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Analysis of security of payment reform for the building and construction industry – addendum report

Prepared for the Queensland Department of Housing and Public Works

19 July 2017

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Glossary

Abbreviation	Definition
ASIC	Australian Securities and Investments Commission
Bank	The financial institution operating the PBA
BCIPA	Building and Construction Industry Payments Act 2004
BCR	Benefit to cost ratio
bn	Billions
CBA	Cost-Benefit Analysis
CGE	Computable General Equilibrium
(The) Department	The Department of Housing and Public Works
FTE	Full-time Equivalent
(The) Government	The State Government of Queensland
Government-only Scenario	Scenario analysed whereby Model 1 or Model 2 is applied only to Government construction contracts of $1m-$10m in value (excluding infrastructure and residential contracts)
GRP	Gross Regional Product
GSP	Gross State Product
Head contractor	Party that contracts with the Principal to carry out construction work or supply related goods and services for the Principal under a construction contract
Industry-wide Scenario	Scenario analysed whereby Model 1 or Model 2 is applied to both Government and private sector construction contracts over $1m in value (excluding infrastructure and residential contracts)
IRR	Internal Rate of Return
k	Thousands
m	Millions
Model 1	A PBA scheme where the Principal is trustee and administrator of the PBA
Model 2	A PBA scheme where the Head contractor is trustee and administrator of the PBA, and there is a level of oversight by the Principal to the PBA
NPV	Net Present Value
NSW	New South Wales
PBA	Project Bank Account
PPSA	Personal Property Securities Act 2009
PPSR	The Personal Property Securities Register, which is an Australian national online register that provides details of security interests in personal property
Previous report	Deloitte report prepared for the Queensland Department of Housing and Public Works titled ‘Analysis of security of payment reform for the building and construction industry’, dated 8 November 2016
Principal	Party that commissions building and construction work
QBCC	Queensland Building and Construction Commission
QLD	Queensland

Abbreviation	Definition
RoQ	Rest of Queensland (not SEQ)
RTA	Residential Tenancies Authority
Senate Committee	The Commonwealth Senate Standing Committee on Economics
SEQ	South-East Queensland
Subcontractor	Person who is to carry out construction work or supply related goods and services under a construction contract, aside from the Head contractor
WA	Western Australia

1 Executive summary

1.1 Background

The challenge of achieving security of payment for subcontractors in the Queensland building and construction industry was examined in our previous report. In that report we evaluated a number of options to address the issue, including the implementation of Project Bank Accounts (PBAs) or Retention Trust Funds (RTFs).

The evaluation had three components:

- A cost-benefit analysis quantifying the benefits and costs accruing to the Government (as principal and as regulator), head contractors and subcontractors
- A multi-criteria analysis assessing impacts that could not be quantified in the cost-benefit analysis
- An economic impact analysis measuring the economy-wide effects of improved risk allocation and therefore efficiency in the construction industry.

In summary, our analysis suggested that the benefits of introducing PBAs would outweigh the costs of doing so. Our analysis also suggested that this was not the case for RTFs, i.e. that the benefits of introducing RTFs would be outweighed by the costs.

The Department of Housing and Public Works (the Department) undertook further industry consultation after the findings of our work were made available to the public, in the form of consultation sessions held throughout Queensland, acceptance of written submissions and online feedback responses. As a result of this feedback and further detailed analysis of implementation considerations by the Department, two models for the introduction of PBAs are being considered. This report, an addendum to our previous report, contains the results of our analysis of these two models.

1.2 PBA administration models and evaluation methods

Model 1 and Model 2

Broadly, the two models differ in which party is responsible for establishing the PBA, verifying bank details of the subcontractors and providing the final Progress Payment Instruction (PPI) to the Bank administering the PBA.

Under Model 1 the Principal would establish the PBA, ensure the Subcontractor bank details in the PPI are correct and provide the final version of the PPI to the Bank to authorise payment.

Model 2 is similar to the model contemplated in our previous report, where the Head contractor would be responsible for establishing the PBA, ensuring subcontractor bank details are correct and providing the final version of the PPI to the bank to authorise payment. However the current Model 2 provides for more oversight of the PBA by the Principal compared to the model discussed in our previous report. Both Model 1 and 2 assume that in the Government-only Scenario, the Government can enforce compliance with PBAs through contractual means. Once applied to the private sector, the Queensland Building and Construction Commission (QBCC), as the industry regulator, will act in this compliance/oversight role. Note that this oversight is in addition to that provided by the Principal in Models 1 and 2.

Evaluation methods

The evaluation has two components:

- A cost-benefit analysis (CBA) quantifying the benefits and costs accruing to the Government (in its roles both as Principal and as regulator), head contractors and subcontractors
- An economic impact analysis measuring the economy-wide effects of improved risk allocation and therefore efficiency in the construction industry

The analysis in this addendum report is an update of our previous CBA and economic impact analysis. We have also considered and commented on possible stakeholder impacts if a PBA scheme were to be introduced to the residential construction sector. Due to lack of data this analysis is qualitative and based on our experience.

As limited data is available, our work includes a number of assumptions that have either been provided by or reviewed and endorsed by the Department. The scope of work agreed with the Department is set out in our contract for work. This scope and the limitations of our work are set out in our previous report and Section 6 of this addendum report. This addendum report should be read in conjunction with our previous report.

Scenarios

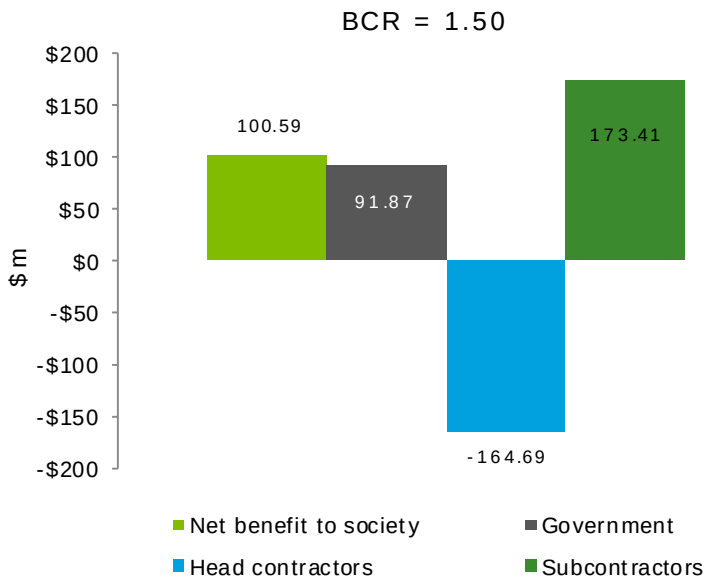
We have assessed the costs and benefits of both Model 1 and Model 2 under two scenarios. The Government-only Scenario examines a progressive rollout of the PBA scheme, applied to Government construction projects with a contract value of $1m-10m, excluding infrastructure and residential projects. The Industry-wide Scenario examines the impact of an extension of the PBA arrangements across Government and the private sector for all projects above $1m, excluding residential construction and infrastructure projects. The modelling in this addendum report is based on updated data provided by the Department, including historical and forecast project numbers, which drive the project cost saving benefits discussed below. Accordingly, the modelling in this addendum report is not directly comparable to our previous report.

1.3 Evaluation results

Model 1 - Evaluation results

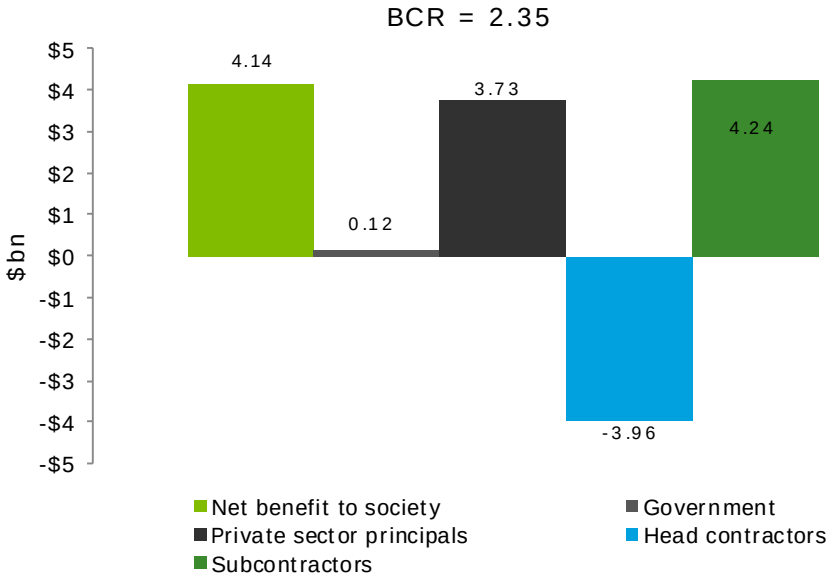
At the highest level, the CBA evaluation shows that Model 1 in the Government-only Scenario returns a net benefit to society of $101m, leading to a Benefit Cost Ratio (BCR) of 1.50. The net benefits to stakeholders are shown below.

Figure 1: CBA evaluation results, Model 1 in the Government-only Scenario



When Model 1 is applied to the entire industry under the Industry-wide Scenario, it returns a net benefit to society of $4.1bn, leading to a BCR of 2.35. The net benefits to stakeholders are shown below.

Figure 2: CBA evaluation results, Model 1 in the Industry-wide Scenario



The cost-benefit analysis identified the following significant benefits under Model 1 for both the Government-only Scenario and the Industry-wide Scenario:

- A reduction in project costs. This is based primarily on analysis of other jurisdictions where similar schemes have been implemented. This identified that subcontractors reduced their pricing to reflect a reduced risk of delayed or non-payment, which led to a reduction in overall project costs.
- An improvement in working capital for subcontractors. This is a result of improving speed of payment to subcontractors under a PBA scheme.

The cost-benefit analysis identified the following significant costs for this Model 1:

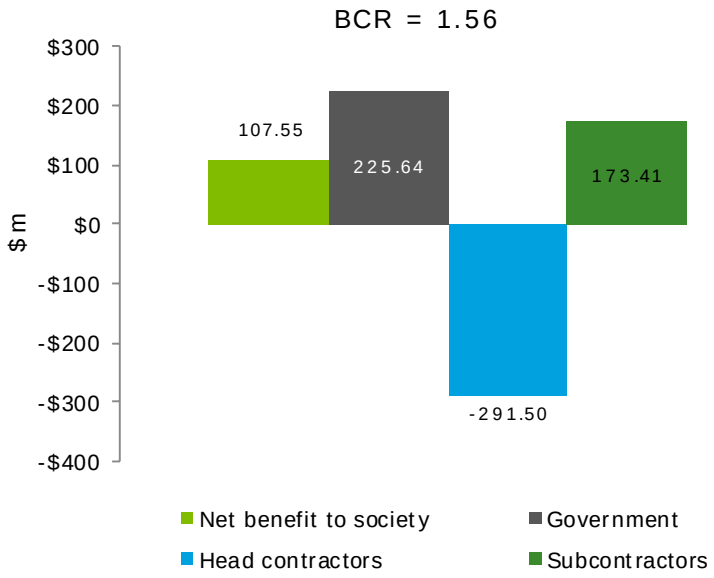
- A reduction in working capital for head contractors.
- On-going administration and compliance costs. There are additional costs to the Government as Principal and private sector Principals in acting as trustees for PBAs. The assumptions used to calculate these costs are discussed in Section 3.4.

In this addendum report, the economy wide impacts have only been estimated for the Model 2 Industry-wide Scenario that displays the highest net benefit and benefit cost ratio. The impacts would be broadly similar if the flow on effects of the net benefits for Model 1 in the same scenario were simulated in our CGE modelling. This is because the net benefits to society in both Model 1 and Model 2 are very similar on an economy-wide scale.

Model 2 – Evaluation results

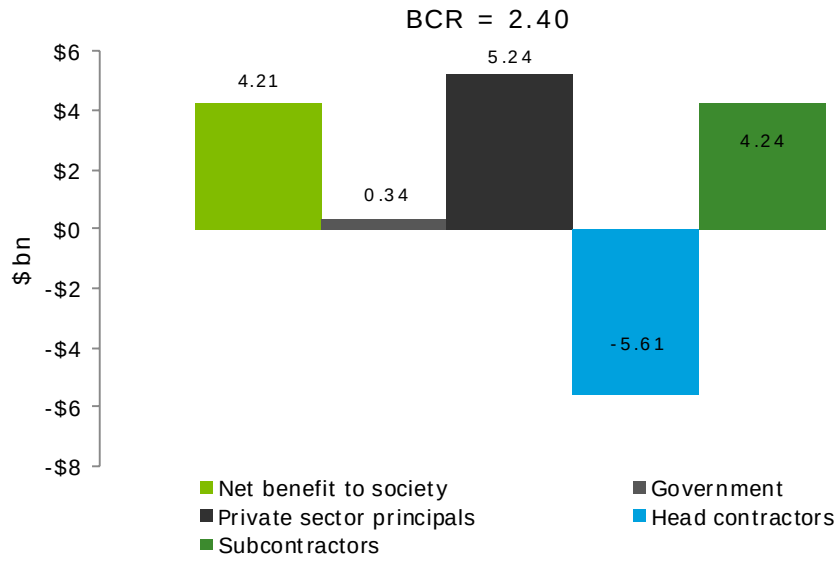
At the highest level, the CBA evaluation results show that Model 2 in the Government-only Scenario returns a net benefit to society of $108m, leading to a BCR of 1.56. The net benefits to stakeholders are shown below.

Figure 3: CBA evaluation results, Model 2 in the Government-only Scenario



When Model 2 is applied to the broader industry under the Industry-wide Scenario, it returns a net benefit to society of $4.2b, leading to a BCR of 2.40. The net benefits to stakeholders are shown below.

Figure 4: CBA evaluation results, Model 2 in the Industry-wide Scenario



The benefits for Model 2 under both the Government-only Scenario and the Industry-wide Scenario were similar to those identified for Model 1.

Similarly, the costs for Model 2 under both the Government-only Scenario and the Industry-wide Scenario were similar to those identified for Model 1, although there are ongoing administrative costs under this model for Principals in performing an oversight role for the PBA and Head contractors in acting as trustees for PBAs.

Our CGE modelling suggests that for Model 2 in the Industry-wide Scenario the estimated economic impact of the policy change could lead to an increase of real GRP of $9.4bn in SEQ in net present value terms using a 5 per cent real discount rate out to 2036-37. For the RoQ region, this is estimated to increase real GRP by $3.2bn over the same timeframe. In total, Queensland real Gross State Product (GSP) increases by an estimated $12.6bn over the same time-frame in NPV terms.

The modelling indicates that employment could increase by up to 3,195 FTEs in Queensland by 2036-37 comprising of 1,822 FTEs in SEQ and 1,373 FTEs in RoQ. In average annual terms, the net increase in employment is expected to be 1,576 FTEs in SEQ and 2,373 in Queensland as a whole. The distribution of this employment increase is expected to increase employment primarily in the construction, other services and financial and business services sectors.

Residential construction

We understand the Department is not proposing to extend the PBA scheme to private single dwelling residential projects over $1m, but intends to cover Government residential construction projects and private multiple dwelling projects over $1m. The residential projects to be covered by the PBA scheme are essentially commercial in nature, with a similar structure and sophistication as commercial building and construction projects. Accordingly, the costs and benefits of the PBA models may apply in a similar manner to stakeholders engaged in these projects. Some exceptions are likely to exist if the PBA scheme inadvertently covers individuals or "unsophisticated" Principals, such as individuals engaged in small scale split-block developments.

Broadly, a net benefit would be expected from the introduction of a PBA scheme on the same basis as our analysis of the introduction of PBA scheme for commercial projects based on the same costs and benefits outlined above.

Summary of results

Evaluation tool	Model 1	Model 2
Cost-benefit analysis	BCR of 1.50 for the Government-only Scenario. Sensitised range 0.74 to 2.26 based on sensitised project cost savings of 1% to 4%. BCR of 2.35 for the Industry-wide Scenario. Sensitised range 1.16 to 3.53 based on sensitised project cost savings of 1% to 4%.	BCR of 1.56 for the Government-only Scenario. Sensitised range 0.77 to 2.34 based on sensitised project cost savings of 1% to 4%. BCR of 2.4 for the Industry-wide Scenario. Sensitised range 1.19 to 3.61 based on sensitised project cost savings of 1% to 4%.
Economic impact (CGE) model	For the Industry-wide Scenario: Gross State Product impact of $12.6bn (in NPV terms at 5% real discount rate over the period 2017-18 to 2036-37). The GRP impact in SEQ is $9.4bn and $3.2bn in the rest of Queensland. The annual average employment impact for Queensland is 2,373 FTEs (1,576, SEQ and 797 rest of QLD)	
Overall comments	Based on our analysis, Model 2 provides a marginally higher net benefit to society. However there are inherent uncertainties, assumptions and limitations that exist with modelling of this nature. Accordingly it is difficult to clearly distinguish between the net benefits to society between Model 1 and Model 2.	

2 Introduction

2.1 Background

The challenge of achieving security of payment for subcontractors in the Queensland building and construction industry was examined in our previous report. In that report we evaluated a number of options to address the issue, including the implementation of Project Bank Accounts (PBAs) or Retention Trust Funds (RTFs).

The evaluation had three components:

- A cost-benefit analysis quantifying the benefits and costs accruing to the Government (as principal and as regulator), head contractors and subcontractors
- A multi-criteria analysis assessing impacts that could not be quantified in the cost-benefit analysis
- An economic impact analysis measuring the economy-wide effects of improved risk allocation and therefore efficiency in the construction industry.

In summary, our analysis suggested that the benefits of introducing PBAs would outweigh the costs of doing so. Our analysis also suggested that this was not the case for RTFs, i.e. that the benefits of introducing RTFs would be outweighed by the costs. The Department undertook further industry consultation after the findings of our work were made available to the public, in the form of consultation sessions held throughout Queensland, acceptance of written submissions and online feedback responses. As a result of this feedback and further detailed analysis of implementation considerations by the Department, two models for the introduction of PBAs are being considered. This report, an addendum to our previous report, contains the results of our analysis of these two models.

2.2 Model 1 and Model 2

Broadly, the two models differ in which party is responsible for establishing the PBA, verifying bank details of the subcontractors and providing the final Progress Payment Instruction (PPI) to the Bank administering the PBA.

Under Model 1 the Principal would establish the PBA, ensure the Subcontractors' bank details in the PPI are correct and provide the final version of the PPI to the Bank to authorise payment.

Model 2 is similar to the model contemplated in our previous report, where the Head contractor would be responsible for establishing the PBA, ensuring subcontractor bank details are correct and providing the final version of the PPI to the Bank to authorise payment. However the current Model 2 provides for more oversight of the PBA by the Principal compared to the model discussed in our previous report. Both Model 1 and 2 assume that in the Government-only Scenario, the Government can enforce compliance with PBAs through contractual means. Once applied to the private sector, the QBCC, as the industry regulator, will act in this compliance/oversight role. Note that this oversight is in addition to that provided by the Principal in Models 1 and 2.

We discuss Model 1 and Model 2 in more detail in Section 4 of this report.

2.3 Our role

We have been engaged by the Department to evaluate the costs and benefits of the two PBA implementation models discussed above and to consider the impacts on stakeholders of applying the PBA scheme to the residential construction sector. Due to data limitations, our evaluation of the impact on the residential construction sector is restricted to qualitative comments based on our experience.

The scope of work agreed with the Department is set out in our contract for work. This scope and the limitations of our work are set out in our previous report and Section 6 of this addendum report. This addendum report should be read in conjunction with our previous report.

3 Evaluation framework

3.1 Background

The evaluation has two quantitative components:

- A cost-benefit analysis (CBA) quantifying the benefits and costs accruing to the Government (as principal and as regulator), head contractors and subcontractors
- An economic impact analysis measuring the economy-wide effects of improved risk allocation and therefore efficiency in the construction industry

The analysis in this addendum report is an update of our previous CBA and economic impact analysis. We have set out the methodology for each of the components in more detail below.

3.2 Cost-Benefit Analysis (CBA) methodology

Cost-Benefit Analysis (CBA) compares the costs and benefits of a proposed action to a base case or 'do nothing' alternative. In this case the purpose of the CBA is to test the economic viability of implementing the proposed reforms under different policy options. The results of the CBA can inform both the economic viability of each option and the comparison across different options.

3.3.1 Steps in methodology

The methodology for the CBA involves the following steps:

- Defining the base case and project case (in this instance, policy options)
- Identifying and agreeing on the core parameters of the evaluation (e.g. modelling time period, base year for prices to calculate present dollar values, discount rate)
- Identifying the costs and benefits that might be expected in moving from the base case under a variety of different policy options (i.e. PBA Model 1 and 2)
- Where possible, quantifying the costs and benefits over the expected lifecycle and discounting future values to express them in current equivalent values
- Generating performance measures including the net present value (NPV), benefit-cost ratio (BCR) and internal rate of return (IRR) using discounted cash flow techniques over the evaluation period
- Testing the sensitivity of these performance measures to changes in the underlying assumptions.

Each step in the cost-benefit analysis approach is discussed in further detail in the following sections.

3.3.2 Evaluation parameters and assumptions

The CBA model parameters are similar to those detailed in our previous report, however there are some minor variations which are detailed below in Table 1.

Table 1: Key model evaluation parameters

Parameter	Assumption	Source
Base date	FY2018 (previously FY2017)	Deloitte Access Economics
Discount rate (real)	5% (no change)	Deloitte Access Economics
Model start year	FY2018 (previously FY2017)	Deloitte Access Economics
Model end year	FY2037 (previously FY2036)	Deloitte Access Economics
Evaluation period	20 years (no change)	Deloitte Access Economics
Benefit period	20 years (no change)	Deloitte Access Economics

Source: Deloitte Access Economics

3.3 Economic Impact Analysis (CGE) methodology

The second element of the evaluation framework is the use of our in-house computable general equilibrium (CGE) model to understand the broader impacts of the reform on Queensland's Gross State Product and employment. This model measures results by comparing a 'business as usual' scenario with the policy scenarios, where the potential cost savings derived from improved security of payment in the CBA, are realised over 20 years to 2036-37. This model focuses on two major Queensland regions: South East Queensland[1] (SEQ) and the rest of Queensland[2] (RoQ). Together they comprise the state as a whole and modelling results are presented for both major regional areas.

The results of CGE modelling should be considered as a complement (but not a substitute) to the CBA. This is because in this case the CBA tells us whether this is a good policy change or not from a societal welfare perspective. CGE modelling is a broader analysis which considers the impact on the overall level of output from the economy as a whole. Specifically, in this report CGE modelling is used to evaluate the change in economic activity resulting from implementing the proposed policy change on a subset of building and construction contracts.

3.4 Information sources and key assumptions

There are certain assumptions which have a significant impact on the results of the CBA and CGE analysis. We have discussed these in detail below.

Assumption	Value	Comment
PBA - Reduction in project costs	2.5%	We discussed the basis for this assumption in our previous report. The proposed models vary the administrative burden between stakeholders but should not affect the basis for this project cost reduction assumption. We have assumed that both Model 1 and Model 2 will result in similar project cost reductions. We have reviewed available information on both the WA and NSW PBA projects, and have not identified further data which would cause us to revise this assumption. We understand that some stakeholder feedback during the Department's consultation sessions suggested that project costs would increase rather than decrease as assumed. This appears to be based on concerns that head contractors will bear additional administration costs and lose access to working capital. We highlighted these risks in our previous report, and note this project cost reduction assumption is driven by allocative efficiencies (i.e. risk being reallocated from subcontractors to head contractors, who are better able to manage the risk). Additional administration costs and the impact of working capital reallocation have been modelled in our CBA analysis. We have sensitised this assumption in our modelling on a similar basis within our report. To the extent that subcontractors have a higher confidence in the system as a result of having the Principal act as trustee of the PBA under Model 1, the potential project cost savings may be realised over a shorter timeframe compared to Model 2, or may be at the higher end of the sensitivity range compared to Model 2.
Head contractors will have different	9-12%	These assumptions are unchanged from our previous report. In calculating working capital impacts, we have assumed an average financing cost for head contractors of 9%, being an estimated overdraft interest cost. We have

[1] SEQ is defined in this study to include the local government areas of Brisbane, Gold Coast, Ipswich, Lockyer Valley, Logan, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba
[2] RoQ is defined as all other areas outside of SEQ in Queensland

financing costs compared to subcontractors		used this cost as we assume head contractors will finance working capital through an overdraft-like facility rather than through fixed debt facilities, equity or some hybrid security.[3] We have assumed an average financing cost for subcontractors of 12%, being an estimated overdraft interest cost. We have assumed subcontractors are required to pay a higher interest rate due to being a higher lending risk, on average. This rate is in line with the current average rate applied to unsecured loans. Some submissions to the Department's consultation process suggested subcontractors were financing working capital requirements on personal credit cards, which typically attract a higher rate than we have used. We have not used the higher credit card rate as we assume that the majority of subcontractors do not finance working capital requirements through personal credit cards, although we are aware that for some subcontractors, traditional sources of finance may not be available.
Funding of government function areas to exercise regulatory and policy function (QBCC as regulator)	Varies	Additional administration cost to Government as regulator may be minimal in the Government-only Scenario and therefore would be absorbed within current cost structures. In the Industry-wide Scenario, additional staff would be required to fulfil the regulatory and policy function of Government. These functions would include for example monitoring compliance, dealing with complaints and maintaining registers of accounts. In our modelling we have relied upon detailed costings prepared by the Department.
Head contractor transactional and administrative activities	Varies	For PBAs we have assumed head contractors will spend an additional 4 hours per project per month in total compared to the current state under Model 1 (despite the fact that the Principal is acting as trustee of the PBA, as we assume there will be a level of duplication of effort) and 7 hours under Model 2. This time assumption is linked to average estimated hourly wage for a construction manager of $52 per hour[4], which produces an estimated cost per month per PBA.
Principal transactional and administrative activities	Varies	For Model 1 there are additional costs to principals in administering PBAs. These costs apply to both Government as Principal (in both the Government-only and Industry-wide scenarios) and private sector principals (in the Industry-wide Scenario). The Department has provided detailed cost estimates for the Government acting as Principal and administering PBAs. For private sector principals we have used the detailed cost estimates for the Government acting as Principal and adjusted them for the higher number of private sector projects. We have also applied a 10% reduction to these costs on the basis that the private sector may realise efficiencies that the Government is unable to (for example due to higher project volumes and different management systems).
Subcontractors transactional activities	0.5 hours per project per month	We have assumed subcontractors will spend an additional 0.5 hours per project per month to review and consider additional paperwork generated by the PBA arrangements in total compared to the current state. This time assumption is linked to average estimated hourly wage for a construction

[3]Comparison of commercially secured business overdrafts: http://www.canstar.com.au/compare/business-overdrafts-commercially-secured/?profile=Commercial+property&amount=40000&state=QLD

[4]The following link provides information regarding average salaries in the Australian labour market: http://www.payscale.com/research/AU/Job=Construction_Manager/Salary

		manager of $52 per hour, which produces an estimated cost per month per PBA.
Contracting tiers analysed	Tier one Subcontractors	This assumption is unchanged from our previous report. Due to data limitations, our analysis assumes a three layer structure of principal, head contractor and subcontractors for each project. We have varied the assumed number of contractors based on contract value, with projects of higher value involving contractors over the life of the project compared to lower value projects. The extent to which the project procurement cost saving assumptions discussed above are realised may be affected by the number of contracting tiers covered by the proposed reforms.
Retention funds	Cash only	This assumption is unchanged from our previous report. We have assumed that all retentions are cash retentions, as we have been unable to obtain data on the proportion of cash retentions versus non-cash retentions (for example bank guarantees or insurance bonds). We have assumed that interest on retention funds held flows to the head contractor under both Model 1 and Model 2.
Payment timeframes	60 days	This assumption is unchanged from our previous report. We have assumed that on average head contractors delay payment to subcontractors by 60 days/2 months. This period of time was based on evidence provided to the Senate Committee which suggested that head contractors generally seek to extend payments to subcontractors for a period ranging from 30 to 90 days.[5]

3.5 Other jurisdictions and stakeholder consultation feedback

3.5.1 Updates from other jurisdictions

We have reviewed information available from other jurisdictions since issuing our previous report, and have discussed any relevant updates or issues below.

Western Australia (WA)

WA has recently completed a PBA trial. The WA PBA model involves the head contractor establishing and maintaining the PBA.[6] The key findings of the trial were that PBAs can be successfully used on WA Building Management and Works construction projects, can improve the transparency of the payment process and may improve the speed of payment for subcontractors[7]. The key drawbacks findings were that PBAs can be challenging to establish (based on administrative effort) and required demanding administration of the monthly payment process.[8]

[5] Parliamentary review into insolvency in the Australian building and construction industry: http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Economics/Insolvency_construction/Report/c02

[6]The following link provides details about the roll-out of PBAs in WA: http://www.finance.wa.gov.au/cms/Building_Management_and_Works/New_Buildings/Project_bank_accounts.aspx

[7] The following link provides information regarding the results from WA's PBA trial: https://audit.wa.gov.au/wp-content/uploads/2016/12/report2016_31-PaymentSubcontractors.pdf

[8]See above

Ultimately, the trial was deemed successful. A roll-out is underway with the PBA scheme being applied to the majority of projects tendered by WA's Department of Finance Building Management and Works from 30 September 2016. The PBA scheme will apply to projects with a construction value between $1.5m and $100m (including GST), involving one or more subcontractors. By 30 June 2017, it is expected that up to 30 contracts incorporating the use of PBAs will have been awarded with a combined value of approximately $220 million.

New South Wales (NSW)

The NSW Procurement Board trialled the use of PBAs on 10 NSW Government construction projects from November 2013 to December 2015. In July 2015 it published an interim report which confirmed that PBAs were an option to use where an agency considered it supported the delivery of the project.

The trial is now complete and the NSW policy position is for the use of PBAs to continue on a case by case decision for agencies to determine. For applicable contracts, the head contractor will establish and maintain the PBA. No further information is available at this time in relation to trial results or the future roll-out of PBAs.[9]

Victoria (VIC) and Northern Territory (NT)

Both Victoria and Northern Territory have run or are in the process of running PBA trials. We have been unable to locate further information on the results of the trials to date.

United Kingdom (UK)

In our previous report we discussed a report published by Highways England regarding the introduction of PBAs. At the time of writing this addendum there has been no further information released by Highways England on the effectiveness of its PBA scheme. The UK model involves the head contractor establishing and administering the PBA.

The Highways England report dated 2015 notes that although PBAs have been used since 2012, it has been difficult to verify the quantum of the project cost savings, but that anecdotal evidence suggests that initial savings are in the region of 1%, and will increase in the future as subcontracting tiers reflect accelerated payment as part of their price structure. This is consistent with a Textura Europe survey of UK subcontractors that identified that late payment risks led them to add 4% to bid costs, while they would discount 2.3% for early payment. Although we note that this is a stated preference and not a revealed preference it is consistent with other research that suggests subcontractors add a 5-10% premium to quotes to compensate for the extra risk of non-payment. The Highways England report notes that one of the key advantages of PBAs is the protection afforded to subcontractors in the event of head contractor insolvency. To date Highways England has not had to test the effectiveness of this.

As at April 2015 there were in excess of 35 PBAs in operation across a suite of Highways England major schemes and maintenance contracts. A review of these PBAs found that the average time Highways England took to fund the accounts was 12 days on average and a further 7 days on average for payments to be made to the supply chain. As a result the payment cycle down to the Tier 3 level on average was completed 19 days after the assessment date. The report notes that this compares favourably to a UK Cabinet Office study that stated lower levels of the supply chain were waiting up to 100 days to be paid.

The 2015 report on introduction of PBAs across Highways England projects suggests that the payment cycle down to the Tier 3 level can be rapidly accelerated. It notes that further work was required to improve the number of subcontractors that signed up to the PBA to ensure the benefits are applied to the fullest extent possible. The

[9] The following link provides details about the trial and roll-out of PBAs in NSW: https://www.procurepoint.nsw.gov.au/before-you-buy/construction/project-bank-accounts

report suggests that no other initiative has been able to comprehensively reduce the payment cycle as much as the PBA scheme.[10]

[10] Implementation of Project Bank Accounts across Highways England review: http://www.secgroup.org.uk/pdfs/2015/Implementation%20of%20Project%20Bank%20Accounts%20across%20Highways%20England.pdf

4 PBA models

4.1 Background

In Section 4 of our previous report we discussed the components of a PBA scheme and some of the key assumptions regarding how such a scheme would operate. These assumptions have changed as a result of stakeholder consultation feedback and further detailed analysis of implementation issues by the Department.

We discuss the two models i.e. Model 1 and Model 2 and the key assumptions in detail below. This summarises the key differences and the typical process flow.

4.1.1 Model 1 – Principal controls PBA

This model involves the Principal and Head Contractor executing a trust deed to establish a trust with the Principal as trustee and Head Contractor and Subcontractors as beneficiaries. A PBA agreement is entered into between the bank, the Principal and the Head Contractor with the Principal establishing and maintaining the PBA.

Subcontractors make monthly payment claims to the Head Contractor, who in turn submits a payment claim to the Principal. The Superintendent (an independent party engaged by the Principal) then assesses the payment claim in relation to work carried out. Based on this assessment the Principal issues a payment schedule to the Head Contractor. The Head Contractor then prepares a Progress Payment Instruction (PPI) including all amounts certified as payable to each Subcontractor. This PPI is provided to the Principal and a copy of the relevant extract provided to each Subcontractor. The Principal verifies the PPI has the correct details (i.e. company / individual name and bank account details) for each proposed payment recipient and that the amounts are in line with the payment schedule provided by the Superintendent. If the PPI is correct, the Principal deposits the payment into the PBA and provides the Bank with the PPI, authorising the bank to disburse funds in accordance with the PPI. The bank then pays the Head Contractor and Subcontractors from the PBA as per the PPI.

In the above model, mid-cycle payments (i.e. payments to subcontractors that may be on short credit terms and therefore out of sync with the progress payment timing agreed between the Principal and Head Contractor) are still able to be processed. This would require Head Contractors to follow the same process as above, but top up the PBA themselves to ensure there are funds to disburse to Subcontractors. In the next progress payment from the Principal the amount certified for that particular piece of work would flow to the Head Contractor, as the mid-cycle Subcontractors have already been paid.

This is a high level summary of the process for Model 1. There are a number of issues that we understand the Department is considering which may impact on the final design of this model, such as the process for payment of disputed amounts into a disputed funds account, the issue of head contractors with related party subcontractors and the risks to the Principal in acting as trustee but being reliant on the Head Contractor to collect and provide information which we have not discussed as they are outside the scope of this addendum report.

4.1.2 Model 2 – Head Contractor controls PBA

This model involves the Principal and Head Contractor executing a trust deed to establish a trust with the Head Contractor as trustee and naming the Head Contractor and Subcontractors as beneficiaries. A PBA agreement is entered between the bank, the Principal and the Head Contractor with the Head Contractor establishing and maintaining the PBA.

Subcontractors make monthly payment claims to the Head Contractor who in turn submits a payment claim to the Principal. The Superintendent then assesses the payment claim in relation to work carried out and based on this assessment, issues a payment schedule to the Head Contractor. The Head Contractor then prepares the Progress Payment Instruction (PPI) including all amounts certified as payable to each Subcontractor. A copy of the relevant extracts of the PPI is provided to each Subcontractor but, unlike Model 1, the PPI is provided directly

to the bank by the Head Contractor, with a copy provided to the Principal. The Principal verifies the PPI has the correct details (i.e. company / individual name and bank account details) for each proposed payment recipient and again unlike Model 1, the Principal does not confirm the accuracy of each individual payment amount. The Principal provides the Subcontractor with a copy of the relevant portion of the final PPI. The Principal deposits the progress payment into the PBA. The Bank then pays the Head Contractor and Subcontractors from the PBA in line with the PPI. Similar to Model 1, mid-cycle payments are possible.

This is a high level summary of the process for Model 2. There are a number of issues that we understand the Department is considering which may impact on the final design of this model, such as the process for payment of disputed amounts into a disputed funds account, the issue of head contractors with related party subcontractors and the risks to the Principal in having an oversight role in the process which we have not discussed as they are outside the scope of this addendum report.

4.1.3 Summary of differences between Model 1 and Model 2

Proposed model	Defining features	Benefits	Issues
Model 1. Principal as trustee of PBA	Principal is trustee and establishes and maintains the PBA. Principal reviews Progress Payment Instruction (PPI) to check beneficiaries and details are correct. All project payments are processed through PBA. PBA is excluded from PPSA.	Principal has greater oversight and control over operation of the PBA account. This would be a benefit where there are concerns regarding Head Contractor conduct. Principal as trustee provides greater level of oversight in the system. For Government projects, it will ensure only beneficiaries of the trust are paid from the PBA. For private sector projects there may still be a risk that Principals and Head Contractors collude to avoid payments to Subcontractors or push out the timing of payments.	Principal assumes more responsibility and risk as trustee e.g. potential involvement in lawsuits. More resource intensive for Principals across both Government and private sector. It is a fundamental shift in the relationship and risk allocations between Principal and Head Contractor compared to the current state. There will be additional costs to Principals and likely some level of duplication of effort between Principals and Head Contractors. For both Government and private sector projects, there may be a perception that government or private sector Principals are responsible for any non-payment of Subcontractors. In some cases Principals may act dishonestly and may use their position as trustee as leverage against the Head Contractors. This could be in the form of delaying payments to or from the PBA, and also in relation to having greater transparency into the Head Contractor's pricing and profit margins which can be used as leverage in commercial negotiations or disputes.

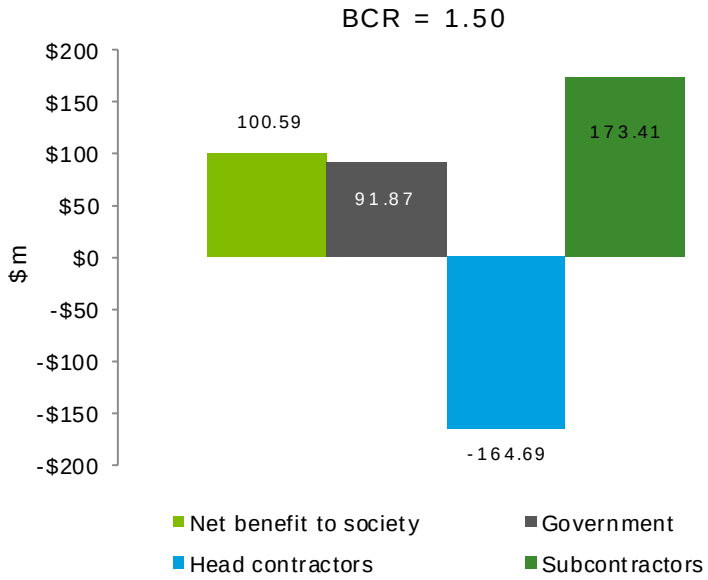
Proposed model	Defining features	Benefits	Issues
Model 2. Head Contractor as trustee of PBA	Head Contractor establishes and maintains the PBA. Principal reviews Progress Payment Instruction (PPI) to check beneficiaries are correct. All project payments are processed through PBA. PBA is excluded from PPSA.	The additional step (compared to the model considered in our previous report) of having the Principal review the PPI provides greater level of oversight in the system. For Government projects, it will ensure only beneficiaries of the trust are paid from the PBA. For private sector projects there may still be a risk that Principals and Head Contractors collude to avoid payments to Subcontractors or push out the timing of payments.	Additional costs to Head Contractors compared to the current state. Principal assumes some risk in checking PPI and incurs additional costs compared to the current state. Principals may use the greater transparency into the Head Contractor's pricing and profit margins as leverage in commercial negotiations or disputes.

4.2 Model 1 – Principal as PBA administrator (across both the Government-only Scenario and the Industry-wide Scenario)

4.2.1 Summary of CBA results

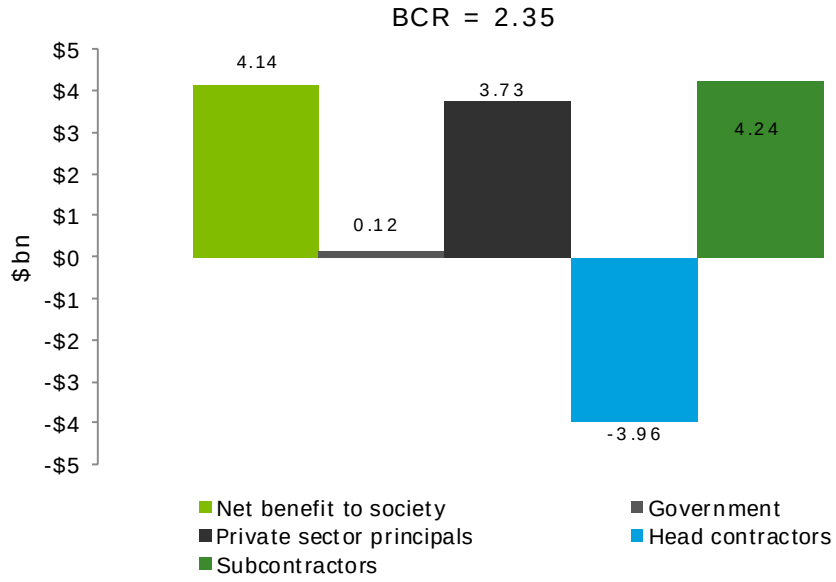
At the highest level, the CBA evaluation results show that Model 1 under the Government-only Scenario returns a net benefit to society, of $101m, leading to a Benefit Cost Ratio (BCR) of 1.50. The net benefits to stakeholders are shown below.

Figure 5: CBA evaluation results, Model 1 in the Government-only Scenario



When Model 1 is applied to the entire industry under the Industry-wide Scenario, it returns a net benefit to society of $4.1bn, leading to a BCR of 2.35. The net benefits to stakeholders are shown below.

Figure 6: CBA evaluation results, Model 1 in the Industry-wide Scenario



4.2.1.1 Benefits and costs to Government as Principal and Regulator

Benefits: Savings in project procurement costs as Principal

Cost: Initial implementation cost, ongoing administration cost, regulatory cost

Benefits

For the Government, benefits are expected to arise from savings in project procurement costs. The rationale for this benefit is that anecdotal evidence suggests that currently subcontractors price in a risk contingency premium for late or unpaid payment claims when quoting prices for undertaking contracts. It is expected that the implementation of a PBA scheme will ensure more timely payment to subcontractors, which will over time eliminate the risk factor for subcontractors resulting from late payments/non-payments. The reduction in project pricing following the implementation of PBAs has been estimated to range from 1% to 4%. A mid-point of 2.5% has been adopted for the PBA option. The basis for this assumed reduction is that head contractors are better placed to manage project risk. This is discussed in detail in Section 8 of our previous report.

For Model 1, under the Government-only Scenario, a forecast total contract value for government procured non-infrastructure projects between $1-10m in Queensland has been developed based on data provided by the Department. For Model 1 under the Industry-wide Scenario, a forecast total contract value for whole of Government building and construction procurement above $1m and private sector building and construction above $1m, (excluding infrastructure projects and residential building and construction) has also been developed based on data provided by the Department.

Applying a 2.5% price reduction to the projected total contract values, an NPV benefit saving of approximately $253m has been estimated for the Government over a 20 year evaluation period under the Government-only Scenario and $452m under the Industry-wide Scenario.

Costs

Initial implementation cost

Under Model 1, Government will incur initial one-off consulting and legal costs of $0.4m in both the Government-only Scenario and the Industry-wide Scenario.

Ongoing administration costs

Government will incur ongoing administration relating to compliance requirements of a PBA scheme including additional FTEs, necessary I.T. and facilities upgrades in addition to bank fees due to Government's role as PBA administrator and trustee. Evaluation and education costs over the initial few years are also included. These total $161m under the Government-only Scenario and $260m under the Industry-wide Scenario on an NPV basis.

Regulatory cost

It is assumed that there are no additional costs to Government as regulator in the Government-only Scenario as the Government can enforce the PBA scheme through contractual means. However under the Industry-wide Scenario, the Government will also incur costs relating to its role as a regulator (QBCC) of the private sector of $73m (this excludes regulatory I.T. costs which are currently unknown).

4.2.1.2 Benefits and costs to private sector Principals

Benefits: Savings in project procurement costs (only applies under the Industry-wide Scenario)

Cost: Initial implementation cost, ongoing administration cost (only applies under the Industry-wide Scenario)

Benefits

There will be no impact on private sector Principals under the Government-only Scenario as only Government contracts are included.

Private sector Principals will obtain a benefit in the Industry-wide Scenario where whole of Government building and construction procurement above $1m and private sector building and construction above $1m (excluding infrastructure projects and residential building and construction) are included. The expected benefits are similar to those highlighted earlier for the Government acting as Principal i.e. savings in overall project procurement costs due to eliminating the risk factor for subcontractors resulting from late payments/non-payments.

Applying a 2.5% price reduction to the projected total contract values, an NPV benefit saving has been estimated for private sector Principals of $5.6bn under the Industry-wide Scenario.

Costs

There will be no impact on private sector Principals under the Government-only Scenario as only Government contracts are included.

In the Industry-wide Scenario, costs to private sector Principals are estimated to be proportionally similar to the Government's costs of acting as Principal (and PBA administrator), adjusted for the higher number of private sector projects. We have also applied a private sector efficiency gain of 10%, on the basis there may be efficiencies from the larger number of projects and different management systems in the private sector. We have estimated total discounted costs for private sector Principals of $1.9bn.

4.2.1.3 Benefits and costs to Head contractors

Benefits: Interest earned on retention funds held in PBA, reduced costs from payment disputes

Costs: Reduced working capital, cost of ongoing compliance

Benefits

Interest earned on retention funds held in PBA

For head contractors, the benefits under the PBA are minor. One of the benefits to the head contractors is the interest earned from retention money deposited into the account (In the base case it is assumed this benefit will not be realised as funds are used for general working capital by head contractors). Retention money is deducted from the monthly progress claims. We have assumed that for every monthly progress claim submitted by subcontractors, 5% is held as retention money, with half of the 5% (i.e. 2.5%) being released upon project completion, while the remaining 2.5% will be released upon a 12 month defect liability period, in accordance with common industry practice. Consequently the amount of interest earned is determined by the following three parameters: length of the project, interest rate and contract value. The longer the project, the greater period of time retention funds will accrue interest. Similarly, the higher the interest rate, the more interest that will accrue on these funds. Finally, higher project values result in increased retention monies deposited into the account. This has been modelled as having a benefit of $3.5m over a 20 year evaluation period under the Government-only Scenario, and $98m under the Industry-wide Scenario.

Reduced costs from payment disputes

There is an additional benefit to the head contractor under the PBA scheme, relating to reduction in potential payment disputes. The current payment scheme is prone to payment disputes resulting from delayed payments. The payment dispute process may involve legal, court and administrative costs which is an inefficient use of resources in addition to a source of delay for project completions.

The PBA scheme is expected to improve speed of payments to subcontractors, as progress payments are no longer held by the head contractor. Therefore, it is expected that dispute costs relating to late payment will be reduced under this policy option.

The benefits from reduced costs in payment disputes have been calculated to be approximately $0.06m over a 20 year evaluation period under the Government-only Scenario and $1.5m under the Industry-wide Scenario. This is based on historical adjudication fees occurred under BCIPA from 2011-16 provided by the Department assuming that 10% of the disputes under BCIPA are in relation to late payment and there will be a 5% reduction in late payment related disputes upon the implementation of the PBA scheme.

Overall benefits amount to approximately $4m over the 20 year evaluation period under Model 1 Government-only Scenario and $100m under Model 1 Industry-wide Scenario.

Costs

A number of costs have been identified for head contractors. The key costs attributable to the PBA Model 1 are:

- Reduced working capital from loss of access to retention money held in PBA;
- Reduced working capital from loss of access to progress payments; and
- Cost of ongoing compliance.

Reduced working capital from loss of access to retention money held in PBA

The reduced working capital from the loss of access to retention money (compared to the Base Case where head contractors are able to utilise the retention money as working capital) is estimated to be approximately $20m over the 20 year evaluation period under the Government-only Scenario and $553m under the Industry-wide Scenario. This loss is calculated using the same methodology discussed above, but using a financing cost of 9% (as opposed to 1.6% that can be earned as interest). As a result, the cost to head contractors of losing access to retention money (financing cost to obtain working capital which was previously funded by the Head contractor holding on to retention money) compares unfavourably with the benefit (interest income that can be earned on the trust account as discussed above).

Reduced working capital from loss of access to progress payments

The most significant cost to head contractors under both the Government-only Scenario and the Industry-wide Scenario is the reduced working capital from the loss of access to progress payments (which under the Base Case can be utilised by the Head contractor as working capital), which amounts to a cost of $143m under the Government-only Scenario and $3.4bn under the Industry-wide Scenario.

The working capital cost to head contractors from loss of access to progress payments is based upon the following parameters:

- Subcontractor percentage of project value (assumed to be 5%, provided by the Department)
- Progress payment percentage (assumed to be 95%, based on industry standard practice)
- Project duration (assumed to be 6 months for projects between $1-5m, 12 months for projects between $5-20m and 24 months for projects above $20m, based on industry standard practice)
- Delay in payment (assumed to be 2 months, based on anecdotal evidence)
- Financing cost of head contractor (assumed to be 9%)

Ongoing compliance

There is also an additional cost of PBA compliance for head contractors on an ongoing basis, notwithstanding that under Model 1, principals are acting as trustee of the PBA. This cost amounts to $6m under the Government-only Scenario and $74m under the Industry-wide Scenario and has been estimated based on activity levels.

4.2.1.4 Benefits and costs to Subcontractors

Benefits: Improved working capital, reduced costs from payment disputes

Costs: Costs of ongoing compliance

Benefits

Improved working capital

Benefits to subcontractors mainly arise from improved working capital from progress payments being made in time.

The section above noted that under both the Government-only and the Industry-wide Scenarios for Model 1, head contractors lose access to interest free cash held under the Base Case and are now required to finance their activities at an assumed 9% financing cost. This working capital is transferred to subcontractors, as subcontractors are now being paid on time and therefore avoid additional financing cost at an assumed 12% financing cost. For further detail regarding the financing cost assumptions, please refer to Section 3.4. The avoided 12% financing cost amounts to a saving of approximately $191m in present value terms (over 20 year evaluation period) under the Government-only Scenario and $4.6bn under the Industry-wide Scenario.

Reduced costs from payment disputes

Similar to head contractors, there is an additional benefit to subcontractors under the PBA scheme, relating to reduction in potential payment disputes of $0.02m over 20 years under the Government-only Scenario and $0.5m under the Industry-wide Scenario.

Costs

The primary cost that has been identified and modelled for subcontractors is the administrative cost of ongoing compliance arising from being a beneficiary to a trust account and additional documentation that entails. This cost has been estimated at $17m under the Government-only Scenario and $334m under the Industry-wide

Scenario. The cost has been estimated based on estimated activity levels, assumed to be 0.5 hours per project per month.

4.2.1.5 Sensitivity analysis

The CBA results are based on what has been established as the best estimates of costs and benefits at the time. In reality, there is always some level of uncertainty regarding the future. Sensitivity testing is a relatively simple way to assess the potential impact of the uncertainty around the CBA assumptions.

Given that a significant portion of the benefits are driven by the potential savings in project procurement costs for Model 1, particularly the Industry-wide Scenario, the CBA results have been tested for variations in the potential project procurement cost savings and changes in the discount rate.

The results of the sensitivity testing on the project procurement price savings assumption and the discount rate assumption are shown in the table below.

Model 1 – Government-only Scenario

Assumption		BCR - Model 1 Government only Scenario
Project procurement cost savings	1%	0.74
	4%	2.26
	2.5% (main case)	*1.50*
Discount rate	2%	1.55
	8%	1.46
	5% (main case)	*1.50*

Model 1 – Industry-wide Scenario

Assumption		BCR – Model 1 Industry-wide Scenario
Project procurement cost savings	1%	1.16
	4%	3.53
	2.5% (main case)	*2.35*
Discount rate	2%	2.39
	8%	2.30
	5% (main case)	*2.35*

4.2.2 Economic impact analysis (CGE modelling) summary

In this addendum report, the economy wide impacts have only been estimated for the Model 2 Industry-wide Scenario that displays the highest net benefit and benefit cost ratio. The impacts would be broadly similar if the flow on effects of the net benefits for Model 1 in the same scenario were simulated in our CGE modelling. This is because the net benefits to society in both Model 1 and Model 2 are very similar on an economy-wide scale.

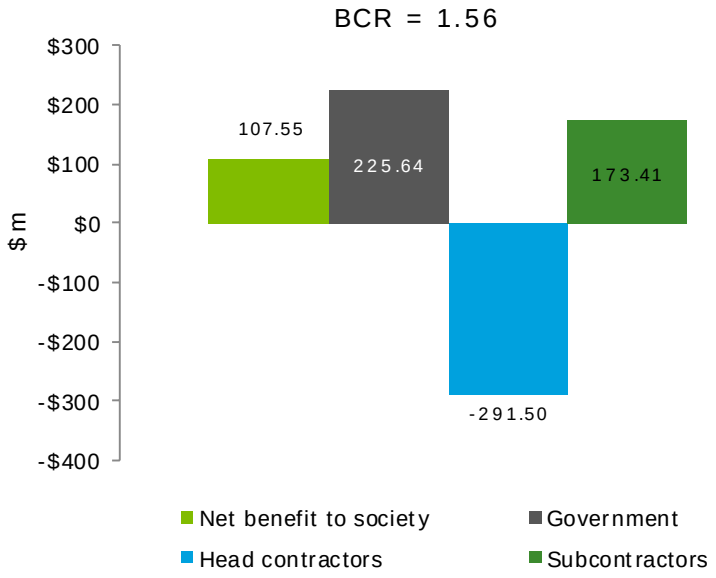
For a detailed discussion of the potential economy wide impacts of the scheme please refer to Section 4.3.2.

4.3 Model 2 – Head contractor as PBA administrator (across both the Government-only Scenario and the Industry-wide Scenario)

4.3.1 Summary of CBA results

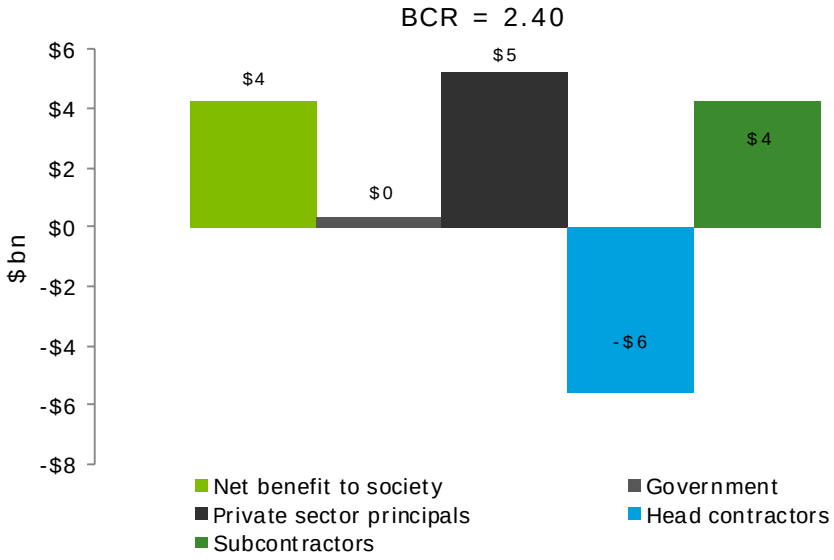
At the highest level, the CBA evaluation results show that Model 2 under the Government-only Scenario returns a net benefit to society of $108m, leading to a Benefit Cost Ratio (BCR) of 1.56. The net benefits to stakeholders are shown below.

Figure 7: CBA evaluation results, Model 2 in the Government-only Scenario



When Model 2 is applied to the broader industry under the Industry-wide Scenario it returns a net benefit to society of $4.2bn, leading to a Benefit Cost Ratio (BCR) of 2.40. The net benefits to stakeholders are shown below.

Figure 8: CBA evaluation results, Model 2 in the Industry-wide Scenario



4.3.1.1 Benefits and costs to Government as Principal and Regulator

Benefits: Savings in project procurement costs as Principal

Cost: Initial implementation cost, ongoing administration cost, regulatory cost

Benefits

Under Model 2, the benefits for Government as Principal mirror the benefits outlined under the results of Model 1, across both the Government-only Scenario and the Industry-wide Scenario i.e. a benefit of $253m under the Government-only Scenario and $452m under the Industry-wide Scenario.

Costs

Initial implementation cost

Similar to Model 1, Government will incur initial one-off consulting and legal costs of $0.4m in both the Government-only Scenario and the Industry-wide Scenario.

Ongoing administration cost

Under Model 2, the costs for Government as Principal are of a similar nature to the costs outlined under Model 1, across both the Government-only Scenario and the Industry-wide Scenario. However there is a key difference under Model 2 as the Principal is no longer the PBA administrator (the Head contractor assumes that role) and thus the Government incurs less costs in relation to PBA compliance under Model 2 due to the lack of the PBA administrator-related costs. Total ongoing administration costs equate to $27m under the Government-only Scenario and $44m under the Industry-wide Scenario on an NPV basis.

Regulatory cost

No regulatory cost is assumed in Model 2 under the Government-only Scenario, consistent with Model 1 under the Government-only Scenario. However there are costs applicable to Government in its role as regulator (QBCC) of the private sector in Model 2 in the Industry-wide Scenario. These costs total $73m on an NPV basis (excluding regulatory I.T. costs which are currently unknown). This figure is calculated over the 20 year evaluation period. We understand that the assumptions driving these costs will be further refined as part of the evaluation of the Government-only Scenario implementation, and could be reduced if the industry education program is effective in minimising the number of queries and compliance issues that the Government is required to address. As the evaluation period is lengthy, a change in the assumptions could have a significant impact on the total cost.

The cost to Government as Principal and regulator totals $27m under Model 2 in the Government-only Scenario and $117m under Model 2 in the Industry-wide Scenario on an NPV basis.

4.3.1.2 Benefits and costs to private sector Principals

Benefits: Savings in project procurement costs as Principal (only applies under the Industry-wide Scenario)

Cost: Initial implementation cost, ongoing administration cost (only applies under the Industry-wide Scenario)

Benefits

There will be no impact on private sector Principals under the Government-only Scenario as only Government contracts are included.

Private sector Principals will obtain a benefit in the Industry-wide Scenario where whole of Government building and construction procurement above $1m and private sector building and construction above $1m (excluding infrastructure projects and residential building and construction) are included. The expected benefits are similar to those highlighted earlier for the Government acting as Principal i.e. savings in overall project procurement costs due to eliminating the risk factor for subcontractors resulting from late payments/non-payments.

For Model 1 in the Industry-wide Scenario, a forecast total contract value for whole of Government building and construction procurement above $1m and private sector building and construction above $1m, (excluding infrastructure projects and residential building and construction) has been developed based on data provided by the Department.

Applying a 2.5% price reduction to the projected total contract values, a discounted benefit saving has been estimated for private sector Principals at $5.6bn under the Industry-wide Scenario.

Costs

Initial implementation cost

There will be no impact on private sector Principals under the Government-only Scenario as only Government contracts are included. In the Industry-wide Scenario, no initial implementation costs are estimated.

Ongoing administration cost

There will be no impact on private sector Principals under the Government-only Scenario as only Government contracts are included. In the Industry-wide Scenario, costs to private sector Principals are estimated to be proportionally similar to the Government's costs of acting as Principal, adjusted for the higher number of private sector projects. We have also applied a private sector efficiency gain of 10%, on the basis there may be efficiencies from the larger number of projects and different management systems in the private sector. Costs are estimated at $375m.

4.3.1.3 Benefits and costs to Head contractors

Benefits: Interest earned on retention funds held in PBA, reduced costs from payment disputes

Costs: Reduced working capital, cost of ongoing compliance

Benefits

Interest earned on retention funds held in PBA

Under Model 2, the benefits for head contractors from interest earned on retention funds held in the PBA mirror the benefits for Model 1, across both the Government-only Scenario and the Industry-wide Scenario i.e. $3.5m and $98m respectively.

Reduced costs from payment disputes

Similarly, the benefits from the reduced costs from payment disputes under Model 2 mirror Model 1 under both the Government-only Scenario and Industry-wide Scenario i.e. $0.06m and $1.5m respectively.

Costs

Reduced working capital from loss of access to retention money held in PBA

Costs under Model 2 are similar to those under Model 1 for the reduced working capital from loss of access to retention money held in PBA. These costs remain constant from Model 1 to Model 2, at $20m under the

Government-only Scenario and $553m under the Industry-wide Scenario. This is calculated from the methodology described previously under Model 1.

Reduced working capital from loss of access to progress payments

Costs under Model 2 are similar to those under Model 1 for the reduced working capital from loss of access to progress payments. These costs remain constant from Model 1 to Model 2, at $143m under the Government-only Scenario and $3.4bn under the Industry-wide Scenario. This is calculated from the methodology described previously under Model 1.

Ongoing compliance

Ongoing compliance costs differ under Model 2 compared to Model 1, as the Head contractor administers the PBA, and therefore there are additional ongoing compliance and administration costs associated with taking on this role. For instance additional FTEs needed to complete the required administrative burden and additional costs such as bank fees.

These non-working capital costs total $132m under Model 2 in the Government-only Scenario and $1.7bn under the Industry-wide Scenario.

4.3.1.4 Benefits and costs to Subcontractors

Benefits: Improved working capital, reduced costs from payment disputes

Costs: Costs of ongoing compliance

Benefits

Improved working capital

Benefits to subcontractors are the same under both Model 1 and Model 2 totaling $191m under the Government-only Scenario and $4.6bn under the Industry-wide Scenario.

Reduced costs from payment disputes

Benefits to subcontractors are the same under both Model 1 and Model 2 totaling $0.02m under the Government-only Scenario and $0.5m under the Industry-wide Scenario.

Costs

Similar to Model 1, under Model 2 the primary cost that has been identified and modelled for subcontractors is the administrative cost of ongoing compliance arising from being a beneficiary to a trust account and additional documentation that this entails. This cost has been estimated at $17m under the Government-only Scenario and $334m under the Industry-wide Scenario.

4.3.1.5 Sensitivity analysis

We have sensitised the project procurement cost savings and discount rate assumptions for Model 2 for both the Government-only Scenario and the Industry-wide Scenario on a similar basis to that discussed for Model 1. The results of the sensitivity testing are shown in the table below.

Model 2 – Government-only Scenario

Assumption	BCR - Model 2 Government-only Scenario
1%	0.77

Project procurement cost	4%	2.34
	2.5% (main case)	*1.56*
Discount rate	2%	1.61
	8%	1.51
	5% (main case)	*1.56*

Model 2 – Scenario 2

Assumption		BCR – Model 2 Industry-wide Scenario
Project procurement cost savings	1%	1.19
	4%	3.61
	2.5% (main case)	*2.40*
Discount rate	2%	2.45
	8%	2.36
	5% (main case)	*2.40*

4.3.2 Economic impact analysis (CGE modelling) summary

This section presents the findings of CGE modelling, including impacts on gross regional product (GRP) and employment for Model 2 Industry-wide Scenario. As stated earlier, this scenario was found to be the most efficient from the perspective of society having the highest net benefit and benefit cost ratio. There is also some discussion of the results including industry and regional findings as well as discussion on total Queensland level impacts. Impacts are reported for two regional areas including South East Queensland (SEQ) and Rest of Queensland (RoQ).

In summary, for the Model 2 Industry-wide Scenario, it has been estimated that the economic impact of the policy change could lead to an increase of real GRP of $9.4bn in SEQ in net present value terms using a 5 per cent real discount rate out to 2036-37. For the RoQ region, this is estimated to increase real GRP by $3.2bn over the same timeframe. In total, Queensland real Gross State Product (GSP) increases by an estimated $12.6bn over the same time-frame in NPV terms.

The modelling indicates that employment could increase by up to 3,195 FTEs in Queensland by 2036-37 comprising of 1,822 FTEs in SEQ and 1,373 FTEs in RoQ. In average annual terms, the net increase in employment is expected to be 1,576 FTEs in SEQ and 2,373 in Queensland as a whole. The distribution of this employment increase is expected to increase employment primarily in the construction, other services and financial and business services sectors.

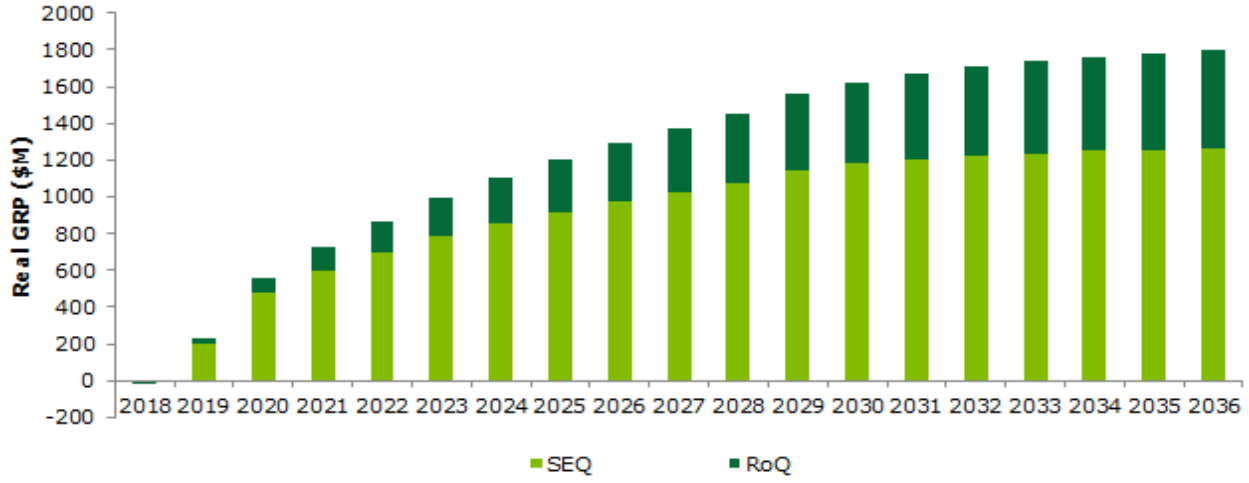
4.3.2.1 CGE Modelling Results – Model 2 Industry-wide Scenario

Gross Regional Product

It has been estimated that the economic impact of the policy change could lead to an increase of real GRP of $9.4bn in SEQ in net present value terms using a 5 per cent real discount rate over the evaluation period. For the RoQ region, this is estimated to increase real GRP by $3.2bn over the same timeframe. In total, Queensland real Gross State Product (GSP) increases by an estimated $12.6bn over the same time-frame in NPV terms.

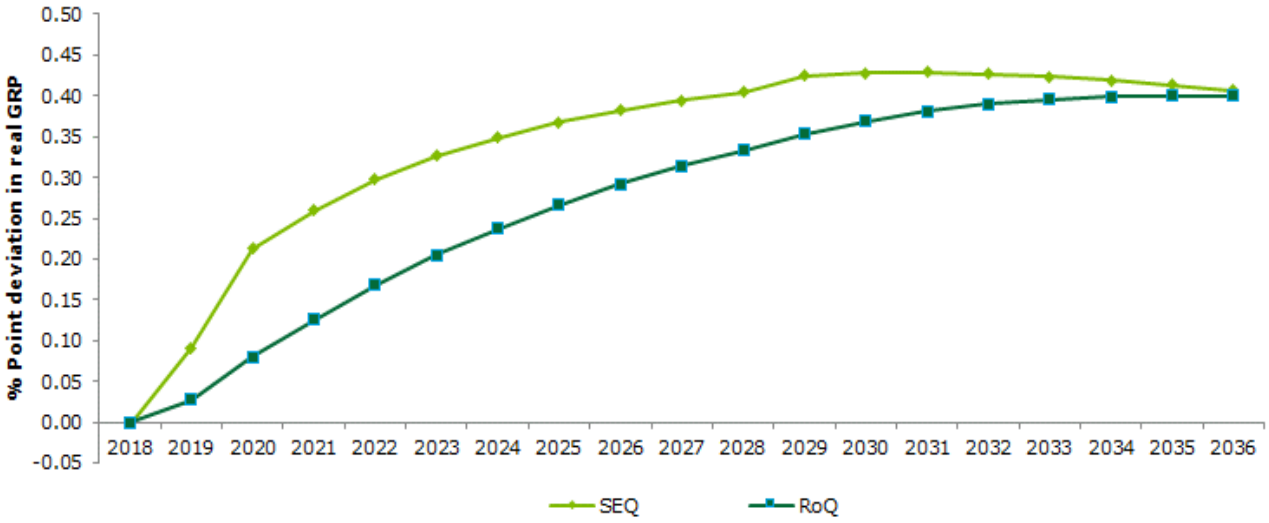
The profile of real GSP is shown in the following charts both in terms of level changes and % point deviations.

Figure 11: Impacts on Gross Regional Product ($ millions real, $2017-18), 2017-18 to 2036-37, Model 2 Industry-wide Scenario



Source: Deloitte Access Economics

Figure 9: Impacts on Real Gross Regional Product (% point deviation), 2017-18 to 2036-37, Model 2 Industry-wide Scenario

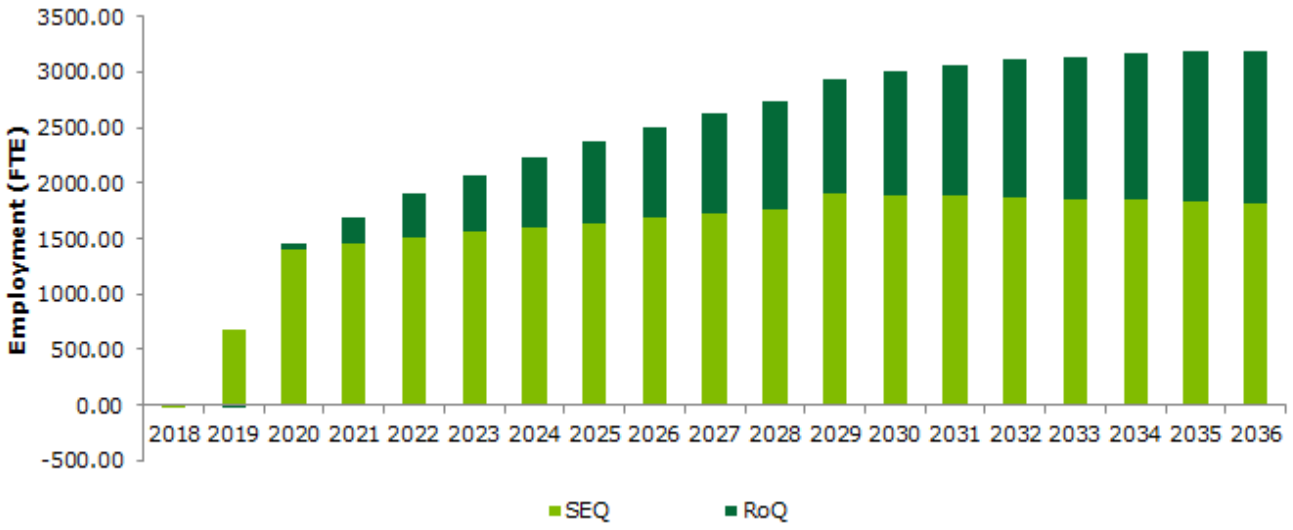


Source: Deloitte Access Economics

Employment

The modelling indicates that employment could increase by up to 3,195 FTEs in Queensland by 2036-37 comprising of 1,822 FTEs in SEQ and 1,373 FTEs in RoQ. In average annual terms, the net increase in employment is expected to be 1,576 FTEs in SEQ and 2,373 FTEs in Queensland as a whole. The distribution of this employment increase is expected to increase employment primarily in the construction, financial and business services sectors and other services. In Queensland, the total jobs impacts increase each year after the policy is implemented as the cost savings of the policy change flow through the broader economy.

Figure13: Impacts on employment, 2017-18 to 2036-37, Model 2 Industry-wide Scenario



Source: Deloitte Access Economics

The breakdown of the potential employment increase is provided in more detail in the following subsection.

Sectoral results and discussion

A summary of the GRP/GSP, employment and industry impacts is reported in Table 6 below.

The significant impacts predicted in employment and industry output are a function of the costs savings that result primarily to the construction industry as a result of the policy change. The impacts at the industry level are magnified as the improvement in productivity in the construction sector (that translates to a price reduction in the construction industry) has beneficial flow-effects to industries that use construction and supply to construction. The productivity improvement also leads indirectly to additional investment in the economy and in income growth that supports services industry output.

Table 6: Sectoral impacts, ($m, NPV, $2017-18 and FTE, annual average), Model 2 Industry-wide Scenario

	$m's		FTEs	
	SEQ	Queensland	SEQ	Queensland
GRP/GSP deviation ($m)	9,447	12,611		
Employment (FTE, annual average)			1,576	2,373
Employment (FTE, 2036-37)			1,822	3,195
Sectoral gross output ($m)				
Agriculture	69.3	273.0	7	49
Mining	255.9	1,009.9	10	68
Manufacturing	1,890.0	2,473.8	119	194
Construction	4,582.5	5,797.6	427	613

	$m's		FTEs	
	SEQ	Queensland	SEQ	Queensland
Trade*	1,696.2	2,166.1	258	389
Electricity, gas and water	369.2	512.7	17	29
Transport	689.7	923.4	68	113
Financial and business services**	3,268.9	3,823.6	364	466
Other services***	2,275.1	2,878.4	305	452

Source: Deloitte Access Economics

Notes:

* includes retail, wholesale trade and accommodation and food services

** includes financial and insurance services, communication services, and business services

*** includes government related services such as public administration, education, health as well as other services and ownership of dwellings

4.4 Implementation risks

We note that the total costs to head contractors calculated in the CBA modelling in this addendum report are significantly higher than those calculated in our previous report for the PBA option. The CBA modelling for this addendum report includes updated information, which has significantly increased the project numbers over the evaluation period when compared to the project numbers used for the CBA modelling in our previous report. This increase in project numbers is the primary driver of the increased total cost to head contractors in this report compared to our previous report. Accordingly, the modelling in this addendum report is not directly comparable to our previous report.

In our previous report we suggested that some head contractors may experience financial viability issues as a result of the loss of working capital under a PBA scheme. We noted that this could be more likely to apply to small or mid-tier head contractors that rely on front-loading progress payments and/or the working capital advantages of delaying payments to subcontractors. As discussed above the total cost to head contractors is greater than that calculated in our previous report. However as the cost to head contractors on a per project basis has not increased significantly, our comments in section 6.4.1 of our previous report remain current. We have also considered whether there may be a disproportionate impact on smaller head contractors compared to large head contractors from the PBA scheme. The impact of a loss of working capital ultimately depends on how well head contractors manage their finances and projects. There may be large head contractors that manage these poorly, and small head contractors that manage this well, and vice versa. Similarly the costs of compliance with a PBA scheme are driven by project numbers and how efficient head contractors are in managing the process. There may be large head contractors that undertake large volumes of projects and manage the PBA compliance process poorly, and there may be smaller head contractors that undertake fewer projects and manage the PBA compliance process well. Although we have not undertaken a qualitative analysis of these issues, our experience suggests that costs and therefore impacts are driven by how effectively and efficiently a business is managed.

5 Residential building and construction

5.1 Background

We have been asked to provide a high level qualitative review of the likely effects of introducing a PBA scheme on residential building and construction projects. There are three broader groups within the residential construction sector which should be considered.

Group 1: Government related residential projects with a value over $1m
Group 2: Private multiple dwelling projects with a value over $1m
Group 3: Private single residential projects with a value over $1m.

Group 1 and Group 2 share very similar characteristics in terms of likely level of sophistication and expertise of both principals and contractors. We understand from discussions with the Department that the introduction of a PBA scheme for projects commissioned by Group 1 and 2 would mirror the characteristics of the PBA scheme discussed earlier in this report. The reason for this is that these projects are essentially commercial in nature, with a similar structure and sophistication as commercial building and construction projects. Accordingly, the costs and benefits discussed in Section 4 of this report would apply in a similar manner to stakeholders engaged in projects commissioned by Group 1 and 2. A net benefit would be expected from the introduction of a PBA scheme on the same basis as our analysis of the introduction of PBA scheme for commercial projects.

This is not the case for projects commissioned by Group 3. Principals in this group are usually individuals ("mum and dad" owners) who are commissioning a single dwelling residential build. We understand that it is not the Department's intention that this group is captured in the PBA scheme. It is unlikely that there would be a net benefit in including these projects in a PBA scheme given the increased administrative burden that will be imposed on individuals, which will not be spread across multiple projects given the single project nature of the work. In addition the majority of these projects would not involve a superintendent or quantity surveyor providing an independent check of the builders' claims. Although the $1m threshold should exclude the majority of the single dwelling construction projects (ABS data suggests that the average single dwelling construction works is around $0.3m-$0.5m in value), it still may unintentionally capture some construction works on high-value residential properties. Therefore a specific exclusion may need to be included in in the PBA scheme legislation.

5.1.1 Single dwelling residential builds

Consultation feedback to the Department suggested there are concerns regarding non-payment and delayed payment in the single dwelling residential construction sector. As discussed above, a PBA scheme similar to Models 1 and 2 considered for commercial and multiple dwelling residential projects may not be cost-effective for the single dwelling residential construction sector. An alternative to imposing a PBA solution dependent on project size could be to instead impose the requirement on builders who have a certain level of turnover, in line with the bands used for licensing requirements. This could extend security of payment measures to larger builders who undertake a significant number of projects, but are contracting with individuals.

Another alternative to the PBA models currently being considered could be a centralised trust account operated by an independent body. This could operate in a similar manner to the RTA rental bond account model, but would be on a far larger scale if covering all progress payments and retentions. It would involve owners (or their financiers) making progress payments into the centrally administered account, with builders and their subcontractors lodging their claim to the funds at the same time. There could be a period of say 2 business days for parties to object to the amounts being released, after which time the funds are paid. This may increase the transparency of the process, although it would significantly increase the administrative resources required for the

Government body administering the scheme and impose additional administration costs on builders and Subcontractors.

It is important to note that the above suggestions have not yet been subject to an evaluation process and in order to put forward a viable potential solution, further analysis and evaluation would need to be conducted to understand potential costs and benefits.

5.2 Stakeholder costs and benefits

5.2.1 Background

Although we have been asked to provide a high level qualitative review of the likely effects of introducing a PBA scheme on residential building and construction projects, in order to provide a sense of scale of the potential impact we have analysed ABS data from FY12 to FY16 to compare the residential construction sector against the commercial construction sector. Over the period the value of residential construction averaged $11bn per annum compared to $6.8bn per annum for non-residential construction. However, removing the value of residential house construction and additions, alterations and conversions (as projects in these categories are not intended to be captured by the PBA scheme) provides an average per annum value of $4.1bn for “other residential” construction work.

Accordingly this high level comparison suggests the non-residential (i.e. commercial) sector is approximately 1.65 times larger than the residential construction sector that is intended to be covered by the PBA scheme. This analysis is limited however, as the data does not include project numbers and does not separate projects above $1m from those below that amount.

5.2.2 Benefits and costs to Government and private sector principals

Benefits: Potential savings in project procurement costs (for Government and private sector principals)

Costs: Initial implementation cost, ongoing administration costs

Benefits

The assumed reduction in project costs discussed in Sections 3 and 4 of this report are likely to apply in a similar manner and to a similar extent if applied to Government and private sector multiple unit residential construction projects over $1m.

Costs

As in the commercial stream, the major costs will be initial implementation costs including consulting, legal and education costs, and ongoing compliance costs which will largely consist of ongoing administrative costs involved with a PBA scheme. The ongoing costs to Government and private principals would be greater under the proposed model 1 and lower under model 2.

5.2.3 Benefits and costs to Head Contractors

Benefits: Interest earned on retention funds held in PBA, reduced costs from payment disputes

Costs: Reduced working capital, cost of ongoing compliance

Benefits

As outlined previously in Section 4, the benefits to Head Contractors are likely to be minimal and derived from interest earned on retentions held in the PBA, as well as a potential reduction in payment disputes and costs associated with these.

Costs

The costs applicable to Head Contractors would be similar to those on commercial construction projects, i.e. reduced working capital from loss of access to both retention monies and progress payments relating to subcontractors and ongoing compliance costs relating to the administration of the PBA. These costs would be higher under model 2 compared to model 1. We expect there will be some level of duplication of effort between Head Contractors and Principals under model 1 (for example both parties will need to perform checks of Subcontractor details).

5.2.4 Benefits and costs to subcontractors

Benefits: Improved working capital, reduced costs from payment disputes

Costs: Costs of ongoing compliance

Benefits

As outlined previously under the commercial PBA scheme, the benefits to subcontractors are improved working capital from progress payments being made on time, and reduced costs from payment disputes. These benefits would be similar under both Model 1 and Model 2.

Costs

The only costs of note that subcontractors will likely face under such a PBA scheme is the ongoing costs of compliance with PBA commitments. These costs would be similar under both Model 1 and Model 2.

6 Scope and limitations of our work

Scope

We have been engaged to provide modelling and financial advisory services to assist in the modelling and analysis of proposed security of payment reforms for Queensland. We have not provided legal advice regarding any aspect of the proposed reforms. Our services do not include the provision of advice regarding taxation or accounting issues. This in an addendum report which should be read in conjunction with our previous report.

Limitations

As is usual with our work, our analysis has been restricted by the time and information available. In particular, we have made a number of assumptions in our report which, where possible, are based on information provided by the Department, publicly available research reports or other information, or our own professional judgement. We have set out significant assumptions and the rationale behind these in our report. If these assumptions were to change, the analysis and conclusions in this report may be different.

The majority of our analysis relates to future events, and actual costs and benefits may be affected by the structure and implementation process of any reform, as well as unforeseen economic or other events occurring after the date of this report. Achievement of the forecast benefits to a large extent relies on the effectiveness of the Government in implementing the proposed reforms and enforcing compliance with the reforms.

General use restriction

This report is prepared solely for the use of the Department of Housing and Public Works. This report is not intended to and should not be used or relied upon by anyone else and we accept no duty of care to any other person or entity. The report has been prepared for the purpose set out in our contract dated 22 June 2017. You should not refer to or use our name or the advice for any other purpose.

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