

Market-based financing for highways in India

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Introduction

The objective of this paper is to evaluate the different financing structures presently used by National Highway Authority of India (NHAI) to implement the National Highway Development Programme (NHDP) and suggest alternative structures to supplement those. The NHDP has estimated a total funding requirement of Rs 58,000 crore (at 1999 prices), that is envisaged to be funded through a variety of means – World Bank/ADB loans, oil cess, road tolls (or other user charges) and market borrowings (see Table 1 for a break-up). Private contractors are being appointed by NHAI under varying contracting structures to implement this Programme. These include EPC contracts, annuity contracts¹ and BOT concession agreements², each corresponding to a varying degree of financial obligations in the future for NHAI.

The alternative financing options presented in this paper complements the current financial plan and contracting regime. Our attempt is to place the proposals within the boundaries set by the policy framework adopted by NHAI. The guiding principle of the proposals presented here is to find structures that would help raise resources for the NHDP on “terms” more favorable and viable to the current plans. To place the *alternatives* in the proper context, we first begin with a review of the current financial plan, which then becomes the point of reference for our analysis and identify issues that need to be addressed so as to make the alternative plans feasible. In doing so, we make two important assumptions to guide the analysis. First, the financing structure should limit the Government’s liability to the oil cess and the grants made from the multilateral agency loans – i.e. a limited-recourse financing structure, and second, the private sector participation is not limited to an access to funds but also extends to a participation in the risks of the project.

The first part of the paper contains an evaluation of the present means of financing of NHDP projects, and identifies the issues critical to bankers and investors in taking decisions on financing any such project. We argue (with some evidence) that in its present form, the investor is being provided with limited information to take an investment decision. An investor typically analyzes the risks of the project and its allocation between the different types of investors before reaching an investment decision. And then weigh the risks against the expected returns from this particular investment, and decide to invest only if the expected returns are higher, for a given level of risks, than other competing investment opportunities. In the absence of adequate information, such analyses are difficult to make and, therefore, may limit investor interest. We also express our concerns about the present methods of market borrowings and conclude that the huge amounts being mobilized through bond issuances are not so much a factor of the project viability, but of tax benefits and an implicit assured return that these bonds offer.

The second part of the paper identifies the steps that NHAI needs to take so as to generate investor interest in financing NHDP. Inter alia these would include disclosures of business and financial plans, revenue projections, risk analysis, financial structure, etc. We argue that a risk analysis with clear risk identification and allocation is essential to attract investors to finance the projects either through NHAI or directly assume some of the risks. NHAI’s capacity to warehouse risks would consequently, determine the limits of any innovations in the financial

¹ NHAI’s annuity concession contracts are structured such that the concessionaire receives a pre-determined amount of money every year from NHAI in return for the obligation to develop and maintain the highway for the duration of the concession period, usually 30 years.

² BOT concession agreements gives the concessionaire the right to collect tolls and fees from facilities developed alongside the highways in return for an obligation towards construction, development and maintenance

structuring of the project.

The final section presents a conceptual framework for one such innovation in the financial structure –Whole Business Securitization. We show that the highways projects in India are amenable to this rather unique financial structure. The NHDP projects not only meet the requirements of cash flow stability/predictability that securitization requires but also that the Indian legal framework contains the basic ingredients that would ring-fence these cash flows and the assets of the project in a special purpose vehicle to safeguard the interests of the investors. The paper ends with a brief conclusion and a summary of recommendations.

We would also like to add a caveat to the analysis that follows. The paper lacks the benefits of data/ information on NHAI. The analysis and the recommendations could perhaps have been more incisive. Factual errors, if any, are the result of data inadequacy. The authors bear full responsibility for all errors.

NHDP – A review of the financing plan

The NHDP consists of two mega projects – the Golden Quadrilateral (GQ) and the North-South-East-West (NSEW) corridor – whose scope consists of construction of new highways and 4-laning of existing highways adding up to a total road length of 13,146 kms at an estimated project cost of Rs 58,000 crore. A significant part of this project cost would be met through grants and soft loans from multi-lateral agencies like the World Bank, ADB and JPIC. An equally large part would be met from the oil cess collected by the central government, while the balance is intended to be raised from the market (see Table 1 below).

Table 1: Funding plan for NHDP

(All figures in Rs crore at 1999 prices)

	Overall	Phase I
Cess / Market Borrowings, including BOT (Annuity) projects	30,000	16,846
World Bank/ADB loan assistance	20,000	7,862
Private sector (BOT/NHAI SPV)	8000	5,592
Total	58,000	30,300

Source: NHAI

The funding plan for NHDP is rather complex and difficult to disentangle. The Rs 58,000 crore figures represent the cost of the project in 1999 prices, while the projects will be implemented till 2007, assuming there are no time overruns. Allowing for inflation and cost overruns due to delays in project implementation, financial closure, and land acquisition the cost would be much higher. Moreover, the interest cost during the project construction would also lead to an increase in the funds requirement. In the absence of data to estimate the project cost in current prices on a year-to-year basis, we will use these numbers for illustrative purposes, although the actual numbers may probably be 30-40% higher.

Out of the Rs 58,000 crore needed for the project, Rs 20,000 crore would come in the form of

grants and soft loans from the government, while the balance has to be raised from the market either directly by NHAI or by the concessionaires for the Annuity and BOT projects. While the direct borrowings by NHAI and those by the Annuity concessionaires would be met through the annual cess collection and toll charges collected by NHAI, the borrowings by the BOT concessionaires would be serviced by the toll collections from those specific projects.

A review of the information memorandum issued to investors for the on-tap NHAI bond issuance programme during 2001-02 and 2002-03 and of newspaper reports brings the following facts to light:

- NHAI raised Rs 656 crore in 2000-01, Rs 806 crore in 2001-02 and Rs 5,500 crore in 2002-03 from the market through private placement of Sec. 54EC bonds, rated AAA by CRISIL³,
- The tenure of this debt ranges between 3 to 7 years, while the average cost of borrowing is approximately 7.5% per annum range during 2002-03
- WB and ADB have sanctioned over USD 4 billion for the NHDP (maturity not known)
- NHAI is in the process of securing a line-of-credit from the Life Insurance Corporation of India of approximately Rs 4000-6000 crore (maturity unknown) at a cost of 80-100 bps over the relevant Government security by escrowing the oil cess receipts.
- Government has provided Rs 2000 crore as equity to NHAI.

Several issues arise when we try to evaluate the financing strategy being followed by NHAI in face of the funds requirement and the financial characteristics of the project. At the cost of brevity, we list some of the issues we consider to be important.

1. NHAI's financials details in the offer documents – financial projections of revenue, expenditure, cash-flow, etc – are inadequate for an in depth financial analysis by the investor
2. The nature of government support is unclear – although no explicit guarantee has been extended to NHAI by the government, the AAA rating of the NHAI bonds assumes that the government would extend its budgetary support to the borrowings made by NHAI³, and is not entirely based on economic viability/cash flows.
3. Preliminary analysis suggests that the interest cost during the construction period (and the first few years of revenue shortfall) has not been factored into the project cost and the financing plan.
4. Most of the current market borrowings would start maturing just around the time when the NHDP project would be getting into an operational phase, thereby exerting severe strain on NHAI's cash flow due to redemption pressures.

³ While assigning the AAA or “highest safety” rating to the NHAI bonds, CRISIL's rating rationale states that “In case of any financial stress, CRISIL **expects** the MoRT&H (GoI) to make resources available to NHAI in advance to enable it to discharge its debt obligations on time.” (emphasis added)

5. Going by the current trend⁴, the oil cess revenue may not be sufficient to meet the interest burden of the whole project.

NHAI has had significant success in garnering large amounts of funds through its bond issues. The success needs to be 'questioned' in view of the high coupon rate, tax-benefits as also an implicit sovereign guarantee built into these bonds. In any case, it is prudent to question the sustainability of this borrowing programme, and to evaluate the cost efficiency of these borrowings.

NHAI's record of raising Rs 5, 500 crore in 2002-03 through the issue of tax-saving (under Sec 54EC of the IT Act) bonds should also be seen in combination with the falling interest scenario in the country that resulted in the banking sector making significant capital gains. It is therefore not surprising that the demand for the 54EC bonds was high all through the year. This scenario is, however, unlikely to continue, thereby making the borrowings programme unsustainable in the short to medium term.

A 7.0% - 7.5% yield on tax saving bonds is equivalent to a 10.0% - 10.75% YTM for the investor when adjusted for the tax effects. Table 2 gives the borrowing rates for some of the other AAA entities during the year⁵. It is evident that the coupon offered by NHAI is higher than those of the other issuers even if we do not consider the tax-free status of these bonds. Moreover, the private placement of bonds (with a lock-in on transfer due to Sec. 54EC requirements) distorts their pricing in two ways. First, private placements of bonds are usually done at a premium to the price in the public debt market. And second, the non-tradable nature of these bonds affects price discovery in the market. A widely held, publicly traded bond, on the other hand, acts as a benchmark reference for pricing future issuances. Also, public issues expose the borrower to the capital market dynamics related to financial transparency and discipline. Furthermore, the secondary market prices also act as signals to the investors of changes in the credit quality of the issuer.

NHAI is faces significant refinance risk and a corresponding interest rate risk due to the cash flow mismatch that is created by the short maturity NHAI bonds. The NHDP requires funds with a final maturity of about 20 years and an average life of 12-15 years. In the absence of reliable data, we assume that the banking industry is the biggest investor in the NHAI bonds – not the *ideal* provider of such long-term finance. Life insurance companies and pension funds (including Provident Funds) would be better positioned to provide such financing since such long duration bonds match the asset-liability profile of these institutions. Moreover, the low risk (AAA rating) of these bonds would meet the risk profile target of these institutions. Retail investors would also be a good source of long term finance, in spite of higher cost of issuances.⁶ The demand for safe, long term fixed income securities can be seen in the success of single premium insurance products sold by most life insurance companies.

⁴ Cess receipts – Rs 1800 crore in 2000-01, Rs 2100 crore in 2002-03 and Rs 2000 crore in 2002-03. This is expected to go up due to the additional cess introduced in the Central Government Budget for 2003-04.

⁵ The coupon rate ranges in Table 2 is quite wide due to the falling rate scenario all through the year. Rates fell drastically after May-June and therefore the higher ends of the ranges may be misleading at first glance.

⁶ In the past, financial institutions like IDBI and the erstwhile ICICI have had significant success in issuing long-dated (up-to 25 years) deep-discount bonds to retail investor with and without periodic put-call options. Given the low interest rate scenario in the domestic economy, it may be prudent to issue such instruments to the retail investors without any optionality.

Table 2: Average coupon rates for AAA borrowers (2002-03)

Major Issuers in 2002-03	Amount (Rs Crore)	Coupon rate ranges
GE Capital	1,201	7.15 – 9.85
Reliance Industries	1,590	6.20 – 8.70
Power Grid Corp	1,784	7.85 – 8.63
IRFC	1,755	7.63 – 8.50
HUDCO	1,810	5.55 – 9.00
EXIM Bank	2,505	5.95 – 8.66
NHAI	5,500	7.00 – 7.50

It should be mentioned here that public issuance of bonds, to institutional or to retail investors, would require NHAI to disclose a lot more information about its operations and financial plans. SEBI mandated format of the prospectus requires issuers to clearly disclose all the risks that the organization is exposed to that might impact the safety of the funds invested. Accordingly, NHAI would have to get an explicit government guarantee to put to ease any questions the investors may have on the financial tenability of NHAI's operations⁷.

In the initial years of its operation, tolls (from the highways under the NHDP that are not part of the BOT concessions) would not be a significant source of revenue for NHAI, and in fact, be mired under political controversies as well as operational problems⁸. NHAI would, therefore, have to rely extensively on the annual oil cess to meet its debt-servicing obligations, including the annuity payments. Therefore, ceding charge on these cash flows to support any single borrowing could adversely effect the interests of the existing lenders and may also create unfavorable conditions for future market borrowings. By rough (conservative) estimates, NHAI would probably need to borrow (directly or indirectly through annuity like schemes) an additional Rs 25,000 crore over the next 3-4 years to meet the funding for NHDP. It is therefore, essential that it does not encumber any of its sources of revenue in the short-run.

In view of the above mentioned issues related to the current financing plans, we restate NHAI's financial objectives as follows:

- Raise Rs 58,000 crore for the financing of NHDP – at the lowest possible cost

⁷ The analytical framework used by Moody's to rate Government sponsored entities (like NHAI) considers the business fundamentals of the entity in line with a private enterprise in a similar business. An explicit financial support from the government (sponsor) in the form of a guarantee or line of credit is needed for recognition of the support in the rating of the entities liabilities.

⁸ According to the recent CAG report, NHAI has been indicted for revenue losses due to delay in toll collection in the Gurgaon-Kotputli section of NH-8 (Business Standard, May 6th, 2003).

- Service this debt from internal accruals (including oil cess, tolls and other user charges) and with minimal recourse to the Consolidated Funds of the Central Government
- Help garner private sector initiative in the provision of roads, highways, and expressways

A bankable model for public-private partnership

Selection of large infrastructure investment should ideally be based on two criteria: the financial viability as well as the economic viability of the project. In the case of NHDP, since the decision to implement the project has already been made, we can safely assume that the economic viability has been established and therefore, concentrate only on the financial viability of the project. From this perspective, there are three important inter-related determinants of financial viability: project cost, project related risks and financing structure (interest cost, debt/equity ratio, etc.). With limited degrees of freedom in changing the project cost or eliminating the risks, the decision on the financing structure becomes paramount in establishing the financial viability of the NHDP.

In the previous section we saw that NHAI's funding plans contain a major role for the private sector, both as a provider of funds and as an investment partner in the projects. There are two alternative means to meet these goals. It can either take a public finance approach or take a project finance approach in partnership with the private sector. The third approach of a purely private sector initiative is clearly not tenable in India. While the plans for the NHDP are based on a public-private partnership, we belabor the requirements to make it into a bankable model⁹.

There is a fundamental difference between infrastructure projects funded through public finance or (private-public) project finance. While the costs of the public financed projects are paid from public budgets or by sovereign borrowings, in project finance these costs are covered by a combination of equity paid in by private investors/sponsors and from debt borrowed from the market. The availability of resources (and associated terms and conditions) depends upon the creditworthiness of the company and the revenue generating potential of the project. Put differently, what this implies is that in the public financed projects, all the risks associated with the project are borne by the sovereign and, therefore, attract the best terms of financing. In project finance, on the other hand, the risks are borne by different types of investors in the market. Financial closure may be difficult to achieve if market participants are not willing to assume certain kinds of risks, thereby making project finance unviable. Therefore, a mix of elements from both public and project finance structures may be required to make large infrastructure projects like the NHDP financially viable. The analytical approach of project finance – that is, a risk-based approach can be combined with recourse to public budgets (through sovereign guarantee) to cover the risks of the project that the private investors are not willing to take.

To arrive at an appropriate financing structure for NHAI to implement the NHDP, we need to understand the risks associated with road projects and to identify which markets (and market participants) are best suited to assume these risks. A fair and equitable allocation of the risks

⁹ A project can be said to be bankable if all the risks associated with the project are clearly identified, equitably allocated to parties willing to assume the risk. A bank (or a financial investor) would be willing to assume some of the financial risks associated with a project, provided the risks are well understood.

would require proper identification, assessment and pricing (usually by the party accepting to bear it) of the risks. This analysis has to be in the context of the current market conditions and the opportunities it affords to mitigate the risks. The residual risk, i.e. the risks that can not be placed in the capital markets, is borne by NHAI. Financial structures need to be evaluated in terms of their risk transfer capabilities and not narrowly as matching the funds requirements with funds availability. An explicit understanding of the risks has two clear advantages: allows for a better estimation of the cost of capital for the project and quantifies the funds required from public sources either as direct or contingent liability on the Government's consolidated fund. The mode of analysis being suggested here is not different from what is applied to evaluate the level of sponsor support (usually in the form of equity or guarantees) to any private project. This project finance approach can, therefore, be applied to arrive at a limited recourse financial structure for public projects.

The type of financial instruments (debt as well equity) used to finance the project would determine the extent to which these instruments transfer the risks associated with the project to the investor. In the absence of any risk transfer, there is an unlimited recourse to the sponsor's balance sheet and therefore the terms of financing would reflect sponsor's financial position to withstand the risks associated with the project. At the other extreme, if all the risks are contracted out to market participants (investors), the sponsor's financial strength is not important in achieving financial closure on the projects. Therefore, the risk analysis and its assumption by the project's different stakeholders is the key to achieving the most favorable terms of financing. This is because through the use of appropriate capital market instruments the risks get apportioned to market participants best suited to assume those risks.

The risk analysis is not only important to attract private sector participation in the project through risk sharing, but is also equally relevant for the market borrowings on NHAI's own balance sheet. This is because, a lender/investor would be concerned about the aggregate risk housed in NHAI's balance sheet. They would look at NHAI's capital structure to determine its risk taking capabilities. Explicit guarantees from the government for specific outcomes are needed to de-risk NHAI and to assuage the concerns of the investors.

The main risks facing road projects include pre-construction, construction, traffic and revenue, currency, force majeure, political and financial. These risks must be allocated to private or public entities to achieve financial closure of projects.

Pre-construction: Right-of-way acquisition, environment compliance, and other project requirements before construction period may cause delays and cost overruns. The government or a public agency like NHAI is best suited to take this risk.

Construction: Design changes, unforeseen geological and weather conditions, and unavailability of material, finance and labor during construction phase can cause delays and cost overruns. The construction company typically assumes these risks, although those relating to design changes that may need to be shared by NHAI.

Traffic and revenue: These risks are associated with insufficient traffic levels, toll rates, and other sources of revenue to generate expected levels of revenues. Depending on the specific highway segment, the private investors may be willing to assume this risk. On the other hand, NHAI may have to underwrite this risk for other segments.

Currency: This risk becomes relevant only if foreign capital is used to finance the highways.

Force majeure: Force majeure involves risks beyond anyone's control – fire, earthquake, floods,

riots, wars, etc. While private insurance can be used to cover natural force majeure risks, political force majeure risks may need to be assumed by the public sector to attract capital on reasonable terms.

Political: Political risk concerns government action that could impair a project's ability to generate earnings – termination of a construction or concession contract, imposition of tax or unfavorable regulation, withdrawal of right to collect tolls or reduction in the toll rate, etc. Governments generally agree to compensate investors for termination of the concession or violation of the terms of the concession agreement, including agreed toll rates. However, the private investor ultimately has to bear the risk that these compensation may not be timely paid or the disputes arising from these violations would be resolved quickly.

Financial: Financial risk is the risk that the project cash flow may be insufficient to pay an adequate return on private debt or equity investment in a project. The private sector is generally responsible for this risk, but the government may decide to underwrite part of this risk by providing guaranteed returns on debt or equity, or by providing subordinate debt, cash grant, etc. that improves the expected return of the private investment.

Let us briefly review the three modes of financing being used for NHDP.

1. **EPC contracts:** The cost of the project is fully met from public funds (grants under the World Bank/ADB assistance) and consequently all risks with the exception of construction risk is borne by NHAI.
2. **Annuity contracts:** The financing of the project is based on a contracted annuity from NHAI. Private funding against the annuity receivables of the concessionaire but the financial risk remains with NHAI. Concessionaire assumes the construction risk of the project.
3. **BOT contracts:** These contracts are project financed, whereby the special purpose company (the concessionaire) assumes almost all the risks except for political risk, which is borne by NHAI as per the terms of the contract.

While in the first two schemes, constituting the bulk of the projects, the NHAI is the sole financier and the risk taker, investors in BOT projects base their projections on the toll revenue (traffic risk) and are willing to finance (for instance by way of securitization of toll revenue) such projects. The predictability of a certain volume of traffic is a precursor to project financing and therefore, it is not surprising that there aren't too many of such projects and till date, only one of these projects has reached financial closure¹⁰.

Securitization as an alternative model

In assessing the different alternatives to the current financing structure, we evaluated the possibility of securitizing certain cash flows emanating from these projects¹¹. Securitization as a

¹⁰ Jaipur-Kishangarh segment

¹¹ Securitization is a mode of financing which entails that specific contractual cash flows are pooled together and sold (or the rights transferred) to a bankruptcy remote SPV which then issues debt securities backed by the said cash flows.

method of financing highway project has a number of limitations. First, the major source of revenue is user charges, which depends on the volume of traffic or the number of users of the highway. At the outset of a project, the volume of traffic is uncertain within a wide range. This is because, while the new highways would typically increase the number of users, the user charges may also lead to a reduction in traffic. Traffic estimations in the past have over estimated the volume of traffic (NOIDA toll road for instance) and therefore, in the absence of long-term traffic volume data to support the estimates, rating agencies would typically err on the side of conservatism in arriving at the amount of tolls that can be securitized. Moreover, applying these traffic volumes to generate cash flows over a long period (15-25 years) could severely underestimate the true revenue generating potential of the highway.

Second, the lack of diversification in the sources of the cash flow introduces risks that are difficult to hedge. The leakage of traffic to alternate roads can lead to a dissipation of the projected cash flows. This is a relevant cause of worry since NHAI reserves the right to build alternate highways. For instance, the new National Expressway 1 between Ahmedabad and Vadodara would compete with that segment of NH8 for traffic. Therefore, although securitization is a possible mode of financing, its potential would be severely limited.

Finally, securitization of future toll revenue also may not be very efficient in terms of financing costs. This is because in BOT projects the performance of the concessionaire is critical in terms of the validity of its claim on the toll charges. In the event of performance related defaults by the concessionaire, NHAI has the (unilateral) right to terminate the contract by paying off the debtors to the project SPV. Moreover, in the event of bankruptcy of the concessionaire, the receiver may establish a claim over the toll revenues. Such risks would impact the terms of financing.

Securitization methods can also be used to secure financing of the Annuity projects. The cost of financing would in this case depend on a couple of factors. One is the performance or the bankruptcy risk of the concessionaire as discussed above. Additionally, the credit risk of NHAI – the annuity payer, would be a factor in arriving at a credit rating of the securities backed by these receivables and therefore shall impact the cost of financing.

NHAI can itself use the fuel cess receivables as collateral to raise finance (as under negotiation with LIC). These receivables are from the sovereign and would therefore attract terms of financing very close (maybe 15-20 bps) over the yield on direct sovereign borrowings¹². However, the beneficial borrowing terms should be seen in conjunction with the overall borrowing program. This is because NHAI's credit rating would likely be impacted if this source of revenue were encumbered in such a way that it reduces the financial flexibility available to NHAI.

We propose a conceptual model of financing that incorporates features that address most of the concerns voiced above, while preserving the public-private partnership in sharing of the risks and the rewards from these projects. However, such a financing model to be useful cannot be separated from the organizational structure. Hence, an implementation of this proposal would only follow NHAI's reorganization into separate entities with independent management.

¹² Since these are near sovereign borrowings, case can be made to RBI for capital relief for lending by banks and financial institutions. The 15-20 bps estimate is based on the assumption of capital relief.

The way ahead

The mandate given to NHAI under the NHAI Act 1999 provides for it to undertake a number of functions: road development and safety policy, contracting for road development, financing authority for the inter-state highways, etc. Therefore, to segregate these functions, we suggest that the financing for the NHDP be separated into a number of Special Purpose Vehicles (SPVs). The SPVs will in essence be financing vehicles that will have a limited life till all the debt raised through them is paid off and these would automatically extinguish thereafter. In particular, we propose:

1. That the various types of projects – annuity, EPC and BOT, be merged into a single project to be financed through a particular SPV;
2. That large segments of the roads (NH-8, for instance) be made into a single project and financed through a single SPV;
3. That a detailed project cash-flow be prepared for each of these projects, with revenue estimations, interest costs, CapEx (Capital Expenditure) and OpEx (Operating Expenditure) stressed under different economic and business conditions;
4. That the NHAI's share of the project cost should be determined after estimating the market's appetite for financing part of these projects;
5. That NHAI's contributions (except for the land) be treated as financial contribution (equity/debt) of the SPV and be made subordinate to all other kind of investments;
6. That the toll collection be passed on to specialized toll operators (to be replaced at a later date on the introduction of electronic tolling technology);
7. That the "Whole Business Securitization"¹³ technique be used to secure financing for these projects; and
8. That the SPV (NH-8 SPV, for instance) enters into a number of contracts with the various parties to the transaction,
 - a. with NHAI for land acquisition,
 - b. with the civil contractors for road construction and maintenance,
 - c. with a specialized agency for toll collection,
 - d. with a specialized arm of NHAI (insurance function) to buy political and traffic insurance,
 - e. with a Trusteeship company to act as a security trustee and to protect the ensure that the interests of the investors by ensuring that the SPV functions as per the mandate at the time of its inception,
 - f. with a bank for managing any financial risk that may be present in the financing structure and for adequate liquidity, and

¹³ Refer to the Appendix for a brief description of whole business securitization and how it differs from the other forms of securitization.

- g. with a rating agency to rate the various types of instruments to be offered to the investors to financially participate in the project.

Whole Business Securitization (WBS), pioneered in the United Kingdom, is a financing technique that combines the features of corporate finance with those of securitization. Unlike the traditional securitization methods that rely on specific cash flow, the entire spectrum of cash flows generated by a business is used in structuring a WBS. Segregation and sale of specific pool of corporate assets and associated “single-source” cash flows into a bankruptcy remote SPV is the essential feature of a securitization transaction. A WBS transaction on the other hand ring-fences the entire business of an issuer SPV and therefore all the cash flows generated by the business. There is, however, no transfer of ownership of the assets, but a legal framework put in place to provide creditors a “true control” over the income generating assets under stressed conditions¹⁴. This has the advantage of avoiding transfer costs like stamp duty. Financial covenants, corporate finance like, provide early warning triggers and restrictive covenants on the nature of the business help mitigate the risk of dissipation of business focus.

Table 3: Whole business vs. standard securitization: The key differences

	Whole business securitization	Standard securitization
Nature of underlying assets?	Entire business venture	Segregated pool of financial assets
Sources of cash flow?	Multi-source	Single-source
Nature of cash flows?	Predominantly non-contractual	Contractual
Ownership & control over assets?	Borrower management	Issuer SPV
Ultimate ownership of SPV?	Borrower parent company	Charitable trust
Debt service funding? principal re-/prepayments	Net operating cash flows	Contractual interest and
Bankruptcy-remoteness?	Yes, but only at the issuer SPV level	Yes, subject to delinkage
Protection against external risks achieved through?	‘True control’ over the income-generating assets	‘True sale’ of the income-generating assets

Source: UBS Warburg

The Issuer SPV issues different classes of securities that are credit enhanced in the form of over-collateralization and sub-ordination (tranching of the different classes), plus a liquidity support to meet payment obligations during periods of stress. The proceeds of these securities issuance are on-lent by the issuer SPV to the operating business. As compared to corporate finance alternative, such deals have been structured to achieve a higher leverage, low cost of capital (“all-in” cost of borrowings) and longer weighted average life of the debt.

Such structures are typically used for acquisition financing (LBO/MBO), recapitalization and project finance (airport, business park). As far as we are aware, this structure has never been used to finance a highway project. However, highway projects seem to meet the basic characteristics that are common to such transactions:

¹⁴ Perfection of security to achieve a “true control” is perhaps the key to WBS. Creditors’ rights to enforce security is weakened where a court intervention is mandated (Chapter 11 in the US for instance). The passage of the SARFAESI Act, 2002 in India now makes it possible for secured investors to enforce their rights to protect their security interests.

- operate in industries with utility or utility-like characteristics;
- operate in industries with relatively high barriers to entry, either due to regulatory and/or initial capital expenditure requirements;
- operate in industries in which fundamental changes are expected to be limited and only very gradual;
- are mature and highly cash-generative in nature and – by definition – have only moderate net working capital requirements;
- have a narrow business mix, which makes the projection of future cash flows comparatively easy; and
- have a strong underlying ‘hard’ assets element, essentially in the form of real estate and other fixed assets, which are comparatively easy to value and can be charged as security¹⁵.

Under the present scheme of things, the BOT projects would attract debt financing by securitizing their toll receivables and the annuity projects would get it by securitizing the annuity receivables. However, by merging of the projects along with the NHAI financed EPC projects have two advantages. First, it allows for diversification in sources of revenue (current tolls, annuity and tolls from segments of the highway that may not yield significant toll revenues at present). And second, there is a pooling of traffic risks (toll revenue risk) over the longer stretches of highways, due to the differing density of the local traffic.

This diversification would allow the projects to exhibit enhanced levels of cash flow stability, even under stressed scenarios. Stability of the net cash flow (or lower volatility over time) would ensure enhanced relative fundamental credit strength for whole business securitization. However, as discussed earlier, a detailed cash-flow model is a necessity to simulate the topside and downside scenarios affecting the cash flows. These stressed scenarios are then tested for financial covenants (Debt Service Coverage Ratio and Loan to Value, over time) along with the risk mitigants and the legal provisions to arrive at the quantum of debt finance and its amortization schedule.

NHAI’s contribution to the projects under the Whole Business Securitization model can be structured as both equity and debt, where the debt is subordinate to the other senior classes of debt. The equity and subordination of NHAI’s debt would act as a credit enhancement to the senior classes of debt, which can also be structured as securities with different investment grade ratings ranging between AAA and BBB depending on the weighted average rating desired for the whole structure and the appetite of the investors.

¹⁵ See UBS Warburg (2000).

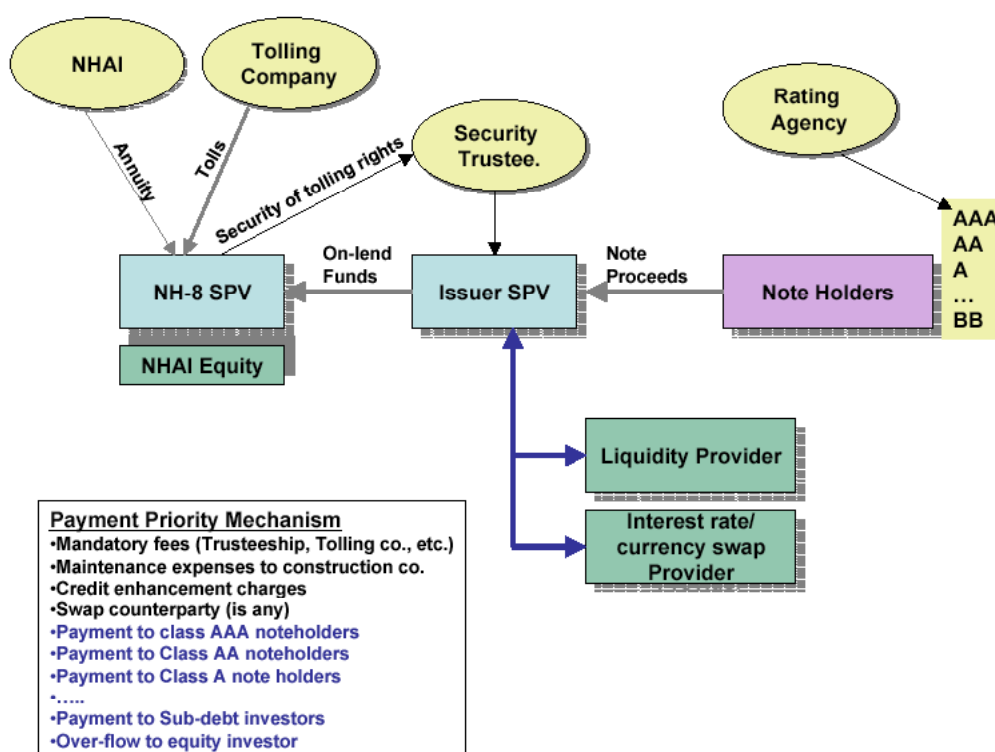


Figure 1: Stylized transaction structure

Figure 1 gives the transaction diagram for the WBS structure. NH-8 SPV is a vehicle that is created by combining the different segments of the highway (under BOT, Annuity and EPC contracts) and all cash-flows are trapped at this SPV level. The Issuer SPV issues the bonds to the Note-holders and on-lends the proceeds to NH-8 SPV, with the security of the concession agreement(s) and over the cash flow. In each period, the pre-agreed payment priority mechanism determines the distribution of the cash-flow. The NH-8 SPV for instance would make available funds enough to service the debt of the Issuer SPV. After all the debt is repaid, the Issuer SPV would fold automatically, thereby releasing the charge created at the inception of the transaction. Since, the NH-8 SPV is not authorized to raise any further debt, the highways revert back to NHA (the sole equity provider) once the Issuer SPV is folded.

Moreover, there is a lot of flexibility in structuring the debt instruments. These can be structured to have a maturity that corresponds to the economic life of these projects, say 20-30 years. By matching the maturity and amortization of the debt with the projects cash flow, it is possible to eliminate any refinance risk. Further, soft amortization (no fixed repayment schedule, whereby the debt can be prepaid in parts without any premium or penalty) can be built into bond features so that the debt repayment gets accelerated if the cash flows so permit. The different ratings for the debt instruments also allow for private sector participation in sharing of the risks associated with the projects.

At the inception of the project, the subordinate debt subscribed to by NHA would have a non-investment grade rating. However, once the project gets completed and starts to build a record of revenue collection (inclusive of alternate sources of revenue like, use of right-of-way for telecommunication cables, development of commercial facilities along the highways, etc.), the rating of the sub-ordinate debt would improve in the future. NHA can sell these debt securities

in the market at an appropriate stage to recoup part of its investment in the project. And, after all the debt is repaid, the security interest created on the revenues of the NHAI SPV would be discharged giving NHAI a full ownership over the assets.

The WBS structure is not very different from that of project finance with secured lenders. WBS has two main advantages: (1) It is a tighter structure – takes full control of the cash flows while leaving operational control in the hands of the SPV's management; and (2) it can issue of instruments with different ratings, each signifying a varying degree of risk sharing, and therefore, can access a variety of investors whereas project finance loans are usually structured with *pari passu* sharing of risks and are limited to participation by the banking sector.

The rating agencies play an important role in securitization transactions. They independently assess the risks of the cash flow as well as of the structure to arrive at the rating of the instrument. The explicit understanding of risk for each tranche of the cash flow calls for sophisticated analysis of the cash flow using simulation techniques. It is not easy, even for sophisticated investors, to understand the complex interplay of the risk factors and their impact on the business cash flow. The investors, therefore, invariably rely on the analysis by the rating agencies to know the level of risk they are exposed to (contained in the rating assigned to the instrument). Since such structures are not designed for modifications at a later date, rating agencies take cognizance only of enforceable legal contracts. For instance, they keep the interests of the investor in mind while insisting on explicit government guarantee to reflect the support in the ratings.

Conclusions

Till recently, the provision of some services was considered to be the domain of the public sector. These economic activities were seen as pure public goods and it was believed that the private sector (private initiative and markets) would fail to provide these services in adequate quantities. This market failure possibility led governments across the globe to produce these goods and services. Power, telecommunications, postal services, transportation, water and sewerage, etc. are some services that were produced and distributed exclusively by public utilities owned and operated by the government.

Privatization in India has slowly but steadily liberalized the provision of these services. Private capital in India has not shied away from the challenge. The success of privatization of the telecommunication sector has prompted the initiation of this process in many other sectors. Gangopadhyay and Mohanty (2003) discuss the role of appropriate regulatory and policy frameworks to support this process.

NHAI Act 1999 has, by instituting NHAI with a clear mandate, created an enabling environment for private sector participation in the roads sector – till recently a preserve of the public sector and a victim of binding fiscal constraints. This sector does not have a pre-existing private sector expertise (in contrast to the power sector where companies like Tata Power and BSES had the expertise to generate and distribute power). The private sector nonetheless has exhibited a willingness to step up to the challenge. While banks and financial institutions have supported a number of such projects, the debt capital market too has responded in some measure (e.g. NOIDA toll road project, MSRDC projects etc.). Debt market has provided capital with varying risk profiles. The equity markets, on the other hand, is perhaps not yet ready to assume too much risk. This is because the risks in road projects are not well understood, especially policy changes that come in the wake of political risk. Equity investors are probably not very excited about the financial risk for the expected returns from investment associated with these projects. Alternate,

mature industries, provide/promise higher returns for these levels of risk.

Infrastructure funds – fashioned after private equity funds – have stepped up to fillip equity participation, a role that public financial institutions had performed in the past. The investment in these funds belong to large diversified portfolios of their sponsors who have better capability to assume the risks. It may, however, be prudent to ask, how much of risk capital is available for the highway projects?

In the current structure, the annuity and BOT concessions awarded by NHAI are at the two extremes of risk sharing by the public and the private sector. The difficulty in reaching the financial closure of BOT concessions and the ease with which annuity projects closed is an indication of the market's ability to absorb the financial risk. The proposal of Whole Business Securitization is a financial engineering technique that allows the equity risk to be moderated into acceptable levels by parceling part of the risk to the debt market.

Recommendations

- Redefine the role of the Authority
- Critically review the present means of market borrowings
- Target private placements to long-term players like insurance companies and provident/pension funds
- Sell deep discount bonds to the public for long-term finance
- Clearly identify and allocate all risks to be able to develop a bankable, and efficient model for public-private partnership
- Financing for the NHDP be separated into a number of SPVs.
- Various types of projects-annuity, EPC and BOT, be merged into a single project to be financed by a particular SPV
- Large segments of roads be made into a single project and financed through a single SPV
- NHAI's contributions (except land) be treated as financial contribution (equity/debt) of the SPV
- Whole Business Securitisation' technique be used to secure financing for these projects; simple securitization would not work

Appendix

Whole Business Securitization

(Source: www.webcom.com/offshore/solomons/artwholesecuritisation.htm)

For a number of years securitization has provided an innovative means for certain companies to raise finance in a cost-effective manner. Its origins date back to the securitization by US mortgage lenders of their loan books but in recent years all manner of assets have been securitized to raise capital. These include credit card receivables, healthcare receivables, royalties and even media revenues. Virtually any business which has an asset or pool of assets which can produce a recurring income stream may be a suitable candidate for securitization.

Traditionally, a securitization was in respect of a particular class of assets of the business in question, for example, the rental income from the business's investment property portfolio or the royalty income from its licensed intellectual property rights. However, in the last few years the traditional boundaries of securitization have been stretched. Instead of just a specific pool of assets being securitized some companies have successfully securitized the cash flows of an entire business unit. This article provides an overview of the so-called "whole business securitization" and contrasts it with a traditional securitization.

What are the benefits that a whole business securitization can offer?

In contrast to a traditional securitization, the borrowing company does not have to sell the assets securitized to a special purpose vehicle and therefore is able to retain operational control. The whole business securitization is particularly attractive for a business which has significant value attaching to assets which it is unable to reflect on its balance sheet, such as brands or other intellectual property rights. A whole business securitization enables such a business to realize the value of those assets in a way which would not be possible using more traditional financing methods. As is the case with the traditional securitization, the whole business securitization allows funds to be raised in a cost-competitive manner through the capital markets and provides access for the borrowing company to a potentially wider base of institutional investors. Whole business securitization has been used successfully by a number of UK businesses with one of the first being the London City Airport in 1999.

How does a whole business securitization differ from a traditional securitization?

In the case of a traditional securitization, the borrowing company sells a pool of assets to a newly established special purpose vehicle (SPV) which pays for the assets by issuing fixed or variable rate interest-bearing bonds to investors through the capital markets. The SPV finances the payment of principal and interest under the bonds from the income stream derived from the pool of assets purchased from the borrowing company. The SPV will also normally grant charges over the pool of assets securitized in favor of a security trustee acting on behalf of the investors.

In a traditional securitization the borrowing company, by selling the pool of assets to the SPV, removes those assets from its balance sheet. For both legal and tax reasons the SPV is normally located in an offshore jurisdiction. The Cayman Islands is the domicile of choice for most securitizations and structured finance transactions. This is because of the breadth and depth of the professional infrastructure, particularly the law firms, and the significant experience in this

area, thereby providing the critical speed of response necessary for transactions of this nature. The SPV is a special purpose vehicle in the sense that it is established for the sole purpose of acquiring the pool of assets from the borrowing company and issuing bonds to the investors.

It is important in a traditional securitization that the SPV is set up as an orphan company by which is meant that it is not part of the borrowing company's corporate group. This is achieved by control of the SPV being vested in either an offshore charitable trust or an offshore non-charitable purpose trust, again usually in the Cayman Islands. The SPV is also structured in such a way as to make it bankruptcy remote and therefore ensure that the pool of assets is not placed at risk by insolvency of the SPV or of the borrowing company.

The key feature of a traditional securitization is therefore a sale of the assets securitized by the borrowing company. As mentioned above, this is not the case with a whole business securitization. In this case, the securitization takes the form of a secured loan structure and there is no sale of assets to the SPV. Instead of purchasing the pool of assets, the SPV makes a loan to the borrowing company and takes security for that loan over the pool of assets retained by the borrowing company. The SPV funds the loan to the borrowing company by issuing fixed or variable rate interest-bearing bonds to investors through the capital markets. These bonds are also secured by the SPV creating a charge over all its assets in favor of a security trustee on behalf of the investors. The only material asset of the SPV will be its right to receive principal and interest under its loan to the borrowing company. Generally, the loan is made in a series of tranches corresponding to each series of the bond issue offered by the SPV. Most whole business securitizations (as is the case with a traditional securitization) will utilize both liquidity enhancement and credit enhancement. The bonds are always rated by a rating agency such as Standard & Poors and Moody's for both regulatory and marketing reasons. A securitization can usually be structured in such a way as to ensure that a high credit rating can be achieved.

In contrast to a traditional securitization, in the case of a whole business securitization, the SPV will not be an orphan company but will in fact be a member of the borrowing company's corporate group. In addition, the SPV will, in the case of securitization involving a UK borrower, commonly be UK resident for tax purposes. This is driven by UK tax considerations which are beyond the scope of this article. Even though the SPV will usually be UK tax resident it is still normally incorporated in the Cayman Islands or another suitable offshore jurisdiction. The principal reason for this is to avoid the problems posed by the financial assistance prohibitions of the UK Companies Act in the case of a whole business securitization.

It will therefore be clear that there are certain fundamental structural differences between the two forms of securitization, notably in the case of the whole business securitization, first the absence of a sale of the assets to be securitized but instead a secured loan structure and second the corporate grouping of the SPV and the borrowing company.

Investing in a whole business securitization

As explained above, the commercial nature of the two forms of securitization are fundamentally different. In the traditional securitization a discrete pool of assets is the subject matter of the securitization. The management of those assets should generally be straightforward involving the collection and enforcement of a receivables ledger. A whole business securitization involves the securitization of not just a discrete pool of assets but of the income stream of an entire company or business unit. The management of a business as compared to a specific pool of assets is obviously far more complex. As a result, investors in the case of a whole business securitization have to acknowledge that the covenants imposed on the borrowing company need to allow sufficient flexibility for management with regard to operational and cash flow matters in order that the business can function properly. However, this is not to suggest that the

covenants will not include robust provisions preventing management from straying beyond business parameters agreed at the outset. Because of the more flexible approach that has to be adopted a whole business securitization is unlikely to achieve a triple A rating from the rating agencies.

A key issue for the investor in a whole business securitization is to ensure that if the borrowing company were to become insolvent the assets securitized continue to be managed for the term of the bonds by an administrative receiver so that the income streams necessary to service payment of principal and interest under the bonds continue to be generated. In other words, the integrity of the income generating assets should not be prejudiced or put at risk by any financial difficulties of the borrowing company. Provision for the appointment of an administrative receiver will be contained in the loan documentation.

Is a whole business securitization a suitable financing method for any business?

The simple answer is, no. It will only be appropriate where the business can demonstrate stable and predictable income streams. As mentioned above, it is an essential requirement that a suitable credit rating for the structure is obtained. The rating agencies will analyze carefully the ability of the business to generate consistent and sustained revenues in a variety of economic climates. For that reason, a whole business securitization will be of particular interest to businesses which enjoy a particularly strong position in their market and where competitive threat is not acute (for example, regulated industries where the entry of new players is difficult) and businesses which are not materially affected by a general recession (for example bookmakers). Particular UK examples to date are businesses involved in motorway service areas, residential care homes, theatres and ferry operators.

During its relatively short lifespan to date the securitization concept has shown itself to be a highly adaptable and flexible financial method. Nowadays the common observation seems to be “if it can generate a steady income stream, it can be securitized.” Whole business securitization is merely a further stretching of the boundaries of securitization and is likely to become more common as businesses with operations suitable for securitization look for alternative, cost effective means to raise capital. The year 2001 has brought with it a US down market and one of the results of this has been that new traditional equity funds have diminished in number, with a corresponding increase in the number of new hedge funds being initiated. Many are start-ups as money managers leave large institutions and see an opportunity to capitalize on non-traditional investment techniques.

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