



Mitigating Emerging Risks in the Construction Industry

In brief: Post pandemic, the world continues to face challenges with rising energy prices, inflation and interest rates as well as supply-chain crunch. The construction industry is no exception. This paper examines the emerging risks during this challenging environment and how we can mitigate those risks.

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As we enter 2023, the pipeline of work for infrastructure, energy, civil and engineering construction work does not seem to be slowing down. Even if there is a reduction in the volume of new investments, the backlog of work to be done will continue to cause stress in the supply chain and shortages of highly skilled professionals and labourers. There are a number of macro-economic factors which are currently having significant impact on the construction industry.

Macro-Economic Factors

The global economy has endured yet another tumultuous year. Global inflation, interest rate hikes and supply chain crunch, in addition to impacts of the Russian-Ukrainian war, seem to be more persistent than many of us anticipated, and most likely will remain through 2023. Qubist believes market stress will continue throughout this year due to a number of macro-economic factors:

1) Energy Price

Australia and the world have faced gas shortages as a result of on the Russian-Ukrainian war, forcing prices up in natural resources. The war has also caused some nations to reconsider their approach to energy independence, impacting prices.

In addition, there will be a need to upgrade existing electricity infrastructure and new grids will need to be built to support increased diversification of energy supplies, including renewables. This is likely to drive up energy prices on both demand and supply side. This increase in electricity price will in turn contribute to higher inflation and interest rates.

2) Supply Chain

China's impact on global inflation is profound. Seemingly limitless Chinese exports of low cost manufactured goods have previously put downward pressure on prices. However, the pandemic lockdowns, aging population and political unrest have impacted its manufacturing, logistics and trading ability with the world. While this may create an opportunity to increase margins due to scarcity of supply, disruption in Chinese exports will put an end to the downward trend on prices of goods globally.

3) Environment, Social and Governance (ESG)

In recent years, the world has been moving towards more demanding ESG outcomes and Australia is no exception. The Australian government has brought in the 2050 Net Zero plan where the government is encouraging all industries to achieve lower emissions. The construction industry a major contributor to carbon emissions, and industry participants are now looking for innovations to a greener construction process. This includes through use of renewable energy and recycled materials where possible. As with most valuable things, there is likely to be an associated cost.



4) Inflation and interest rates

Uncertain and increasing inflation and interest rates have many negative impacts on our industry. Beyond simply increasing prices to reflect inflation, suppliers also raise their prices as a result of increased cost of financing. More and more, construction companies will have to operate with limited available cash leaving them with less flexibility.

5) Skilled labour shortage

There is a clear tightening of the labour market and shortage of skilled staff post pandemic in Australia. Construction companies are struggling to find workers to complete their projects on schedule.

With these factors affecting the future of our industry while we are yet to fully recover from the impacts of the pandemic, stakeholders need to be aware of associated risks when entering into a project. Close scrutiny of the construction process from beginning to end is needed to ensure these emerging risks are identified and mitigated at an early stage.

Delay Risk

Supply chain logistics and labour shortages introduce delay risk. Aside from late delivery, these delays often have monetary penalties or liquidated damages associated with them. Delays can also drive an increase in indirect cost, especially for remote location projects where construction camps are involved.

Commercial Risk

Commercial risk has always existed in the construction industry, and project pricing, particularly for complex projects, can be difficult. The current macro-economic factors have exacerbated this risk.

Pricing for a project in an environment with so many uncertain and persistent risks make the construction industry unforgiving and volatile. Financial distress in the construction industry is not new and is likely to get even worse in a volatile marketplace. Regardless of the contractual protections the client or contractor may have, this pain is shared among all parties with no clear winners.



Response to Delay and Commercial Risks

The following project delivery levers can help projects deal with delay and commercial risks.

1. Reduce the risks you can control - More front end development

The first step to addressing increasing external risk is to try and minimise controllable risks. In many cases, this requires the owner to increase effort in the project definition phase. By increasing investment in design and project definition maturity, the owners can lower the overall risk profile, regardless of how the risk may be allocated. This risk mitigation approach, which is exclusively in the hands of owners, works to the advantage of all parties.

2. Set realistic schedules and be clear on cost, schedule and quality trade-offs

Setting a project schedule that factors in the current market realities and constraints will help set a credible baseline. Related to realistic schedule target setting is being clear on cost/schedule trade-offs. While most owners like to have the completed asset sooner rather than later, in many cases the project value is much more sensitive to cost effectiveness than it is delivery schedule duration. A clear understanding of these trade-offs should help in setting a realistic schedule and serve to ensure rational decision making on willingness to pay for schedule acceleration/maintenance during the delivery phase.

3. Package the scope with consideration for risk

Some portions of scope have higher exposure to risk than others. By quarantining high risk scope to discrete packages, and setting contract terms appropriate for the risk, the project team navigate cost competitive pricing even when external market factors are driving up risk. An example may be to hold off on issuing construction packages where the scope is yet to be well defined and the delivery schedule is some long time off.

4. Use procurement processes that give both owner and contractor a shared and informed view of risk

Early Tenderer/Contractor Involvement (ETI or ECI) is gaining popularity during the procurement phase. This is the stage where shortlisted tenderers or contractors are invited to workshops and look at innovative ways of design, procurement

and construction, and determine risk profiles and value engineering. This stage seems more relevant and important in today's, and future, environment than ever before.

5. Set contract terms that promote efficient pricing of risk

With regard to contract terms, clients in Australia have started to embrace alternative forms of contract such as New Engineering Contract (NEC) and International Federation of Consulting Engineers (FIDIC) contracts. These contracts have been used overseas in major infrastructure projects for decades. NEC encourages all parties to be collaborative and proactive to manage potential issues that may result in additional cost and time. It has contract processes such as early notification or early warning to prevent any unforeseen claims towards the end of the work. Detailed provisions to avoid disputes as well as dispute resolution provisions are included in these contracts to prevent escalation of litigations.

Target cost pricing model has now been discussed as the preferred model over the traditional lump sum model in some major projects. Target cost has a pain/gain share mechanism which encourages all parties to innovate, be more efficient and look at opportunities for profits. Apart from possible financial benefits, the model encourages a proactive and collaborative mind set among all parties. There are also disadvantages in target cost and should be assessed prior to implementing it on a project.

Use of rise and fall or escalation clause has re-emerged due to the fluctuation of building materials costs. Force majeure is another clause that has come to attention of many clients and contractors due to the pandemic. The risk and responsibilities associated with these clauses need to be appropriately allocated and clearly stated within the contract to avoid disputes during construction.



6. Ongoing risk analysis

Detailed and continuous assessment of the cost schedule is required from the early phases, while there is still time to implement treatment strategies. Collaboration between the clients and contractors can be helpful in mobilising a broader "brains trust" as well as multiple avenues to overcome emerging challenges.

Conclusion

The construction industry has now entered a new era, facing a different macro-economic environment from a decade ago.

Training, up-skilling and educating our existing workforce is paramount, especially on the impact of the current macro-economic environment on our industry. Successful completion of a construction project relies on adequate pricing and ability to identify potential risks affecting the project.

Building knowledge on different procurement routes and contract types can significantly reduce delay and commercial risks on your project. Before venturing out on your project, it is increasingly becoming more important that you understand appropriate risk allocations and seek expert advice who can assist you in allocating risks to ensure the success of your project.