

# **Project Risks: Proportionment and Contractual Relationships**

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## **Key words:**

## **ABSTRACT**

The question of risk is not a new one to the construction environment. Risk is an intrinsic part of any venture be it building, civil engineering, environmental engineering or any of the myriad classifications falling within the generality of the built environment. The purpose of this paper is not to consider the technicalities of risk identification and management. Its purpose is twofold. Firstly, it sets out to discuss the relationship between the different types of risk that affect projects and secondly, it discusses the contractual framework surrounding procurement and construction of projects in relation to risk.

The authors have identified two key heads of risk. The risk badges can be identified as firstly, corporate and strategic risk and secondly, contract and construction risk. Much has been written about risk identification and management during the construction phase but in absolute terms, significant risk precedes the construction. How it is viewed and addressed generally has a significant bearing on the unfolding events during the construction process.

Whether it be a private individual, a corporate entity, a regional or local authority or central government a process involving a reconciliation of the risks and rewards for the promoter of the project will or certainly ought to have been undertaken. For a private individual with limited means the construction of say a dwelling house, will entail risks. For example, will the contractor become insolvent? Will the matters for which I carry responsibility for risk manifest themselves? Perhaps the one that ought to be asked more often than it is, is the question, "Can I save myself from changing this house part way through construction?"

At the other end of the spectrum, the risk for the national government developing a road network is not simply financial. There may be enormous political and environmental issues where the government has to take a balanced view of the risks. In terms of the house builder the reward is not necessarily the resale value of the house but rather the amenity that the house owner and his or her family will derive from the project. The reward for the government may be staying in office – or perhaps not. It has been the authors experience and the research has also indicated that this type of corporate and strategic risk is made in isolation and frequently before the constructor is in communication.

Construction risks are a balance. Some employers feel that certainty of price is of paramount importance far exceeding the level of price. Such individuals or corporations will endeavour to pass all the risks that they can to the contractor in the hope that market forces in the competitive tendering situation will hold the costs of the constructor adopting these risks to a reasonable level. Where better value for money – an oft ill used expression - is more

important the employer may elect to take risks or retain risks in the hope of obtaining a more commercially viable price.

As we see it there is potential for conflict on two levels. Firstly, there may be conflict between the corporate and strategic risks and contract and construction risks. Secondly, there will be tension between the parties in terms of risk sharing and if this tension is not properly managed it can easily escalate to conflict during the construction phase. This is not altogether the single result of ignorance or stubbornness in the case of the potential employer. Frequently procurement rules either internal to the organisation or imposed by statute do not fit with the strategic project review. Furthermore, procurement rules do not generally encourage the adoption of an appropriate contracting mechanism. With a generally significant weighting to cost in tender evaluation, the selection process does not inherently lend itself to effective risk identification, allocation and management.

In order to consider the impact of risk, the authors have investigated various generic trends and specific projects that have ended either in dispute or with significant cost or time overruns

Many investment houses consider office retail development to be appropriate for their portfolios. There is considerable historical data available as to the potential recovery in terms of rent and lease from such properties, not to mention the increasing value of construction assets and there is also considerable construction cost information. Plainly, the lower the construction costs, the higher the potential income to investment ratio becomes, the more likely the development is to proceed. Other factors such as the construction period (dictating the commencement of earnings) will play a role. Market forces can change dramatically. With these changes in the market place so the building owners ability to rent or lease the building and the level of income may change.

Perhaps an extreme example of this process occurred several years ago. A developer identified an opportunity to construct an ice rink for skating and curling. There appeared to be a market for such a facility in the area so design and construction proceeded. The type of building was relatively expensive as it required long clear spans. Plant costs were high but finishing costs were low. Part way through construction the building owner went through a change of heart. They amalgamated with another organisation. The other organisation did not wish to have sport and leisure facilities within its portfolio but was very strong on office and retail parks. The Contractor was not consulted in the process of the significant redesign that took place. Rather bizarrely the design was changed to offices. Large clear spans would appear to have lent themselves rather more readily to a retail park and either would have been permitted by the planning authority. Delays were occasioned and a great deal of redundancy stemmed from plant already committed, although not delivered, to site. Here there was no link between corporate and strategic risk (changing market place) and the contract and construction mechanism. The contract provided no pre-pricing mechanism therefore once the architect had given directions to carry out the very significant variations, with no pricing basis in the contract because of the dissimilar work, disputes arose. In fact the construction costs escalated so badly that the building was no longer viable as office space. It was subsequently sold on at a vastly reduced price to another developer who reverted to retail park style development.

On a more optimistic view the authors have visited two adjacent sites in the South of England, one railway construction, the other road construction. There were two separate employers and two separate contractors. There had been little or no corporate or strategic alliancing between the employers although both knew that the two successful contractors would be working in close proximity with each other. However, the construction risks were mitigated by the two contractors joining forces at site level. For example one contractor was faced with removing and disposing of large amounts of excavated materials from a tunnel so incurring significant costs and risks associated with securing economic tipping facilities. The other contractor required material to form an embankment in the close proximity but with no adjacent borrow pit from which the material could be obtained. The staggeringly obvious solution was reached with the tunnel arisings being used to form the embankment. This brought financial savings to the two contractors who had taken the initiative but effectively provided no benefit to the employers from different sectors whose strategic review had not identified the potential.

Also, by way of an example one of the authors was asked to review the procurement strategy of a large government organisation. A contract was to be secured of the size that necessitated its procurement via the European Union Works Directives. The type of work to be carried out was of a maintenance character but very diverse. Previously the maintenance had been carried out by several consortia of local authorities. As individual local authorities they were responsible for maintenance of the same type at a local level. The size of the contract made it attractive to the private sector. The bids having been secured there were significant savings apparent from the private sector bid. Although the selection process is currently under legal review the contract was awarded to them leaving the local authority members of the previous consortia to look after local maintenance. Their costs escalated significantly because of lower utilisation of resources. Therefore central government saved money but local government was disadvantaged. Strategic risk analysis had not even been considered.

In recent years within the United Kingdom there have been calls for reform. These have generally been led by the Government or the public sector. Sir Michael Latham and Sir John Egan have both comprehensively reported on the woes of the construction industry.

The Latham report was successful to the limited extent of introducing statutory adjudication into the United Kingdom. The original concept was for a cheap effective, but temporary, dispute resolution mechanism. However, there have been many recourses to the courts because of the uncertainty and poor drafting of the statutes. With the high legal input, costs have soared and there is evidence mounting suggesting a growing disquiet with the process. It is a pity that the procurement and risk aspects of Latham's report have been so overshadowed by adjudication.

The Egan report, labelled 'Rethinking Construction' concentrated its efforts entirely on non dispute matters. It is interesting to note that there is little or no mention of corporate and strategic risk analysis or risk sharing within the Egan report. There seems to be a tacit acceptance that the two processes are separate. We think that is unfortunate and probably misplaced. What is however well catered for within Egan's report is the pooling of resources to overcome constructional risks by intelligent identification and sharing. In our view this starts one step too late but nevertheless should not be dismissed too readily.

There has been a limited take up within the United Kingdom of projects following the Egan philosophy. It should be remembered that the principal motive behind the Egan theories is to drive down the cost of construction. There are some well documented success stories on the model projects. These however have been procured generally within the private sector; that is to say not under the European Union mandatory directives given effect to by UK regulation. There is a general presumption within these regulations and directives that there will be no negotiation or collaborative effort made once the project has been specified and bids received. Endeavours to circumvent this naturally contain a degree of risk in themselves and there is therefore, perhaps understandably, a reluctance to promote a groundswell for change given the worldwide market opportunities that exist. They have however succeeded in so far as the specification of the project is subject to input by the constructor prior to bids being received. The use of more modern contracts such as the New Engineering Contract or as it is known in its Edition 2 version the Engineering Construction Contract, together with target cost contracts have improved the situation to some extent.

However it is the result that counts. There is very mixed feedback on the savings that are actually being achieved. The authors are somewhat sceptical of some of the more extravagant claims of savings in the order of 20 to 30% and more resolute benchmarking would be required to substantiate such claims. In our experience where this has happened to this extent there has either been a lessening of the rigour of the contract by lowering specifications or some similar process. It is not apparent that it is the collaborative effort and the risk management alone that has achieved savings of this order.

In the authors view what is needed is a change of mindset from top to bottom in both the contracting parties organisations. There has to be an acceptance that the best way to deal with risk is to place the majority of that risk with the party that can best deal with it in the practical sense. If this leads to a loss of certainty of overall cost at various stages of the project then that by product simply has to be suffered by the contracting parties and others with vested interests, such as funding partners. This is where the skills of identification and management of risk become paramount and the authors contend that a project budget should therefore be designed to accommodate both a fixed element and a fluctuating element, the latter encompassing risk.

Despite the endeavours to bring about a new dawn within UK construction too often contracts are formulated with a view to placing the risk on the subservient party alone. Again, procurement rules may dictate that a project is procured and tendered by a traditional 'lowest cost wins' strategy and any endeavour to redress this results in a qualified tender that are frequently prohibited. Similarly where companies adopt partnering and a proper risk identification and management process at senior level the word often does not seem to percolate to the lower levels of management and certainly not to sites where the real work has to be done and success or failure are generally measured, perhaps erroneously.

There is an overriding need to find a mechanism for expanding collaboration between contracting parties at the earliest opportunity and on a wider footing than is currently apparent in order to improve the chances of dovetailing corporate and strategic objectives with individual project risks to provide an optimum integrated solution for project delivery. It is our opinion that this must present a better option than the adversarial concept of blanket

risk avoidance and in our view the best but crudest way to currently achieve a balanced risk strategy is to incentivise the parties.

Such an approach should give hope that some of the tension can be removed from the situation and more achievement of common objectives can be attained. The educational process to attaining the ideals would therefore come from a reward policy. Clearly, significant legislative obstacles remain irrespective of the 'buy-in' required by the parties

The question we have asked ourselves is whether or not principles brought out by Sir John Egan have brought a magic formula to UK construction. Sadly, we have to report that there has been no magic breakthrough. The mindset of UK construction is not yet ready, at all level or in all organisations to adopt Eganistic type principles. Until that mindset changes the construction industry as a whole cannot and will not change. It is to be hoped that this situation will remedy itself if only under financial and governmental pressure. Little real appraisal, allocation and management of risk has been undertaken and the projects we have reviewed serve to illustrate the scale of the problem faced by the industry. Too many Employers still seem to view their primary objective as being to offload risks on the constructor and conversely, too many constructors seem prepared to let overruns accrue and justify the delay to drive price up.

The extent to which this situation continues to exist because of real conflict between ideals and procurement directives is unclear but it does provide a convenient natural smokescreen. There is however little doubt that the European Union Public Procurement rules do little to assist this situation. If the ideals will not work then we see the only way forward as being by incentivisation

It may therefore seem that the authors are pessimistic of UK construction industry willingness to convert. That is not necessarily the case. For the first time in memory the industry is identifying problems, accepting they exist and at least endeavouring to find solutions. It is our view that probably the change in direction will be driven by incentivisation rather than an adoption of ideals.

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