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Financial Risks Mitigation for Greenfield Infrastructure Contracts

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Abstract: The Developing economies across the World witness huge Government spending on Infrastructure in order to boost their economy. Mainly these are Greenfield Projects (the projects/investments which are started from scratch level) and require a lot of Financial Planning at pre and post Contract Award level.

This research paper identifies and proposes mitigation measures against the Financial Risks involved in Greenfield Infrastructure Contracts namely: 1) Financial Risks due to locked-up bank guarantees, 2) Financial Risks due to prolongation costs in case the works got suspended, 3) Financial Risks due to price escalation, 4) Financial Risks due to de-scoping of major part of the Works, 5) Financial Risks on account of delayed Payments and 6) Financial Risks due to delays and penalties.

Keywords: Financial Risk Management for Contracts, Greenfield Infrastructure Contracts, Contract Risk Management, Risk Mitigation.

I. INTRODUCTION

The continued downturn in the World's economy has forced the developing economies to keep on investing hugely on the Infrastructure Projects for an internal economy boost and create ample employment opportunities. In India, it is widely reflected in the budget announcements such as setting up of new rail coach factory, setting up of educational institutions like AIIMS, IITs and IIMs etc as well as new Airports. These infrastructure Projects are undisputedly of the nature where the works are to be started from a scratch level and which is not constrained by any prior works already done. Such projects are called the Greenfield Contracts and require a unique understanding of the Final Risk management helpful for the long-term sustenance of the Contractor executing the same.

II. LITERATURE REVIEW

A wide range of diversified literature is available from various resources, a few of the publications reviewed are as hereunder:

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A. OECD Report

Organisation for Economic Co-operation and Development (OECD), in one of its report [1] titled Risk & Return Characteristics of Infrastructure Investment in Low Income Countries, exhaustively identified the real world strategies and necessary measures to be taken for a varied degree of institutions for mitigation of the Financial Risks,

managing them with and seek corrective actions to overcome the same. One of the main Risks identified was due to the Global volatility in the markets and Inflation.

B. Bank for International Settlements Research

The Bank for International Settlements (BIS), in one of its papers [2] (ISSN 1020-0959) titled Understanding the challenges for infrastructure finance, by Torsten E., have elaborated the major difficulties of the Contractor in managing the Risks related to the Greenfield Projects. The paper elaborated various Financial Risks related to the bank guarantees and bonds which the Contractor needs to keep during the Project duration.

Further it highlights that most of the Greenfield Project infrastructure investments becomes profitable for the Contractor and generate cash flow after a long duration is elapsed therefore making the starting phases of the Project prone to the higher risks. Additionally, the unique nature of the Greenfield Infrastructure Projects in view of the scope of supply and services make them essentially less liquid.

C. Michigan Law Review Report

In one of its report [3], titled Remembering Financial Crises: The Risk Implications of the Rise of Institutional Investors in Project Finance (D.J.Park, volume 117, issue 2, the Michigan Law Review), the Writer put a thorough light on the Financial Risks in Greenfield Projects related to the Project Bonds.

D. Other Research

In one paper [4] titled Risk Management in Greenfield Construction Projects, the writers Klaus et.al. identified the several risks to the Project which contained mainly the Financial risks due to delays and the changes to the Scope of Works.

III. FINANCIAL RISKS IDENTIFICATION AND PROPOSED MITIGATION MEASURES IN GREENFIELD INFRASTRUCTURE CONTRACTS

The major Financial Risks paddling around while entering these Contracts are of mainly 6 types as discussed below:

1) Financial Risks due to locked-up bank guarantees
2) Financial Risks due to

prolongation costs in case the works got suspended
3) Financial Risks due to price escalation
4) Financial Risks due to de-scoping of major part of the Works
5) Financial Risks on account of delayed Payments and
6) Financial Risks due to delays and penalties

III.1 Financial Risks due to locked-up bank guarantees

The International norms such as FIDIC 1999 Red book, UNCITRAL and SCL prescribe three types of Bank Guarantees to be provided by a Contractor undertaking the Construction Contract.

III.1.1 Tender Bond or Bid Security

During the tendering process, usually the Employer demands a Tender Bond or the Bid Security in the form of a Bank Guarantee which might be a certain percentage (usually 5%) of the proposed bid amount by the Contractor. Such a Tender Bond would always have a validity up to a certain period post the Bids are opened and the successful Bidder is announced. Whilst the unsuccessful Bidder gets its Tender Bond back from the Employer, the successful Bidder (the Contractor) should go ahead with the other process requirements such as submission of Advance Payment Guarantee and the Performance Bond, in order to continue the awarded Contract Works. After only fulfilling the said requirements, the Tender Bond is returned.

III.1.1.1 Risks Associated with the Tender Bond Submission

Whilst seeking of a Tender Bond from all aspiring bidders/ Contractors is a Risk Mitigation measure for the Employer, on the other hand it's a risk for the bidder with major Risks as Below:

- The Contractor needs to put a certain amount for facilitation of the Tender Amount which is locked in for a period mostly unknown to the Contractor as many Greenfield Projects tenders are delayed again and again with no recourse available to the Contractor
- There are other bank charges which the Contractor needs to pay to keep the Tender Bond live
- Due to the amount locked up in the Tender Bond, the Contractor's ability to bid for another Projects is also hampered
- The Working Cash flow required for the Contractor for all other activities is also interrupted
- In case, the Contractor wins the bid and due to certain reasons, it is not able to perform the other obligations as required by the Employer, there is high risk of the encashment of Tender Bond by the Employer which is a major setback for the Contractor

III.1.1.2 Risk Mitigation Measures

- The Contractor bidding for a large Greenfield Project may request the Bank providing the facility, not to block the whole amount but a part of the same based on the goodwill of the Contractor and after undertaking of the Contractor
- The Contractor should clarify during the Invitation to Tender Stage, the maximum period of the Tender Bond validity so as to ascertain the Risks
- The unsuccessful bids should be immediately followed up by the Contractor for return of the Tender Bonds
- The Contractor should thoroughly check its capacity to undertake the Project, if awarded. It should check the other requirements of the Employer post the award of the Contract, so as to minimize the risk of Tender Bond encashment by the Employer.

III.1.2 Advance Payment Guarantee

For a Greenfield Project, a huge sum of amount is initially required to mobilize the Site and other requirements. A Contractor is required initially to thus have an Advance Payment in the form of cash in order to meet the immediate requirements until the monthly progress payments start.

The Advance Payment may be defined as a non-interest-bearing loan provided to the Contractor for Site mobilization. To avoid any disputes at a later stage, the following needs to be agreed during the Tendering stage itself:

a) Total amount of Advance Payment
b) The number and timings of the Installments (if more than a single Advance Payments)
c) Applicable currencies and the respective proportions if more than one currency involved
d) Rate at which the Advance Payment would be paid back by the Contractor in the form of deductions to the progress payments

III.1.2.1 Risks Associated with the Advance Payment Guarantee Submission

For the Employer, the Advance Payment Guarantee comes as a readily security available at its disposal as it gives the cash in lieu of the same for the Contractor's Work to commence. However, for the Contractor, besides all risks discussed in para 3.1.1.1, the other risks involved are as below:

- In case, the Contractor gets the Advance Payment and starts the Works but due to certain reasons, it is not able to keep the performance, there is high risk of the encashment of Advance Payment Guarantee by the Employer
- Should there be any termination of the Contract by either of the Parties, the Advance Payment taken by the Contractor becomes immediately payable and the Employer has the right for encashment of the Guarantee.

III.1.2.2 Risks Mitigation Measures

- The amount of Advance Payment Guarantee might be progressively reduced by the pro-rata amount repaid by the Contractor as reflected in the Payment Certificates.

III.1.3 Performance Bond

As the name states, the Performance Bond or the Performance Security is a Bank Guarantee to be submitted by the Contractor which ensures that the Employer while releasing the Payment against the Works done has a Performance Security to reserve its rights, in case of the works fail from the guaranteed parameters or the warranties obligations not fulfilled or any other reason deemed fit for encashment of the Performance Bond.

III.1.3.1 Risks Associated with the Performance Bond/ Performance Security Submission

Besides all risks discussed in para III.1.1.1, the other risks involved are as below:

The Employer can make a Claim by encashment of Performance Security in the following broad cases:

- In case of the Contractor's failures to extend the validity of Performance Guarantee when it is about to expire
- Should the Contractor fail to reimburse the Employer any kind of amount which might have become due resulting from some kind of agreement or back-charges or any other Claim such as Arbitration award
- If the Contractor fails to correct any default/ damage after given Notice by the Employer, within a specified Time as per the Contract
- Lastly in case of the Termination of Contract by either of the Parties to the Contract

III.1.3.2 Risks Mitigation Measures

- The Contract should have the wording to protect the Contractor for Payment of any actual Claim amount only, in case of the Performance Security being put for encashment. The balance amount should be returned to the Contractor.
- The Performance Security should be returned to the Contractor within a reasonable or specified time after the Performance Certificate is issued to the Contractor.

III.2 Financial Risks due to prolongation costs in case the works got suspended

The Contractor does require a number of permits, licenses, approval, clearance letters and NOCs etc. even before the inception of Construction Works. Should there be any hurdles at any stage, the whole project may turn up to be a disaster for the Contractor.

III.2.1 Risks Associated with the Prolongation of Works

The major risk is Project being on hold for an unknown period and thus the continued loss of amounts locked in for the project specific requirements. The Cost associated with the suspended Project are called the Prolongation Costs. The major Prolongation Costs include but are not limited to:

- Payment of Interest to the lenders of the Contractor
- Keeping the long-term Advance Payment Guarantee and the Performance Bond incur heavy premium to the banks as discussed in previous sections
- Contractor's All Risk (CAR) policy, Intellectual Property indemnity insurance and other such project requirements add up to the prolongation costs
- Material in transit, material on Site and unfinished material installed require a long planning and further cost for preservation in a suspended project
- Running of Site office and idle manpower is also the biggest issue once the project inception took place but went on to be on hold due to the reasons not attributable to the Contractor.

III.2.2 Risks Mitigation Measures

- A prompt Notification of Delays to be sent to the "Employer" (the Client, which may be a state agency) and submit an interim Extension of Time and Prolongation Costs claim as soon as possible.

III.3 Financial Risks due to price escalation

The price rise of all inputs due to price escalation/ inflation is the major risk affecting the Contractor's profitability.

III.3.1 Risks Associated with the Price Escalation

Fig.1. - a look at the past rates of global inflation trends in emerging markets and developing economies reflect [refer Figure #01, Source: Statista, USA, Website: https://www.statista.com/statistics/256598/global-inflation-rate-compared-to-previous-year/)] [5] that there are many abrupt changes over the period of time.

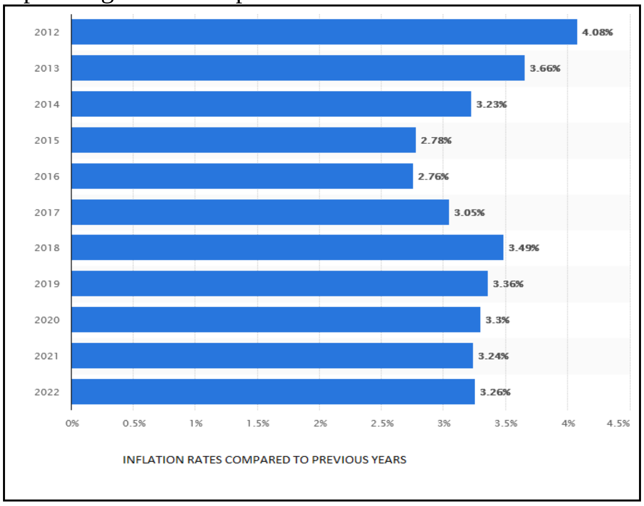

Fig.1. Global inflation trends in the past and estimated

The high inflation rates over the long period of the Greenfield Projects thus require the provision of price escalation.

III.3.2 Risks Mitigation Measures

The Contractor's major concern should be to mitigate the risk of rises in the input Costs. The Contract, on the other hand might not provide for any respite to the Contractor due to rising prices. Therefore, the following measures are recommended:

III.3.2.1 Using Standard International Forms of Contract

Using a Standard form of Contract i.e. FIDIC [6] may be more secure for the Contractor as these provide for provision of Escalation Clause. Sub-clause 13.8 [Adjustments for Changes in Cost] of the FIDIC 1999 Red Book Conditions of Contract for Construction, provides for the adjustment for rises or falls in the cost being incurred on labour, materials and other inputs to the Works, by the addition or deduction of the amounts determined by the formula prescribed.

III.3.2.2 Using the Local Laws if no supporting clauses in the Contract

Many a times, the Contractor is forced to sign such unacceptable Conditions due to the market conditions, which otherwise it would have not agreed. Still there is a hope that the Contractor's interest may well be preserved by the local laws which "will always supersede" any unlawful Contract conditions entered between the parties.

Referring to the applicable laws in India, Article 70 of the Indian Contract Act 18727 states inter alia "Obligation of person enjoying benefit of non-gratuitous act—Where a person lawfully does anything for another person, or delivers anything to him, not intending to do so gratuitously, and such other person enjoys the benefit thereof, the latter is bound to make compensation to the former in respect of, or to restore, the thing so done or delivered"

The Contractor can invoke this provision if it denied any Claim for otherwise genuine expenses beyond its responsibility and Control.

UAE Civil Law8 Article 106 (2) (c) states: "The exercise of a right shall be unlawful: (c) if the interests desired are disproportionate to the harm that will be suffered by others." This provision can rescue a Contractor if a heavy penalty is imposed which is disproportionate to the actual harm to the Employer.

Articles 318 and Article 319 are related to the unjust enrichment. Article 318 of the UAE Civil code states inter alia "No person may take the property of another without lawful cause, and if he takes it he must return it." It is obvious that any costs genuinely occurred by the Contractor in providing any services must be genuinely paid.

Article 319 (1) of the UAE Civil Code states: "Any person who acquires the property of other person without any disposition vesting ownership must return it if that property still exists, or it's like or the value thereof if it no longer exists, unless the law otherwise provides."

The above Articles, namely, 106(2)(c), 318 and 319(1) are to be understood complimenting each other in support of the Additional Cost Claim of the Contractor.

III.4 Financial Risks due to de-scoping of major part of the Works

Anytime during the Project Duration and due to whatsoever reasons, the Employer may decide to de-scope major part of the remaining of the Scope of Works by either of the two methods:

a) Bringing out an Omission to the remaining Scope of Works by the way of Negative Variation Order

b) Terminating the Contract by de-scoping all the remaining/ unfinished Scope of Works

It is pertinent to note here that, if the de-scoping is resulting from the termination of the Contractor, the Employer would withhold all further Payments to the Contractor till the time the costs of execution at Site, completion of ongoing works and remedying of any defects found, any liquidated damages for delay and all additional costs as evaluated by the Employer got known.

III.4.1 Risks Associated with de-scoping

The major Risks associated with the de-scoping are highlighted as below:

- Financial Risks due to the loss of Profit and non-recovery of overheads
- Risks of non-recoverable preliminaries Costs
- Risk of the procured supply items being more expensive due to changes in the quantity
- Risk of low utilization of resources
- Risk of disputes with the Employer
- Risk of disputes with the suppliers and the sub-contractors
- Risk of legal fees.

III.4.2 Risks Mitigation Measures

As soon as the Contractor receives the Instruction which states that the Works are being omitted/ de-scoped from its original Scope of Supply, the Contractor needs to Notify the Employer of all the Costs and Time impact (if any) and submit a detailed Claim within a reasonable time.

Further, the Contractor should immediately ask for the return of Performance Bond, in case the whole of remaining Works are terminated or in the reduction of Bank Guarantees, in case the part of the Works are de-scoped.

III.5 Financial Risks on account of delayed Payments

A large sum of amount is at stake from the Shareholders when the Contractor undertakes a Greenfield Project. For the sustenance of the profitability and to manage the required cash flow, the Contractor needs to have the regular Payments coming throughout the Contract Period, based on the monthly progress at Works. However, there might be some issues which can Delay the Contractor's Payments at the Employer's end.

III.5.1 Risks Associated with Delayed Payment

The following are major risk associated with the Delayed Payment:

- The Contractor is not able to maintain its Working capital/ cash flow requirements
- The Payment to its suppliers and the Sub-contractors also gets delayed
- The Contractor might not be able to Pay timely to its personnel
- The Bank providing the extended facility for bonds and opening of Letter of Credit etc. may suspend its services due to non-receipt of amounts in the Contractor's account.
- The Delay in Payment can cause the Delay in overall Project and thus the Prolongation Costs.

III.5.2 Risks Mitigation Measures

The Contractor may request the Employer to put the Standard Clauses for Delay in Payment such as referred in Fidic. As per the clause referred therein, The Contractor has entitlement to seek the compensation in the form of financing charges compounded on per month basis during the total delay duration. Even the Contractor does not require to send a formal Notice of these charges to the Employer.

III.6 Financial Risks due to delays and penalties

Whilst the Greenfield Projects are the main source of Government expenditure on infrastructure and support for the ballooning investment plans of the large corporates, it is also a thoughtful expectation that the Project is fit for use within the prescribed time limit. In order to protect their right, the Employer put a delay damages or usually called Liquidated Damages Claim clause in the Contract.

Should the Contractor lose all the time provided for completion of the Project and yet to achieve the substantial completion, the Employer may invoke this Clause and seek compensation from the Contractor for Delays. However, there is the maximum limit prescribed in all the Contracts upto which the Contractor is liable and usually referred as a percentage of the total Contract Amount.

III.6.1 Risks associated with the Delay Penalties

The Delay Penalties are one of the most stringent Clauses in the Contract most of the time eating out almost all the profit from the Contract Amount. The major risks are as below:

- Less total Contract Amount payable to the Contractor after the Delay Penalty Clause invoked
- The total profitability of the Project nosedives and even make it a negative return for the Contractor
- There is a risk of dispute and the matter going to the Arbitration or Judicial remedies.

III.6.2 Risk Mitigation Measures

The Delay Penalties are actually a recourse for the Employer for Delay in the Project. Therefore, the Contractor needs to be proactive in taking the mitigation measures.

- A prompt Notification of Delays to be sent to the "Employer" for any event causing Delays to the Scope of Works, which might result from:

a) Changes to the Specifications
b) Changes to the Design and Layout
c) Changes to the Scope of Services
d) Obstructions to the handed over Areas
e) Delayed access to the Project Site work areas
f) Delayed Clearances from the Employer
g) Delays from the Government Authorities in approvals etc.
h) Damages to the Contractor's completed Works by other Contractors
i) Indirect Delays such as Delay in Payment affecting the Contractor's cash-flow which subsequently Delays the Project

- Based on the Delay events, the Contractor needs to submit an interim Extension of Time and Prolongation Costs claim as soon as possible.

- The Extension of Time Claim should be updated on a monthly basis until the Completion of Project, in order to reject the Employer's allegation of Delays and avoid the Delay Penalties.

IV. RESULTS

The aforementioned discussion can be summarized as below:

Table 1. Results of the study

	RISK		MITIGATION MEASURES
1)	Financial Risks due to locked-up bank guarantees	Risks Associated with the Tender Bond Submission	Having a Fixed Duration Bond
		Risks Associated with the Advance Payment Guarantee Submission	Ensure Availability of Funds for Bond Submission
		Risks Associated with the Performance Bond/ Performance Security Submission	Ensure Availability of Funds for Bond Submission; Request for Timely Retrieval of Bonds
2)	Financial Risks due to prolongation costs in case the works got		Submit Timely Notifications and Extension of Time Claim with Prolongation Costs
3)	Financial Risks due to price escalation		Using Standard International Forms of Contract; Using the Local Laws if no supporting clauses in the Contract
4)	Financial Risks due to de-scoping of major part of the Works		Notify of Claims and Request for Contract Provision for Compensation
5)	Financial Risks on account of delayed Payments		Submit the Claim for Delayed Payment and provide Contract Provision
6)	Financial Risks due to delays and penalties		Work on Schedule and Request formal Extension of Time

V. CONCLUSION

The Greenfield Contracts are good return on investment not only for the Contractor but also for the State Governments making the long term strategic investment for the future. Using the best risk mitigation techniques as discussed herein, the Contractor can have a sustainable profitability while remaining competitive.

REFERENCES

1. OECD report: https://www.oecd.org/g20/topics/development/Report-on-Risk-and-Return-Characteristics-of-Infrastructure-Investment-in-Low-Income-Countries.pdf
2. BIS publication: https://www.bis.org/publ/work454.pdf
3. Michigan Law Review Report: http://michiganlawreview.org/wp-content/uploads/2018/11/117MichLRev383_Park.pdfNASDAQ INC., 2018, Website: https://www.nasdaq.com/markets/crude-oil.aspx
4. Journal Article VGTU https://journals.vgtu.lt/index.php/TEDE/article/view/1043
5. Esther Shaulova - OM, Statista, 2018 USA, Website: https://www.statista.com/statistics/256598/global-inflation-rate-compared-to-previous-year/
6. FIDIC.org (no date)
7. Indian Contracts Act 1872, Website: Law ministry, India, no date: http://lawmin.nic.in/ld/P-ACT/1872/A1872-9.pdf
8. UAE Civil Code, Website: Lex Emirati, 2011, Website: https://lexemiratidotnet.files.wordpress.com/2011/07/uae-civil-code-_english-translation_.pdf

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