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DRAFT

Review of Proposed Risk Allocation for Karachi Circular Railway PPP

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1. Context

At the request of Pakistan's federal Public-Private Partnerships Authority (P3A), Rebel has conducted an independent review of the feasibility study and proposed risk allocation for the Karachi Circular Railway (KCR) project that was prepared by the transaction advisor (a consortium led by EY) for the implementing agency (Pakistan Railways). Rebel was asked to focus on demand risk in particular.

2. Approach

We reviewed the KCR risk allocation based on our international experience with urban rail projects (including Accra LRT in Ghana and the Makati-Pasay-Taguig Mass Transit System Loop in the Philippines), our experience with the financial structuring of PPPs in similar contexts, and research on success factors and lessons learned from comparable projects in other jurisdictions.

Page references are to the document titled 'KCR - Final Report on Business and Financial Model.'

3. Observations and Suggestions

3.1 Financing Structure

- KCR would be Pakistan's largest ever PPP transaction at Rs241 billion (USD 1.4bn).
 - Note (from p.18): The largest financial close achieved to date by Pakistani banks is Punjab Thermal Power Limited (Jhang) where a consortium of local banks raised ~ USD 0.53 billion. This project was based on the 2015 Power Policy where capacity payments (including debt service) is guaranteed by the Government of Pakistan through the Implementation Agreement.
- Proposed financing strategy appears sensible overall:
 - Government to fully finance Civil Works (Component 1) using public debt, paid to Concessionaire as construction milestone payments (Construction Period VGF).
 - Presumably the majority of labor and materials can be sourced domestically in local currency.
 - Minimize foreign financing component in light of FX mismatch/risk.
 - Take advantage of Government's relatively lower cost of capital.
 - Concessionaire to finance Electrical & Mechanical (E&M, Component 2) using private equity and debt.
 - Comprised in large part of specialized equipment (primarily rolling stock) and technology, which must be imported and purchased in hard currency.

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- Challenging (and potentially not feasible) for domestic lenders to finance this component due to lending capacity constraints and foreign currency reserves constraint.
 - Financing by Pakistani banks on usual terms will not be attractive to foreign sponsors, as Pakistan does not currently operate a non-recourse project finance market in line with international standards. Rather, Pakistani banks require recourse to the equity sponsor in the form of an SBLC, which is not typical internationally.
- Imported equipment good candidate for ECA financing or asset-based lease financing.
 - There are advantages to including the procurement and financing of rolling stock in Concessionaire's scope to ensure compatibility with physical infrastructure including signaling, transfer interface and commissioning risk (including schedule coordination) to Concessionaire and optimize O&M costs during operations period.
- Land/real estate development to be procured separately from the rail concession components.
 - Largely agree with the rationale put forward by the consultants (p. 70-74) to separate real estate development from rail concession.
 - Suggestion: Consider integrated station and commercial real estate development for stations located in prime urban areas, as value-capture from potential real estate development may reduce the funding required from the farebox. If the real estate and rail concessions are kept completely separate, it will be important to conduct detailed integrated planning so that the station is designed to accommodate subsequent real estate development.
- Availability Payment structure may enable higher leverage than the 65-70% debt achieved for precedent demand risk PPPs in Pakistan. However, it is noted that even precedent PPPs featuring minimum revenue guarantees have so far achieved a maximum of 70% debt in Pakistan, and foreign lenders may have concerns over Government credit/budget risk.
 - Has the consultant conducted a market sounding to validate foreign lenders' level of comfort with Government credit risk and the potential for higher leverage in an AP scenario?
- Concessional financing from development banks is common for large urban rail projects. For example, Orange Line Metro Lahore (China ExIm), Dhaka Metro (JICA). These types of arrangements are not PPPs, however. Our review of the risk allocation in this document focuses on considerations for a PPP arrangement.

3.2 Foreign Exchange Risk

- Consultant states (p. 18) that "with limited FX reserves, local project financing for a project like KCR is unlikely as this would be a direct strain on an already volatile external account situation. This necessitates the presence of foreign project finance lenders which will infuse required FX in the Project without depleting Pakistan's reserves."

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- We note that under an Availability Payment structure involving foreign lenders where FX is a major component of lending, FX protection and currency conversion would still be required (similar to power sector projects in Pakistan).
- While it is not ideal for Government to bear FX risk and we recommend market sounding to test the private sector's capacity to manage (a portion of) the FX risk, in our experience there is often no other viable approach. If there is a lack of commercially-available hedging instruments, Concessionaire will not accept this risk beyond the portion of costs payable in local currency. Most DFIs will also not bear emerging market FX risk, requiring all debt to be fully hedged.
 - Suggestion: To mitigate FX exposure for Government, denominate a portion of the AP in local currency, indexed by domestic inflation, corresponding roughly to the portion of Concessionaire's costs incurred in local currency.
 - Suggestion: As an alternative to Government bearing full FX risk, explore FX hedging possibilities with the TCX Fund, a DFI-backed financial institution offering FX swaps to manage currency risk in frontier and emerging markets.
 - <https://www.tcxfund.com/pkr-added-to-portfolio/>
- Inconsistency observed: In the FS, consultant proposes that Government bears FX risk (p. 82, 84) but then cites FX depreciation as a driver of expected concessionaire ROE (p.95)

3.3 Demand/revenue risk

- Major factor is which party controls the demand/revenue drivers, such as fare setting, development and pricing of feeder routes, intermodal and ticketing integration, development/expansion/licensing of competing services, incentivizing public transport. Most of the time these are primarily controlled by government.
- Reasons why Government does (or may want to) control demand/revenue drivers and therefore rate setting:
 - Government desires to achieve its public policy goals, such as reducing traffic congestion, improving safety, improving environmental measures such as air quality and noise, reducing the economic drag of traffic congestion and insufficient commuting possibilities, revitalizing commercial zones and neighborhoods around future transit stations, attracting new businesses and workers to Karachi, etc. These policy goals are not always aligned with commercial interests.
 - Flexibility to expand the network in the future, including the possibility of developing "competing facilities" which would require compensation to the Concessionaire for revenue loss in a demand risk concession structure.
 - Flexibility to implement (or not) related policy actions that would impact demand for KCR, including congestion pricing or higher fuel taxes to disincentivize driving. The need and desire for such policies may change over time (30+ years).
 - Flexibility to adjust fares (either up or down) over time to optimize ridership demand and use of the public transport facility. It is difficult to get the pricing exactly right and

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lock that in in advance for 30 years for a greenfield project with no relevant track record.

- Increase – Once system has an operating track record, it may become apparent that ridership is strong and that (based on surveys) riders are willing to pay more than the current fares, especially in exchange for high/upgraded service offerings such as increased train frequency, network extensions, etc.
- Decrease – more likely; see next bullet.
- More so than toll roads, the public typically perceives fare setting for public transport as government-controlled. There is higher sensitivity (incl. an elevated degree of social equity consideration that public transport should be accessible to all residents) and therefore political risk around initial fare pricing and future increases (even when contractually mandated), to which Government will feel the pressure to explain and potentially respond.
 - In a demand risk concession scenario, any Government-imposed reduction to the contractual tariffs would trigger compensation to the concessionaire for revenue loss. Plausible scenarios could, for example, include political desire to offer subsidized fares to certain rider groups or reducing fares perceived as too high, or pressure to freeze fares (including a contractually-mandated annual indexation) during an economic recession.
 - Even if Concessionaire would have flexibility to adjust fares within a contractual maximum, such as offering temporary discounts to attract increased ridership, the discounts may be politically difficult to reverse. This happened in Kuala Lumpur's STAR and PUTRA PPP projects.
- Discretionary facilities, such as airport rail links, are an exception to many of the above considerations and are more often candidates for demand risk transfer to a Concessionaire. However, KCR is not of this nature.
- In addition to the general considerations mentioned above, specific considerations for KCR include the following:
 - Currently Karachi has no mass public transport facilities. Without a track record of demand for public transport in the city, it is more difficult to forecast expected ridership for KCR. That will likely result in relatively conservative fare revenue estimates by bidders for a demand risk concession, which may not represent best value for money to Government.
- Internationally, allocating all demand risk for public transport facilities to a private operator has a poor track record, as illustrated by the following selected case studies:
 - Case studies mentioned by the consultant in the FS:
 - **Mumbai Metro Line 1** (p. 48-52) – demand risk borne by Concessionaire; project became financially distressed due to high cost of local commercial debt, construction costs overruns, and too little fare revenue (Concessionaire was denied a fare increase by the courts, even though there is such a mechanism in the contract)

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- **Delhi Airport Metro Express** (p. 53-55) – demand risk borne by Concessionaire; demand and revenue far below expectations; delay in civil works performed under separate contract had adverse impact on Concessionaire, which terminated the concession early
- Case studies mentioned in the PPIAF (World Bank) note titled 'Private sector participation in urban rail' (<https://ppiaf.org/documents/2062/download>):
 - **Skytrain (Bangkok)** – demand risk borne by Concessionaire; ridership suffered from lack of feeder routes and connectivity with supporting transportation modes; ridership far below forecasts resulting in financial distress and restructuring of the project
 - **STAR and PUTRA projects (Malaysia)** – demand risk borne by Concessionaire but fare setting controlled fare setting; temporary discounts designed to increase ridership became politically impossible to reverse; concession failed and the projects were nationalized
- All else equal, an Availability Payment structure facilitates relatively higher leverage in the financing structure and relatively lower required equity returns compared to demand risk concessions, which reduces the Concessionaire's weighted-average cost of capital. See related bullet under 'Financing Structure', however, about Government credit risk and the need for market sounding.
 - Note also that risk would also not be fully transferred in a demand risk structure because of the amount of guarantees/compensation clauses required by the private sector in such a scenario.

3.4 Structuring Suggestions:

- Explore a **hybrid approach** to achieve some of the advantages of demand risk concessions while also retaining many of the advantages of an Availability Payment structure (as described above):
 - Incentivize Concessionaire to achieve ridership targets by tying a portion (~10%) of the Availability Payment to achieving ridership forecasts. It should not be too large (limit it to equity risk, whereas lenders can still have comfort that debt service is fully covered by the availability-based component of APs and therefore offer tighter pricing and terms). But equity's IRR on PPP projects is heavily leveraged, so even a 10% portion tied to demand would be an effective incentive for the Concessionaire to focus on this. And it would reflect the principle that performance also has some influence on ridership.
 - This structure has been used before in the Canada Line rapid transit project in Vancouver. In that project, 70% of each payment during operations is based on availability, 20% on quality of the service delivered and 10% on achievement of ridership forecasts.
 - Structure the cash flows so that the farebox revenue goes into a ringfenced account (which will likely be required as security for lenders based on precedent transactions in Pakistan). In case of a shortfall to pay the AP (anticipated for the first 8-10 years of

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operations according to the FS), Government would need to top up the farebox revenues (Operational VGF). Once the project achieves operational breakeven, no further VGF will be required, and Government would retain all revenue exceeding the AP.

- Consider transferring Non-Fare Revenue (NFR) risk to the Concessionaire, as mentioned by the consultants. Given the location of KCR stations in densely-populated areas of Karachi and the expected large ridership demand for KCR once built, bidders may be more comfortable baking projected NFR for advertising and station space rental into their bids, thereby reducing the net Availability Payments required.
- The automated fare collection system (AFCS) should be inter-operable with other transit networks. Given the existing AFCS in place for the Karachi BRT, extending that system to KCR could generate synergies and reduce the cost of KCR versus developing a new standalone AFCS. Further, as demonstrated through Manila's AFCS project, allowing the Concessionaire to monetize the AFCS as a general e-payment solution (in addition to fare payment) could create value for the Concessionaire and reduce the funding requirement for the project.