



## Rating Criteria – Rating of HAM Road Projects

### EXECUTIVE SUMMARY

India has one of the largest road networks connecting major districts, national highways, state highways, and rural roads etc., India's state highways and roads connecting major districts represent approximately 13% of total India's roads and national highways comprise of 131,326 km. In order to improve the infrastructure and attract private investors or developers the Government has initiated a structured and systematic approach on large scale "HAM".

HAM is a combination of engineering, procurement and construction along with build, operate and transfer models. In this model the private entity is compensated a pre-fixed annuity for undertaking the construction and maintenance of roads and the government takes upon the toll revenue risk. HAM projects in India started gaining prominence from 2016 onwards. The NHAI has allotted around 30 highway projects under HAM.

The NHAI provides 40% of the construction cost during the project stage and remainder of the 60% project cost is provided by the NHAI using a fixed stream of annuity payments, over the concession period in 30 semi-annual instalments post achievement of Commercial Operations Date (COD). In our view, HAM provides a great deal of government funding to developers in the construction space in the form of an upfront 40% cost and the rest 60% in the form of annuity post project completion. But project bidding remains limited as it is suitable to low leveraged developers and those with deep pockets.

In order to have a good financial system for road development HAM was introduced, it aids in mitigating the risk between the government and the developers. The annuity payment mechanism provides the developer an advantage of dropping the traffic risk and the investment made by the developer is recovered from the government over a period of 15 years. Depending on the completion of the road project the government will invest in five equal instalments. Furthermore, the risk of toll collection or short fall arising out of lower toll collection, are negligible, as the toll will be collected by the NHAI, not by the developer. Therefore, the entire revenue collection risk is passed on to the NHAI, which in turn provides enough liquidity to the developer towards the completion of the project as only 60% of the funding is required to complete the project. Furthermore, Operation and Maintenance (O&M) will be funded by the NHAI to the concessionaire as well, subject to less than 10% of the total project cost. The main benefit of HAM comes in the form of toll collection risk, which is borne by the government. In the past, BOT models have faced toll collection leakage of ~15-20% to total toll collection mainly due to the ability to collect toll from various end users or local communities. The government has the ability to collect and is well-equipped to deal with such end users.

The government is set to construct greater than 5,000 km of national highways in the following two years under the HAM. Since the government bears all the regulatory clearances risk, commercial risk, compensation risk and traffic risk the developer is exposed to minimal risk.

## SCOPE

This criteria document covers a brief analysis of the attributes considered by Brickwork Ratings (BWR), while assessing the overall risks towards rating of HAM road projects. It focuses on the credit risk assessment of the road developer and analyzes various pre and post implementation risks in detail. A brief summary of the effect of these attributes on the overall credit rating of SPVs is highlighted which helps ascertain the debt servicing capacity and the ability of these developers to undertake large scale road infrastructure projects.

## RISK ASSESSMENT AND RATING CRITERIA AT BRICKWORK RATINGS

Brickwork ratings factors include various quantitative and qualitative risks that the road developers are exposed to, while assessing the risk in these projects to arrive at the rating. This document provides a risk assessment framework to analyze the qualitative and quantitative risk characteristics that are likely to affect the ratings of HAM road projects. The methodology has many similar attributes as the underlying rating drivers are identical to other infrastructure projects (for example, EPC, BOT (Annuity) Road projects, TOT, HAM etc.). However, the sector specific criteria, such as payment mechanism and structure of financing vehicle, will determine the indicative rating along with the inherent underlying stresses in the project. As highlighted above, the key risks that developers face in a HAM road project are the funding risk, technology risk, and reputation of the developer, environmental risk, underlying financing risks, legal risk, counterparty risk and operational risk. The risks considered to arrive at the rating of a HAM road projects in the rating framework as follows:

### Project risk

HAM road projects are exposed to the following risks during the construction phase:

1. **Project Planning & Completion risk:** This includes the evaluation of the risks associated with the financial closure of the project, any associated technology risks or the track record of the sponsor in completing similar projects in the past and stage of project completion.
  - ❖ **Funding Risk:** In case of HAM road projects since 40% of the cost is to be paid by NHAI / equivalent agency. This reduces the equity requirement significantly. BWR considers the extent of debt financing for the project, ability of the project to garner funds from developers and the liquidity as crucial aspects in determining the funding risk.
  - ❖ **Technology Risk:** The design/ technology used affects the project completion. BWR evaluates the technology used for the project, the lifespan of the technology to assess the projects complexity. The increasing use of advanced level Information Technology and green initiatives in road construction has further widened the scope of such projects. Therefore, the usage of cutting-edge technology helps in faster execution, and a reduction in maintenance costs.
  - ❖ **Sponsor track record:** It is estimated that sponsor's track record in completing the projects of time without any risks is directly related to the sponsor's experience in handling the past projects. Timely servicing of large and complex projects and tackling regulatory concerns in transparent, accountable and professional manner are key factors considered for the feasibility of the project.
  - ❖ **Stage of Project completion:** The risk of completion varies with the stage of completion of project at the time of assessment of credit risk. The greater the level of completion, the lesser the chances of non-completion, delays etc., land acquisition, labor management, shortage of material required, limited funding options or no funding tie-up/financial closure all these factors determine the creditworthiness of the project.
2. **Project Implementation Risk:** Brickwork considers the track record of the sponsors with respect to judiciously completing the project on time, their ability to service debt obligations on time. There are other factors associated with project implementation which include:

- ❖ **Land Acquisition:** In most of the road projects, the Central or state government is responsible for obtaining various environment and statutory clearances and land acquisition. Delays in getting right of way or acquiring the land could lead to significant project implementation risk.
- ❖ **Environmental Clearances:** obtaining approvals from government authorities and related entities at the earliest aids to minimize implementation risk.
- ❖ **Terrain Complexity:** The geographical condition of the region is assessed Inhospitable terrain like mountainous regions, high rainfall belts etc. shall make construction as well as maintenance challenging leading to time and cost overruns
- ❖ **Bid Aggression:** HAM Road projects are undertaken through a bidding process wherein the developer with the lowest bid gets the contract to take up the project. An inexperienced sponsor with no prior experience may indulge in aggressive bidding which leads to a huge difference between actual and expected costs of the project.

### **Operational risk**

Brickwork considers factors which impact financials of the project to assess the creditworthiness of the project or Company. It takes into various factors related to economic welfare, operational risks and evaluates the Company's ability to handle unexpected risks. Brickwork evaluates below risks in detail while assessing the creditworthiness of a project or Company

- ❖ **Financial risk:** Brickwork factors in debt service capability of the project/SPV as well as the financial flexibility brought in by the sponsor in case of annuity payment delays. Key aspects considered by BWR while assessing the creditworthiness of a project include:
  - Debt Service Coverage ratio
  - Sensitivity of DSCR to cost escalation
  - Internal Rate of Return less Cost of Debt
  - Adequacy of Termination & Insurance
  - Liquidity and Financial Flexibility
  - Repayment Structure
  - Level of DSRA
- ❖ **Criticality risk:** Brickwork considers the involvement of locals and NGO's towards the project development, political support, national security, geographical and topographic conditions, cybersecurity firewalls and natural threats from force Majeure. Regulatory changes might hinder implementation of the project and lead to delay in completion. Shift in climatic conditions and occurrence of uncertain events pose significant criticality risk.
- ❖ **Counterparty risk:** The counterparties involved in the project are government entities and have minimal issues with delayed payment and thus Brickwork evaluates timely servicing of debt. However, there may be delays in payment of annuities that could lead to both liquidity mismatches and time value losses, thereby impacting the ability to service debt on time. Counterparties are evaluated through past payment track record and their credit profiles.
- ❖ **Business risk:** Brickwork evaluates the operational and maintenance costs, major Maintenance and Repair Cost. This cost range will have to look at in conjunction with the adequacy of estimated costs. Inadequate cost estimates could lead to higher unaccounted costs in future.

Followings are the various risk associated with the project:

- Operational and maintenance risks (O&M)
- Demand Risk
- Type of road (Expressway, NH, SH etc.)
- Adequacy of stated Operational & Maintenance and MMR costs
- Track record of O&M by the sponsor

## CONCLUSION

Brickwork's rating methodology for HAM Road Projects emphasizes on consistency in cash flows for timely debt servicing, numerous operational parameters which include management efficiency, land availability, technology and infrastructure availability, regulatory framework governing the HAM Road projects. Brickwork also evaluates external credit factors including the qualitative and quantitative factors to evaluate the project.

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