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**‘Anomalies’, Damned ‘Anomalies’ and Statistics:  
Construction Industry Productivity in Australia**

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## **‘Anomalies’, Damned ‘Anomalies’ and Statistics: Construction Industry Productivity in Australia**

### **Abstract**

The exercise by an Australian state agency of coercive powers against construction industry workers has been justified by reference to claimed gains in productivity and hence national welfare. Yet the literature suggests that a more cooperative approach to union-management relations would offer better opportunities for productivity improvement. This article examines the data behind the productivity claims and finds that they were erroneous, probably due to incorrect transcription, and that the source data indicated no relative productivity gains against the identified benchmark. Despite being made aware of this, the state agency and its consultant maintained the original claims about the size of productivity and welfare gains from the use of coercive powers. Official cross-industry and time series data also showed no productivity gains arising from the use of coercive powers. However, there is some evidence that there has been a shift of income shares in the industry from labour to capital. The findings have implications for understanding the role of commissioned studies in public debate, and for regulation of the construction industry.

## **Introduction**

The Australian Building and Construction Commission (ABCC) was established by the Howard government under special legislation enabling the use of coercive powers to regulate union activity. The *Building and Construction Industry Improvement Act (2005)* (BCII Act) provided for six months jail for people refusing to cooperate with ABCC inquiries (section 52). Only the Australian Security Intelligence Organisation (ASIO), responsible for ensuring national security, has similar coercive powers regarding the questioning of persons who assist in relation to a terrorism offence. The ABCC, by contrast, could apply these ASIO-style powers to investigate an employee's breach of an award. Unlike hearings by public tribunals, such as Fair Work Australia, the ABCC conducted its interrogations in secret. Detailing the nature and implications of the extraordinary coercive powers of the ABCC is beyond the scope of this paper, but they have been extensively analysed elsewhere (Williams and McGarrity 2008). At the time of writing, the legislation was still in place but with proposed amendments before the Senate, after an inquiry by Hon Murray Wilcox QC (Wilcox 2008, 2009). The Labor government's Building and Construction Industry Improvement Amendment (Fair Work) Bill proposed to abolish the ABCC but transfer most of its coercive powers to a new Fair Work - Building Industry Inspectorate, albeit with a some additional, limited safeguards (Gillard 2009).

Arguments to retain the use of state coercive powers in the industry were based on data suggesting economic welfare benefits from maintaining a separate regulatory regime in the industry. In 2007, the ABCC released a report by private consultants, Econtech (2007a), which claimed that the BCII Act had resulted in major improvements in labour productivity. That report remained the basis on which claims about industry productivity gains were made (eg Australian Chamber of Commerce and Industry 2009). This article aims to assess the

merits of the data on which this debate was cast from 2007, and its implications for the interpretation of commissioned modelling and the future of regulation of the building and construction industry.

### **Productivity and construction unions**

The 2007 report followed an earlier report by Econtech (2003), that had been undertaken for the then Department of Employment and Workplace Relations (DEWR). That earlier report compared average costs in the domestic and commercial construction sectors and claimed to show that 'building tasks such as laying a concrete slab, building a brick wall, painting and carpentry work cost an average of 10% more for commercial buildings than domestic residential housing' (Econtech 2007a, i; Econtech 2003). The claim was based on analysis of data from Rawlinson's, a quantity surveyor that collects and publishes data annually on such costs, by contacting firms and contractors and asking them the price of a specific task. The comparison was made between costs in the largely non-union domestic (housing) construction sector, and the more unionised commercial construction sector. The logic was that costs would be higher in the commercial sector because of its union presence, so the 10% cost difference reflected the union impact in creating inefficient work practices and reducing productivity.

This methodology was criticised by Toner (2003) as naively assuming unions were the only potential source of cost differences. Other structural factors could also explain them, including greater on-site complexity (it costs more to affix a plasterboard wall on the tenth floor of a high rise than on a ground floor cottage), higher capital intensity and higher profit margins in the commercial sector. Econtech countered that if the gap declined then it would reflect not structural explanations but changes in work practices associated with the activities

of the ABCC (Econtech 2007a, p i), and claimed ‘Toner’s theory was disproved by Econtech’s 2007 update of the cost gap analysis’ (Econtech 2007c). Toner argued that ABS data (Cat No 8772.0) showed that labour productivity was markedly *higher* in engineering and non-residential construction than in residential construction. Toner also pointed out that ‘in three out of four studies of [construction industry] labour productivity, Australia is on par with the US and generally performing better than Japan, Singapore, Germany and France’.

These cited studies would seem contrary to the adversarial philosophy behind the ABCC approach of suppressing union activity. Nor does the existing economic literature offer strong support to that philosophy. The once accepted wisdom that unions necessarily harmed productivity has been overturned. Freeman and Medoff’s seminal study *What Do Unions Do?* (1984) demonstrated that unions may enhance productivity through both ‘monopoly response’ (higher union wages force firms to introduce more productive technology) and ‘voice’ effects (unions reduce quits and increase tenure by enabling employees to seek workplace improvements). There was empirical support for Freeman and Medoff’s claims in subsequent US data (Allen 1985; Ben-Ner and Estrin 1986; Phipps and Sheen 1994), along with some critics (Addison and Barnett 1982; Drago and Wooden 1992). The British evidence was initially of a negative unions-productivity relationship (Edwards 1987), but empirical evidence from the 1990s onwards suggested no systematic relationship (Addison and Belfield 2004). The evidence that unions reduce quits and increase job tenure is more consistent (Addison and Belfield 2004; Freeman 2005). Twenty years on, the general consensus amongst those who reviewed the literature was of no consistent relationship evident between unions and productivity, with a wide variety of results but the average impact tending towards zero (Addison and Belfield 2004; Hirsch 2004; Freeman 2005; Kaufman 2005). Similarly, studies which effectively contrasted union collective bargaining

with non-union individual contracting showed no advantage for individual contracting (Gilson and Wagar 1997; Fry, Jarvis and Loundes 2002; Hull and Read 2003; Peetz 2005).

There is one consistent positive relationship that comes through in the literature: ‘what matters is not unionism *per se* but the interaction of unions with management’ (Freeman 2005:657), as ‘union plants with cooperative labor relations and high-performance HRM practices have above-average productivity, whereas union plants with adversarial relations and traditional "job control" HRM practices have below-average productivity’ (Kaufman 2005 citing Hirsch 2004). Black and Lynch (2001) showed that amongst workplaces promoting joint decision making and incentive-based pay, unionised workplaces had higher productivity than non-union workplaces, whereas amongst workplaces without any innovations, the reverse was the case. In Australia, the intensity of collaboration between management and workers (via unions) has a positive effect on workplace performance (Alexander and Green 1992).

### **The release of the 2007 report**

Econtech was an economic consultancy based in Canberra.<sup>1</sup> It most visibly entered the debate on industrial relations reform in July 2007 (Econtech 2007b) when it produced a report for major employers, that was used in advertising, even before it was released (Workplace Express 2007), to support a campaign against abolition of the ‘WorkChoices’ legislation. That report received considerable positive media coverage but, there was also scepticism and criticism because of major problems with the report itself (eg Coorey 2007b, a; Gittins 2007; Peetz 2007; Streketee 2007).

Around the same time, Econtech produced a report for the ABCC, which purported to provide an ‘up to date assessment of the cost gap’, using the same methodology as the 2003 report to DEWR. This was depicted as demonstrating economic gains resulting from the BCII Act (eg Lewis 2007). An ABCC media release stated the report ‘reveals that the activities of the ABCC have dramatically improved the productivity of the building and construction industry’ (Office of the Australian Building and Construction Commissioner 2007). As mentioned, the 2007 findings were primarily based on an analysis of cost data from Rawlinson’s. The report claimed:

After averaging 10.7 per cent in the 10 years to the end of 2002, the cost gap has recently closed dramatically to be only 1.7 per cent at 1 January 2007. This is not consistent with claims that the cost gap was due to structural factors. Rather, closing of the cost gap has coincided with the operation of the ABCC and its predecessor the Taskforce (Econtech 2007a, ii).

Across construction as a whole, compared to the average over the 1994-2003 period (also shown in Figure 1), the labour productivity gap between what productivity could be and what it was, allegedly was down to an average of 1.8 percentage points from 11.2 percentage points, a drop of 9.4 percentage points or 84% (Econtech 2007a, pi). The number of 9.4 per cent was derived solely from the estimated ‘closing of the cost gap between commercial building and domestic housing’,<sup>2</sup> which Econtech argued was ‘due to improved work practices associated with the activities of the ABCC.’ (Econtech 2007c) This was depicted in a chart, the features of which are shown by the dotted line in Figure 1. The numbers behind it were, said Econtech, ‘dramatic’.

Figure 1 about here

Econtech then plugged its estimated productivity gains into its MM600+ economic model. This modelling led it to summarise the ‘economy wide effects of the impact of ABCC’ by unequivocally asserting that:

consumer prices are lower (by 1.2 per cent), and Australian GDP is higher (by 1.5 per cent) than would have been *if the ABCC had not existed.*’ (Econtech 2007c emphasis added; also Econtech 2007a, p i).

In addition, ‘the higher construction productivity leads to an increase in consumer living standards (the annual economic welfare gain) of about \$3.1 billion’ (Econtech 2007a, p46).

A month later, the methodology was critiqued by Mitchell (2007). He argued Econtech ‘provides no transparency in their published work and replication of their results is impossible’. Using ABS implicit price deflator data he found non-residential construction prices grew at a slightly slower rate than residential and non-residential building and ‘found no evidence to support the hypothesis that a sudden ‘event’...has altered the time series behaviour of the...data.’ (Mitchell 2007). Econtech (2007c) challenged this. However, another reason Mitchell was unable to replicate Econtech’s findings was that Econtech had not accurately used Rawlinson’s data.

### **Problems with the 2007 Report**

In an attempt to verify the Econtech report, we went back to the original source data of Rawlinson’s. We obtained data for January in the years 1993, 1995, 2001, 2002 and 2004 to 2008. We replicated the stated Econtech methodology, obtaining data on the following eight tasks in domestic residential and commercial construction: reinforced concrete 25 mpa

suspended slab ne 150mm thick; class 3 formwork sofit of suspended slab 100/200mm thick; clay brickwork wall or skin of hollow wall 110mm thick; carpentry wall framing plates 75 x 38mm; doors, timber, hollow core, std 2040 x 820 x35 hardboard for painting; steel roofing corrugated, zinc coated 0.42mm; plasterboard flush finished, 10mm thick to timber wall framing; and painting, woodwork, acrylic, primer, one undercoat, two gloss coats.

We identified the ratio of commercial to domestic costs for each item for each year in each mainland capital city (Sydney, Melbourne, Brisbane, Perth, Adelaide). There are, it appears, what Econtech describe as 'slight differences in the precise definitions' of tasks used by us and Econtech, but Econtech advise that these differences 'are not material' and led to a discrepancy of merely 0.1% in estimates of movements in the cost differential in 2008 (email communication, 31/10/08). So, for all practical purposes, we used the same data as Econtech. We calculated an average cost differential for each capital, and a national weighted average which used the weights Econtech provided, based on each state's 'average contribution to national contribution activity'.<sup>3</sup>

Our results based on the original Rawlinson's data were vastly different to those of Econtech. National level comparisons are shown in Figure 2. For the eight tasks selected by Econtech, we found only a small drop of 1.3 percentage points in the cost differential between 2006 and 2007. (Between 1994 and 2005, the average absolute movement on Econtech's estimates was 1.3 per cent, so a movement of that size was entirely unremarkable.) This fall was only one seventh the size of the movement claimed by Econtech.

For 2006, we detected a fall of just 1.5 points, barely half the 2.9 point fall claimed by Econtech and, again, within a fairly normal range. So, over the period January 2005-January 2007, the actual fall in the cost differential was not 12.6 percentage points, but 2.8 points.

Notably, the cost differential in 2007 was still 11.7%. This was actually slightly higher than the gap of 10.8% in January 2002, before even the establishment of the Building Industry Task Force. In fact, the cost differential was higher in 2007 than in each of the early years for which we had collected data.

Figure 2 about here

### **Presenting the 2008 and 2009 revisions**

On 1 July 2008, the ABCC requested Econtech to 'update' its report (Lloyd 2008). It was released one month later. By then, the ABCC had been made aware of the 2007 report's inaccuracies rendering invalid the key conclusions about major changes in the cost differential. Indeed, the data in Econtech's 2008 report were totally different to the data in the 2007 report. The extent of the difference can be seen by comparing the dotted and dashed lines in Figure 1. The huge drop in the cost differential in 2007, apparent in the 2007 report, no longer appeared in the 2008 report. Instead, the reported cost differential fell slightly by 2007 but then, without comment, rose by 0.4 points to 2008.

The ABCC issued a media release similar in tone to the previous year, claiming that the 2008 report 'reaffirms the ABCC's role in improving productivity in the construction industry' (Office of the Australian Building and Construction Commissioner 2008). Commisisoner

John Lloyd said ‘It is encouraging to find that *all* indicators are pointing to increased productivity across the construction industry’ (emphasis added).

Despite the refutation of the cost comparisons data that formed the basis for the 2007 report, exactly the same conclusions were reached about the impact on GDP and consumer prices as in the 2007 report. Econtech estimated that the ‘economy-wide impacts of the ABCC activities’ were that: ‘GDP is 1.5% higher than it otherwise would be; the CPI is 1.2% lower than it otherwise would be;...and improved consumer living standards [are] reflected in an annual economic welfare gain of \$5.1 billion<sup>4</sup> (Office of the Australian Building and Construction Commissioner 2008; see also Econtech 2008 p27).

Econtech was able to produce the same macroeconomic outcomes from the 2008 analysis as in the 2007 analysis because ‘this report also assumes an ABCC-related gain in construction industry labour productivity of 9.4 per cent for the purposes of the economy-wide modelling’ (Econtech 2008, p18), despite the new evidence. Recall that in 2007 the 9.4% productivity assumption was based on the now discredited ‘closing of the cost gap between commercial building and domestic housing’ (Econtech 2007a, p37).

Econtech dealt with the major revisions in the 2008 report simply by describing them as ‘anomalies’:

Econtech has reviewed its previous use of the Rawlinsons data to remove anomalies. For the original 2007 Econtech Report, some data was inadvertently juxtaposed in manually extracting it from Rawlinson’s annual hard copy publications. The use of all Rawlinsons data has been carefully checked and is now correct (Econtech 2008, p8).

There was no mention anywhere of the magnitude of the impact of these ‘anomalies’. Media reports were uncritical (eg Norington 2008).

Justice Murray Wilcox was not so kind. Issuing his March 2009 report to the Labor government on implementation of its commitment to retain a ‘strong cop on the beat’ in the industry (Rudd and Gillard 2007), Wilcox said Econtech’s 2007 report was ‘deeply flawed...It ought to be totally disregarded’ (Wilcox 2009, p46).

In May 2009, a third Econtech report was produced, commissioned this time by Master Builders Australia. The 2009 report bore striking resemblance to the 2008 version. A majority of the 2009 executive summary was identical to that from 2008, and many of the changes were simply differences in tense or rewriting ‘the ABCC’ as ‘industrial relations reform’. For the first time, however, Econtech admitted that the 2007 report ‘contained an error in compiling a single data series’. This was an advance from its 2008 concession of ‘anomalies’, although ‘an error’ actually comprised mistakes in data for all states, and in most years, with the exception of 2001 and, to a lesser extent, 2005.

Again, the Rawlinson’s data were less supportive of the Econtech claims than previously, showing a 0.5 percentage point deterioration in the cost differential between commercial and domestic residential building by January 2009, making a total 0.9 point deterioration over two years. Again, Econtech modelled the economic effects of ‘industrial relations reform’ as deriving from a 9.4 per cent boost in productivity in the building and construction industry, though nowhere in the 2009 report was there any number, or mathematical combination of numbers, that produced a 9.4 per cent productivity gain. The economic ‘benefits’ of

industrial relations reform were again identical to those in 2007 when the erroneous data were used.

### **Narrowing the tasks and time period**

Econtech made other adjustments to methodology after 2007. One involved removing two of the eight tasks from the Rawlinson's dataset. In its only concession to a major critic, it said 'we agree with Mitchell (2007) that corrugated zinc roof and single skin face brick walls are best excluded from the estimation'.

In Panel 1 of Figure 3, we plot new estimates of the cost differential, based on just the six items chosen by Econtech for their 2008 and 2009 reports. The Econtech estimates in these latter reports closely track our own figures based on Rawlinsons. This is also the case in state level data. The discrepancies are very small and likely explained by the slight differences in definitions. The six items used by Econtech indicated an average cost difference by 2009 that was 1.6 per cent *worse* than the pre-2004 average benchmark, providing no evidence of any gains from the BCII Act.

Figure 3 about here

More notably, Econtech data no longer went back to this earlier period. In the 2007 report, the crucial comparison was between the most recent cost differential and the average over the decade to 2002, but data before 2004 were omitted from the later reports.

The exclusion of the pre-2004 data was explained as being to ‘remove the effects of an apparent break in some of the data series from 2003 to 2004’ (Econtech 2008, p8). The term ‘series break’ refers to situations where the way something was measured changes, so that an observation one year cannot be directly compared to an observation in the previous year. A ‘spike’ might signify a break in the series – or a genuine increase in the price. That said, let us accept at face value that a spike means a change in measurement. For how many series did this apply? Figure 4 shows the cost differentials for each task. There was only one series for which any spike is apparent in 2004, that for formwork. So we developed a five-task index using the same principles as previously. The result is in Panel 2 of Figure 3.

Figure 4 about here

The data showed a slightly less adverse picture post 2002 than did the index with six tasks. Still, the national cost differential by January 2009 was some 0.3 per cent worse than in the average pre-2004 period indicating, again, no gains from the BCII Act.

Despite this, Econtech claimed:

significant improvements in labour productivity since the introduction of the ABCC (in conjunction with the supporting regulatory framework)...Using Rawlinson’s data to 2008 on the evolution of the cost gap between non-residential and residential building for the same building tasks, the relative productivity gain for non-residential construction is conservatively estimated at 7.3 per cent. (Econtech 2008, p9)

Identical words were used in the 2009 report, except that '2008' was replaced by '2009' and '7.3' by '6.2' (KPMG Econtech 2009, p23). The latter estimate was made by comparing the estimated cost differential in 2009 (15.7%) with that in the peak year, 2004 (19.0%). This change of 3.3% was then roughly doubled, on the intriguing assumption that the only possible source of these alleged gains is labour costs, which make up just 53% of total costs for the tasks. The base year selected produces the best result: the very poor performance during the period of the BCII Act is ignored, and data from prior to 2004 are suppressed, avoiding disclosure of the fact that the cost differential was not significantly less than it had been five or ten years earlier.

### **Long term patterns and the productivity crystal ball**

With the discrediting of the earlier cost comparisons, the main basis for continued boasting of productivity improvements were some 'case studies', a comparison between actual and predicted productivity in the construction industry and a chart using Productivity Commission data on multi-factor productivity. The 'case studies' (which were identical in the 2007 and 2008 reports) comprised one undertaken by the Institute of Public Affairs, a conservative lobbyist and 'think tank' (Murray 2004), and two by Econtech which boiled down to the qualitative claims of two leading construction companies and data on reduced working days lost due to industrial action, supported in 2009 by extracts from three submissions by advocates of coercive powers. Here and elsewhere, Econtech appeared to confuse reduced industrial action with higher labour productivity. Labour productivity is the amount of real output per unit of labour input (such as the number of houses built per hour worked). Strikes normally mean no output is produced during a period in which no labour is used or paid for, and so have no direct relationship with output per unit of labour input. If

reduced industrial action has led to increased productivity, this should be visible in the productivity data.

The second basis for the productivity claim was a comparison between actual and 'predicted' productivity in the construction industry (using national productivity growth as the sole predictor for construction productivity growth). Yet there is no particular reason to presume that one can accurately predict what productivity will be in the construction sector on the basis of what productivity is in the rest of the economy. In fact, over the period from 1986 to 2002 (the period covering the data that are used to generate the prediction), only 20 per cent of the variance in annual construction industry productivity growth can be explained by variations in national productivity growth. For a time series this is a very low  $r^2$  and would not normally be used by econometricians as the basis for making accurate predictions about future productivity growth.

Moreover, according to Econtech, construction industry productivity began to rise above its 'predicted' level back in 1997. By 1999, three years before even the Building Industry Task Force, construction industry productivity was exceeding Econtech's 'predictions' by almost as much as in 2007, making the claim of a 'reform' effect unwarranted. Productivity slumped in 2001 – only to resume its 1999 level in 2003 – because of a major downturn in the construction industry. It is no coincidence that labour productivity falls during such a downturn – it is almost an arithmetic inevitability, given the way that productivity is calculated, and the well known tendency towards labour hoarding during a downturn (Addison and Siebert 1979; Norris 2000). Likewise productivity rises during boom phases of the business cycle.<sup>5</sup> But the close relationship between GDP growth and productivity highlights the dangers involved in using national accounts aggregates to draw conclusions

about the magnitude of effects from factors influencing labour productivity in particular industries.

Finally, in each report, Econtech referred to a Productivity Commission (PC) report containing data on multi-factor productivity (MFP) from 1974-75 to 2005-06. Econtech said:

productivity in the construction industry was fairly flat through the 1980s and 1990s...However, construction industry productivity then strengthened considerably to achieve a higher level for the four years from 2002-03 to 2005-06. The Productivity Commission data shows construction industry productivity rose by 13.6 per cent in the four years to 2005/06. This confirms the strong construction industry productivity performance of recent years (Econtech 2008, p5; KPMG Econtech 2009, p12).

These data were never updated by Econtech despite being twice updated by the PC (Productivity Commission 2009). If four years to 2005-06 was a suitable comparator in the first Econtech report, then by 2009 the relevant period was the six years to 2007-08, in which MFP growth was 14.8 per cent. However, this was not uniquely strong, as MFP growth over the six year period ending 2002-03 was higher – at 18.0 per cent – and it was higher over other six year periods, including to 1998-99 and 1980-81 (Productivity Commission 2009).

More importantly, including 2002-03 within the calculations is itself debatable, given that, as Econtech repeatedly said, 'the Taskforce was established in October 2002 but it is reasonable to expect a lag before its activities started to make an impact' (Econtech 2007a, p23; Econtech 2008, p9; KPMG Econtech 2009, p15). Over the more relevant five years to 2007-

08, MFP growth totalled a mere 3.1 per cent. This compared with 10.8 per cent over the immediately preceding five years to 2002-03, and 10.5 per cent in the period to 1997-98.

Similarly, over the five years to 2007-08, growth of *labour* productivity (the focus of Econtech's conclusions) in construction totalled 1.6 per cent, compared to 10.5 per cent over the preceding period to 2002-03, and 10.6 per cent to 1997-98. These data are shown in Figure 5. Amongst the seven mostly five-year periods shown, the current 'reform' period had the second *lowest* labour productivity growth and the third lowest MFP growth. There is certainly no evidence here of a 9.4 per cent boost to productivity arising from the BCII Act.

Figure 5 about here

### **Cross-industry productivity and profit comparisons**

It is instructive to consider what ABS labour productivity data show for the building and construction industry, in comparison to other industries (Australian Bureau of Statistics Cat. No. 5204.0). If there has been a 9.4 per cent increase in productivity attributable to the BCII Act, it should be clearly evident in the ABS data, which should show construction industry productivity growth well above that in other industries.

Figure 6 depicts annual national accounts data on developments in value added per hour worked by industry. In the period since 2003, labour productivity in construction has fluctuated (as is normally the case), but by June 2008 it was *only 1.7 per cent higher* than in June 2003. Moreover, labour productivity growth per hour worked in construction was the third lowest of the 13 industries for which productivity data are published. This is not what

one would expect if the BCII Act had led to a 9.4 per cent boost in productivity above what would have happened in the industry anyway.

Figure 6 about here

Although those arguing that the BCII Act has generated great productivity gains often referred to data over such a five year period, in fact the ABCC has only been in existence since October 2005. Unfortunately the national accounts productivity data are only published by reference to June. Bearing in mind, as Econtech acknowledges (2007a, p23) the delayed onset of any BCII effects, we note that since June 2006, labour productivity growth in construction has totalled 1.8 percent (an annual rate of 0.9 per cent), ranking construction eighth out of 13 industries, just below the middle one. There are significant variations from year to year in industry labour productivity growth. If the BCII Act had created a 9.4 per cent boost to labour productivity above what would otherwise have occurred, it would be large enough to be reflected in a major spike of that magnitude above and beyond normal year to year movements. There is no evidence of such a spike and hence of any 9.4 per cent construction industry labour productivity boost attributable to the BCII Act.

Figure 7 looks at recently released experimental ABS data on capital and labour income shares by industry (Australian Bureau of Statistics Cat. No. 5260.0.55.002 ). It shows, from 2004-05 to 2007-08, a distinct increase in the share of industry income going to capital. The five percentage point increase in capital's share was the second highest growth of all industries (behind mining). Equally, labour's share of industry income in construction fell by five percentage points. The shift of income accelerated as the ABCC became more active. By 2007-08 labour's share of construction industry income was the lowest recorded.

Figure 7 about here

This is not to attribute all the shift in factor shares to the BCII Act. The construction industry was going through a major boom, which would have added to the share of income going to capital, just as it added to productivity in the industry. However, the performance of the construction industry was exceptional. At least part of the boost to the profit share was likely due to a reduction in industrial disputes and a reduction in the bargaining power of labour associated with the use of coercive powers against workers. A shifting balance of power is also suggested by the doubling of construction industry notified fatalities between 2004-05 and 2007-08 (Australian Safety and Compensation Council 2008), as observance with occupational safety requirements and injury rates tends to be lower where unions are weaker (Weil 1992; Reilly, Paci and Holl 1995).

## **Conclusion**

The exercise by an Australian state agency of coercive powers against construction industry workers has been justified by reference to claimed gains in productivity and hence national welfare. We have examined the data behind the productivity claims and found that they were erroneous, probably due to incorrect transcription, and that the source data indicated no relative productivity gains. The boost to GDP, savings to the CPI and national welfare gains in each of the Econtech reports, estimated as they were 'from the recent closing of the cost gap between commercial building and domestic housing', had no basis as there was no 'closing of the cost gap'. Despite being made aware of this, the ABCC and its consultant, Econtech, stuck to the original claims about the size of productivity and welfare gains from

the use of coercive powers. The errors ('anomalies') in the 2007 report might be dismissed as an 'honest mistake', but can the later insistence on not revising findings be so easily dismissed? Claimed productivity gains from the use of coercive powers are also not discernible in official ABS or Productivity Commission data. The critiques of Toner (2003) and Mitchell (2007) stand. The literature suggests that the unionised building and construction industry would benefit from more cooperative union-management relations. The role of the ABCC has been to penalise cooperative relations, and so it might come as no surprise that previous policy makers' productivity expectations have not been met. However, there is some evidence that there has been a shift of income shares in the industry from labour to capital, with coercive powers reducing strikes and labour's bargaining power.

We also draw attention to weaknesses in public debate over these issues. Little critical thought was given in the media to the Econtech reports on the building and construction industry, even though its similarly timed report on industrial relations reform policies was received with considerable scepticism. While some union officials in the industry have clearly harmed their own cause, the responsibility also lies with the media, with commentators and with policy makers to examine the evidence put before them and assess it on its merits. Attaching numbers to something does not make it true. The Econtech experience should be illustrative of a wider lesson for the media and commentators: to treat with extreme scepticism commissioned 'modelling' or like reports prepared by commercial consultancy firms for interest groups, especially when the findings advance that group's political interests. There is good reason for the adage, 'he who pays the piper, calls the tune'.

This close analysis of the data relied upon by the ABCC also raises serious questions about the nature of regulation in the building and construction industry. The alleged economic benefits have been used to justify the denial of basic rights to employees in the industry, rights which everybody else is, at least at present, entitled to enjoy. In short, there do not appear to be any significant economic benefits that warrant the loss of rights involved in coercive arrangements. A more cooperative, less punitive approach by policy makers to the industry would not only be consistent with better human rights, it might even be consistent with better productivity.

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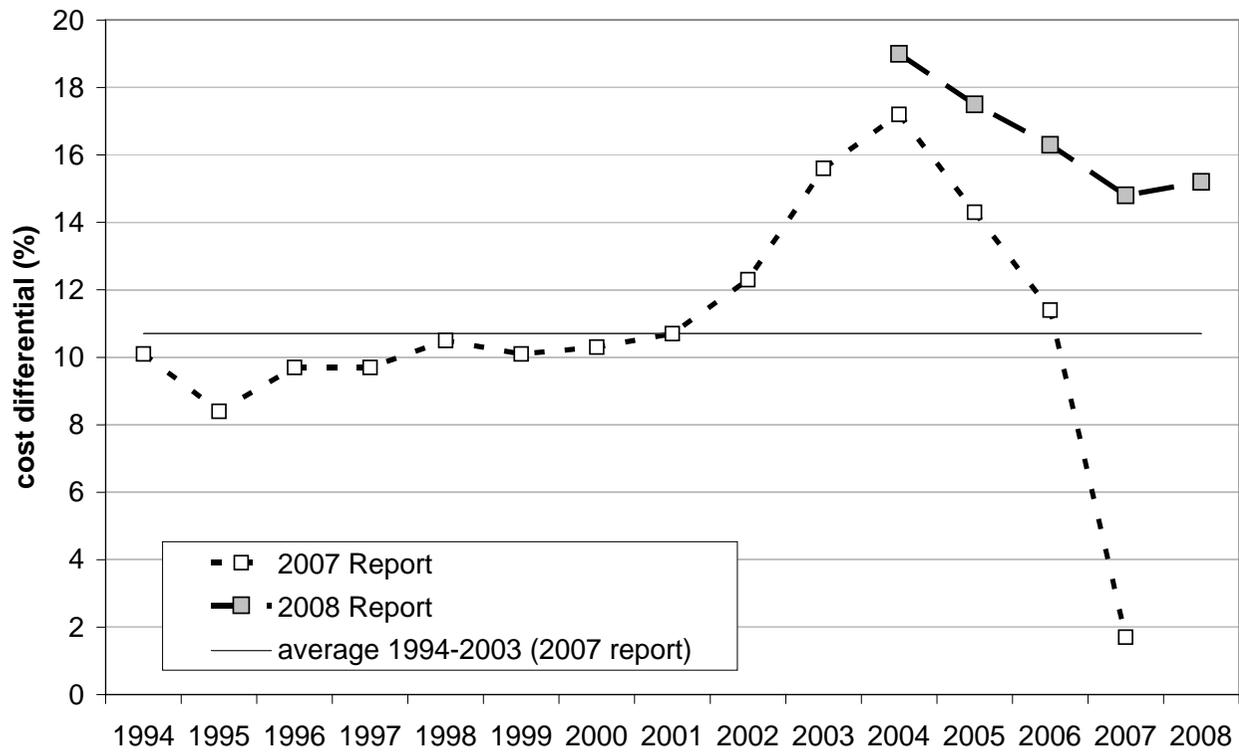
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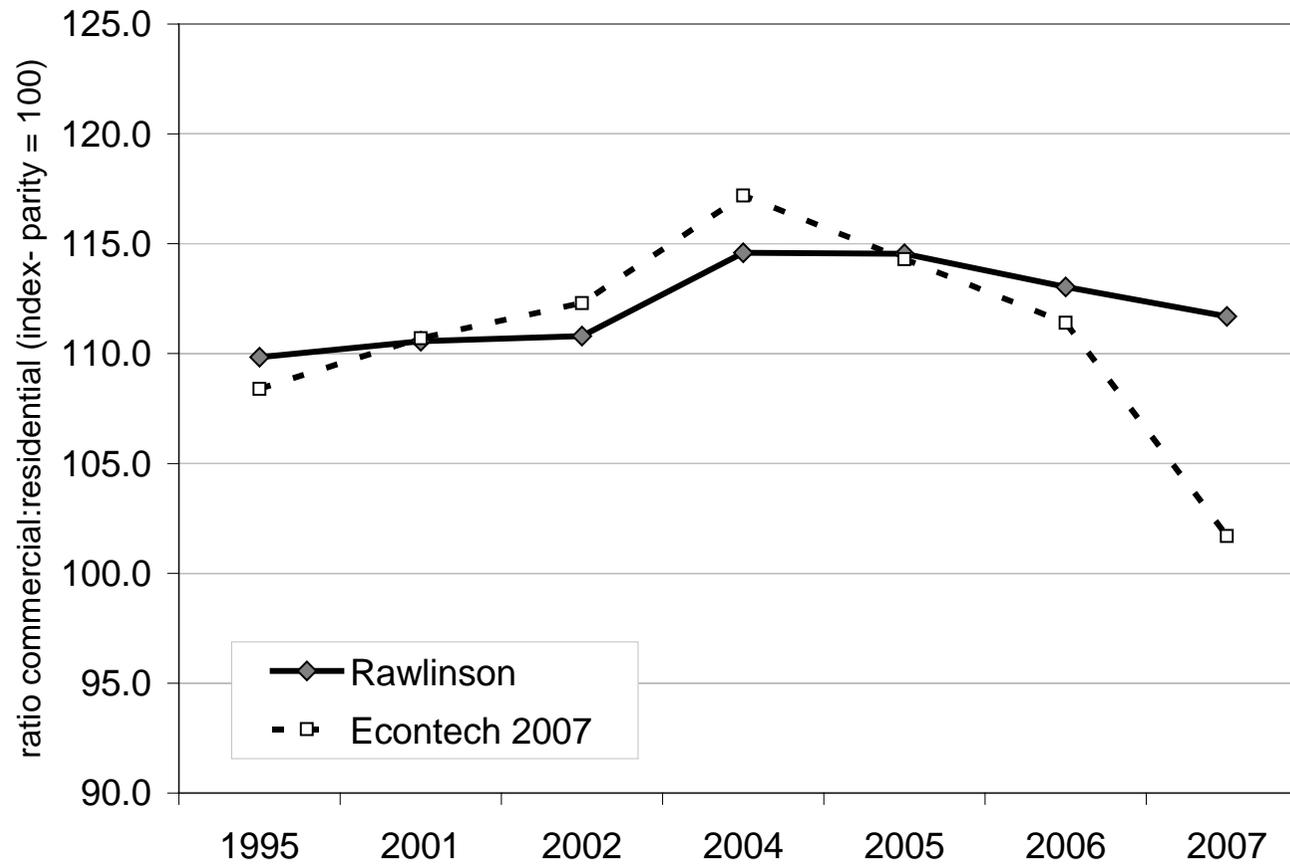
**FIGURES**

**Figure 1: Information in charts Purporting to Depict Average Cost Differences between Commercial Building and Domestic Residential Building for the Same Tasks for 5 states, 2007 & 2008 Econtech Reports**



Source: Econtech Reports 2007 & 2008

**Figure 2: Comparison of Econtech data and state-weighted original Rawlinson data, eight items, Australia, 1995-2007.**

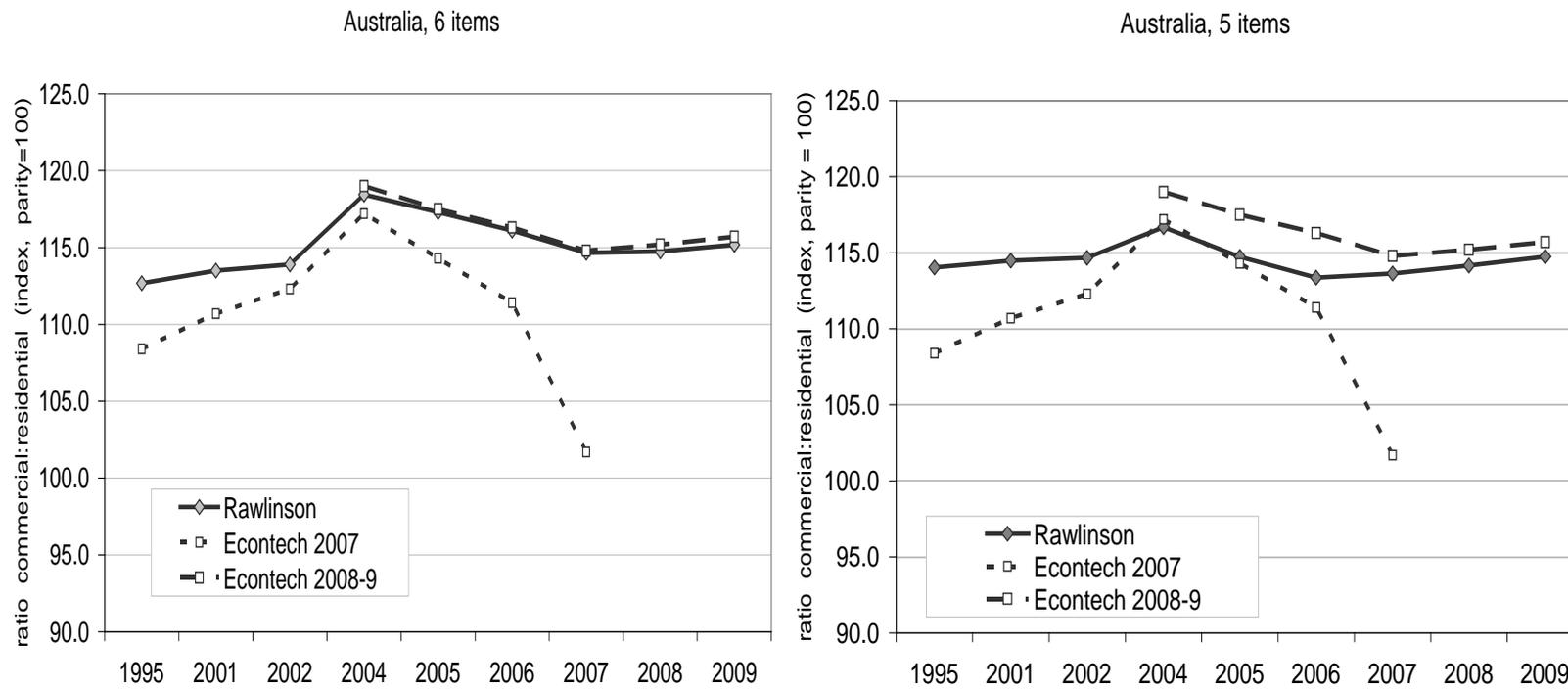


Source: Econtech Report 2007; Rawlinson's data

**Figure 3: Comparison of Econtech data and state-weighted original Rawlinson data, six items (excluding zinc roofs and brick walls) and five items (also excluding formwork), Australia, 1995-2009**

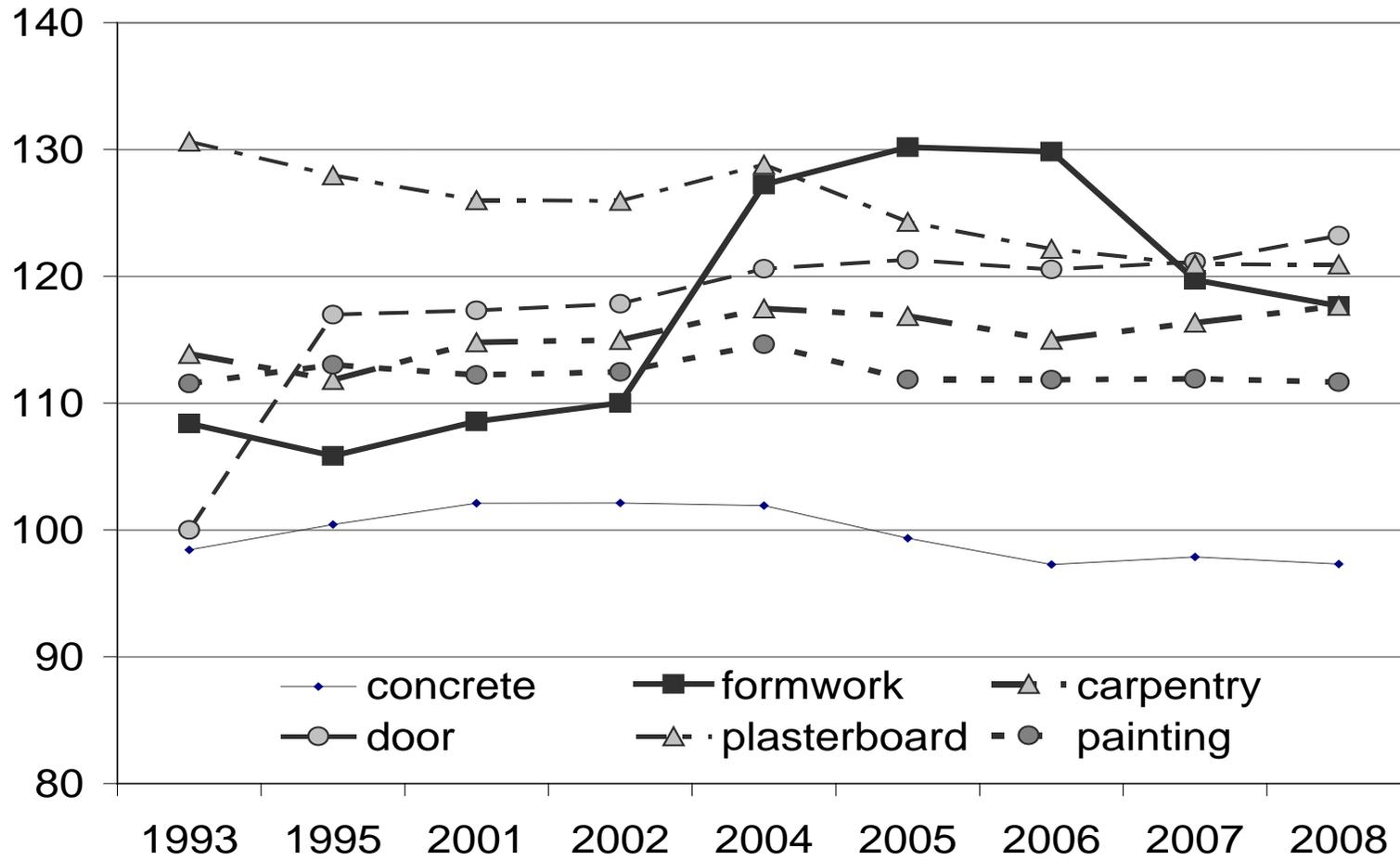
**Panel 1: six items**

**Panel 2: five items**



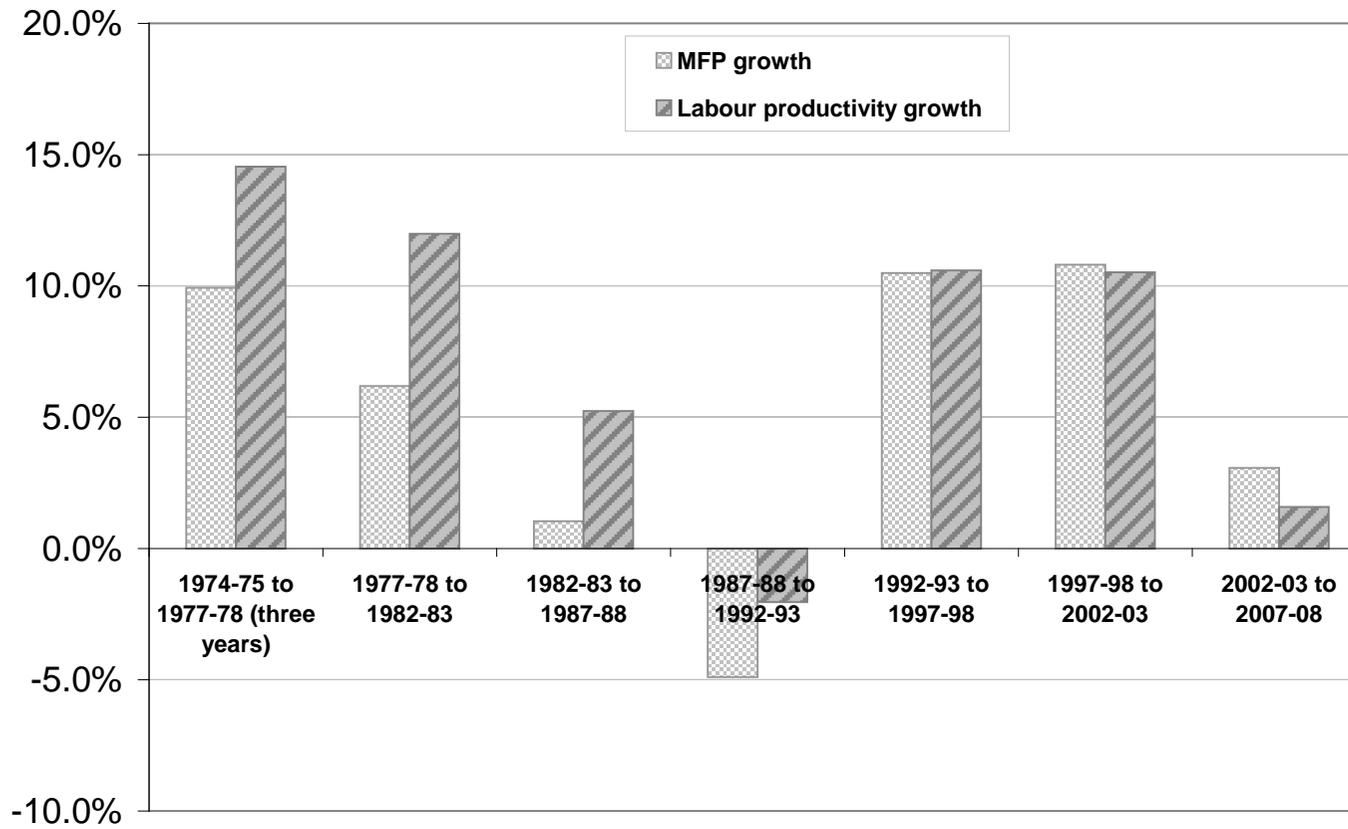
Source: Econtech Reports 2007-2009; Rawlinson's data

Figure 4 Testing for series breaks in cost differentials by task, 1993-2008



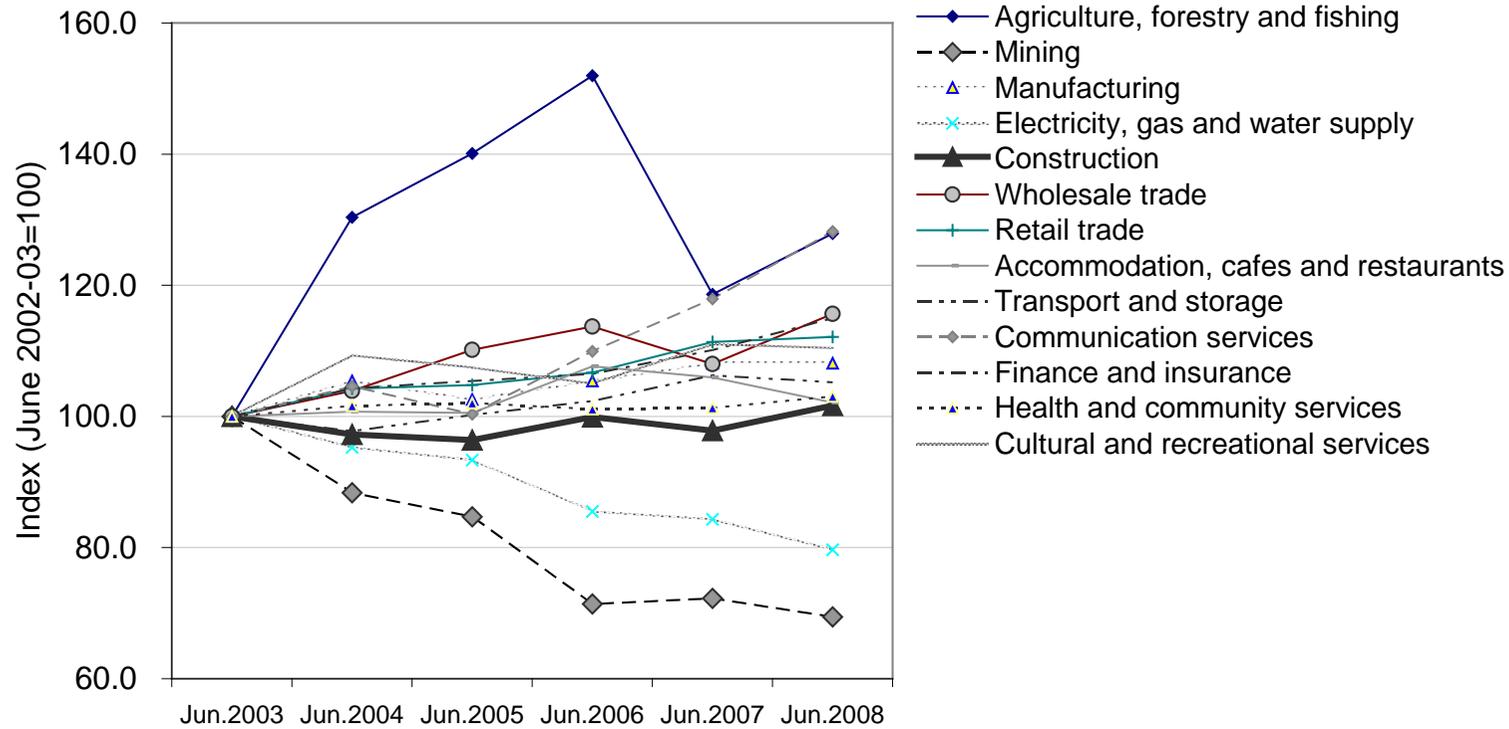
Source: Rawlinson's data

**Figure 5 Growth in labour productivity and multi-factor productivity (MFP), construction industry, five year periods, 1974-75 to 2007-08**



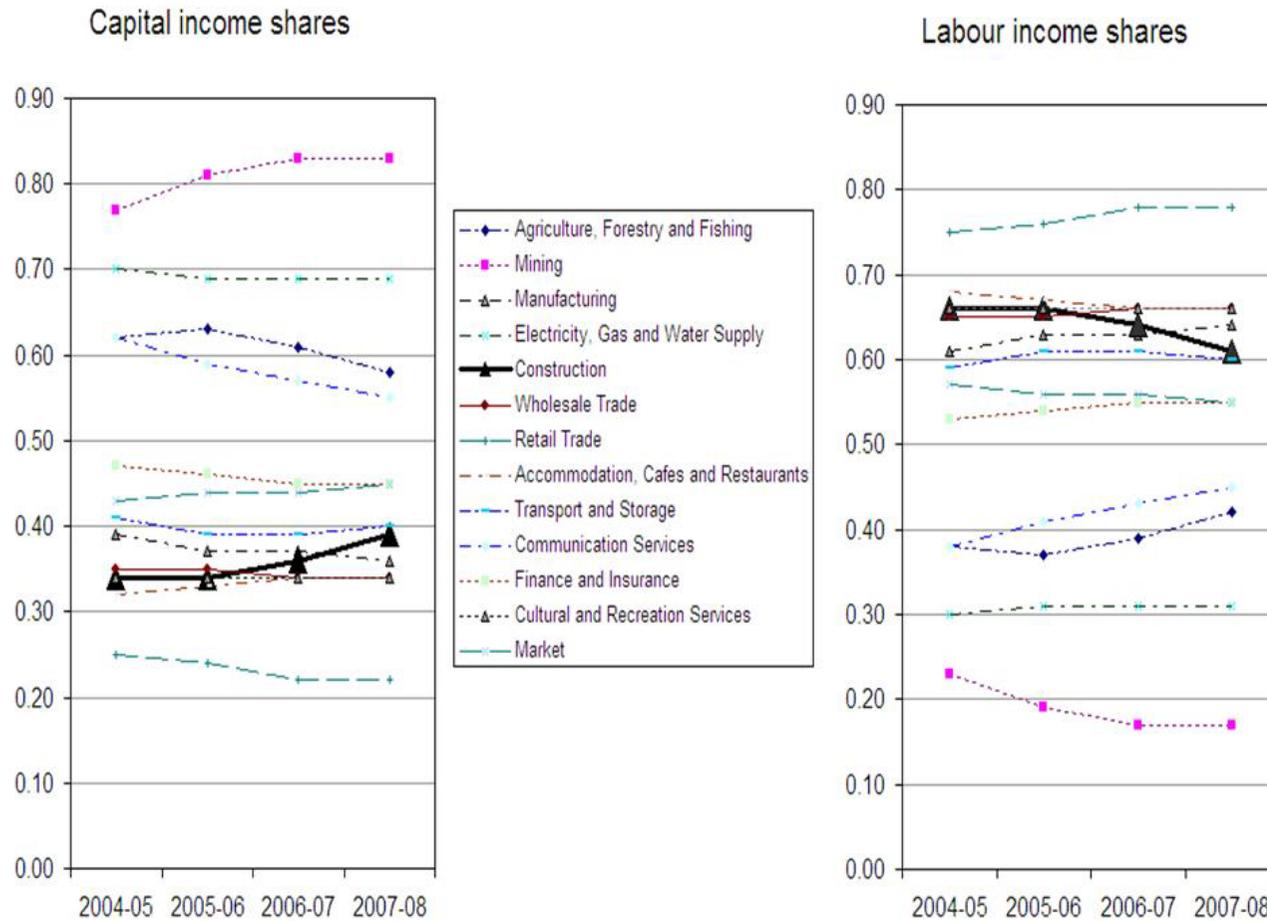
Source: Productivity Commission 2009

**Figure 6 Gross value added per hour worked, by industry, 2002-03 to 2007-08**



Source: ABS 5204.0 Australian System of National Accounts, 2007-08, Table 15. Labour Productivity and Input, Hours worked and Gross Value Added (GVA) per hour worked - by Industry

**Figure 7 Labour and capital shares in construction and other industries, 2004-05 to 2007-08**



Source: ABS Cat. No. 5260.0.55.002 Experimental Estimates of Industry Multifactor Productivity, Australia: Detailed Productivity Estimates. Table 10: Income shares for value added based estimates of MFP.

## ENDNOTES

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<sup>1</sup> It has more recently been taken over by KPMG, and is now known as KPMG Econtech, but for consistency it is referred to here as Econtech throughout.

<sup>2</sup> Noted in nine places in the 2007 Econtech Report: Table 1, p iv; p v; p vi; Table 5.3, p27; p28; p33 paras 1 & 2; and p37.

<sup>3</sup> The weights provided by Econtech were: NSW – 34%, VIC – 24%, QLD -23%, WA -13%, SA -5%. As these only added to 99% we then made a pro-rata adjustment to each.

<sup>4</sup> The reason the last figure was higher than previously claimed was because a later base year, with higher nominal GDP, was used.

<sup>5</sup> In itself, the boom of recent years has artificially added to productivity growth, just as the forthcoming downturn in the industry is expected to artificially reduce productivity growth: predicted movements in construction employment and output (Access Economics (2009) imply falls of 5.6 per cent and 0.7 per cent in construction industry productivity in 2009-10 and 2010-11 respectively.