ECSIN, the Infrastructure Sector Unit of the Europe and Central Asia Region of the World Bank, is responsible for the Bank’s work in the transport, urban and water sectors of our 27 active member countries.

The Working Paper series is intended to make available more widely, inside and outside the World Bank, papers produced in the course or our work that may be of broader interest – especially to the infrastructure community in our member countries. The views expressed are those of the writers and should not be taken as formal statements of World Bank policy.

Reactions from readers are always welcome and may best be addressed either to the named author, c/o World Bank, 1818 H. St. N.W., Washington, D.C. 20433, or to the Director, ECSIN at the same address. The Director’s E-Mail address is: RHalperin@Worldbank.org
Private Financing for the Roads Sector

November 12-13 1998 the Russia Federal Highway Administration organized in Moscow an International Conference on the Financing of Road Investments. The Bank had been asked to help organize the Conference and, in particular, a series of presentations on private financing in the roads sector. The Conference was addressed mainly to the 280 Russian officials and businessmen who attended. But we believe the presentations are of wider interest and reproduce here the slides from four of them:

I. Potential Private Sources of Finance for the Road Sector, 1
   by Alfred Watkins, Principal Financial Specialist, ECSPF

II. Western Private Investors’ Approach to Road Projects, 9
    by John D. Kramer, Chairman and CEO, CA~IB
    Infrastructure Project Advisors, Vienna

III. Financing Interurban Toll Roads – International Experience, 21
     by Andrew Bride, Senior Banker, EBRD, London

IV. World Bank Assistance in Securing Private Financing for Roads, 31
    by Cesar Queiroz, Principal Highway Engineer, ECSIN

Other presentations from the conference are reproduced in ECSIN Working Papers No. 2 and 4.
I. POTENTIAL PRIVATE SOURCES OF FINANCE FOR THE ROAD SECTOR

Alfred Watkins
Principal Financial Specialist
Europe and Central Asia Region
World Bank
GENERAL SOURCES OF PRIVATE FINANCE

All private projects generally must obtain and combine two types of private finance:

• **EQUITY**
  - Finances between 20% and 50% of the project
  - Gets paid with funds left over after all loans have been serviced

• **DEBT**
  - Finances the remaining portion of the project
  - Gets paid before equity

True for all forms of road projects – concessions to build, finance and operate new toll motorways and bridges as well as modernization and refurbishment of existing roads
EQUITY CHARACTERISTICS

• **"PATIENT" CAPITAL**
  - Can wait a long time to start receiving returns.
  - Dividends might not be payable for 5, 7, or ten years.
  - Largest portion of returns comes in the later years of the project’s life, generally after debt has been fully repaid.

• **EXPENSIVE CAPITAL**
  - Expected returns of 15 – 20%, real, after tax, per year (for each year of the project).

• **"SPECULATIVE" CAPITAL**
  - Actual returns vary with the success of the project.
    - May lose entire investment and make 0% return or may make higher than expected return if project is more successful than initially envisioned.

• **LOVE LEVERAGE**
  - To boost their returns, equity investors want to minimize the percentage of equity and maximize the percentage of debt.
  - Creates a “tug of war” with lenders.
SOURCES OF EQUITY

- **IFIs**
  - EBRD, IFC may provide a minority portion of the equity

- **Institutional Investors**
  - Emerging market infrastructure funds are looking for infrastructure financing opportunities – generally in telecoms and power, but could include roads.

- **Construction Companies**
  - Are frequently the largest providers of equity for projects in which they have been awarded the concession AND the construction contract - Money In, Money Out?

- **Local Investors, Subcontractors**
  - They know the local situation – need to demonstrate local faith in the project and the economy.
LOAN CHARACTERISTICS (1)

• “Impatient” Capital
  - Returns (interest and principal) are expected to begin flowing shortly after construction is concluded and the road is open to traffic.
  - It may be possible to postpone payment of principal by one or two years after completion of construction, but not payment of interest.
  - Difficult to get loans with a maturity of more than 10-15 years/Difficult to find commercially viable projects that can support debt service payments on short term capital, even if it is less expensive capital than equity.
  - Contradiction: Required annual debt service payments (principal plus interest) may be highest during the early years of the project, when traffic and revenues may be lowest.
LOAN CHARACTERISTICS (2)

• Less Expensive Capital
  – Returns of 5, 6, 7,% above cost of funds – perhaps higher for projects in Russia today. Nevertheless, cost of loans is less than cost of equity.

• Non-Speculative Capital
  – Requires a fixed rate of return that does not vary with the success of the project.

• Conservative Capital
  – Lenders don’t want to take chances – generally lend on the basis of very conservative traffic forecasts to ensure that the actual traffic is sufficient to pay scheduled debt service.

• Hate Leverage
  – Generally want to maximize the percentage of equity and minimize the percentage of loans.
SOURCES OF LOANS

- **IFIs**
  - IFC and EBRD will make loans themselves (A-loans) and help mobilize additional loans from commercial banks (B-loans)

- **Institutional Investors**
  - Pension funds and insurance companies are looking for long term assets with a fixed, predictable rate of return.

- **Other Commercial lenders**
  - Bondholders are typical sources of finance for US motorway projects – provide very long term finance in the US (25-30 years)
  - Commercial banks may provide shorter term finance

- **Local lenders**
  - Do they have faith in the project and the local economy?
LENDER RISK CONCERNS

• Commercial Risks
  - Will drivers use the road?
  - Will the road be constructed/refurbished on time and within budget?
  - Will maintenance and operation costs be within budget?
  - These risks should be borne entirely by the private investors/sponsors/lenders – not by Federal or Regional Government officials

• Political Risks
  - Will tolls be set according to the agreed formula?
  - Will the government deliver the land to the contractor?
  - Will regional and local government officials allow the investor to build and operate the motorway without interference, based on the terms and conditions in the concession contract?

SOLUTION—WORLD BANK GUARANTEES
II. Western Private Investors´ Approach to Road Projects

presented by

John D. Kramer
Chairman and Chief Executive Officer

CA IB Infrastructure Project Advisors

to the Moscow Road Financing Conference

November 12, 1998
Purpose of the Presentation

- Identify categories of prospective private sector investors in Russian road projects and their likely requirements

- Discuss key credit and risk allocation issues

- Review Key Success Factors
The Investors

STRATEGIC

• Construction Companies
• Toll road operators and equipment suppliers
• Real Estate and other secondary developers (gas stations, hotels, etc.)

FINANCIAL

• International Financial Institutions (World bank, EBRD, EIB, etc.)
• Bi-lateral and Export Credit Agencies (KfW, NIB, etc.)
• Private sector banks and bond investors
• Specialised equity and mezzanine/subordinated debt funds
Investor Requirements

- Clear legal and regulatory framework backed by enforceable contracts
- Competitive return on equity for risks taken
- Assurance of timely repayment of debt
- Strong governmental / political support, backed by clear need and economic rationale for the project
- Strong World Bank, EBRD or other IFI involvement
Contractual Structure

Government

Independent Engineer
- Approves Final design & Monitors construction

World Bank/EBRD
- Counter Guarantees

Project Company
- Grants contract to design, build, finance & operate project (DBFO)

Construction companies

Tool Road Operators and Developers

Banks & Financial Institutions (Inter-creditor Agreements)

Political & macro-economic risk cover

Collateral Warranties & Guarantees

Financing & Credit Agreements

Operating & Maintainance Agreement contract

Turn-Key Design/build contract (EIC Form)

Collateral Warranties, Performance Bonds & Guarantees
Typical Project Capital Structure

EQUITY
20-30%

MEZZANINE OR SUB-DEBT
10-15%

SENIOR DEBT
55-70%

Percentage (%) of total financing requirement including all construction, right of way and design costs, construction period interest, working capital, initial year losses.
Typical Project Cash Flows

Revenues are sufficient to pay O&M, debt service and generate a surplus to help support other projects.
## Key Risks from Investors Perspective

<table>
<thead>
<tr>
<th>RISK</th>
<th>MITIGATION</th>
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<tbody>
<tr>
<td>Transport and Revenue Risk</td>
<td>- Careful independent traffic study, supplemental revenue sources, limited guarantees</td>
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<tr>
<td>Government (Regulatory) Risk</td>
<td>- Clear contracts allocating each risk to the party most capable of bearing it; political risk insurance</td>
</tr>
<tr>
<td>Macroeconomic risk</td>
<td>- Very strong support from the international financial institutions</td>
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</tbody>
</table>
Traffic and Revenue Risks - Ways to Address the Problem

- Obtain detailed user volume forecasts and revenue estimates from internationally recognised consultant.

- Provide back-up sources of revenue if user fee and other project revenue is insufficient (e.g., pledged tax, other user fees, guarantees of minimum usage etc.).

- Stage construction (building highest volume/lowest cost segments first) and consider integrating existing, upgraded systems.

- Major equity commitment by sponsor and/or project funds arrangement.

- Government guarantees, keep well agreements; and/or other credit enhancements - particularly in early years - while use and revenue levels are being established.

- Provide mezzanine debt and/or equity back-up from governmental and private sector project sponsors.
Political Regulatory Risk - Ways to Mitigate the Issue

- Establish clear legal and regulatory framework (rate-setting etc.)

- Establish evaluation criteria for concession and/or design/build/operate and international tender

- Allocate technical risks to relevant parties under
  - Design/build contract
  - Operation and maintenance contract
  - Independent engineers' contract

- World Bank, EBRD and/or other IFI partial risk guarantees

The legal and contractual framework should provide for a well defined allocation of risks between the parties as well as a transparent, fair bidding process.
Macro-economic Risk- Ways to Mitigate

In the light of recent downward market movements in Central and Eastern Europe and Asia it is crucial that provisions are made for the worsening of financial conditions surrounding the deal.

- Elicit very strong support from international financial institutions
- Prepare conservative financial models, showing effect of worse than expected economic growth and make provisions for stand-by government support in event of revenue shortfalls
- EBRD/IFC “B” loan cover; parallel loans from EIB or other IFIs bi-lateral agencies and ECAs
- World Bank, EBRD and other IFI partial risk/credit guarantees
- Local borrowing
Key Success Factors

Financial

- Minimum project Internal Rate of Return (IRR) of 10-12%
- Minimum senior debt service coverage ratio of 1.4-1.6%
- Minimum equity commitment of 20%
- Minimum internal economic rate of return (IERR) and other IFI cost/benefit tests

Other

- International competitive bidding
- Clear, enforceable contracts
- Fair risk allocation
- Strong local and international sponsors
III. FINANCING INTERURBAN TOLL ROADS
INTERNATIONAL EXPERIENCE

Andrew Bride
Senior Banker
European Bank for Reconstruction and Development
FINANCING INTERURBAN TOLL ROADS

"CLASSIC" APPROACH
✧ Government lets concession
✧ Private sector raises finance and builds motorway
✧ Tolls are used to repay debt and pay dividends

THIS IS COMPARATIVELY RARE
✧ Most projects have some form of support or credit enhancement

“THERE IS NO SUCH THING AS A FREE LUNCH”
FINANCING INTERURBAN TOLL ROADS
INTERNATIONAL EXAMPLES

<table>
<thead>
<tr>
<th>Country</th>
<th>Method Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Subsidy payments to support rates of return</td>
</tr>
<tr>
<td></td>
<td>Hypothecation of tax receipts</td>
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<tr>
<td>Malaysia</td>
<td>Government subordinated loan</td>
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<tr>
<td>UK</td>
<td>Shadow tolls</td>
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<tr>
<td>Hungary</td>
<td>Grants of existing assets</td>
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<td></td>
<td>Operating subsidy</td>
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</tbody>
</table>
FINANCING INTERURBAN TOLL ROADS

WHY INVOLVE THE PRIVATE SECTOR?

✧ Financing contribution
✧ Avoidance of sovereign debt
✧ Cost savings
✧ Efficiency
FINANCING INTERURBAN TOLL ROADS

POSSIBLE MEANS OF GOVERNMENT SUPPORT

✧ Donation of existing assets
✧ Direct payments
  – Upfront cost sharing
  – Shadow tolls
  – Capacity charges
  – Operating subsidies
✧ Guarantees
✧ Credit worthiness of “donor” is key
FINANCING INTERURBAN TOLL ROADS

DONATION OF EXISTING ASSETS

✧ Reduces traffic uncertainties
✧ Allows higher leverage
✧ Facilitates new sources of finance
✧ Allows measurement of toll impact
✧ Best if asset is a “sunk” cost
FINANCING INTERURBAN TOLL ROADS

UPFRONT COST SHARING
✧ Comparatively "blunt" instrument
✧ Considers parallel financing of expensive structures

SHADOW TOLLS
✧ Transfers "traffic" risk
✧ Relies on good statistics
✧ Can be sculptured to be efficient
FINANCING INTERURBAN TOLL ROADS

CAPACITY CHARGES

✧ Can be tailored to cost base
✧ Avoids transfer of uncontrollable risks
✧ Clear performance criteria

OPERATING SUBSIDIES

✧ Target in difficult years
✧ Cost efficient for Government
✧ Best where viability will be achieved fairly quickly
FINANCING INTERURBAN TOLL ROADS

LESSONS FOR GOVERNMENT

✧ Be realistic
✧ Determine the likely outcome before launching tenders
✧ Use competition to maximize advantages
IV. World Bank Assistance in Securing Private Financing for Roads

Cesar Queiroz
Principal Highway Engineer
Infrastructure Department
Europe & Central Asia Region
World Bank
Public Service Concession Contract

A contract whereby a public entity grants to a private company (concessionaire) the right and obligation to provide a public service
How can transition economies secure private investments?

- Facilitate the attraction of private investments without the Gov’t bearing risks that can be assumed by the private sector.
- Encourage Gov’t policies that are conducive to the development of a competitive private sector.
- Make use of guarantees and/or contingent loans which reassure the private sector that the Gov’t will fulfill its commitments for smooth project development and operation.
How can the WB encourage more involvement of private capital?

- Sovereign loans for construction of tolled stretches, the maintenance and operation of which to be concessioned
- Contingent loans to back Gov’t minimum revenue guarantees during early years of operation of a privately financed toll facility
- Encouraging long-run maintenance contracts for existing roads remunerated out of tolls or shadow tolls
- Provide Partial Risk Guarantees
Division of risks between parties

- **Government**
  - Gov't fails to approve contracted toll rates
  - Gov't imposition of new road standards
  - Force majeure (war, terrorism, guerilla acts, civil disorder)
  - Adverse changes in foreign exchange regulations
  - General deterioration of macroeconomic conditions
  - Delay in issuance of permits and licenses needed by sponsor
  - Expropriation of property
Division of risks between parties

• Private Sponsor
  – Project delays due to problems in importing construction equipment
  – Project interruptions due to increased demands of labor
  – Project delays due to slow local delivery of materials
  – Adverse weather causing project delay
  – Poor performance of subcontractors
  – Unanticipated difficult soil conditions
  – Sharp increase in prices of materials, equipment
World Bank Guarantee

- Approved by the WB Board of Executive Directors in September 1994
- Covers some risks the market is not able to bear
- Helps to attract new sources of financing
What is a World Bank Guarantee?

An irrevocable commitment to a third party that has loaned funds to a borrower in a World Bank member country that the World Bank will repay the guaranteed portion of the obligation if, under specified conditions, the borrower does not.
Types of WB Guarantees

• Partial Risk Guarantee
  - covers risks of nonperformance of government obligations or force majeure

• Partial Credit Guarantee
  - extends maturities beyond what private creditors could otherwise provide
World Bank Partial Risk Guarantee Structure

- Govern’t
- Counter Guarantee
- World Bank
- Concession Agreement
- Project Company or Concessionaire
- Loan Agreement
- Private Lenders
- World Bank Guarantee
Typical Government Contractual Obligations

- Keep agreed toll rates
- Provide permits
- Provide for currency transfer
- Compensate for changes in law, regulations, political events, termination
Project Company or Concessionaire Obligations

- Construct and operate the facility

- Maintain and rehabilitate to keep up quality
Typical Financial Benefit of Partial Risk Guarantees

Reduce cost of private sector borrowing from LIBOR + 900 to LIBOR + 200
Fees for the Guarantee Cover

- Standby fee: 0.25% p.a., when the guarantee is in force but not callable (commitment)

- Guarantee fee: 0.4% to 1% p.a., when the guarantee is callable
Effects of the 1998 Global Crisis

- For many countries, the macroeconomic situation has deteriorated
- Access to private external finance more limited
- Use of Guarantees more important