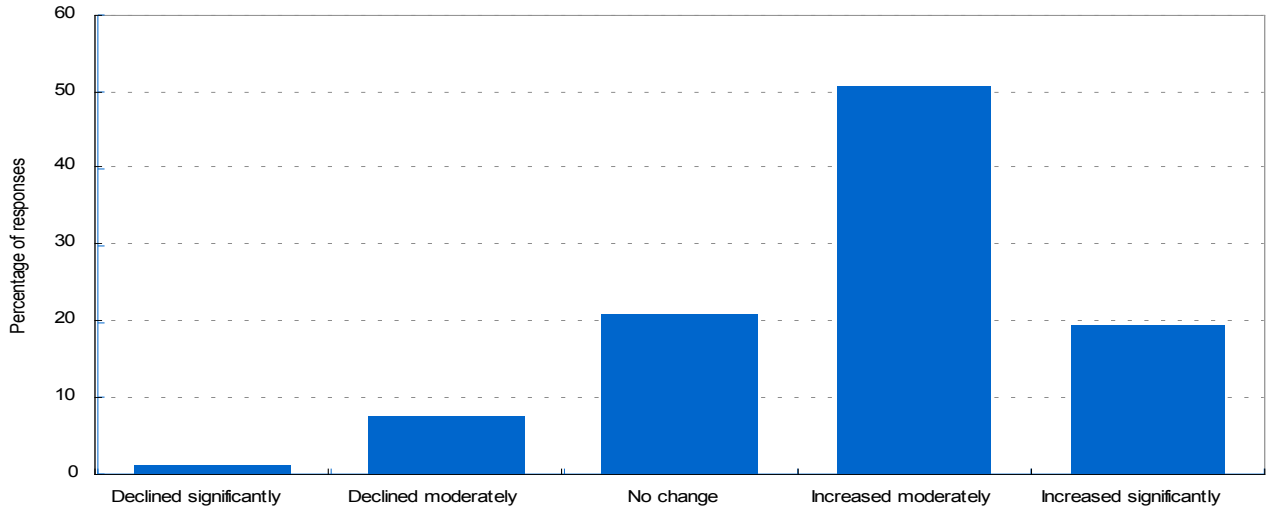
Bid costs form an increasingly significant element of overall project costs. This can mean only large firms have the capabilities to put in tenders for work and this may have the impact of reducing competition by raising barriers to entry for large projects. This may be compounded by the fact that large numbers of company staff are needed to be engaged in cumbersome bid processes for large projects.

The length of project bid processes is also significant and in a rapidly changing construction climate this can reduce certainty for companies and again, reduce the number of tenderers able to bid for projects and sustain the risk and costs of losing a contract.

Transfer of risk

Around 70% of firms have observed an increase in the transfer of risk in recent years

Chart 15: Change in transfer of risk



Source: Australian Industry Group Construction Update survey, June 2008.

One of the significant challenges facing construction firms in the tendering process is the sometimes inappropriate allocation of risk to the constructor. As clients set the parameters of the tender, they have the ability to allocate risk and often pass it on to the contractor. In order to remain competitive, constructors accept this risk, despite the fact that they are often not the party best equipped to manage it.

In the ***Australian Industry Group Construction Update*** **Survey**, respondents were asked, as part of their client relations, what changes there had been in recent years to the transfer of risk to their business.

Just over half (50.6%) indicated that the transfer of risk has increased moderately, while 19.5% advised that it has increased significantly. Combined it shows that overall 70.1% of respondents have experienced an increase in the transfer of risk in recent years.

The Blake Dawson Waldron and Australian Constructors Association study ***Scope for Improvement*****, A Survey of pressure points in Australian construction and infrastructure projects (2006),** reported that "the issue of risk allocation is at the heart of what many respondents refer to as a "them and us culture within the industry."

The report noted that parties need to realise that passing on an unmanageable risk does not always provide certainty. It often makes a dispute inevitable and places successful delivery of the project in jeopardy.

This is not just an Australian problem. The KPMG ***Global Construction Survey 2005: Risk Taker, Profit Maker?***[6] reported that 30% of respondents felt that an abdication of risk by clients was the most significant cause of contractual disputes.

There are many areas of risk that are unreasonably transferred to contractors commercially. These include:

- Unreasonable indemnities;
- Unreasonable warranties and guarantees;
- Inadequate documentation;
- Poor scope and successive variations to plans, resulting in subsequent increased costs being borne by the constructor cash flow;
- Timeframes pressured by changes to plans and approval processes; and
- Non-payment of variations by clients;

It is thought that almost 70% of constructors accept these risks that are passed on to them, regardless of whether they are appropriately able to manage them. Often, they have little choice but to accept them in order to remain in the business of construction.

Some of the risks they believe they should not bear include:

- Delays caused by events over which they have no control;
- Site conditions; and
- Approvals.

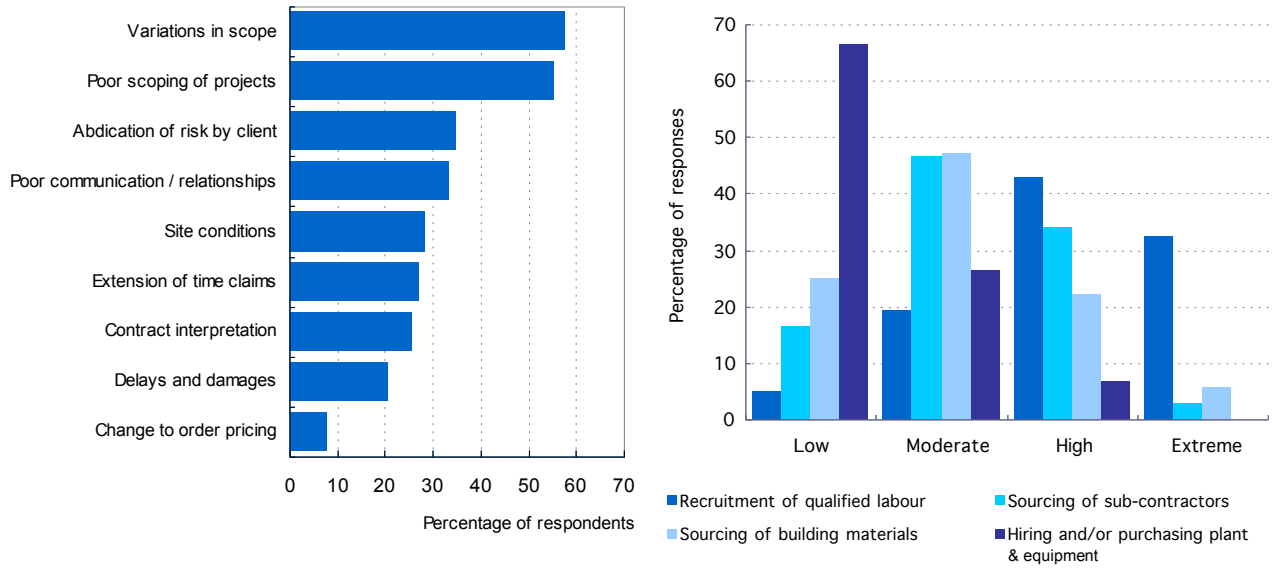
In the ***Scope for Improvement*** study report, the authors strongly assert that unless constructors refuse to accept this risk, the client has no incentive not to pass them on, stating "this matter is solely in the constructor's domain".

They believe constructors should be more conservative in their attitude to accepting risk and resign themselves to the possibility of losing work, in order to change the situation. Another problem emerging from this process is that risk gets passed on down the line. Construction firms then move this risk to their sub-contractors, who are further unable to manage it.

Project management

Issues of scope are the most significant cause of contractual disputes

Chart 16: Causes of contractual disputes and assessment of operational difficulties



Source: Australian Industry Group Construction Update survey, June 2008.

Contractual disputes

Following on from the tender process, contract negotiations were found to often have an adversarial tone with an 'us' and 'them' attitude from both parties. This is unhelpful for any type of negotiation. When contract negotiation was not entirely successful and there were disputes, there were common themes and causes that emerged.

When asked what the three most significant causes of contract disputes are, scope is overwhelmingly listed as being the most significant issue. 'Variations in scope' was nominated by 57.7% of the survey respondents, while the 'poor scoping of projects' was cited by 55.1%.

The 'abdication of risk by clients' is a significant cause of contract dispute for 34.6% of constructors, while 'poor communication/relationships' are an issue for one third (33.3%).

'Site conditions' are a significant cause of contractual disputes for 28.2% of respondents, followed by the 'extension of time claims' (26.9%); 'contract interpretation' (25.6%); and 'delays and damages' (20.5%).

Parties are looking at new approaches to confront the challenge of conflict. Increasingly Dispute Resolution Boards (DRBs) are being used on major projects to resolve conflicts as they occur and, failing that, to control the conflict and its related costs.

Many major projects are also now delivered using an Alliance model in an endeavour to better manage complex project risks.

Operation difficulties

In an operational sense, there are common areas of difficulties for constructors.

Survey participants were asked to what extent they are experiencing difficulties in the operational areas of:

- Recruitment of qualified labour;
- Sourcing of sub-contractors;
- Sourcing of building materials; and
- Hiring and/or purchasing plant and equipment

As discussed in the section on skill shortages, the recruitment of qualified labour is considered the operational area of most difficulty for construction firms. Almost one third (32.5%) of respondents have experienced extreme difficulties in recruiting qualified labour, while another 42.9% consider it a difficult operational area.

By contrast, only 5.2% of construction firms regarded the recruitment of qualified labour as 'low' in difficulty. This is clearly the toughest operational issue facing construction firms, with just over three quarters (75.3%) experiencing a high to extreme level of difficulty.

By contrast, just 2.7% of respondents found sourcing sub-contractors to be an extremely difficult operational issue, with a further 34.2% deeming it to be highly difficult. Nearly half of the respondents (46.6%) considered it to be an operational issue of moderate difficulty, with an additional 16.4% regarding it as low in difficulty

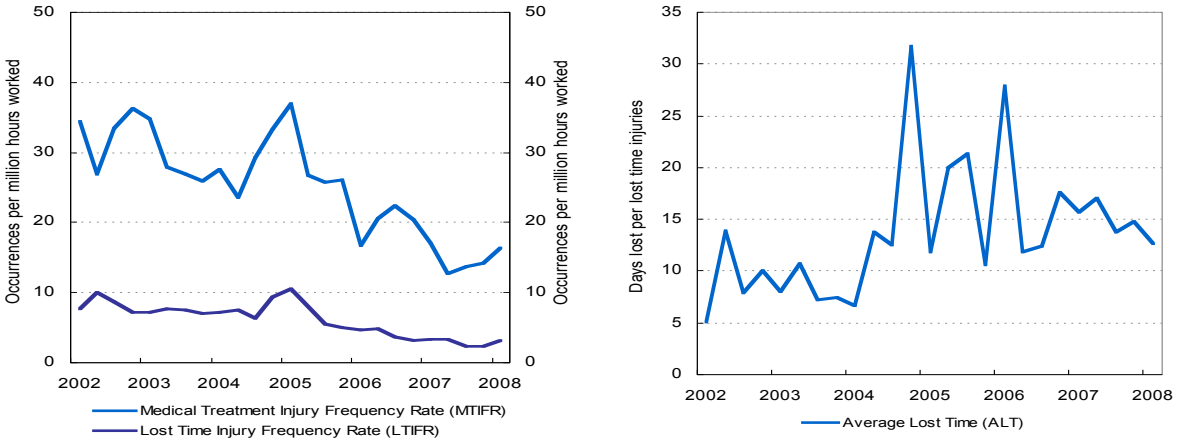
Sourcing building materials is considered extremely difficult by 6% of respondents and highly difficult by 22%. Just under half of respondents (47.2%) regard it as an issue of moderate difficulty, with a further 25% deeming it to be low in difficulty.

As noted in an earlier chapter, rising input costs are imposing significant pressure on the industry. Contractors and clients are seeking equitable commercial arrangements to manage this risk through rise and fall provisions in contracts.

Occupational health and safety

Key measures of OHS performance have registered an improving trend

Chart 17: Injury frequency rates in the construction sector and average lost time due to injuries (national average)



Source: Australian Constructors Association OHS Performance Assessment Survey

Incidence of compensated claims

Occupational health and safety (OHS) remains a primary focus of the construction industry's major contractors, with the aim of adopting the highest standards wherever possible.

The major construction companies recognise the considerable social costs and penalties incurred by employees affected by workplace incidents and are, therefore, committed to achieving a significant and on-going improvement in its OHS and rehabilitation performance.

Nevertheless, the incidence rate of serious compensated workers' compensation claims in the construction industry as a whole remains much higher than the aggregate for all Australian industries.

In 2005-06, there were 25.3 claims per 1,000 employees in the construction industry (down by 24% on 2000-01), compared with 15.6 claims per 1,000 employees for Australia (down by 17% on 2000-01)[7].

OHS Performance Assessment Survey

In response to the need to drive continuous improvement in OHS practices across the industry, and establish best practice targets, in 2001 the ACA initiated an ***OHS Performance Assessment Survey***. The survey is conducted on a quarterly basis and its aim is to enable participating companies to benchmark their OHS performance with respect to various key indicators and to utilise survey data to lead improvement.

The ***ACA OHS Performance Assessment Survey*** focuses on four lag or outcome measures of performance:

- Fatalities,
- Medical treatment injury frequency rate or MTIFR (number of occurrences per 1 million hours worked);
- Lost time injury frequency rate or LTIFR (number of occurrences of injury or disease per 1 million hours worked); and
- Average lost time or ALT (number of working days lost per lost time injuries recorded).

The ACA survey complements the industry's support and involvement in the ***Australian Government Building and Construction OHS Accreditation Scheme***. This scheme operates such that, subject to certain thresholds, only head contractors who are accredited under the scheme can enter into contracts for work funded directly or indirectly by the Government.

Accredited ACA member companies are also signatories to the Federal Safety Commissioner's *Leading the Way* charter. CEOs have agreed to drive cultural change – not only in their own companies but across the industry.

Despite evidence of improving performance trends on an average basis for all companies surveyed, the results from the survey clearly demonstrate the scope for additional and on-going improvements.

A total of 22 fatalities were recorded between the June quarter 2001 and the March quarter 2008, although the fatalities frequency rate (fatalities expressed in terms of the number of hours worked) has trended lower since the September quarter 2004.

Encouraging findings centre on the improving trend in the MTIFR and LTIFR. In March 2008, the respective national average readings for these indicators were 16.4 and 3.1 occurrences per million hours worked, down from 41.7 and 9.8 in June 2001.

It is also evident that the performance outcome for ALT has improved in recent quarters after registering peak readings between December 2004 and March 2006. The ALT national average reading in March 2008 stood at 12.6 working days lost per lost time injuries, compared to an average of 20.6 during the six quarters to March 2006.

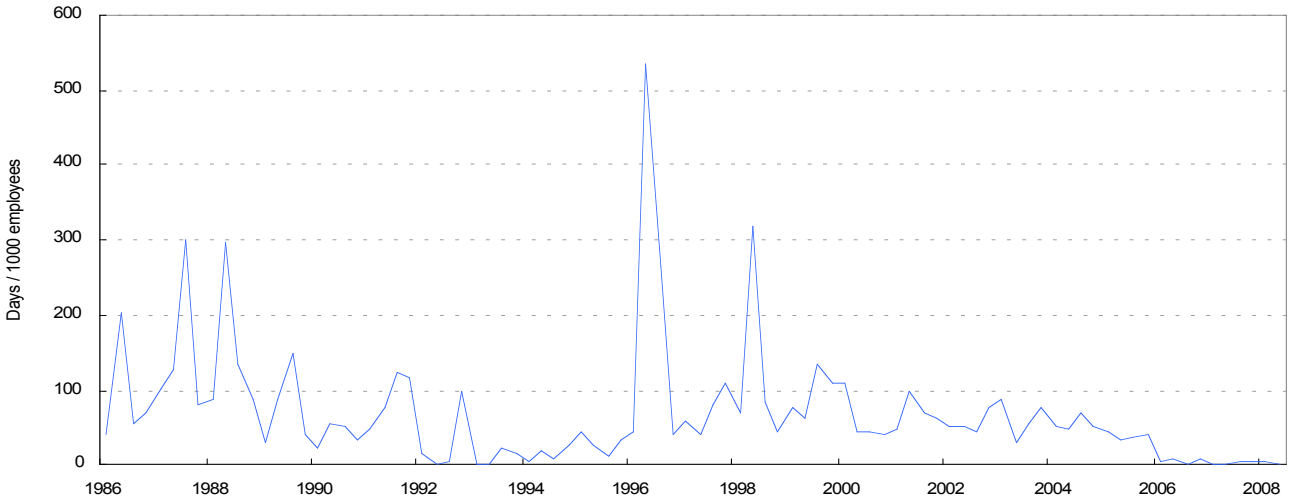
On an industry sector basis, key findings centre on the trend improvement since the March quarter 2005 in the MTIFR for the building and engineering sectors.

Further, the LTIFR findings highlight a high degree of improvement in the building sector since the March quarter 2005. Over the 12 quarters to March 2008, the LTIFR recorded an average reading of 6.1 as against an average reading of 11.9 over the 12 quarters to March 2005.

Industrial relations

Industrial disputation is at an all time low

Chart 18: Days lost to industrial disputation



Source: ABS Cat No 6321.0.55.001- Industrial Disputes, Australia: June 2008.

The Australian construction industry has enjoyed a period of remarkable industrial stability since 2004.

Industrial disputation is at an all time low – from 86.3 days lost per 1,000 employees in the March 2003 quarter to 2.0 days lost per 1,000 employees by June 2008.This decline has accompanied strong growth in revenues, employment and productivity. Meanwhile, wages have continued to grow significantly aided by a buoyant labour market.

The significant change in the industrial relations environment has been strongly influenced by the Royal Commission into the Building and Construction Industry (2001-2003) and implementation of many of its 212 recommendations. Some of the more significant recommendations resulted in:

- The passage of the *Building and Construction Industry Improvement Act 2005* (BCII Act);
- The establishment of the Office of the Australian Building and Construction Commissioner, and;
- The Australian Government applying the National Code of Practice for the Construction Industry (the Code) and the Australian Government Implementation Guidelines (the Guidelines) to all projects with federal funding.

Changes to the industrial relations system through the *Workplace Relations Amendment (Work Choices) Act 2005*, reinforced many of the changes brought about through the Royal Commission and the BCII Act.

The ABCC has been well-resourced and site visits, education and communications programs, investigations and enforcement activities, have dramatically changed the industrial landscape.

The new Government has declared the ABCC will be retained, fully resourced and fully functional, until 31 January 2010.

The Government has indicated that, from 1 February 2010, the responsibilities of the ABCC will be transferred to a specialist division within the inspectorate of Fair Work Australia.

To assist with the transition to these new arrangements, the Government has initiated a process of consultation and has appointed the Honorable Murray Wilcox QC to lead the consultation process.

The Wilcox review will include the scope of investigations and compliance activities to be undertaken by the new Specialist Division and the powers required by the Specialist Division and its inspectors to undertake those investigations and compliance activities.

The proposed terms of reference also cover the resources that will be required by the Specialist Division and its interaction with other federal enforcement agencies such as the ATO, the ASIC and the ACCC.

However, in May 2008, the construction unions launched a national campaign to abolish the ABCC ahead of the Government's proposed January 2010 timetable. The campaign involved the CFMEU, the AMWU, the AWU, the ETU and the Plumbers Union.

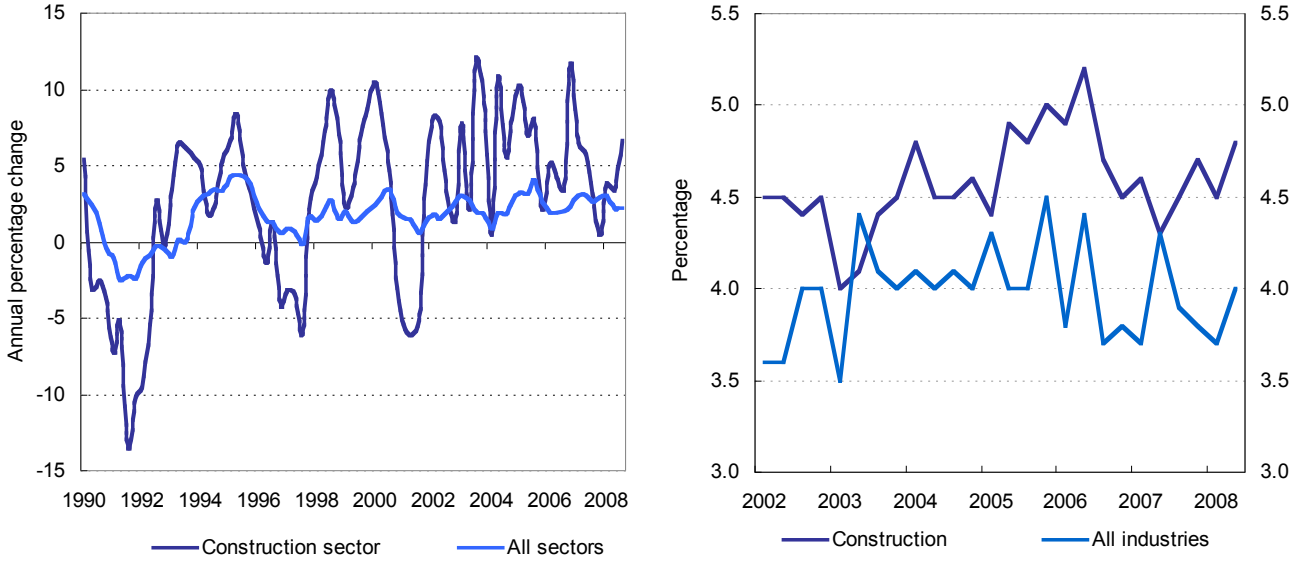
Whilst Australia has enjoyed a period of industrial stability, the return of pre-Royal Commission industrial practices remains a significant concern. The Federal Government recognises the importance of the construction sector to the economic development of Australia and has indicated a strong desire to manage the transition to the new industrial relations system.

Nonetheless, the next 18 months will be challenging as Australia moves to a new IR system; the ABCC reaches the end of its life; and the industry negotiates its way through a new bargaining round.

Employment and wages

Annual growth in construction employment has slowed

Chart 19: Annual change in construction employment and average annualised wage increases



Source: ABS Cat No. 6291.0.55.003, Labour Force, Australia, Detailed, Quarterly, Australia: August 2008 and www.workplace.gov.au

Employment trends

There are 1,000,500 people employed in the construction sector as at August 2008. This represents 9.3% of the total workforce and compares with 7.3% of the workforce a decade ago.

In the last year, around 32,800 people were added to the construction workforce, of which around 17% came from skilled migration under the 457 visa scheme[8].

Employment in the sector has been growing strongly in recent years, at an average annual rate of 6.1% per annum during the six years to August 2007, compared with overall employment growth of around 2.3%, spurred on by the substantial growth in overall activity.

However, the slowdown in house building and apartment activities has seen employment growth in the construction sector slow.

The weaker production outlook, as a result of the global credit crunch, is expected to dampen employment prospects in the construction sector. In fact, the October **Australian Business and the Global Economic and Financial Crisis Survey** showed that employment in half of construction firms had been negatively impacted by the credit crisis.

Employment outlook

Current business conditions suggest that employment growth will remain subdued over the next 12 months, with the possibility that construction employment might even decline over the year.

Employment opportunities will remain strongest in the non-residential construction sector, with employment in the housing and apartment sectors likely to remain steady or fall slightly.

Based on national employment data, it is likely that Queensland, Western Australia and South Australia have been the main source of employment growth in the construction sector.

Skilled migration

There is limited data available on the composition of skilled migrants in the construction sector by country of birth. The number of skilled migrants entering the construction sector has risen from 4,170 in 2006-07 to 5,690 in 2007-08, an increase of 36%.

This was the fourth fastest rate of increase after retail & wholesale trade, transport & storage, and finance & insurance. The construction sector accounted for 10% of all skilled migrants under the 457 visa program, second after heath and community services.

While employment conditions have softened in recent times, there still remain considerable skills shortages in the sector. As a consequence it is unlikely that the number of 457 visa applications will abate over the short-term, implying a small increase (from 17% currently) in the ratio of skilled migrants to total new entrants.

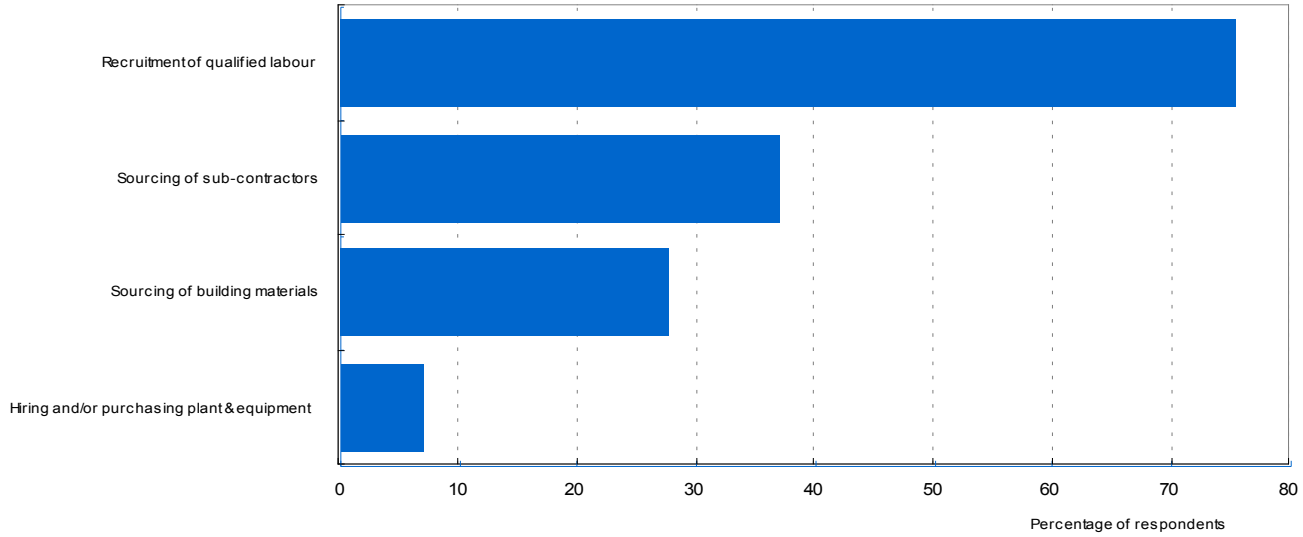
Wages

Wages in the construction sector have continued to grow significantly, aided by the buoyant labour market. Chart 19 presents trends in Federal Enterprise Bargaining since the beginning of 2002 (from the Department of Education, Employment and Workplace Relations). Since the beginning of 2002 average annualised wage increases (AAWIs) for the construction sector have generally exceeded new collective agreements across all industries. Over the six-year period, AAWIs for the construction sector have grown by an average rate of 4.6%, compared with 4.0% average for all sectors.

Skill shortages

An additional 17,000 full-time workers are needed to meet current construction skill needs

Chart 20: Operational areas experiencing difficulties



Source: Australian Industry Group Construction Update survey, June 2008.

Recent trends

The construction sector has created more jobs than any other Australian industry in the last five years, representing 35% growth (or one in five new jobs)[9]. Employment has been influenced by growth in the non-residential sector and centered in Queensland, Western Australia and South Australia. The sustained high level of growth has contributed to difficulties in finding people with the right skills for the sector.

Whilst employment growth in the sector has slowed this year, and construction employment could decline over the next 12 months, shortages in the skills required by the industry are likely to remain.

Notwithstanding the employment outlook for construction over the next 12 months, new employment projections to 2011-12 include this sector in one of the top four industries contributing new employment in Australia. The construction sector is expected to add 82,500 new jobs, thereby maintaining the need for specific skills in shortage.

Ai Group's survey ***Skilling for Innovation*** released in March 2008 sought from companies across all sectors an assessment of the number of additional full-time employees needed to meet their skill needs. The skills gap for the construction sector is estimated to be around 17,000 full-time employees.

Skills shortages

The survey on the state of Australia's construction industry asked firms to identify the operational areas in which they were experiencing the most difficulty. More than three-quarters of respondents (75.3%) reported experiencing high or extreme difficulties in the recruitment of qualified labour. A further 19.5% reported moderate difficulties when hiring qualified labour.

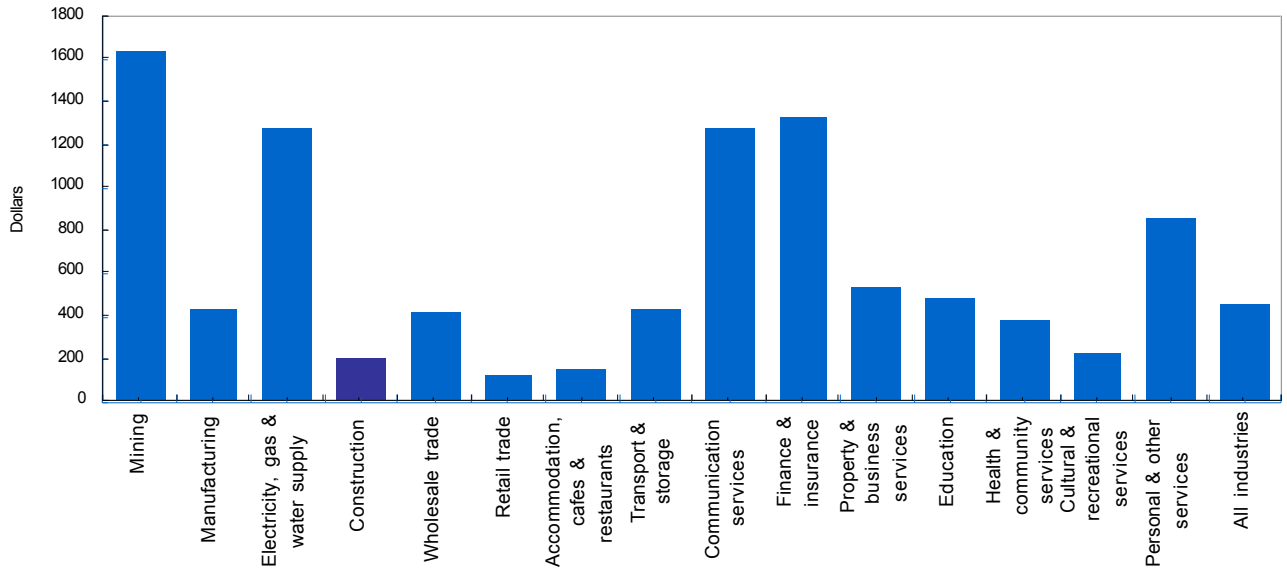
Large firms were more likely to be experiencing high or extreme difficulty in recruiting skilled labour. Of those states experiencing the most difficulty, all Western Australian firms reported major difficulties, followed by South Australian (87.5%) and Victorian companies (76.5%).

The skill shortages within the industry are likely to have influenced the sub-contractor rates which have risen over the last year. A significant number of respondents (80.8%) reported experiencing moderate or high difficulty in sourcing sub-contractors.

Training

Training spent per employee is low relative to other industry sectors

Chart 21: Expenditure on training by industry (dollars per employee)



Source: ABS Cat No. 6362.0 Employer Training Expenditure and Practices, Australia, 2001-02.

Recent trends

Strong employment growth in the construction sector over the last five years has increased the need for qualified workers in this industry. Whilst a significant proportion of workers in construction hold Certificate III/IV qualifications (40%) compared with the average across all industries (18%), respondents report difficulties in recruiting qualified labour, with skills shortages reported as the most significant challenge in the sector.

The proportion of workers in construction who do not hold post school qualifications (41%) is similar to the workforce as a whole.

The Construction and Property Services Industry Skills Council cites changing work organisation, particularly in residential building, as the catalyst for emerging skill requirements in the industry. New technology and specialised ways of working that streamline residential and commercial building work have formed in the industry. In response, new qualifications aimed at improving training and meeting national skill shortages have been developed. The qualifications are:

- Certificate III in Wall and Ceiling Lining (Plasterboard);
- Certificate III in Formwork and Falsework;
- Certificate III in Low Rise Structural Framing;
- Certificate II in Steel Fixing;
- Certificate II in Concreting; and
- Certificate II in Stonemasonry.

New approaches to training mean these qualifications can be delivered more quickly for new entrants. Faster delivery and recognition of skills in existing construction trades in short supply across Australia is also planned to alleviate skills shortages.

Spending on training

On average, companies in the construction sector spent around $210 per employee on training in 2001-02, well below the average amount spent by most other industry sectors. While the average value of training expenditure per construction employee has lifted since 2001-02, it still lags behind that for most other sectors.

Ai Group's ***Skilling for Innovation*** report found that the most common method to meet skill needs in the construction sector and in other industries is to retrain existing staff. The construction sector, however, is more likely to employ additional apprentices and trainees to overcome skill shortages than other sectors.

The Construction and Property Services Industry Skills Council reports that the number of apprentices working in the construction industry has almost doubled since 2002 – accounting for more than half of the rise in total Australian Apprenticeships numbers. The general and off-site construction industries tend to favour this Australian Apprenticeship pathway to Certificate III outcomes as a trade requirement, although competency-based accredited programs are delivered by TAFE institutes and Registered Training Organisations to meet local pre-vocational, licensing and other needs on a fee-for-service basis.

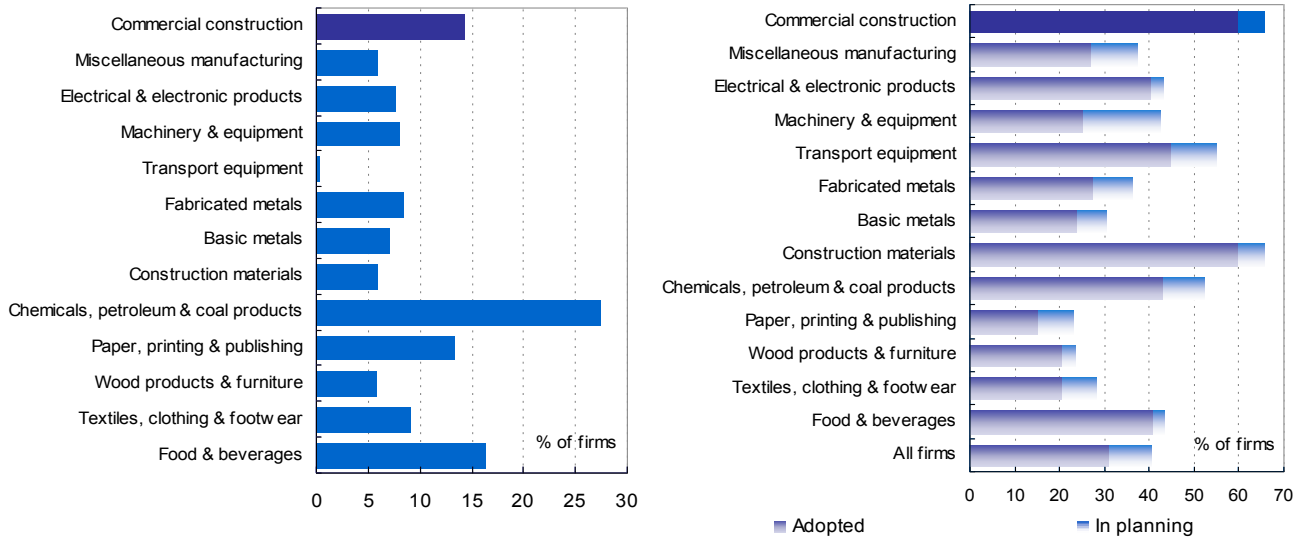
Up to 50% of construction apprenticeships, in some jurisdictions, are not completed within the industry. Whilst some non-completers remain working within the industry, if the apprenticeship retention rate is not improved, the number of formally recognised tradespeople will decline.

A number of short fee-for-service programs are popular, such as OHS induction training and licensing in areas of rigging, dogging and scaffolding, as well as preparatory trade programs. It is not clear, however, whether undertaking this training leads workers into full trade outcomes or just gives them sufficient skills for employment in the industry. Training provision will be boosted by training places to be allocated under ***Skilling Australia for the Future***.

Environmental sustainability

Constructors are showing a relatively high awareness of environmental issues

Chart 22: Awareness of greenhouse gases emitted (lhs) and written environment policies by sector (rhs)



Source: Australian Industry Group, Environmental Sustainability and Industry – Road to a sustainable future, 2007.

Environmental awareness

In the 2007 Ai Group report, ***Environmental Sustainability and Industry: Road to a sustainable future***, it was found that firms in the commercial construction sector possess a relatively high level of environmental awareness compared with firms in other sectors of the economy.

Nearly 15% of commercial construction firms indicated they were aware of their level of greenhouse gas emissions, placing the sector behind only the chemicals, petroleum & coal products (27.5%) and food & beverages (16.3%) sectors in terms of awareness. By contrast, the proportion of firms aware of the level of their greenhouse gas emissions was particularly low in the transport & storage (0.3%); wood, wood products & furniture (5.9%); miscellaneous manufacturing (6.0%); and construction materials (6.0%) sectors.

Environmental Sustainability and Industry: Road to a sustainable future also showed that the commercial construction sector (along with the construction materials sector) possesses the largest proportion of firms with a written environment policy. 60.0% of commercial constructors already had a written environment policy at the time, almost double the proportion for all sectors (31.3%). An additional 5.7% of commercial constructors were also planning to adopt a written environment policy.

At the time of the study, almost a third of commercial constructors (31.4%) claimed they possessed a high understanding of an emissions trading scheme, a larger proportion than for all other sectors and well above the average for the all sectors (14.2%).

Recycling

Despite the fact water makes a very small cost contribution to commercial construction sales (0.02% on average), the percentage of trade waste recycled in the sector (87.5%) was higher than that in all other sectors, excluding textiles, clothing & footwear (100%).

By contrast, the average percentage of solid waste recycled by commercial constructors (12.1%) was lower than for all other sectors and well below the average for all sectors (49.8%).

Electricity and gas usage

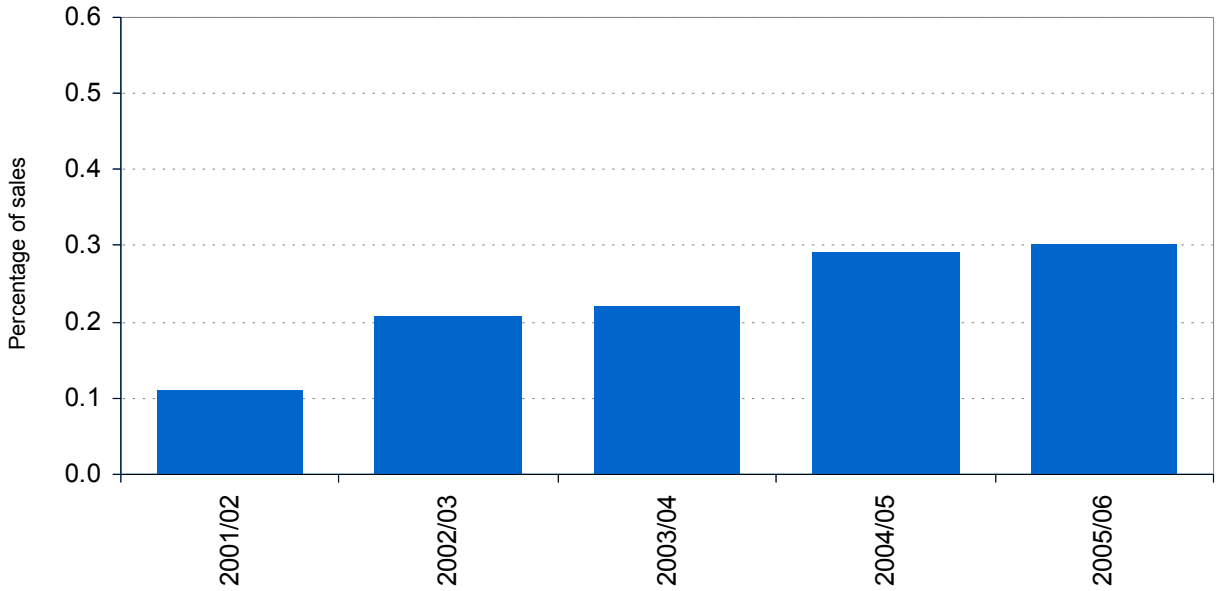
On average, electricity costs are lower in the commercial construction sector (0.11% of sales), than for all other sectors (0.50%). However, the average cost of electricity per megawatt hour (Mwh) in the commercial construction sector ($127 per Mwh) is amongst the highest, behind only that paid in the fabricated metals and construction materials sectors ($138 and $137 per Mwh respectively).

While gas is generally a less important energy source for industry (0.23% of sales) than electricity, this is not the case for the commercial construction sector. Gas costs make a higher average contribution to sales (0.23%) in the commercial construction sector than electricity costs (0.11%).

Innovation and R&D

Construction R&D as a share of sales has risen in the first half of the decade

Chart 23: R&D in construction as a share of sales



Source: ABS Cat No. 8104.0 Research and Experimental Development, Businesses, Australia, 2005-06.

Recent trends

Research and development (R&D) is intimately related to innovation particularly in the areas of new or improved goods, services and operational processes.

The last quarter of a century has seen many decisive changes in the Australian economy. Not the least of these is a distinct, though generally underappreciated, transformation of emphasis on R&D by Australian businesses compared to other sectors of the economy (Table 3).

Table 3: Expenditure on R&D by Australian economic sectors

	1996-97	*1998-99*	*2000-01*	*2002-03*	*2004-05*
	$m	$m	$m	$m	$m
Business	4,234.7	4,094.7	4,982.6	6,940.3	8,446.2
Public sector agencies	2,064.3	2,043.1	2,355.8	2,482.2	2,550.7
Higher education	2,307.6	2,555.1	2,789.8	3,429.6	4,282.8
Private non-profit	185.8	225.3	289.0	359.5	493.2
Total	8,792.4	8,918.2	10,417.2	13,211.6	15,772.9

In parallel with this improvement, construction R&D as a share of sales has risen in the first half of this decade, standing at around 0.3% in 2005-06 (Chart 23). This compares with around 1.9% in manufacturing, 1.7% in mining and 0.4% in services in 2005-06.

The ***IBM – Melbourne Institute Innovation Index of Australian Industry*** also shows that innovation in the construction sector experienced a strong increase in the five year period between 1999 and 2005.

However, between 2005 and 2006 the construction innovation index fell by 18.2%, one of the largest across all industries. Components of the index include R&D intensity; patent, trademark and design intensity; organisational/managerial innovation; and productivity.

The fall in the construction innovation index in 2006 was largely due to significant reductions in R&D intensity (-20.0%); patent intensity (-40.5%); and trademark intensity (-60.8%), and resulted in construction industry innovation failing to keep pace with overall innovative activity in Australia during the same period.

The innovation performance of the industry, in part, reflects the nature of the industry which is relatively less exposed to foreign competition and with potentially fewer benefits to be gained from R&D and new technologies than other industries.

Ai Group's ***Skilling for Innovation*** survey in March 2008 found that skills shortages are impeding innovation for a greater proportion of construction firms (56.4%) than services firms (45.7%) or manufacturing firms (38.9%).

Nearly two thirds (62.7%) of respondents from the construction sector cited a shortage of workers with problem-solving skills (a generic skill for innovation). This was much higher than the figure for manufacturing (38.8%) and services (38.6%) sectors.

Footnotes

1. Australian Bureau of Statistics, Catalogue No. 8165.0 *Counts of Australian Businesses, including Entries and Exits June 2003 to June 2007*, 2007.

2. IBISWorld 2008, *Construction in Australia*, IBISWorld Industry Report, 3 April 2008.

3. Housing Industry Association, Australian Industry Group & Reed Construction Data, *Construction 100* – 2006/07, 2007.

4. King W M, *Australia's Infrastructure in Challenging Times,* Presentation to the Australian Institute of Company Directors, 17 April 2008.

5. Australian Constructors Association and Blake Dawson Waldron Lawyers, *Scope for Improvement – A survey of pressure points in Australian construction and infrastructure projects*, pg. 12, 2006.

6. KPMG International, *Global Construction Survey 2005: Risk Taker, Profit Maker? 2005.*

7. Australian Government, *Australian Safety and Compensation Council*, 2008.

8. Department of Immigration and Citizenship, *Report BR0008, Subclass 457 Business (Long Stay) 2007-08 Financial Year to 30 June 2008,* Table 1.07, p.4.

9. Department of Education and Workplace Relations, *Australian Jobs 2007*, 2007.

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