

Easy Labour
*Identifying construction industry cost drivers in
Queensland*

Tulipwood Economics

Report prepared for the Australian Institute for
Progress

14 October 2024

Disclaimer

This document has been prepared by Tulipwood Advisory Pty Ltd (Tulipwood Economics) for the Australian Institute for Progress (AIP). The information, statements, statistics, and commentary (information) contained in this document has been prepared from publicly available material. The information contained in this report must not be relied on by third parties, copied, reproduced, distributed, or used, in whole or in part, for any purpose without the written permission of AIP.

14 October 2024

Table of contents

Executive summary	1
Background	1
Cost and productivity trends	1
Best Practice Industry Conditions	3
Findings	4
Recommendations	6
1. Introduction	9
1.1 Terms of reference	9
1.2 Background	9
1.3 Data sources and methods	9
1.4 Structure of this report	10
2. Queensland Construction industry trends	11
2.1 Introduction	11
2.2 Size and scope of the Queensland construction sector	11
2.3 Public investment	12
2.4 Construction costs	13
2.5 Productivity	15
3. Best Practice Industry Conditions	20
3.1 Introduction	20
3.2 Union influence in the construction sector	20
3.3 Safety	22
3.4 Unique features of large public infrastructure projects	22
3.5 Best Practice Industry Conditions	24
3.6 BPIC as the construction industry standard	27
4. Findings, conclusions and recommendations	29
4.1 Findings and conclusions	29
4.2 Recommendations	31
References	34

List of Tables

Table 4-1 Cost of BPIC requirements over the forward estimates, 2024-25 to 2027-28	30
Table 4-2 Potential gains from reform, GVA per hour worked (Market v Construction)	31
Table 4-3 List of Recommendations	32

List of Figures

Figure 2-1 Queensland construction sector Total Factor Income and Gross Value Added	12
Figure 2-2 Composition of public sector investment.....	13
Figure 2-3 Queensland construction sector non-residential PPI relative to CPI.....	14
Figure 2-4 Construction v All Industries wages, 2004 to 2024 (nominal index)	15
Figure 2-5 Labour productivity by 'Big-4' States since the GFC	16
Figure 2-6 Labour productivity in Australia, by selected industry since 2013-14.....	17
Figure 2-7 Multifactor productivity by 'Big-4' States since the GFC	18
Figure 2-8 Multifactor Productivity in Australia, by selected industry since the GFC	19
Figure 3-1 Median weekly earnings, by union membership and occupation.....	21
Figure 3-2 Working Days Lost in 2023-24, by the Big-4 States (thousands)	22
Figure 3-3 International comparison of construction working days off per year	25

Abbreviations

ABS	Australian Bureau of Statistics
ANZSIC	Australian and New Zealand Standard Industrial Classification
BPIC	Best Practice Industry Conditions
BPP	Best Practice Principles
CFMEU	Construction, Forestry, Mining and Energy Union
CPI	Consumer Price Index or Chain Price Index
CCI	Construction Cost Inflation
EBA	Enterprise Bargaining Agreement
EGWWS	Electricity, Gas, Water, Waste Services
FTE	Full-Time Equivalent
GDP	Gross Domestic Product
GG	General Government sector
GOC	Government Owned Corporation
GSP	Gross State Product
GVA	Gross Value Added
LNG	Liquified Natural Gas
MFP	Multi Factor Productivity
NFPS	Non-financial Public Sector
PC	Productivity Commission
RBA	Reserve Bank of Australia
RDO	Rostered Day Off
WDL	Working Days Lost
WPI	Wage Price Index

Executive summary

Background

This report sets out the causes and consequences of rising costs and falling productivity in Queensland's construction sector. In particular, the report assesses the effect of the Queensland Government's mandatory Best Practice Industry Conditions (BPIC) that were developed as minimum industry standards in negotiations with the CFMEU. Construction firms bidding for State Government projects valued at over \$100 million must meet the BPIC requirements, which establish the wages and conditions for construction workers on large public infrastructure projects and influence conditions across the entire sector.

Outside of mining investment booms, the Queensland Government is the largest purchaser of infrastructure construction services in the state. Over three-quarters of the total \$95 billion four-year state government capital investment program is allocated to major transport (36%), energy (35%) and health (13%) projects that are heavily, or totally, dependent on unionised construction labour.

In its 2024-25 State Budget, the Queensland Government acknowledged the cost pressures building up in the construction sector and, yet, claimed:

*"The government remains committed to maximising the benefits for Queenslanders by using best practices in procurement to support local jobs and businesses and drive economic and social outcomes. The government is delivering the 2024–25 capital program in partnership with suppliers that can ensure projects deliver on best practice industrial relations, including adopting modern and progressive industrial relations practices and ensuring terms of employment are at least equivalent to best practice industry conditions."*¹

This report demonstrates why the Queensland Government's thinking is misguided in relation to the construction sector. Establishing inflexible and generous wages and conditions via mandatory procurement policies in the construction sector, with no reference to individual workplace productivity and taxpayer value, will not only raise costs on taxpayer-funded building sites, but also spill over into other sectors of the Queensland economy, damage industry productivity and, ultimately, reduce the capacity of the government to invest in productive public infrastructure, lower business investment and, consequently, economic growth.

Cost and productivity trends

Construction costs have risen by up to 30 per cent since the Covid-19 (2020-2022) period across the board — from residential buildings and apartment blocks to large publicly funded energy, transport and health infrastructure projects. A flawed public infrastructure procurement system and market structure that discourages effective competition and taxpayer value on the one hand and encourages costly (and sometimes illegal) bargaining and project delays by labour unions on the other, is at the heart of the problems bedeviling the sector.

Wages for on-site labourers and technical and trades workers account for 20-30 per cent of large capital-intensive construction projects and are, therefore, an important determinant of

¹ Queensland State Budget 2024-25, BP3 Capital Statement, p.3.

project costs.² Since the beginning of the mining boom in the early 2000s, construction sector wages have risen faster than the average of all industries in Australia. Nominal wages rose strongly from the mid-2000s to the mid-2010s driven by higher demand for construction services through the mining and LNG construction booms and concomitant build-ups in state government infrastructure programs.³ After a pause in the late 2010s, nominal construction wages are again rising strongly, this time driven by labour shortages in key occupations, growing state government infrastructure demand and more generous wages and conditions guaranteed by public sector procurement provisions.

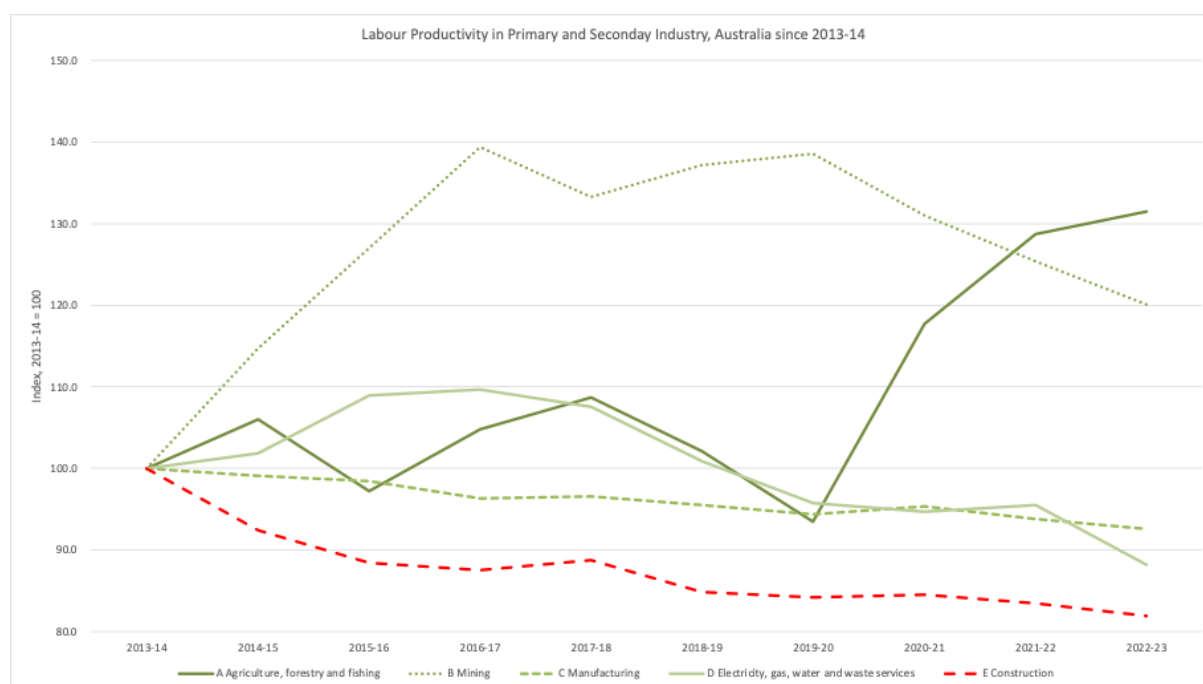
For example, under BPIC, base wages for a number of construction worker classifications — and before adding in generous leave and overtime and other conditions (discussed in section 3) — like crane operators, riggers and traffic operators, are paid as much, and often significantly more, than teachers, nurses and police.

Industry labour productivity performance is only available at the national level.⁴ Labour productivity growth in the Australian construction sector has declined by a staggering 18.1 per cent since a relative peak in 2013-14. Even taking a longer timeframe, labour productivity is at the same level in 2022-23 as it was in 2004-05. The construction sector's performance compares poorly even to the industries with well-known productivity problems — being manufacturing (-7.4% since 2013-14) and electricity, gas, water and waste services (-11.8%). It is also worth pointing out that the decline in construction sector productivity runs over several 'productivity cycles' as identified by the ABS and Productivity Commission. The problems with the sector are, therefore, structural rather than cyclical or transient. (Figure E - 1, red dash line).

² That is excluding designers, planners, site managers and engineers.

³ The Queensland Government tends to increase public investment during resources booms to meet increased demand for public infrastructure, especially in regional areas. The fiscal constraint is also loosened because revenues are higher.

⁴ The ABS does not estimate industry level productivity at the state and territory level. Queensland Treasury has not made estimates of Queensland's productivity at the industry level since the early 2000's. Given that Australia is a national market for technology and other capital, as well as labour in the long-run, it is reasonable to apply the national productivity trends in construction to Queensland in the absence of Queensland-specific data.

Figure E - 1 Labour productivity in Australia, by selected industry since 2013-14

Source: ABS 5260.0.55.002 Estimates of Industry Multifactor Productivity, Australia. Table 6 Quality Adjusted Hours Worked basis. Note: The sharp rise in labour productivity in Agriculture, forestry and fishing from the low point in 2019-20 is a result of the decrease in workers relative to output during the Covid restrictions period.

These cost and productivity trends are even more concerning because while public infrastructure investment in Queensland is set to rise rapidly this decade, the Queensland taxpayer is getting less for more. Rising costs pose serious challenges to the timely and successful delivery of vital public infrastructure projects, with negative implications for the delivery of the ‘mega-projects’ required to ensure a successful 2032 Olympic Games and meet expected population growth.

Best Practice Industry Conditions

The Queensland Government’s Best Practice Industry Conditions (BPIC) establish mandatory procurement requirements for publicly funded infrastructure projects valued at more than \$100 million. Under the mandatory requirements, contractors engaged on Queensland Government projects “are to recognise the priority of having in place legally binding and enforceable workplace arrangements with conditions of employment that meet or exceed the minimum Conditions of Employment required by this BPIC policy.” (BPIC 2024, p.13).

These requirements feed into the EBAs signed between builders and unions. In this way, EBA cost inflation is higher than the measured WPI because of the range of working conditions and various clauses that have a negative impact on productivity, including through “inflexible rosters and rostered days off, site access, restrictions on sub-contractors and a range of other matters”. (Deloitte Access Economics 2014, p.19).

Under BPIC, construction workers will receive higher than average wages for many occupations like crane operators and dogmen.⁵ In addition, dozens of benefits — such as 50 different allowances from Cold Work to Hot Work to Ladder Work to Meals and

⁵ A Dogman or “dogger” is a specialist in slinging and guiding loads to ensure they are handled correctly by cranes.

Accommodation — are added on top of the standard wages regardless of individual worker productivity, labour market conditions (i.e. whether workers would be otherwise prepared to work for the standard base wage), or whether the project is running on time and on budget.

Of the many conditions, the fixed RDO calendar with 26 rostered days off per year (i.e. a 9-day fortnight), on top of public holidays — with no reference to, let alone account of, a project schedule — is extremely costly. This is compared to a standard 6-10 RDOs on a civil construction site.

Other generous remuneration benefits include:

- a 5% wage increase every year from 2023 to 2027, well above standard pay increases for other occupations;
- premium rates for overtime of between 150 per cent (time-and-a-half) to 300 per cent (triple time);

In addition to standard benefits such as annual leave, parental leave, compassionate and community service leave, and long service pay, workers can claim:

- Family and Domestic Violence Leave: Workers are entitled to 5 days of paid leave for family and domestic violence issues, with the possibility of additional unpaid leave.
- Cultural and Ceremonial Leave: Indigenous workers are entitled to 5 days of paid leave for cultural and ceremonial purposes.
- Annual Picnic Day: Ordinarily to occur on the first Monday in December (on full pay), otherwise the worker will be paid double-time and a half.

When taken together, these arguably generous wages and conditions significantly reduce worker flexibility and significantly increase project risks related to delivery schedules, materials delivery, concrete pours and other coordinated or sequential activities.

Finally, it is not surprising that BPIC has become the industry standard for major infrastructure projects in Queensland. The fact that the Queensland Government is the major buyer of construction services and the fact that there is a single labour market means that the higher pay and conditions in one industry will ultimately spill over into other closely related industries, occupations and technical trades as workers naturally seek the best pay and conditions possible.

Findings

Queensland construction costs are rising and productivity is falling. Based on the latest ABS data as well as industry submissions and commentary, construction sector wages are rising faster than the market sector as a whole, and labour productivity has gone backwards since a peak in the mid-2010s. In fact, labour productivity has been stagnant through a number of productivity cycles, indicating deep structural problems with the sector.⁶ This stagnant productivity is caused, in part, by the punishing procurement requirements established by BPIC combined with increasing wages and material costs. Taken together, this flawed system is driving up the overall cost of public infrastructure projects.

⁶ Productivity growth cycles are identified by the ABS and Productivity Commission. See, for example, Productivity Commission (2023, p.13 Table 2).

It's important to distinguish these structural or “own goal” cost pressures that have become “baked in” via BPIC and other industrial relations policies from the cyclical supply and demand trends that, ultimately, self-adjust back to equilibrium via price pressures. In other words, while cost increases associated with stronger demand are largely a movement along a supply curve for infrastructure expansion, mandatory, inflexible and restrictive one-size-fits-all labour requirements shift the entire supply curve up and to the left, permanently increasing costs at all levels of output (Ergas 2014).

The Queensland construction market is structurally broken. Costs are high, productivity is low, and there is a significant overrepresentation of insolvencies in the subcontracting market driven by a combination of high costs and fixed prices on long contracts. There are numerous and inter-related causes. The Queensland Government has weak fiscal incentives to manage construction costs and cost blow-outs.⁷ Moreover, as a single dominant buyer, the government awards contracts for mega-projects that attract very few bidders. The lack of competition and oligopolistic nature of large-scale construction supply services is exacerbated by organised labour exploiting their own dominant position as a supplier of construction labour. Despite being assured excellent conditions, **unions leverage their power to hold-up and delay projects, threatening disruption at critical phases unless their demands for even higher wages and even more favourable conditions are met.** This creates enormous risks and added costs for project owners and proponents, who are often left with little choice but to acquiesce in order to avoid costly delays.

There are additional economic costs beyond the taxpayer penalty imposed by the problematic characteristics of the construction sector. **First, the efficiency costs of raising additional taxation to fund higher cost projects lowers household and business spending and investment and, ultimately, economic growth.** Estimates of these deadweight taxation costs range between 20-30 cents in the dollar, with higher estimates applied at the state level because the tax mix is more inefficient overall than federal taxes.⁸ **Second, to the extent that higher costs crowd out useful public investment, the economic gains from total infrastructure investment are less than they would otherwise be.**⁹ **Third, the very high cost of major projects in Queensland means that fewer, potentially very productive, privately funded projects are undertaken, leaving the field to public projects whose costs often exceed their benefits.**

Union power in a capital-intensive industry leads to a significant bargaining advantage for the union because the wage share of total costs is low, hence it makes more sense for builders to “roll over” to demands for higher wages and conditions than to suffer costly project disruptions and delays. Similarly, with little job insecurity, delays impose few costs on unions and workers, providing the perfect incentives for unions to demand significantly higher pay and conditions (Pirrong 1993).

There is no evidence that the generous wages and conditions established by BPIC have led, or will lead, to a reduction in hold-ups, delays and/or other costly industrial action by unions. If it were the case that BPIC was the price of industrial peace (thereby making project costs and timelines more predictable), then there might be some argument for imposing those conditions, even if they unnecessarily transfer funds (“rents”) from taxpayers to unionised

⁷ Governments face weak constraints on borrowing because of they hold the coercive power of future taxation to pay down debt.

⁸ KPMG Econtech (2010).

⁹ Makin (2013) and Henckel and McKibbin (2010).

workers and their unions. But that is not the case with the latest ABS figures showing working days lost in Queensland are higher than in any other Australian state or territory. As a result, Queensland taxpayers pay a penalty for public infrastructure but receive no reward in terms of securing industrial peace.

Estimates of the cost of BPIC and potential benefits of reform

We have made an estimate of the ‘taxpayer penalty’ caused by the BPIC requirements across the construction, energy and transport sectors in Queensland over the period 2024-25 to 2027-28 (i.e. the current 2024-25 State Budget forward estimates timeframe).

Based on the Capital Statement (BP3) in the 2024-25 Queensland State Budget, we have attributed three-quarters of the total \$94.9 billion NFPS capital program as being subject to BPIC requirements, either directly or indirectly via market forces.¹⁰ Then, from the National Accounts, we have estimated the “on the tools” construction wage share to be 23 per cent. That is, we assume that the on-site wage share of the \$71.2 billion public sector infrastructure investment subject to BPIC requirements is \$16.4 billion. Finally, we apply a BPIC taxpayer penalty based on the difference between union and non-union wages to the relevant proportion of costs attributable to on-site workers subject to BPIC requirements.¹¹

- We estimate that the cost of the mandatory BPIC procurement requirements together with the other structural inefficiencies of the Queensland construction sector to be **at least \$4.2 billion over the forward estimates (2024-25 to 2027-28) or about \$1 billion per year.**

In terms of this estimate, we have not measured the broader economic costs related to the deadweight costs of raising additional taxation to fund the higher costs of delivering public infrastructure projects under BPIC or the foregone economic benefit from additional useful public and private infrastructure investment that has been crowded out by the higher costs. Further, the difference between union and non-union labour across the whole economy is lower than the difference in construction. For these three reasons, it is reasonable to say that our estimate is conservative.

We also estimated an upper bound of potential gain from a broad range of policy reforms that would address inefficiencies in the market by calculating the difference or “wedge” between productivity in the construction sector and productivity in the total market sector.

- We estimate that the potential gain to the construction sector in terms of additional industry GVA (i.e. Queensland GSP) from improved productivity performance in publicly funded construction projects is **\$8.9 billion over the forward estimates or around \$2.2 billion per year.** The gains are potentially even higher, as the reforms spill over into privately funded construction projects.

Recommendations

We have made a number of policy and governance recommendations to support a ‘pro-productivity’ agenda in the Queensland construction sector.

¹⁰ 2024-25 Queensland Budget Paper No.3 Capital Statement.

¹¹ Using the overall difference between union and non-union wages is a very conservative approach. The difference in wages by construction industry occupations is significantly greater.

In broad terms, policies that promote value-for-money in public infrastructure investment, a flexible, cost conscious and innovative construction sector, and that builds human capital via training, is the essence of a 'pro-productivity' agenda. On the other hand, policies that fail to effectively rank and prioritise public infrastructure investment within a fixed budget constraint, that mandate inflexible and prescriptive regulations and requirements, that distort business decisions and raise risks, stifle innovation or involve undue costs and delays to projects are 'anti-productivity' and will, ultimately, reduce private investment and real wages growth.

The current Queensland Government's (self-)celebrated productivity agenda is, in reality, a spending and regulation agenda. It is not one that involves the kind of regulatory reforms that are needed. To address the challenges of delivering value-for-money public infrastructure, we have made the following recommendations (Table E - 1).

Table E - 1 List of Recommendations

No.	Recommendation	Description
1	Independent review	An eminent person respected by the sector or an independent re-instituted Queensland Productivity Commission (QPC) , separate from Queensland Treasury, should undertake a review of the Queensland Construction sector. The review should investigate the sectors productivity performance, cost trends, industrial relations troubles, and make recommendations to improve industry performance over the medium to long-term.
2	Remove BPIC	Remove BPIC as a mandatory procurement requirement and replace with a core list of general minimum requirements related to penalty rates, working conditions and safety.
3	Competition reforms	Continue to progress reforms that promote more competition in the Queensland construction sector : <ul style="list-style-type: none"> - Partition projects where feasible to promote competition. - Encourage more foreign bidders to enter the Queensland market. - Monitor labour demand in the construction sector and encourage skilled overseas and interstate migration via more flexible training, housing and tax policies. - Greater focus on the government side on in-house design and pre-investigation work prior to tender processes to reduce bidding costs.
4	Better coordinated fiscal policy	<ul style="list-style-type: none"> - Don't work against the RBA; that is, don't worsen the fiscal balance (e.g. increase the fiscal deficit) at the same time as the RBA is raising interest rates to bring the CPI back to its target. - Don't work against private sector investment; that is, don't crowd out private sector investment during boom times (e.g.

		<p>LNG investment boom) and, as a result, drive up wages and materials costs.</p> <ul style="list-style-type: none"> - Continue to work to ensure a predictable and stable expenditure sharing with the Commonwealth Government on major projects (e.g. 80-20 split on the Bruce Highway). - Maximise incremental development of existing large projects or existing infrastructure before committing to new mega-projects, and use deferment and acceleration contract mechanisms to de-risk public infrastructure investment.
5	Higher quality project selection	<ul style="list-style-type: none"> - Re-institute Building Queensland in a narrower role (than previously) to advise Cabinet on project prioritisation and to enforce consistency in project assessment across departments and industry sectors. - Building Queensland would promote independent, expert and transparent consideration of projects, and would publish <u>full</u> CBAs¹² of projects > \$100 million such that analysis is independently replicable.

Source: Tulipwood Economics.

Efficient provision of infrastructure, including public infrastructure, is the hallmark of a well-functioning economy (PC, 2014). The five policy and governance reforms suggested here aim to meet the goal set by the Productivity Commission via improving fiscal management, promoting competition, increasing productivity, and delivering more cost-effective public infrastructure projects, ultimately benefiting both the Queensland economy and its citizens.

¹² That is, Building Queensland should publish not just the Executive Summary of the CBA, but the whole report, including relevant datasets, such that all input assumptions are transparent, all analyses are replicable and all findings are testable.

1. Introduction

1.1 Terms of reference

We have been asked by the Australian Institute for Progress (AIP) to examine what is driving rising construction costs in Queensland. We have also been asked to provide policy recommendations, based on our analyses of the issues. The report provides an assessment of the Queensland Government's mandatory Best Practice Industry Conditions (BPIC) that were developed as minimum industry standards in negotiations with the CFMEU. Construction firms bidding for State Government projects valued at over \$100 million must meet the BPIC requirements, which establish the wages and conditions for construction workers on large public infrastructure projects and influence conditions across the entire sector.

1.2 Background

Outside of mining investment booms, the Queensland Government is the largest purchaser of infrastructure construction services in the state. In the General Government sector, public infrastructure investment will total \$54.7 billion over the four years from 2024-25 to 2027-28. And in the Non-Financial Public Sector (NFPS), which comprises the Government Owned Corporations (GOCs), new capital investment will total \$40.3 billion.¹³ Over three-quarters of the total \$95 billion four-year capital investment program is allocated to major transport (36%), energy (35%) and health (13%) projects that are heavily, or totally, dependent on organised union labour.

Construction costs have risen by up to 30 per cent since the Covid-19 (2020-2022) period across the board — from residential buildings and apartment blocks to large publicly funded energy, transport and health infrastructure projects. And labour productivity in the Australian construction sector has declined by an astonishing 18.1 per cent since a peak in 2013-14.¹⁴

These cost and productivity trends are very concerning because it means that Queenslanders are getting less for more. Rising costs and falling productivity pose serious challenges to the timely and successful delivery of vital public infrastructure projects, jeopardising the delivery of the 'mega-projects' required to ensure a successful 2032 Olympic Games and meet expected population growth.

Against this background, in this report we consider the economic costs of BPIC and the potential economic gains from boosting productivity in the sector.

1.3 Data sources and methods

For this study we have sourced publicly available information, such as:

- ABS data on the Queensland and Australian construction industry, including costs and productivity.
- Productivity Commission data on industry productivity.
- Queensland Government publications describing Best Practice Industry Conditions.
- Academic literature in relation to construction sector market characteristics.

¹³ Queensland State Budget 2024-25, BP2 Ch.9 Uniform Presentation Framework, Tables 9.1 and 9.2.

¹⁴ ABS 5260.0.55.002 Estimates of Industry Multifactor Productivity, Australia. Table 6. Quality adjusted hours worked basis. The ABS does not produce estimates of industry productivity by State.

1.4 Structure of this report

This report is structured as follows:

- Chapter **Error! Reference source not found.** provides an overview of recent trends in the Queensland construction sector, including cost and productivity trends.
- Chapter **Error! Reference source not found.** describes the economic characteristics of the construction market, particularly in relation to procurement requirements, labour hire laws and other conditions governing publicly funded infrastructure projects.
- Chapter **Error! Reference source not found.** provides an estimate of the cost of BPIC and other conditions to the Queensland taxpayer and a broader estimate of the potential gain to Queensland from a suite of reforms to the sector.

2. Queensland Construction industry trends

2.1 Introduction

This section examines recent non-residential construction industry trends in Queensland, particularly in relation to cost pressures and productivity performance.

The ABS classifies the construction sector as comprising:

- Residential building construction (e.g. homes and apartment buildings);
- Non-residential building construction (e.g. commercial buildings and hospitals);
- Heavy and civil engineering construction (e.g. roads, bridges, ports, and large mining and LNG projects); and
- Construction services (e.g. land development and site preparation services, engineering services, and building structure and installation services).¹⁵

Like any market, the capital and labour inputs into the Queensland construction sector are subject to the forces of supply and demand, both domestically and globally.

- Overseas and interstate economic growth affects materials and labour costs in Queensland. For instance, steel is globally traded and its price is determined by to international demand and supply conditions.
- Fiscal and monetary policy can also impact the sector. For instance, expansionary fiscal policy can crowd out private sector investment and drive up both skilled and unskilled wages. This happened during phase 1 of the mining investment boom between 2003-04 and 2006-08, just before the GFC downturn.
- Over the long-run, technology drives lower costs in construction via innovation. By adding technology (usually in the form of new capital) to labour, workers become more productive. This can both lower construction costs and increase wages.

2.2 Size and scope of the Queensland construction sector

The construction sector accounts for just under 7 per cent of Queensland's Gross State Product (GSP) and directly employs 242,000 full-time and a further 34,000 part-time workers.¹⁶ In 2022-23, the sector paid wages of \$22 billion and yielded profits of \$11.8 billion, amounting to Total Factor Income of \$33.8 billion.¹⁷ Following strong growth in investment through the mining boom (2003-2012) followed by the LNG construction boom in the mid-2010s, the sector stagnated before returning to positive growth since the Covid-19 period (2020-2022), (Figure 2-1). However, post-Covid the sector has made only small contributions to GSP growth of between 0.2 and 0.4 percentage points.

Construction sector growth is expected to pick-up this decade leading into the 2032 Olympic Games with the Queensland Government committing to a \$25 billion per year capital program in the Non-financial Public Sector (NFPS) over the four years from 2024-25.¹⁸ That said, overall

¹⁵ See ABS ANZSIC system here: <https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic>

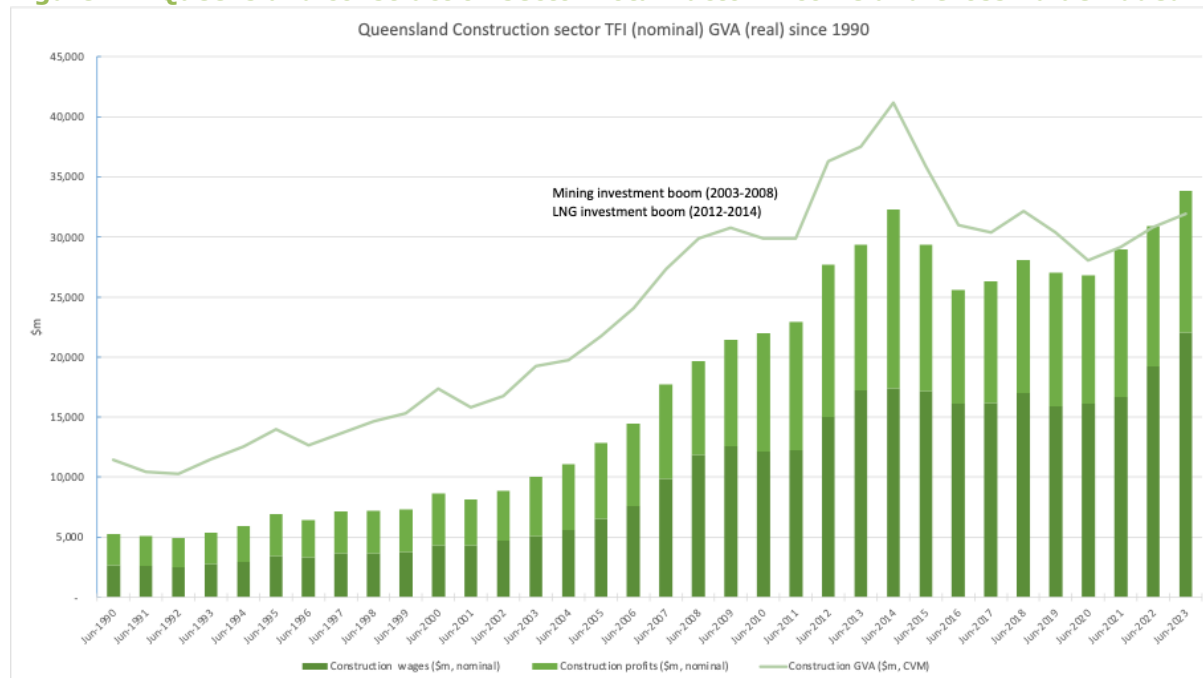
¹⁶ ABS 6291.0.55.001 Labour Force, Australia, Detailed. Table 05. Employed persons by State, Territory and Industry division of main job (ANZSIC)

¹⁷ ABS 5220.0 Australian National Accounts: State Accounts. Table 4.

¹⁸ The NFPS comprises the General Government sector and the Government Owned Corporations (GOC) sector.

sector growth will be likely dampened by looming fiscal pressures (i.e. limits to net debt accumulation that may force future governments to reduce the capital program¹⁹), skilled labour shortages and (in the longer-term) Commonwealth Government policies designed to reduce the flow of net overseas migration from the post-Covid peak of 518,000 in 2022-23.²⁰

Figure 2-1 Queensland construction sector Total Factor Income and Gross Value Added



Source: ABS Australian National Accounts: State Accounts, Table 4. Note: Industry GVA is presented in real terms (2021-22 dollars) and TFI is presented in nominal terms.

2.3 Public investment

The focus of our study is on large infrastructure projects funded by the Queensland Government. In the General Government sector, infrastructure investment will total \$54.7 billion over the four years from 2024-25 to 2027-28. And in the Non-Financial Public Sector (NFPS), which includes the Government Owned Corporations (GOCs) like CleanCo, Powerlink and Gladstone Ports Corporation, new capital investment will total \$40.3 billion.²¹

These types of projects include:

- Energy infrastructure projects such as CopperString 2032, Stanwell's Wambo and Tarong West wind farms, Swanbank Battery, and Borumba Pumped Hydro Energy Storage; and
- Transport infrastructure projects such as the Queensland Train Manufacturing Program; Cross River Rail completion, Logan and Gold Coast Faster Rail Project, Beerburrum to Nambour Rail Upgrade (Stage 1), Direct Sunshine Coast Rail Line (Stage 1); Bruce Highway, M1 Pacific Motorway, Coomera Connector; and Townsville, Cairns and Gladstone seaport upgrades; and

¹⁹ Queensland Government net debt in the General Government sector is forecast to quintuple before the end of this decade (i.e. from \$12 billion in 2023-24 to \$60 billion in 2027-28).

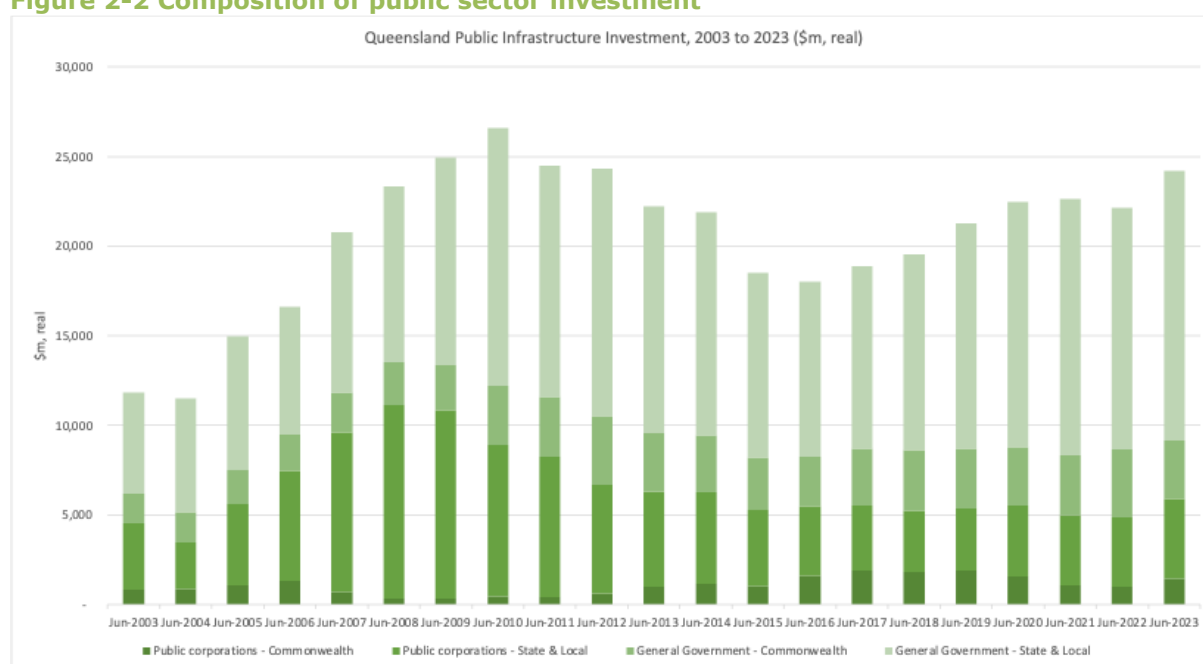
²⁰ See ABS 34070 Overseas Migration, 2022-23 here: <https://www.abs.gov.au/statistics/people/population/overseas-migration/latest-release>

²¹ Queensland State Budget 2024-25, BP2 Ch.9 Uniform Presentation Framework, Tables 9.1 and 9.2.

- Health infrastructure projects such as new hospitals and hospital upgrades.

Public sector infrastructure investment in Queensland has exceeded \$20 billion per year in real terms since 2018-19. The share of this investment attributable to State and Local Government (being overwhelmingly State) has been steadily rising, from 47 per cent in the 2000's to 56 per cent in the 2010s to 62 per cent this decade (Figure 2-2). This shift, caused by sharp increases in general government infrastructure investment, raises concerns about the efficacy of public infrastructure investment since investment by public state-owned corporations (GOC's) and even the Commonwealth Government are, arguably, subject to somewhat more rigorous testing in terms of meeting taxpayer value-for-money thresholds.

Figure 2-2 Composition of public sector investment



Source: ABS 5220.0 Australian National Accounts: State Accounts. Table 4. Expenditure, Income and Industry Components of Gross State Product, Queensland, Chain volume measures and current prices.

2.4 Construction costs

2.4.1 Domestic and international Trends

At an aggregate level, non-residential construction costs have increased faster than inflation — whether measured by the Brisbane CPI or the Chain Price Index in the National Accounts — since the Covid-19 period (Figure 2-3). Turner and Townsend (2024) found that construction cost inflation (CCI) in Brisbane (at 6.5% in 2023) was running ahead of other Australian and New Zealand cities including Sydney (6%), Melbourne (5.5%) and Auckland (5.6%), as well as major European cities London (3.5%), Berlin (4.0%) and Paris (2.4%).

Figure 2-3 Queensland construction sector non-residential PPI relative to CPI

Source: ABS 6427.0 Producer Price Indexes, Australia. Table 17. Output of the Construction industries, subdivision and class index numbers; 5206.0 Australian National Accounts: National Income, Expenditure and Product. Table 4. Expenditure on Gross Domestic Product (GDP), Chain price indexes.

2.4.1.1 Wages

Wages account for 20-30 per cent of large construction projects and are, therefore, an important determinant of project costs. Since the beginning of the mining boom in the early 2000s construction sector wages have outperformed the average across all industries in Australia (Figure 2-4). Nominal wages rose strongly from the mid-2000s to the mid-2010s driven by higher demand for construction services through the mining and LNG construction booms and associated build-ups in state government infrastructure programs. After a pause in the late 2010s, nominal construction wages are again rising strongly, this time driven by growing state government infrastructure programs and more generous wages and conditions guaranteed by the public sector procurement provisions that we analyse in section 3.

Figure 2-4 Construction v All Industries wages, 2004 to 2024 (nominal index)

Source: ABS 6302.0 Average Weekly Earnings, Australia. TABLE 10I. Average Weekly Earnings, Industry, Australia (Dollars) - Original - Persons, Total Earnings.

2.5 Productivity

2.5.1 What is productivity?

Productivity growth is defined as the change in outputs relative to inputs between two time periods. 'Growth' can be both positive and negative. In the long-run, productivity growth is largely driven by the rate of technological progress and innovation, which allows workers to utilise new technologies to 'work smarter'. It is widely understood that productivity growth has accounted for at least 80 per cent of the increase in per capita income in Australia since mid-last century.

Two critical factors determine how much firms contribute to industry or national productivity growth: the rate of 'innovation' and what economists refer to as 'creative destruction'.

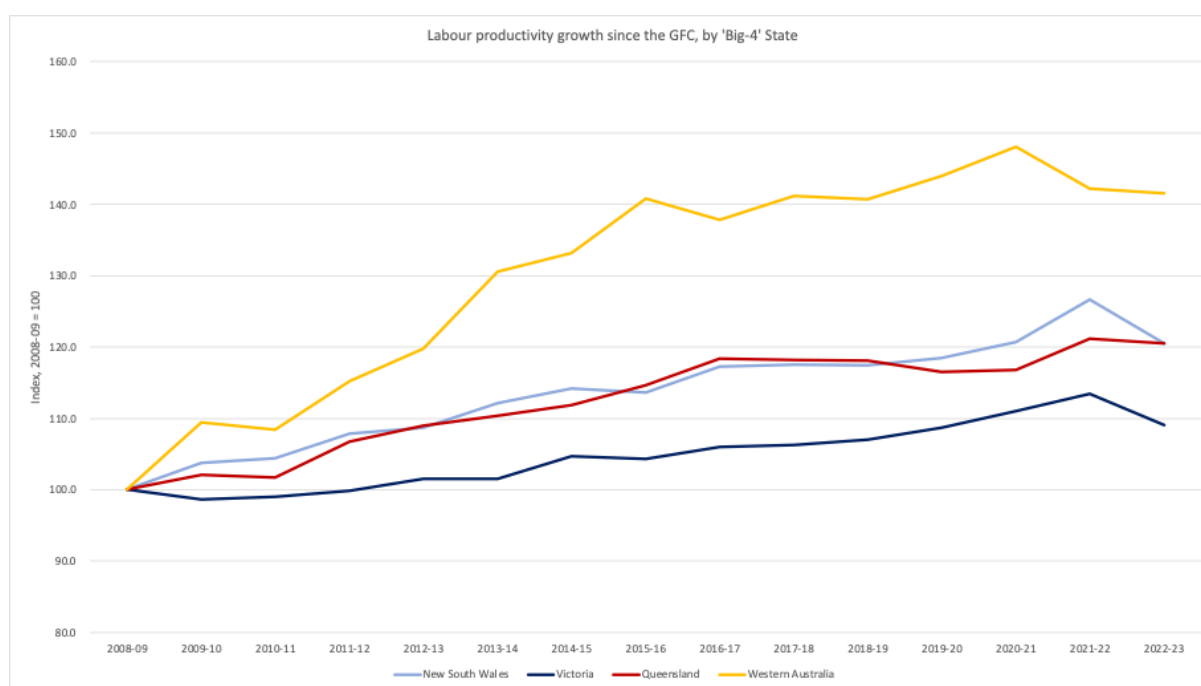
- Innovation is the result of adopting new methods or enhancing existing ones. Innovation can be driven by technological advancements, which expand the 'production possibility frontier' as workers become more productive (e.g. think of 'enabling' technologies like ICT or AI that have multiple applications).
- In terms of 'creative destruction', the productivity of an industry or economy depends not just on the productivity levels of its constituent firms or organisations but also on their respective market shares. Not all firms in an industry are equally productive. Aggregate productivity can be increased simply by better-performing firms displacing poorer-performing ones.

2.5.2 Australian and Queensland productivity performance

Australia achieved a high point of labour productivity growth in the 1990s when a combination of faster technological progress (particularly in relation to ICT use) and a broad microeconomic reform program (including privatisation of government network businesses and labour market reform) boosted output per hour worked and led to a sustained rise in living standards.²²

Notwithstanding the recent Covid-19 period (2020-2022) when measured productivity rose as a result of sharp reductions in labour force participation, labour productivity has been essentially flat for the past decade in Queensland.²³ Since 2008-09, labour productivity growth in Queensland has averaged less than 1 per cent per year, on par with NSW, but significantly less than WA, and significantly more than Victoria (Figure 2-5). Relative to previous productivity cycles this is a poor performance by Queensland, and NSW and Victoria.

Figure 2-5 Labour productivity by 'Big-4' States since the GFC



Source: ABS 5260.0.55.002 Estimates of Industry Multifactor Productivity, Australia.

Industry labour productivity performance is only available at the national level. Given that Australia is a national market for technology and other capital, as well as labour in the long-run, it is reasonable to apply the national productivity trends in construction to Queensland in the absence of Queensland-specific data.²⁴

Labour productivity growth in the Australian construction sector has declined by a staggering 18.1 per cent since a relative peak in 2013-14. Even taking a longer timeframe, labour productivity is at the same level in 2022-23 as it was in 2004-05. The construction sector's performance compares poorly even to the industries with well-known productivity problems

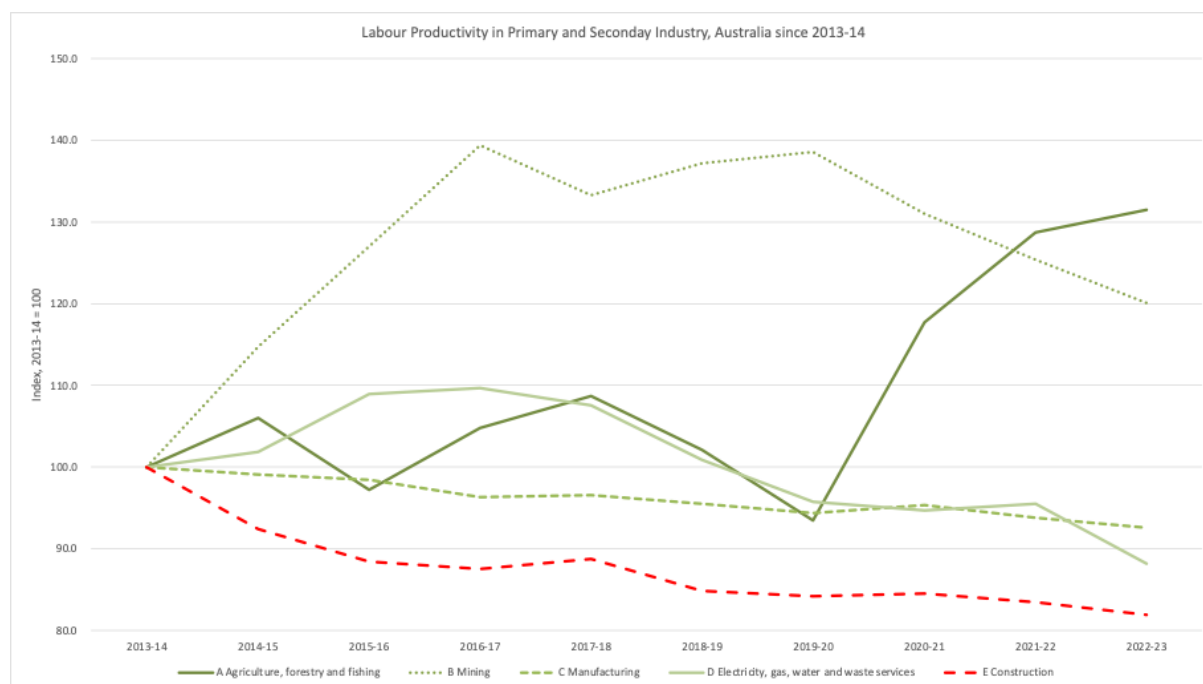
²² Labour productivity growth is defined as the amount of output (goods or services) produced per unit of labour input, typically measured as output per hour worked or output per worker (e.g. GDP or GSP per hour worked).

²³ During the Covid-19 period, inputs (i.e. hours worked) declined more than outputs (i.e. GDP) leading to an increase in measured labour productivity.

²⁴ The ABS does not estimate industry level productivity at the state and territory level. Queensland Treasury has not made estimates of Queensland's productivity at the industry level since the early 2000's.

— being manufacturing (-7.4% since 2013-14) and electricity, gas, water and waste services (-11.8%). (Figure 2-6, red dash line).

Figure 2-6 Labour productivity in Australia, by selected industry since 2013-14



Source: ABS 5260.0.55.002 Estimates of Industry Multifactor Productivity, Australia. Table 6 Quality Adjusted Hours Worked basis. Note: The sharp rise in labour productivity in Agriculture, forestry and fishing from the low point in 2019-20 is a result of the decrease in workers relative to output during the Covid restrictions period.

Labour productivity can be unpacked as the sum of multifactor productivity and capital deepening in order to identify the sources of productivity growth, as follows:

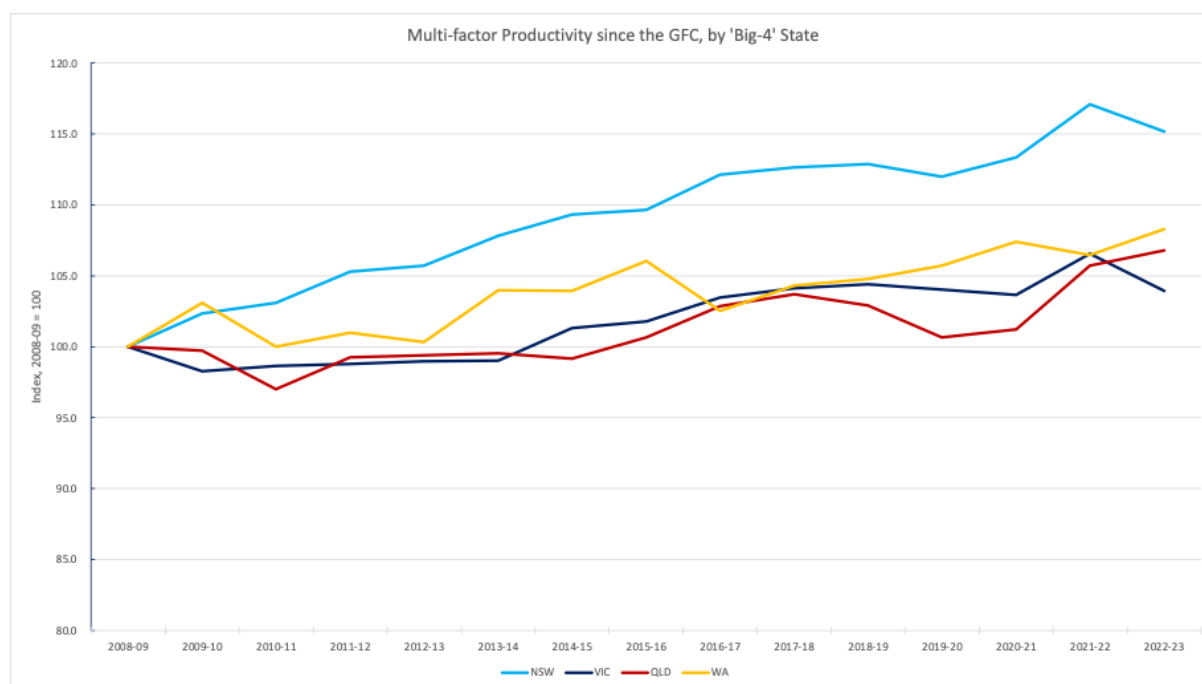
$$\text{Labour productivity} = \text{Multifactor productivity (MFP)} + \text{Capital Deepening}$$

Where:

Multifactor Productivity (MFP): MFP measures the efficiency with which all inputs (labour, capital e.g. land, tools, technology) are used together to produce output. It reflects factors such as technological progress, efficiency improvements, innovation, better management practices, and other elements that can't be directly attributed to increases in labour or capital alone.

Capital Deepening: Capital deepening occurs when the amount of capital (e.g., machinery, equipment, technology) per worker increases. It leads to higher productivity because workers have more or better tools to work with, which allows them to produce more output per hour worked.

Apart from NSW (+15.2%) since 2008-09, total MFP growth over the 14-year period from 2008-09 to 2022-23 was less than 10 per cent for the other large states of Western Australia (+8.3%), Queensland (+6.8%) and Victoria (+3.9%). Only NSW achieved average annual MFP growth of greater than 1.0 per cent (Figure 2-7). In other words, most of the increase in labour productivity over the period was a result of capital deepening rather than an increase in the overall efficiency with which labour and capital are combined to produce output.

Figure 2-7 Multifactor productivity by 'Big-4' States since the GFC

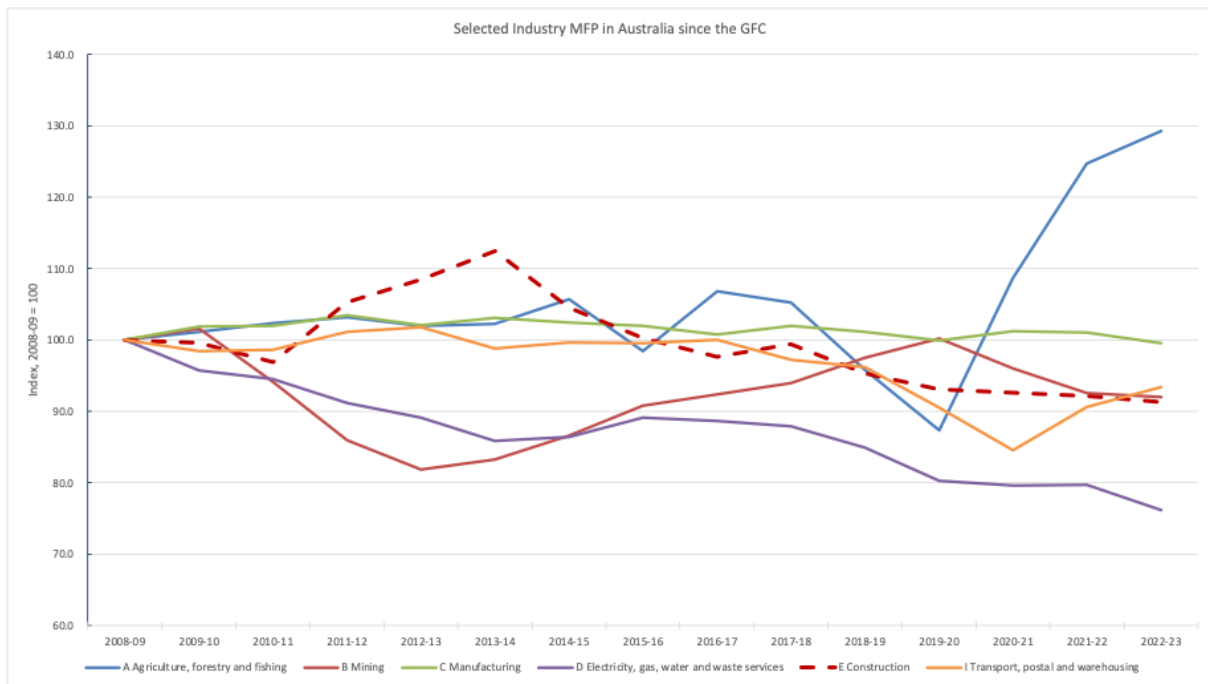
Source: ABS 5260.0.55.002 Estimates of Industry Multifactor Productivity, Australia.

Relative industry performance is only available at the national level.²⁵ Multifactor productivity, which is the part of labour productivity growth not due to growth in the capital-to-labour ratio, remains weak in the Australian construction sector. Indeed, it has declined since the GFC, being 8.7 per cent lower in 2022-23 than in 2008-09. Even with the Covid-19 'boost', the only industry to have bettered its 2008-09 MFP level is Agriculture, forestry and fishing (+29.3%), which has enjoyed high commodity prices and volumes for many commodities.

- Manufacturing remained roughly constant over the 14-year period (-0.4%);
- Electricity, gas, water, wastewater services (-23.9%) declined significantly;
- Mining declined as a result of significant capital investment without (yet) a commensurate increase in output (-8.0%); and
- Transport declined also (-6.6%). (Figure 2-8).

²⁵ Unfortunately, Queensland Treasury has not made estimates of Queensland's productivity at the industry level since 2003. Separately, the Productivity Commission (2014) recommended that the ABS be funded to "revise its approach to collecting productivity and other data within the construction sector", but this recommendation was rejected by the Commonwealth Government.

Figure 2-8 Multifactor Productivity in Australia, by selected industry since the GFC



Source: ABS 5260.0.55.002 Estimates of Industry Multifactor Productivity, Australia.

3. Best Practice Industry Conditions

3.1 Introduction

This section focusses on the impact of the Queensland Government's Procurement Policy and Best Practice Industry Conditions.

Under its procurement policy, the Queensland Government can apply Best Practice Principles (BPPs) to major state government infrastructure projects (i.e. over \$100 million) and declared projects. Where BPPs apply, the procurement process must consider three non-price selection criterion:

- Best practice workplace health and safety systems and standards;
- Best practice commitment to apprentices and trainees; and
- Best practice industrial relations.

Best Practice Industry Conditions define BPPs on a project specific basis. The Queensland Government has published BPPs for the Construction, Energy and Transport sectors.

3.2 Union influence in the construction sector

Nationally, union membership has declined steadily over the past 50 years from a peak of more than 50 per cent of the labour force in the 1970s to 12.5 per cent in 2022. Membership in Queensland is slightly higher at 13.8 per cent.²⁶ Union membership in the construction sector is at 9.7 per cent (down from 13.6% in 2016). This lower-than-average figure reflects, in part, the shift to subcontracting specialist construction trades and services in recent decades (e.g. site planning and engineering services). That said, on Queensland's large public infrastructure construction sites, union membership appears to be the norm if not a prerequisite.

According to the Fair Work Commission (2023), there are roughly 138,000 members of the CFMEU, of which about 60,000 work in the construction sector. Based on Queensland's national population share (of 20 per cent), these data would indicate that there are around 12,000 CFMEU members based in Queensland.²⁷

Union members receive a significant wage premium relative to non-union members. The median weekly earnings for employees who were trade union members in their main job in 2022 was \$1,520 per week, compared with \$1,208 for employees who were not a trade union member (i.e. a 25.8% wage premium for union members). In occupations related to the construction sector, the wage premium is even higher for union members.

- Technicians and trade workers who are union members receive on average 54 per cent more than their non-union counterparts;
- Machinery operators and drivers receive a 33 per cent premium; and
- Labourers receive a 66 per cent premium (Figure 3-1).²⁸

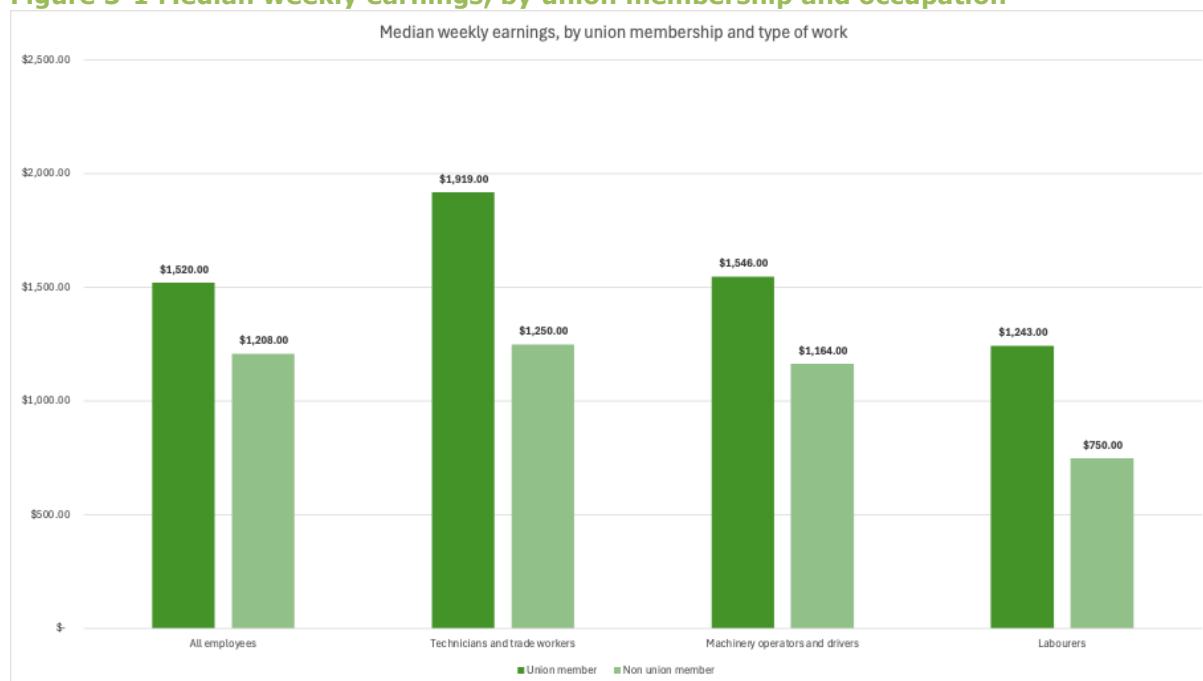
²⁶ ABS 6335.0 Trade Union Membership, August 2022 (latest release).

²⁷ According to the CFMEU website, the QLD/NT branch represents "over 20,000 workers on building and civil construction sites, offsite and furniture manufacturing". See here: <https://qnt.cfmeu.org/team-members>

²⁸ The unweighted average union wage premium across the three occupations is 50.7%, which is used in the modelling (see Section 4).

The unweighted average union wage premium across these three occupations is 50.7 per cent. There is no reason to suppose the premium is due to union labour being of higher quality than its non-union counterpart; to that extent, it is what economists refer to as a rent, i.e. a payment in excess of opportunity cost. Because this rent in the construction occupations is a result of agreements made between governments and unions, it is less a 'union wage premium' and more a 'taxpayer penalty' given the taxpayer must pay for the cost of agreements made between government and unions.

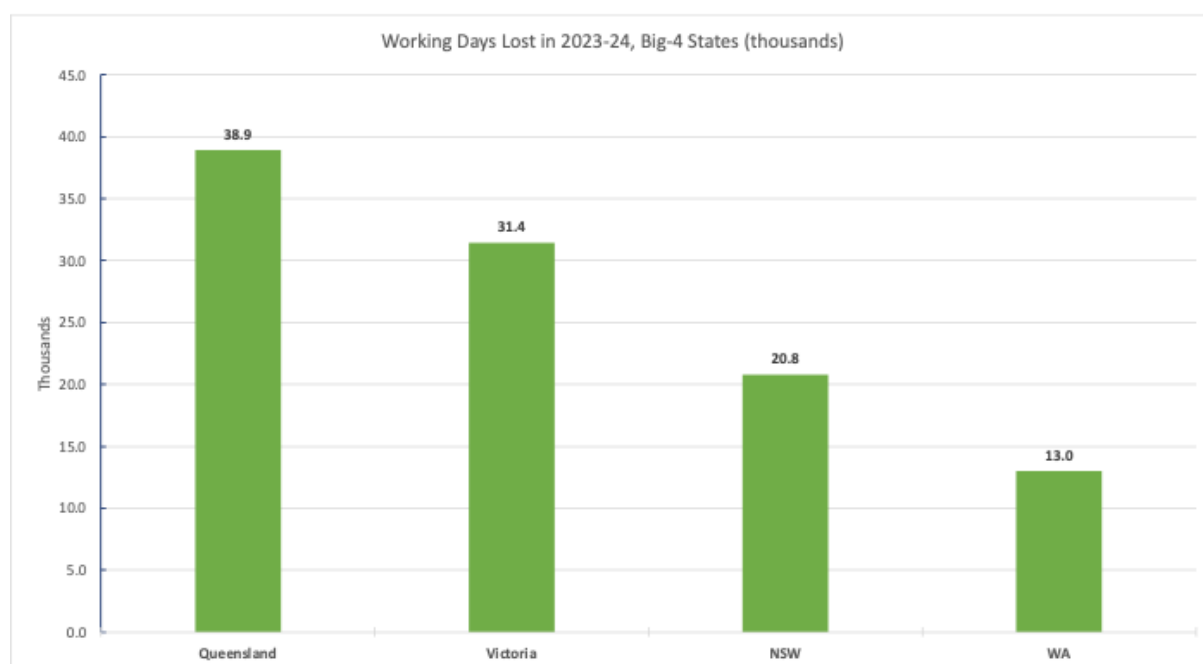
Figure 3-1 Median weekly earnings, by union membership and occupation



Source: ABS 6335.0 Trade Union Membership, August 2022.

In 2023-24, Working Days Lost (WDL) due to industrial action, at 38,900 days, was higher in Queensland than the other Big-4 States (Figure 3-2). Queensland accounted for almost one-third of the national total of 120,000 WDL, well in excess of its employment share. Nationally, WDL in the Construction sector was 15.4 per cent of the total, roughly double construction's share of the Australian economy.²⁹

²⁹ 6321.0.55.001 Industrial Disputes, Australia. Table 2a: Industrial disputes which occurred during the period, Working Days Lost, Industry.

Figure 3-2 Working Days Lost in 2023-24, by the Big-4 States (thousands)

Source: 6321.0.55.001 Industrial Disputes, Australia. Table 3a: Industrial disputes which occurred during the period, Working days lost, States and Territories.

3.3 Safety

According to Safe Work Australia (2024), there has been a trend decline in the absolute number of worker fatalities across all industries since a recent peak in 2007 (of just over 300 fatalities) to 200 fatalities in 2023. Fatalities per 100,000 workers has been reasonably stable at under 1.6 fatalities since 2016.

In 2023, Queensland fatalities were higher per 100,000 workers (at 1.8) than the other Big-4 states — WA (1.7), NSW (1.4) and VIC (1.0). The national average was 1.4 fatalities per 100,000 workers.

In 2023, 45 of the 200 fatalities occurred in the construction sector, second only to Transport (at 51). Agriculture ranked third (at 27). The types of fatalities common to construction are falls from height, being hit by moving objects, contact with electricity and being trapped by moving machinery or equipment.

3.4 Unique features of large public infrastructure projects

The costs of large public infrastructure projects are funded by the taxpayer. As they are not monitored by profit-seeking investors, these costs are subject to less scrutiny than privately funded projects in terms of economic benefit or value for money criteria. Moreover, these projects are highly capital intensive, with the labour share of costs being relatively low.

- There is often a single builder on projects, including very large ‘mega-projects’, and barely a handful of bidders in Australia capable of delivering these projects, such as Lend Lease, CIMIC and Downer Group. This reduces effective price competition at the bidding stage. It also means the winning contractors have less to lose from poor

performance, as it is hard for governments to find alternative bidders on subsequent projects.

- Unions can negotiate directly with a single construction firm to extract rents from projects, often with support from a ‘friendly buyer’ (being the government). In undertaking those negotiations, that firm does not have to worry about being priced out by a rival.
- For organised labour, once projects have been committed to, there is an incentive to ‘hold-up’ projects via work stoppages because the opportunity cost of delays to the project builder and funder for capital-intensive projects can be punishingly high. Accordingly, the price of project continuity — being the wage and conditions premium paid to workers — can be relatively low compared to the costs and risks of project delays (Box 3-1).
- Finally, the Best Practice Industry Conditions (BPIC) requirements embed many of the unwanted features of the large infrastructure project market, guaranteeing a centralised set of arguably generous conditions to construction workers.

Box 3-1 The economics of holding-up projects

It is well understood in the transactions costs economics literature that a unionised workforce can bargain and extract significant rents from project owners on large-scale capital-intensive construction projects.³⁰ Williamson (1985, p.263) noted that: “Collective organisation can permit workers to improve the bargains they strike with respect to the disposition of the quasi-rent attributable to firm-specific human capital.”

That is, if workers are secure in their employment, there is an incentive to further bargain for better pay and conditions. Therefore, Williamson argues: “Out of recognition of such expropriation potential, firms and industries in which investments in durable nonhuman capital are greater will be more resistant to union organisation, *ceteris paribus*.”

Pirrong (1993) argued that the concept of hold-up costs is closely related to situations where one party in a contractual relationship can leverage high costs incurred by the other party to extract concessions. This is especially relevant in industries like bulk shipping or large capital-intensive projects where delays or disruptions can have significant financial implications.

For instance, if workers strike or slow down a project that has high fixed capital costs (like a refinery, power plant, or large construction project), the hold-up cost for the project proponent is immense. The cost of stopping the project or operating it below capacity can far exceed the incremental cost of agreeing to the union's demands for higher wages or better working conditions. Therefore, it often becomes rational for the project proponent to meet the demands to avoid further financial loss.

This dynamic is an example of ex-post opportunism, where after significant investments are made (such as in building 50% of a large construction project), one party (unionised workers) can opportunistically take advantage of the other party's sunk costs.

It could be argued that unions are acting rationally to extract rents from large infrastructure projects via the government-mandated BPIC requirements. In the same way, project builders are behaving rationally to “roll over” on demands given the lack of a hard fiscal constraint on publicly funded

³⁰ The field of transactions costs economics began with Ronald Coase and, later, Oliver Williamson in the 1970s.

projects (i.e. project builders should be able to recoup all or most of these costs thanks to the Queensland taxpayer).

3.5 Best Practice Industry Conditions

Pursuant to the Queensland Procurement Policy 2023, the Queensland Government published its Standard Best Practice Industry Conditions — Building Construction Projects 2023-27 in March 2024. Running to 269 pages, the mandatory procurement guidelines for government-funded infrastructure projects valued at more than \$100 million are as inflexible as they are generous and comprehensive in scope. These conditions might be reasonable if negotiated between two parties subject to the discipline of market forces. But that is not the case. Rather, the BPIC requirements have been developed by the Queensland Government, with union input, and then imposed upon the construction sector, which must recover its costs and make a return on its (very risky) investments.

The claimed objectives of the policy are to “ensure that the terms and conditions of employment are commensurate with the challenges associated with working in the construction industry and which:

- a) promote safe working conditions;
- b) a functional work/life balance;
- c) a comfortable standard of living; and
- d) provide a framework that seeks to maximise productivity and minimise loss through genuine communication, consultation and collaboration.”

Under the mandatory requirements, contractors engaged on Queensland Government projects “are to recognise the priority of having in place legally binding and enforceable workplace arrangements with conditions of employment that meet or exceed the minimum Conditions of Employment required by this BPIC policy.” (BPIC 2024, p.13).

Clearly, the purpose of BPIC is to set the standard for pay and conditions across the whole construction industry in Queensland. And because there is a single labour market in which workers are relatively mobile (so that they will abandon lower paid jobs for higher paid jobs), it can be expected that the BPIC conditions will flow through and spread beyond Queensland Government construction sites to local government and private construction, as well as into sectors that rely on the same pool of labour.

The workplace relations impact on infrastructure costs is not just a function of direct labour costs, although this is a significant component, but also of a myriad of day-to-day workplace issues all of which may impact on productivity, but generally do not find themselves disclosed in public statistical documentation. Some of these issues are contained within enterprise bargaining agreements, while others manifest themselves through on-site actions. (Australian Constructors Association, 2014).

3.5.1 Wages and overtime premiums

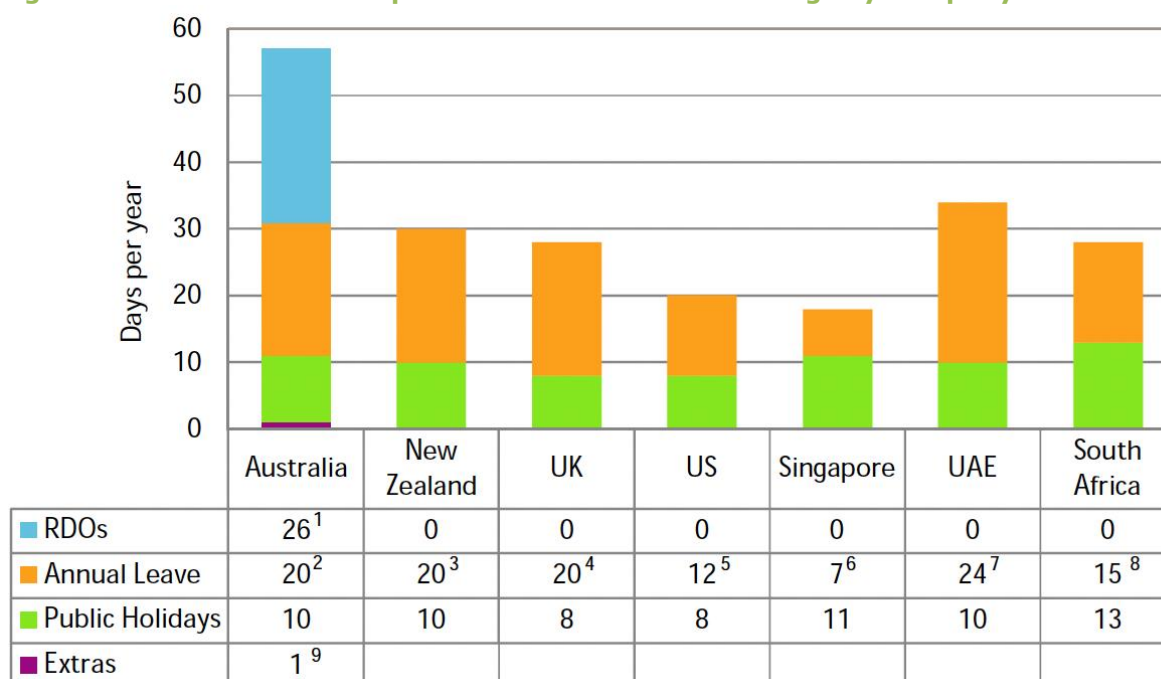
The current weekly average wage in the construction sector is \$1,821.80 per week or about \$95,000 per year.³¹ This average includes construction services occupations like site planners and engineers, which are highly skilled and require tertiary qualifications. Under BPIC,

³¹ ABS Average Weekly Earnings Australia, May 2024. Accessed here: <https://www.abs.gov.au/statistics/labour/earnings-and-working-conditions/average-weekly-earnings-australia/latest-release>

construction workers will receive higher than average wages for many occupations like crane operators and dogmen.³² In addition, dozens of benefits — such as 50 different allowances from Cold Work to Hot Work to Ladder Work to Meals and Accommodation — are added on top of the standard wages regardless of individual worker productivity, labour market conditions (i.e. whether workers would be prepared to work for the standard base wage), or whether the project is running on time and on budget.

Of the many conditions, the fixed RDO calendar with 26 rostered days off per year (i.e. a 9-day fortnight), on top of public holidays — with no reference to, let alone account of, a project schedule — is extremely costly. This is compared to a standard 6-10 RDOs on a civil construction site. In addition, there is a regular 2-hour block over the course of the week called for “union activity”. These conditions are far more generous than in comparable overseas jurisdictions, as AECOM (2014) demonstrated (Figure 3-3).

Figure 3-3 International comparison of construction working days off per year



Source: AECOM (2014), submission to Productivity Commission Public Infrastructure Inquiry. Notes: **1** BPIC RDO allowance; **2** No other country applies leave loading; **9** A paid day to attend the annual Picnic Day.

A summary of BPIC wages and overtime conditions is set out below.

- a 5% wage increase every year from 2023 to 2027, well above standard pay increases for other occupations;
- 26 RDOs per year (i.e. a 9-day fortnight);
- higher than market base rates, including +\$150,000 to \$200,000 wages for civil labourers, traffic controllers and crane operators on very large mega-projects;
- premium rates for overtime, at
 - o 150% (time-and-a-half) for the first two hours after regular work hours,

³² A Dogman or “dogger” is a specialist in slinging and guiding loads to ensure they are handled correctly by cranes.

- 200% (double-time) for any hours beyond the first two,
- 200% for all work done on Sundays and public holidays,
- 150% for night shifts,
- Enhanced compensation for work in emergency situations or under particularly hazardous conditions, or for health and safety duties,
- income protection insurance and generous redundancy payments.

In addition to standard benefits such as annual leave, parental leave, compassionate and community service leave, and long service pay, workers can claim:

- Family and Domestic Violence Leave: Workers are entitled to 5 days of paid leave for family and domestic violence issues, with the possibility of additional unpaid leave.
- Cultural and Ceremonial Leave: Indigenous workers are entitled to 5 days of paid leave for cultural and ceremonial purposes.
- Annual Picnic Day: Ordinarily to occur on the first Monday in December (on full pay), otherwise the worker will be paid double-time and a half.
- Industrial Relations Training Leave: Each year a delegate will be allowed up to 10 days paid leave per annum to attend union-approved training and other activities.

3.5.2 Weather and other OH&S requirements

A number of weather and OH&S requirements, when taken together, significantly reduce worker flexibility of projects and significantly increase project risks related to delivery schedules, concrete pours and other coordinated or sequential activities. The union can call a two-hour safety meeting at 5 minutes notice, up to 5 days a week. In terms of weather:

- Hot Weather: When temperatures reach 35°C or humidity exceeds 75% at 29°C, workers are not required to continue working due to safety concerns. A halt to work will be initiated in a controlled and orderly manner, and planning is required to ensure workers are protected. Workers still receive pay when work stops due to heat.
- Inclement Weather: Workers are paid their full wage during periods of inclement weather, up to a maximum of 40 hours in any four-week period. This includes rain, storms, extreme wind, and other dangerous conditions.
 - If there is lightning visually then work on site is to stop
 - Workers on sites affected by inclement weather are not required to work in unsafe conditions.
 - A dewatering plan is mandatory for wet sites, and a special allowance is given to workers responsible for dewatering after most others have left.
- Health and Safety Representatives (HSRs): Elected representatives play a crucial role in ensuring site safety. They are provided with additional allowances for their duties.
 - Health and Safety Meetings: Workers are allowed paid time to attend health and safety meetings and are encouraged to consult on OHS issues with union representatives.

- Protective Gear: Workers are supplied with all necessary protective equipment, including safety boots, clothing, and high-visibility jackets, at no personal cost. These items are replaced on a fair wear-and-tear basis.
- Air Quality and Bushfire Safety: Employers are required to monitor air quality, especially during bushfires or other hazardous conditions, and cease work if air quality becomes unsafe (PM2.5 above 50 $\mu\text{G}/\text{m}^3$ after 3 hours, or 75 $\mu\text{G}/\text{m}^3$ immediately).
- Toolbox Meetings: At least one toolbox meeting (approx 2 hours duration) will be convened by the Employer per site, each month to “facilitate and foster communication and consultation”. There must be a standing invitation for representatives of the unions to attend such toolbox meetings.
- Consultation on Workplace Changes: Employers must consult workers and unions before making any significant changes to workplace rosters, safety practices, or working hours. Workers are entitled to provide feedback and have their concerns addressed.

3.5.3 Inclusions for Specific Worker Groups

First Nations Workers: A minimum of 5% of the workforce must be made up of First Nations workers. Employers are required to provide cultural awareness training and leave for cultural ceremonies.

Women in the Industry: Special provisions, including parental leave, job-sharing, and safe facilities (e.g., female-only restrooms), are included to encourage greater participation by women.

Mature Age Workers: Employers are encouraged to retain older workers in roles suited to their abilities and experience, such as hoist operators and traffic controllers. A ratio of one mature worker to every eight employees is suggested.

3.5.4 Other Allowances

Travel Allowances: Workers receive allowances to cover travel costs when working on remote sites or having to travel long distances.

Tool Allowances: A tool allowance is provided to ensure workers are compensated for bringing personal tools to the job site.

Living Away from Home Allowance: Workers who must relocate for projects are compensated with a daily allowance for accommodation and meals.

3.5.5 Compliance and Enforcement

Union delegates have access to worksites to ensure compliance with the BPIC and to assist workers in resolving disputes. Union rights are protected, and any breaches of these rights result in penalties for the employer.

3.6 BPIC as the construction industry standard

It is not surprising that BPIC has become the industry standard for major infrastructure projects in Queensland. The economics of single labour markets mean that the higher pay and conditions in one industry will ultimately spill over into other closely related industries, occupations and technical trades.

- Public infrastructure investment is the largest share of total infrastructure investment, and the state government general government capital investment represents more than half of public investment.
- Similar BPICs have been enacted for the Energy and Transport sectors in addition to the Construction sector.
- Queensland, especially SEQ, FNQ and Central Queensland are essentially single markets for construction jobs with workers prepared to move jobs for better pay and conditions and drive to worksites.
- Subcontractors must meet these “jump up” standards or face a union veto on construction sites.

4. Findings, conclusions and recommendations

4.1 Findings and conclusions

4.1.1 The construction sector is an imperfect market

Queensland construction costs are rising. Based on the latest ABS data as well as industry submissions and commentary, construction sector wages are rising faster than the market sector as a whole, and labour productivity has gone backwards since a peak in the mid-2010s. In fact, labour productivity has been stagnant through a number of productivity cycles, indicating deep structural problems with the sector.³³ This stagnant productivity is caused, in part, by the stringent procurement requirements established by BPIC combined with increasing wages and material costs. Instead of dampening industrial action, BPIC appear to encourage it, in a perfect example of what is known as *ex ante* or *ex-post* opportunism in the economics literature.³⁴ Taken together, this flawed system is driving up the overall cost and duration of public infrastructure projects, reducing the benefits they provide taxpayers and the public.

It's important to distinguish these structural or “own goal” cost pressures that have become “baked in” via BPIC and other industrial relations policies from the cyclical supply and demand trends that, ultimately, self-adjust back to equilibrium via price pressures. In other words, while cost increases associated with stronger demand are largely a movement along a supply curve for infrastructure expansion, mandatory, inflexible and restrictive one-size-fits-all labour requirements shift the entire supply curve up and to the left, permanently increasing costs at all levels of output (Ergas 2014).

The Queensland construction market is structurally broken. Costs are high, productivity is low, and there is a significant overrepresentation of insolvencies in the subcontracting market driven by a combination of high costs and fixed prices on long contracts. There are numerous and inter-related causes. The Queensland Government has weak fiscal incentives to manage construction costs and cost blow-outs.³⁵ Moreover, as a single dominant buyer, the government awards contracts for mega-projects that attract very few bidders. The lack of competition and oligopolistic nature of large-scale construction supply services is exacerbated by organised labour exploiting their own dominant position as a supplier of construction labour. **Unions leverage their power to hold-up and delay projects, threatening disruption at critical phases unless their demands for higher wages and more favourable conditions are met.** This creates enormous risks and added costs for project owners and proponents, who are often left with little choice but to acquiesce in order to avoid costly delays.

There are additional economic costs beyond the taxpayer penalty imposed by the problematic characteristics of the construction sector. **First, the efficiency costs of raising additional taxation to fund higher cost projects lower private spending and investment and, ultimately, economic growth.** Estimates of these costs range between 20-30 cents in the dollar, with higher estimates applied at the state level because the tax mix is more

³³ Productivity growth cycles are identified by the ABS and Productivity Commission. See, for example, Productivity Commission (2023, p.13 Table 2).

³⁴ Williamson (1985) defines the concept as follows: “By opportunism I mean self-interest with guile.” (p.47).

³⁵ Governments face weak constraints on borrowing because of they hold the coercive power of future taxation to pay down debt.

inefficient.³⁶ **Second, to the extent that higher costs crowd out useful public investment, the economic gains from total infrastructure investment are less than they would otherwise be.³⁷ Third, because the higher cost levels also affect private projects, which are more likely to yield net social benefits, there are fewer such projects, further reducing the benefits to the Queensland economy.**

Union power in a capital-intensive industry leads to a significant bargaining advantage for the union because the wage share of total costs is proportionately very low, while the cost of delays is high. It therefore makes more sense for builders to “roll over” to demands for higher wages and conditions than to suffer costly project disruptions and delays. Similarly, from the union’s perspective, project delays entail very few costs (and may even yield benefits in terms of job duration), providing the perfect incentives for unions to “hold up” projects.

There is no evidence that the generous wages and conditions established by BPIC have led, or will lead, to a reduction in hold-ups, delays and/or other costly industrial action by unions. If it were the case that BPIC was the price of industrial peace, then there might be some argument for imposing its stringent conditions—or at least, an offsetting benefit, even if that benefit did not exceed those conditions’ social cost. But that is not the case with the latest ABS figures showing working days lost in Queensland higher than in any other Australian state or territory.

As the Productivity Commission concluded in its 2014 Public Infrastructure Inquiry:

“There is a greater than average level of industrial disputes, concerns about excessive union control over worksites, unlawful conduct and expedient deals between head contractors and unions to buy IR peace.” (PC 2014, p.495).

4.1.2 The BPIC taxpayer penalty is likely to be significant

We have made an estimate of the taxpayer penalty caused by the BPIC requirements across the construction, energy and transport sectors in Queensland over the period 2024-25 to 2027-28 (i.e. the current 2024-25 State Budget forward estimates timeframe).

Based on the Capital Statement (BP3) in the 2024-25 Queensland State Budget, we have attributed three-quarters of the total NFPS capital program as being subject to BPIC requirements.³⁸ Then, from the National Accounts, we have estimated the “on the tools” construction wage share of Total Factor Income to be 23 per cent. Finally, we apply a BPIC wage premium based on the difference between union and non-union wages to the relevant proportion of costs attributable to on-site workers subject to BPIC requirements.

- In this way, **we have estimated the BPIC wages premium to be \$4.2 billion** (of the \$94.9 billion total capital investment) over the four-year forward estimate period.
- This figure represents a **26 per cent premium on the wages paid to BPIC workers** (Table 4-1).

Table 4-1 Cost of BPIC requirements over the forward estimates, 2024-25 to 2027-28

Parameter	Amount (\$m)	Proportion (%)
Public capital investment in the NFPS	94,900.0	100.0%

³⁶ KPMG Econtech (2010).

³⁷ Makin (2013) and Henckel and McKibbin (2010).

³⁸ 2024-25 Queensland Budget Paper No.3 Capital Statement.

Proportion directly subject to BPIC requirements in the Energy, Construction and Transport sectors	71,175.0	75.0%
Wage share “on the tools”	16,359.5	23.0%
BPIC wage premium	4,220.7	25.8%

Source: Tulipwood Economics estimates based on:- Queensland State Budget 2024-25 (BP2 Uniform Presentation Framework, Table 9.3, 4-yr forward estimates nominal); Queensland State Budget 2024-25 (BP3 Capital Statement, list of major projects); BPIC relates to projects >\$100m, but according to industry BPIC sets a new benchmark for conditions for large projects; Construction wage share of Total Factor Income in national accounts (59%) multiplied by employment share of "on the tools" jobs (i.e. subtract "construction services" employment from total employment), (39%); $59\% \times 39\% = 23\%$; ABS Union v Non-union wage data, Total Employment (proxy for BPIC costs).

4.1.3 The potential productivity gains from reform are large

We also estimated the potential gains to the Queensland construction sector from reform (see Recommendations below).

Following a similar approach by McKinsey (2017) and Oxford Economics Australia (2024), we have estimated the potential economic gains to the Queensland public infrastructure sector by setting market sector gross value added per hour worked as the productivity benchmark for performance. Since 2009-10, Construction sector GVA per hour worked has fallen 12.5 per cent behind total market sector productivity.

- Applying this 12.5 per cent difference to the part of Queensland NFPS capital program subject to BPIC requirements over the four-year forward estimates period (2024-25 to 2027-28) yields a **potential gain in GSP of \$8.9 billion or \$2.2 billion per year** (Table 4-2). The gains are potentially even higher, as the reforms spill over into privately funded construction projects.

Table 4-2 Potential gains from reform, GVA per hour worked (Market v Construction)

Australian productivity parameters	2009-10 = 100
Market sector GVA per hour worked (relative to 2009-10)	112.3
Construction sector GVA per hour worked (relative to 2009-10)	99.8
Difference between Construction and overall Market sector productivity (%)	12.5%
Potential gain in publicly funded construction productivity (\$m)	8,914.7

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

There are, as we have noted, additional economic costs beyond the taxpayer penalty imposed by the problematic characteristics of the construction sector. These costs are substantial and should be added to the estimates set out above.

4.2 Recommendations

We have made a number of policy and governance recommendations to support a ‘pro-productivity’ agenda in the Queensland construction sector.

In broad terms, policies that promote value-for-money in public infrastructure investment, a flexible, cost conscious and innovative construction sector, and that builds human capital via training, is the essence of a ‘pro-productivity’ agenda. On the other hand, policies that fail to effectively rank and prioritise public infrastructure investment within a fixed budget constraint, that mandate inflexible and prescriptive regulations and requirements, that distort business decisions and raise risks, stifle innovation or involve undue costs and delays to projects are ‘anti-productivity’ and will, ultimately, reduce private investment and real wages growth.

The current Queensland Government’s (self-)celebrated productivity agenda is, in reality, a spending and regulation agenda. It is not one that involves the kind of regulatory reforms that are needed. To address the challenges of delivering value-for-money public infrastructure, we have made the following recommendations (Table 4-3).

Table 4-3 List of Recommendations

No.	Recommendation	Description
1	Independent review	An eminent person respected by the sector or an independent re-instituted Queensland Productivity Commission (QPC) , separate from Queensland Treasury, should undertake a review of the Queensland Construction sector. The review should investigate the sectors productivity performance, cost trends, industrial relations troubles, and make recommendations to improve industry performance over the medium to long-term.
2	Remove BPIC	Remove BPIC as a mandatory procurement requirement and replace with a core list of general minimum requirements related to penalty rates, working conditions and safety.
3	Competition reforms	Continue to progress reforms that promote more competition in the Queensland construction sector : <ul style="list-style-type: none"> - Partition projects where feasible to promote competition. - Encourage more foreign bidders to enter the Queensland market. - Monitor labour demand in the construction sector and encourage skilled overseas and interstate migration via more flexible training, housing and tax policies. - Greater focus on the government side on in-house design and pre-investigation work prior to tender processes to reduce bidding costs.
4	Better coordinated fiscal policy	<ul style="list-style-type: none"> - Don’t work against the RBA; that is, don’t worsen the fiscal balance (e.g. increase the fiscal deficit) at the same time as the RBA is raising interest rates to bring the CPI back to its target. - Don’t work against private sector investment; that is, don’t crowd out private sector investment during boom times (e.g.

		<p>LNG investment boom) and, as a result, drive up wages and materials costs.</p> <ul style="list-style-type: none"> - Continue to work to ensure a predictable and stable expenditure sharing with the Commonwealth Government on major projects (e.g. 80-20 split on the Bruce Highway). - Maximise incremental development of existing large projects or existing infrastructure before committing to new mega-projects, and use deferment and acceleration contract mechanisms to de-risk public infrastructure investment.
5	Higher quality project selection	<ul style="list-style-type: none"> - Re-institute Building Queensland in a narrower role (than previously) to advise Cabinet on project prioritisation and to enforce consistency in project assessment across departments and industry sectors. - Building Queensland would promote independent, expert and transparent consideration of projects, and would publish <u>full</u> CBAs³⁹ of projects > \$100 million such that analysis is independently replicable.

Source: Tulipwood Economics.

Efficient provision of infrastructure, including public infrastructure, is the hallmark of a well-functioning economy (PC, 2014). The five policy and governance reforms suggested here aim to meet the goal set by the Productivity Commission via improving fiscal management, promoting competition, increasing productivity, and delivering more cost-effective public infrastructure projects, ultimately benefiting both the Queensland economy and its citizens.

³⁹ That is, Building Queensland should publish not just the Executive Summary of the CBA, but the whole report, including relevant datasets, such that all input assumptions are transparent, all analyses are replicable, and all findings are testable.

References

- AECOM (2014), Submission to Productivity Commission Inquiry on Public Infrastructure. 17 April 2014.
- Australian Constructors Association (2014), ACA's Response to Productivity Commission's Inquiry into Public Infrastructure. April 2014. Canberra.
- Australian Government (2014), Response to Productivity Commission Inquiry into Public Infrastructure, November 2014. Canberra.
- Branigan, J. (2016), Infrastructure Cost Drivers Study — Queensland, Final Report. SMART Infrastructure Facility, University of Wollongong.
- Deloitte Access Economics (2014), Major Infrastructure Projects: Costs and Productivity Issues. Submission to the Productivity Commission Public Infrastructure Inquiry for the Australian Contractors Association. March 2014.
- Ergas, H., (2014), Submission to the Productivity Commission inquiry into infrastructure costs, January 2014.
- Fair Work Commission (2023), Membership size of registered organisations – 2023. 1 September 2023. Accessed here: <https://regorgs.fwc.gov.au/sites/default/files/2021-09/ig005-membership-size-registered-organisations.pdf>
- Flyvbjerg, B., (2005), 'Policy and Planning for Large Infrastructure Projects: Problems, Causes, Cures.' World Bank Policy Research Working Paper, no. 3781.
- Flyvbjerg, B., (2009). 'Survival of the Unfittest: Why the Worst Infrastructure Gets Built, And What We Can Do about It,' Oxford Review of Economic Policy, 25(3): 44–367.
- Henckel, T. and McKibbin, W. (2010), The Economics of Infrastructure in a Globalized World: Issues, Lessons and Future Challenges. Brooking. March 2010.
- KPMG Econtech (2010), CGE Analysis of the Current Australian Tax System, Final Report. 26 March 2010.
- Makin, A.J. (2015), Expansionary versus Contractionary Government Spending, Contemporary Economic Policy: Volume 33, Issue 1. Wiley. January 2015.
- McKinsey and Company (2017), Reinventing Construction, a Route to Higher Productivity. McKinsey Global Institute. February 2017.
- Oxford Economics Australia (2023), The Opportunity Cost of Long-Term Poor Productivity Performance in the Australian Construction Industry. June 2023.
- Pirrong, S.C. (1993), Contracting Practice in Bulk Shipping Markets: A Transactions Cost Explanation. Journal of Law and Economics, vol. XXXVI (October 1993).
- Productivity Commission, (2014), Public Infrastructure, Inquiry Report No.71, Canberra.
- Productivity Commission (2023), Productivity growth and wages – a forensic look: Appendices. PC Productivity Insights, Canberra, September 2023.
- Productivity Commission (2024), Quarterly Productivity Bulletin – June 2024. Canberra.
- Queensland Government (2020), Best Practice Industry Conditions for Transport Civil Construction Projects. December 2020.

Queensland Government (2023), Best Practice Principles: Quality, safe workplaces. Queensland Government Procurement. Office of Industrial Relations. April 2023.

Queensland Government (2023), Queensland Procurement Policy. Brisbane. Accessed: https://www.forgov.qld.gov.au/__data/assets/pdf_file/0021/367023/queensland-procurement-policy-2023.pdf

Queensland Government (2024), Standard BPICs Building Construction Projects 2023-2027 – 27 March 2024. Brisbane.

Reserve Bank of Australia (2024), Statement on Monetary Policy | August 2024. Sydney.

Safe Work Australia (2023), Key Work Health and Safety Statistics Australia 2024, September. Accessed here: https://data.safeworkaustralia.gov.au/sites/default/files/2024-09/Final%20-%20Key%20WHS%20Stats%202024_18SEP.pdf

Turner and Townsend (2024), International Construction Market Survey 2024. London.

Williamson, O. (1967), Hierarchical control and optimum firm size. *Journal of Political Economy*, 75 (2): pp. 123-138.

Williamson, O. (1985), *The economic institutions of capitalism*. New York. The Free Press.

