Rating Methodology – Hybrid Annuity Road Projects

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CareEdge RATINGS

Background

To increase the pace of award and construction of national highways, the National Highways Authority of India (NHAI) started awarding hybrid annuity projects in January 2016. The move also helps de-risk the developers and lenders from inherent shortcomings associated with conventional toll and annuity-based design, build, finance, operate and transfer (DBFOT) model.

The following sections cover salient features of hybrid annuity projects:

Bid Parameter: Project life cycle cost defined as Net Present Value (NPV) of the quoted bid project cost plus NPV of the operations and maintenance (O&M) cost for the entire operations period is the bid parameter. Bid is awarded to the developer quoting the lowest NPV for project life cycle cost.

Cash Construction Support: Forty per cent of the bid project cost shall be payable to the concessionaire by the authority in five equal instalments linked to physical progress of the project. Concessionaire shall have to initially bear the balance 60% of the project cost through a combination of debt and equity.

Escalation Clause in Project Cost: Project cost shall be inflation-indexed (through a Price Index Multiple) (PIM), which is the weighted average of Wholesale Price Index (WPI) and Consumer Price Index (CPI) (IW) in the ratio of 70:30. The bid project cost adjusted for variation between the price index occurring within the reference index preceding the bid date and reference index date immediately preceding the appointed date shall be deemed to be the bid project cost at the commencement of construction. Bid project cost shall be changed to variation in PIM on monthly basis till the achievement of commercial operations date (COD).

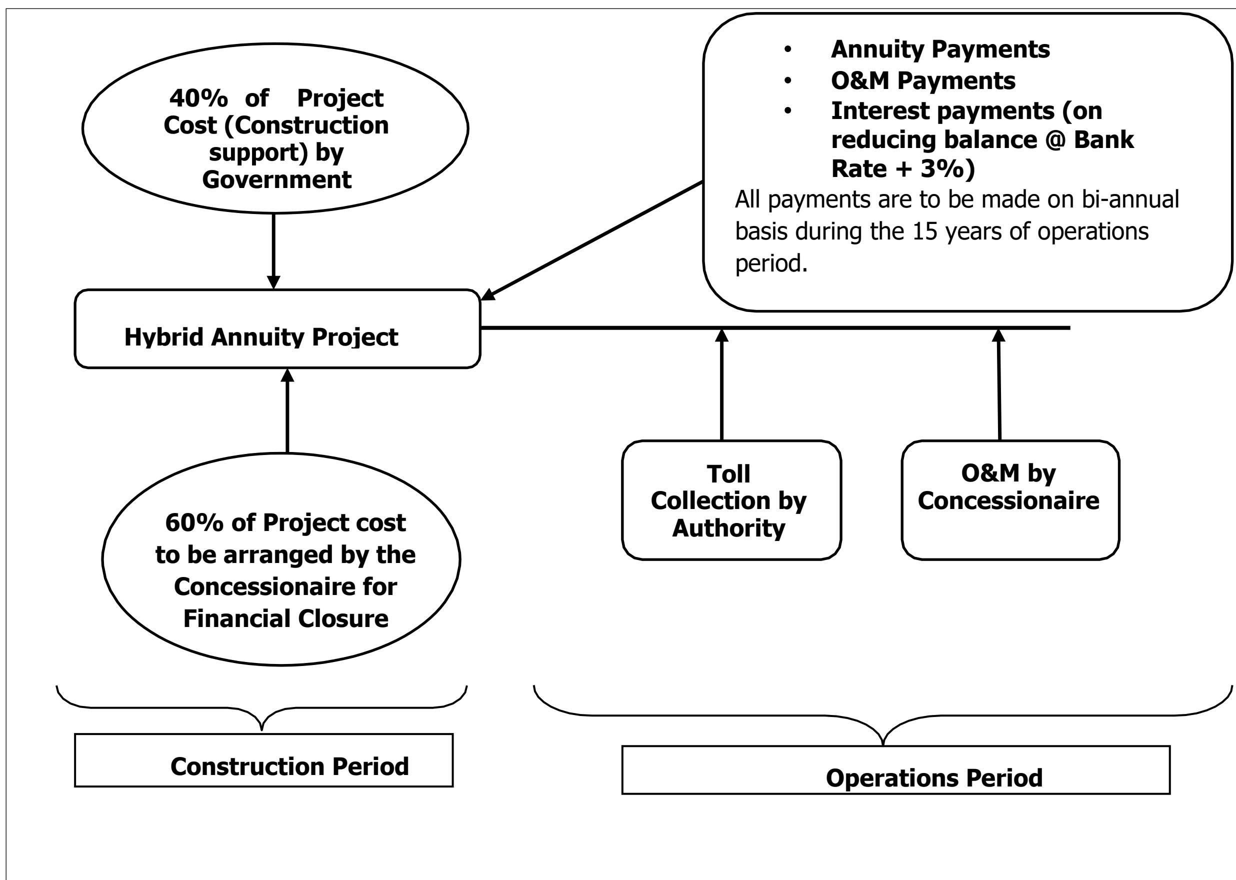
Stable Cash Flow of Annuity Payments: Semi-annual annuity payments shall be made to the concessionaire by the Authority on completion of the project for the balance 60% of the final bid project cost. The annuity payments have been aligned with typical revenue profile for highway projects. Along with the annuity payments, interest shall be paid in the form of annuity on reducing balance of the final construction cost. Interest rate for the same shall be Bank rate + 3%.

Assured O&M Payouts by Authority: O&M payments shall be made to the concessionaire along with annuity by the Authority, in accordance with the amount quoted which will be inflation-indexed. Concessionaire shall remain responsible for the maintenance of the project till the end of the concession period.

Revenue for Authority: Toll collection shall be the responsibility and revenue of the authority.

Concession Period: It shall comprise construction period, which shall be project-specific, with a fixed operations period of 15 years.

The following block diagram provides an overview of the HAM Model.



HAM- Credit Perspective

1. **Funding Risk**

   Aggressive bidding, high debt levels and increasing working capital intensity as well as execution challenges had collectively affected the credit profile of prominent infrastructure developers / sponsors in the past. Deterioration in the credit profile of some of the large developers has increased the funding risk during construction phase and reduced participation of developers in DBFOT model.

   At the same time, developers with strong execution capability and good financial flexibility are better placed to bag the sizeable opportunity in the road sector. HAM model entails lower sponsor contribution during construction period considering 40% construction support from authority and hence mitigates the funding risk to an extent. Furthermore, provision of mobilization advances at bank rate from authority is also expected to provide some support to concessionaire in the initial phase of construction. CARE Ratings expects equity commitment to be to the extent of 12%-15% of the project cost for HAM projects. However, delay in the tie-up and release of term debt as well as bank guarantee for mobilization advances in current challenging fundraising environment can impact the project progress and is monitored by CARE Ratings.

2. Sponsor Evaluation

CARE Ratings considers credit strength of sponsor as important parameter for conventional DBFOT projects. In case of HAM projects, sponsor's project execution track record and commitment to support the project in exigencies are also important apart from the sponsor's financial flexibility in light of the following:

- Focus on cost-based bidding requires in-depth assessment of project cost and O&M cost
- Cost competency remains crucial to generate envisaged Internal Rate of Return (IRR)
- Emphasis on physical progress for release of grant, increases reliance on sponsor
- Inflation-indexed bid project cost protects the developers against price escalation to an extent. Nevertheless, extent of price escalation is difficult to factor at the time of financial closure. Hence, any variations in cost due to higher-than-envisaged price escalation is required to be funded through the sponsors.

CARE Ratings considers these points as mitigation tools to Evaluate Sponsor risk:

- Demonstrated execution track record of sponsor with lower reliance on subcontracting
- Sponsor's track record for completing the projects within envisaged time and cost parameter and signing of fixed-price EPC contract with reputed EPC contractor or sponsor having good creditworthiness
- Sponsors' track record of supporting the projects in case of exigencies
- Ownership of the project Special Purpose Vehicle (SPV). SPVs with single sponsor owning majority stake is considered better as compared to joint ownership
- Corporate guarantee of strong sponsor till execution of project and receipt of first annuity
- Sponsor's financial flexibility and creditworthiness

Despite non-recourse nature of the debt of the SPV, financial flexibility and execution track record of sponsor are important in pre-COD phase. Furthermore, the sponsor is required to fund cost overrun, if any, and shortfall, if any, till receipt of first annuity as per sponsor support agreement entered with the lenders.

3. Project Implementation Risk:

Project implementation risk is partially mitigated due to availability of 80% length of project before appointed date. Nevertheless, declaration of appointed date on availability of 80% land on 3G basis (wherein payment of compensation is pending to land owner unlike hand over of encumbrance free 80% land on 3H basis) can impact the project progress in case of hindrances or subsequent protest from the land owner.

Provision of deemed termination and clauses to issue final COD in case of completion of 100% work on the lands available within 180 days from appointed date also protect the interests of developers and lenders to a considerable extent. Nevertheless, delay in de-scoping of un-available land even after lapse of considerable time post 180 days from appointed date can impact the project progress and increase the construction risk to an extent. NHAI and concessionaire sometimes opt for de-linking of the unavailable land considering practical difficulties in de-scoping. Under de-linking, provisional COD (PCOD) may be declared upon completion of 100% work on available land while concessionaire is required to execute the work on remaining land whenever it is handover by NHAI even post PCOD.

Construction grant is expected to be disbursed in instalments upon achievement of milestones based on the physical progress. Moreover, lender would disburse the project loan only upon achievement of desired project debt/equity by concessionaire. Consequently, working capital requirement for the EPC contractor or interim funding support from concessionaire till release of grant from the authority and release of term debt are crucial parameters for assessment. However, relaxation in terms for release of grant and mobilization advances in recent model concession agreements is expected to provide relief to EPC contractors and provide cash flow cushion during construction period.

CARE Ratings considers the following points for analysis of project implementation risk:

- Developer's track record in execution of large-sized EPC projects
- Financial flexibility of sponsor and EPC contractor to fund increase in working capital due to delay in receipt of construction grant
- Availability of Right of Way (RoW) on 3H basis in terms of both length and area
- Gap between NHAI Project cost and bid project cost and reasons in case of large variations between NHAI project cost and bid project cost.
- Gap between Lowest bidder (L1), L2 and L3 bidders
- Achievement of financial closure and status of funds deployment by sponsor and lender
- Status of clearances including forest clearance
- Complexity of the project road in terms of presence of structural work and terrain
- Stage of project progress and current project progress against stipulated progress
- Status of de-scoping or de-linking of unavailable land and its impact on project progress
- Status of approval of Extension of Timeframe (EOT) by NHAI, if any
- Details of damages levied in case of delay in achievement of project milestones or PCOD, if any.

CARE Ratings considers the following aspects as potential mitigants w.r.t project implementation risk:

- Demonstrated track record of EPC contractor in executing large-sized projects
- Good financial flexibility of sponsor and EPC contractor
- Availability of more than 80% land on 3H basis or in terms of length available for execution basis and timely de-scoping of unavailable land
- Presence of fixed price EPC contract
- Sponsor support undertaking to fund cost overrun and any cash deficit during under-construction phase (including due to delay in release of grant)
- Corporate guarantee of sponsor till COD and receipt of first annuity
- Reasonable gap between NHAI project cost and bid project cost as well as L1 and L2
- Presence of minimal structural work

4. Cashflow Risk:

During operational phase, cash flow is assured in the form of annuity payments from Concessioning Authority on semi-annual basis covering 60% of the project cost along with interest at bank rate + 3%.

5. O&M Risk:

O&M risk is also partially offset due to fixed payment in the form of annuity which is also indexed to inflation movements with the base year considered as the year of bidding. However, developers would still face the risk of sharp increase in the O&M cost due to more than envisaged wear and tear of the project stretch.

Increase in O&M cost other than inflation indexation during operational period and consequent breach of performance obligations by developers in light of their lower contribution can result in deduction of annuity payments. Hence, aggressive bidding in O&M cost due to front-loading of EPC cost can result in moderate debt coverage indicators in the operational period. This risk increases in case of sponsors with moderate to weak credit profile.

O&M cost of the stretch depends on the traffic, terrain and quality of road construction. O&M cost increases for the stretches dominated by heavy vehicles and highways falling under higher economic resilience areas. O&M expenses generally remain lower for the state highways with relatively lower traffic. In case the road stretch is present in zones of high precipitation, possibilities of moisture percolating to bituminous layer is higher, which in turn results in higher O&M and major maintenance expenses. Quality of road construction depends on design capacity of the road vis-à-vis actual traffic on the stretch and roughness index (ranges between 2000 mm/km and 2500 mm/km; lower the better). Furthermore, O&M cost is expected to be significantly lower in case of rigid pavement as compared to flexible pavement.

CARE Ratings considers the following points for analysis of O&M risk:

- Difference of O&M cost between L1, L2 and L3 and justification for wide variations; if any
- Adequacy of gap between bid project cost and completion cost in case projects are awarded with lower O&M annuity
- Comparison of O&M and Major Maintenance (MM) cost with other projects
- Inflation assumption on O&M annuity in the operational phase
- CARE Ratings also considers fixed price O&M contract with experienced contractor post COD and experience of sponsor in managing operations of BOT projects as some of the effective strategies to mitigate O&M risk. Furthermore, cash flow cushion during operational period improves despite lower bidding in O&M annuity in case total project cost considered for financial closure (i.e., completion cost) is considerably lower than bid project cost. Further, cash flow cushion also varies based on actual completion cost post COD as against inflation indexation assumed, if any in base case business model.

6. Interest Rate Risk:

As per model concession agreement, interest annuity shall be paid on reducing balance of bid project cost. Interest rate for the same shall be Bank rate + 3%. Hence, non-linear transmission of bank rate over lending rate and variable nature of annuity receipt shall impact the underlying debt coverage indicators. However, inflation-indexed completion cost provides partial relief from the credit perspective wherever adequate. Further, NHAI has linked the interest annuities to Marginal Cost of fund based Lending Rate (MCLR) under revised concession agreements to mitigate the risk of non-linear transmission of bank rate.

O&M assumptions and cost of project financed by lender is structured at Bid Project Cost (BPC) or less than BPC (without assuming inflation). Contrarily, CARE Ratings views with caution projects which are structured at cost higher or equal to BPC along with aggressive O&M bidding.

7. Liquidity Support Mechanism:

Creation of Debt Service Reserve Account (DSRA) especially prior to commercial operations date (COD) and major maintenance reserve account (MMRA) from project cash flows would continue to provide strength to the ratings.

Conclusion

The rating outcome is ultimately an assessment of the fundamentals and the probabilities of change in the fundamentals. CARE Ratings analyses each of the above factors and their linkages to arrive at the overall assessment of credit quality of an issuer.

[For the previous version please refer to 'Rating Methodology – Hybrid Annuity Road Projects' issued in August 2020]

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