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Optimal Risk Allocation in Infrastructure Projects

NZCID Building Nations Symposium 2008

Introduction

Risk is real

Proactive risk identification and allocation is an essential tool in delivering successful infrastructure projects

Management of risks holds the key to project success or failure

What is risk?

“Chance of an event occurring which means that actual project circumstances differ from those assumed when forecasting project benefits and costs”

How do we give stakeholders confidence in two key things:

- money (cash flow) will be protected
- outcomes will be delivered

Balance between:

- core of project profitability and efficiency
- fundamental driver of “value for money”

Framework for optimal risk allocation

Five key steps:

- Identification
- Assessment
- Allocation
- Mitigation
- Monitoring and reporting

Dynamic process / whole of life of project

Identification

Key starting point

Complex – experience of major infrastructure projects and knowledge of stakeholders important

Collaborative process

What are the risks of the project? Which of these are to be:

- retained
- transferred to another party
- shared

Assessment

The likelihood of the risk occurring
Consequences if it materialises
How do you price risk?

Low risk
Low consequence

High risk
Low consequence

Low risk
High consequence

High risk
High consequence

[walk?]

Allocation

Old adage holds true:

Person best able to manage the identified risk at least cost

Incentive to mitigate

In a PPP typically:

- sponsor passes on most risk
- equity provider takes most risk (passes it on)
- debt provider looks to take very little risk

Standardised allocation occurs as market matures



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Mitigation

Linked to allocation and who can best manage risk

Pass on mechanisms

- insurance
- subcontractors
- suppliers
- financial instruments – hedge policy, interest / currency swaps
- exit strategy – IPO

Contingency planning

Monitoring and Reporting

Establishing good governance / operating regime

Follow up / regular review

Risk management plan

Public Sector Comparator

Common tool for PPPs

Benchmark to measure comparative bids

(Hypothetical) – what would be the net present cost of the government/local authority providing the same services, taking into account the cost and risk of doing so?

Risk Matrix

Risk Category	Description	Consequence	Mitigation	Preferred Allocation
e.g. Construction Risk	Risk project would be delivered on time / on budget	Delay / cost	Selection of proven technology / provides turn-key EPC contract (fixed price/fixed term)	EPC provider – unless specifically relieved of responsibility under the contract (e.g. force majeure)

Contracting

Identification

Assessment

Allocation

Mitigation

Contract

Contractual circuit breakers

Risk from a lender's perspective

Typically two sources of financing of projects:

- Equity – accept greater level of risk for higher return
- Debt – returns are interest and money back

For debt providers, very little appetite for risk – especially non-recourse loans

Specific mechanisms to protect lender – e.g. forward looking covenants / cash reserve accounts

The common project risks

All projects different but common features:

- Fabric Risk
- Component Risk
- Process Risk
- Operational risks – dozen or so of these

Fabric Risk

Something so key that it goes to the heart of whether you can do the project or not

- Legislation
- Ownership of site
- Tax

Component Risk

Typical Generation Project Components

Inputs

- Site →
- Fuel supply →
- Consents →
- Funding →
- Construction →
- Transmission connection →
- Operations and maintenance →
- Insurance →

Owner
- joint venture
arrangements?

Outputs

- electricity / other sales
- hedging arrangements

Process Risk

Rule of thumb – those accountable for outcomes need to control process

Balanced with:

- good governance
- empowering people

Operational Risks

Site	Operational
RMA / planning	Market general economic Conditions Completion Demographics Inflation
Design	Network
Construction	Change in law
Technology	Force Majeure
Commissioning	Asset ownership
Financial - sponsor - financing - ownership - tax	- obsolescence - terminal value

A photograph of a modern office interior. On the left, a blue sign with the text "BELL GULLY" is mounted on a wall. In the foreground, there is a long, light-colored wooden desk. To the right, a meeting area features four dark brown leather chairs arranged around a small, round, light-colored table. Large windows in the background offer a view of a coastal landscape with a body of water and hills under a clear sky.

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Operational Risks – cont'd

Three to discuss:

- Site risk
- Design risk
- FM

Conclusion

Optimal risk allocation is a key ingredient in infrastructure projects.

It requires:

- good planning
- good team
- good follow up

A project in which risk is priced, allocated and managed correctly means everyone wins.