

Contingent Liabilities in Infrastructure:

Lessons of the East Asian Crisis

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For the governments of East Asia's crisis countries, the transformation of their contingent liabilities into immediate obligations proved an additional blow in an already challenging situation. In all crisis countries (Indonesia, Republic of Korea, Thailand, and Malaysia), the banking sector was the major source of such liabilities. However, except in Korea, infrastructure projects also added to the fiscal stress. Specifically, in so-called public-private partnerships, governments had contingent contractual obligations—and these obligations became due as the crisis worsened. With ongoing economic recovery, the fiscal pressure from these obligations will likely decline. However, the pressures will remain where the problems stemmed from inadequate project design and ineffective sector strategy and regulation.

This chapter draws on the experience in Indonesia and Malaysia. Both countries adopted a distinctively Asian style of infrastructure privatization.² Governments sought private capital and private management skills. However, the governments also provided contractual commitments to enhance the financial attractiveness of the projects. Some of the government commitments were in the form of cash subsidies, but most were

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² Other Asian countries that adopted similar strategies include China, India, and Thailand. Thai contingent liabilities are discussed in Arthur Andersen (1999). In contrast, Korea undertook limited infrastructure privatization. In Latin America, Colombia adopted the "Asian" strategy with several stand-alone public-private infrastructure projects (Lewis and Mody 1997) as did Mexico with respect to a major toll road program and a more modest independent power program.

contingent in nature, promising, for example, to top up revenues if they fell below a threshold or promising to honor a pricing formula. The principal guarantees provided by the Philippines government, summarized in table 1, represent the types of commitments made by governments throughout the region. The commitments were based on two premises. First, the transition from government infrastructure monopoly to multiple private infrastructure providers requires significant investment in regulatory capacity. Second, since such capacity cannot be built overnight, contractually specified public-private partnerships are necessary intermediate steps in a rapid infrastructure development strategy. The World Bank's 1994 *World Development Report* endorsed the Asian approach as an appropriate transitional strategy. Transport and power projects were identified as especially suitable for applying the approach.

Table 1: Philippines: Main Sources of Infrastructure Contingent Liabilities

Item Guaranteed	Cost	Sectors
Buyout clause or termination	Buyout or termination price	Power and transport
Force Majeure	Buyout or termination price	Power, transport, and water
Minimum revenue ("Take-or-pay" contract" for the power sector)	Payment obligation to meet the minimum revenue threshold	Power and transport
Toll changes; automatic toll adjustment formula	Costs of inability to implement toll adjustments	Transport
Assumption of "old" (pre-privatization) loans being paid by concessionaire	Cost of principal and interest	Water
Loser of Appeal to pay total cost of Appeal Process for both parties	Cost of appeals Process	Water

Source: Reside (2000).

Based on the Indonesian and Malaysian experiences, this chapter argues that contingent liabilities are not intrinsically associated with privatized infrastructure. Their

manifestation in East Asia reflects a specific privatization strategy undertaken in a period of rapid growth with the objective of rapid new investment in infrastructure. However, even where justified, transitional structures created with government's direct support and contingent commitments should give way to competitive infrastructure provision with greater risk shifted to the private sector (World Bank 1994). This has not yet happened in East Asia. Latin American economies—especially Argentina and Chile—demonstrate the practical implementation of privatization without the government acquiring contingent liabilities.

The rest of this chapter is organized as follows. The sources of contingent liabilities are discussed first for the transportation sector, then for the power sector, and briefly for the water and sanitation sector. Each section critiques the sector strategy pursued and outlines alternatives based on international experience. The chapter concludes by emphasizing that it would be a mistake to view the post-crisis realization of contingent liabilities as mainly due to the crisis and urges a systemic reform that can both improve efficiency and lower government risks.

Transportation

In the mid-1990s, transportation projects dominated private infrastructure projects, both in numbers and especially in dollar outlays (World Bank 1994). These were typically built and operated by the private sector, with the assets to be transferred to the government following a contractually agreed period. Several legal variations of the build-operate-transfer model exist, but these are not economically significant. Private debt and equity, supported by specific government financial support, financed the projects. For transportation projects, governments provided some direct subsidies often

in the form of rights to land. More controversial was support that guaranteed minimum revenues to the project sponsors.

The Asian crisis notwithstanding, few countries worldwide have succeeded in using a stand-alone build-operate-transfer model to deliver a significant transportation network. Especially in the early stages of implementation, demand projections have proved overoptimistic and cost overruns have proven endemic. A major toll road program in Mexico suffered from both problems. In Bangkok, Thailand, private expressway and urban rail financing has been scaled back since the government and private concessionaires failed to agree on and adhere to contractual terms. Even on heavily traveled roads, such as the one from Guangzhou to Shenzhen in Southern China, cost overruns have led to unanticipated financing requirements. The numbers of private transportation projects has fallen sharply. In 1998, in the aftermath of the Asian crisis, only one new toll road was brought to successful financial closure in the developing world (in Croatia).

Malaysia. Malaysian contingent liabilities have arisen principally from two Kuala Lumpur light rail projects and an extensive toll road program. The light rail projects have suffered much lower than expected demand. By October 1998, concessions were signed for 26 expressway and toll bridge projects. Of these, 12 projects were open to traffic, six were under construction, and the remaining eight were under negotiation. The full program was expected to create about 1700 kilometers of toll roads. Though the roads under the toll road program represent only about two percent of the total length of the country's road network, they are important economic arteries. Some earlier roads, including the major North-South Expressway, enjoyed initial financial success. Problems

have arisen, in part, on account of the crisis-related economic downturn that reduced demand, especially for new highways, and also affected users' willingness to pay tolls. However, the long-term economics of the new generation of toll roads is suspect.

Since a comprehensive account of the government's contingent liabilities is not possible, estimates were obtained for three transportation projects. These projects were essentially underwritten by the government. Failure by the project to make its commercial debt payment required a declaration of a default and the takeover by the government of the commercial debt and hence of the project. The government consequently had significant financial exposure to these projects (figure 1).

In estimating the Government's exposure, a Monte Carlo simulation approach was used. Under this approach, the stochastic (uncertain) cash flows are projected into the future. Two thousand and five hundred scenarios are run. Under some scenarios the project is economically viable and no default occurs. Under other scenarios, the project defaults on its commercial debt and is taken over by the Government. The estimated *expected* cost to the Government is the average cost over all the scenarios. This is the cost the Government can expect to pay out on average. However, if a number of unfavorable factors coincide, e.g., low ridership and higher than anticipated costs, then the pay out can be larger. The *unexpected cost* is defined as the amount paid out in the 95 percentile case (i.e., there is only a five percent chance that such a eventuality would occur). In addition to these costs arising out of project default, the Government has commitment to subsidies, such as low interest rate loans, which would need to be paid.

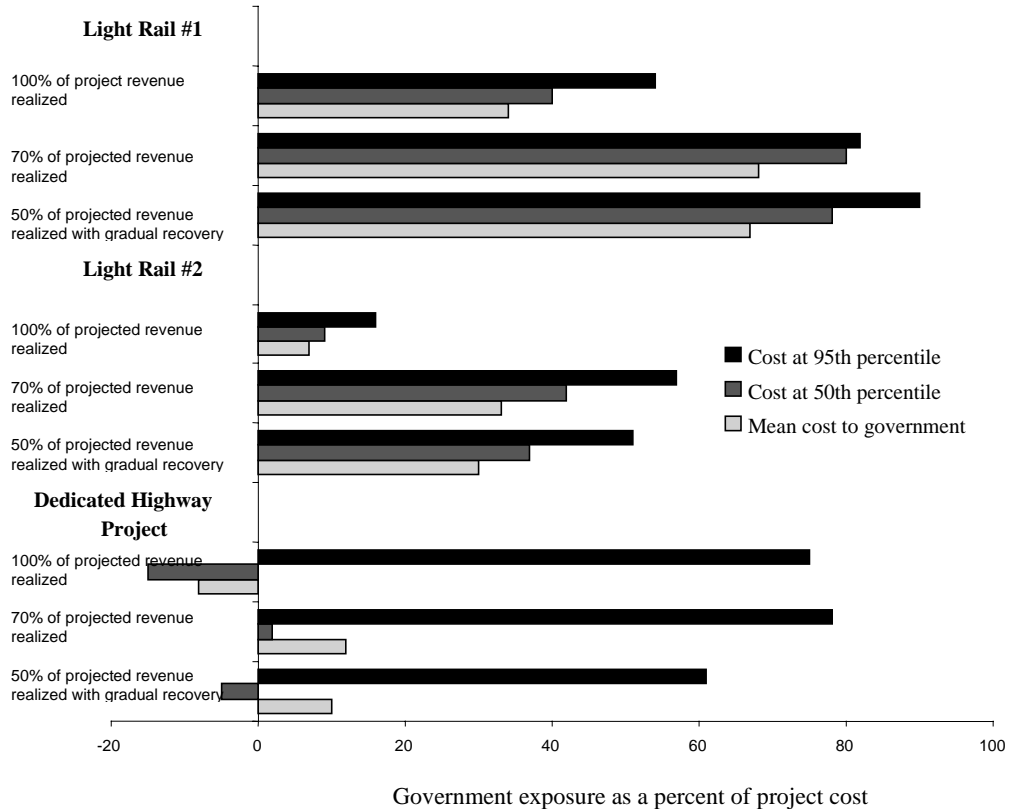
As figure 1 shows, the Government's financial obligations in transportation projects are highly sensitive to the assumption on ridership/traffic flows. For the light

rail projects, traffic projections had been steadily revised downwards following initiation of the projects. Each revision raised the costs to the Government substantially. Following the crisis, the ridership has been even lower than the latest pre-crisis projections. If ridership is about half of the most recent projections, then the expected costs to the Government for one of the projects could be as high as about two-thirds of project costs. The dedicated highway project performs better than the light rail projects. Assuming 50 percent less traffic than projected by the project and a gradual recovery after the crisis, the average cost to the government will be around 10 percent of the total project.³

The estimates suggest that about half the expected post-crisis costs arise from the optimistic projections when the projects were initiated and the other half are the result of the downturn. These estimates do not take into account obligations from the freezing of tolls on certain highways, which have created significant payments by the Government to the project sponsors (box 1).

³ For an earlier application of a similar Monte Carlo simulation to estimate contingent liabilities in Colombia, see Lewis and Mody (1997).

FIGURE 1: MONTE CARLO ESTIMATES OF CONTINGENT EXPOSURE TO TRANSPORT PROJECTS IN MALAYSIA



Box 1: From contingent to real liabilities: The North-South Highway (PLUS)

Under the 1986 concession agreement for the North South Highway automatic toll increases equal the greater of 6 percent or the annual increase in the consumer price index. If the eligible toll increase is denied, the concessionaire must be compensated an equivalent amount. Thus, permitting a formula-driven toll rate increase creates a contingent liability to government that grows with each additional year the eligible increase is denied. Since 1996, the Government has denied the full increase permitted under the concession agreement. The Government budgets for this expense, which for the PLUS concession was a total of RM 161 million for 1996 and 1997, and increased sharply to RM 145 million 1998 (due to the cumulative denial of rate increase for successive years).

Indonesia. In Indonesia, the Government's obligations for toll road projects are more modest than in Malaysia and are also more modest than in Indonesia's own power sector. This is the case for two reasons. First, many of the roads carry intra-urban traffic, which is relatively well-established and steady. These roads, therefore, have not been seriously affected by the crisis. Second, the Government has few explicit guarantees, unlike in Malaysia where default on its loans by the project typically requires the Government to pay the outstanding debt and take over the project. However, the full extent of the obligations may be larger than is apparent. Much of the financing of the toll roads came from domestic banks. The non-performance of the toll roads would show in the non-performing portfolio of the banks, which in turn are backed by the Government. Thus, there may actually be more exposure to the Government from the toll road projects than is evident.⁴

Lessons for private transport concessions. Since individual toll road and rail projects rarely generate positive cash flows in their early years, a possible approach lies in creating regional transport utilities that are able to cross-subsidize the different transportation segments within their jurisdiction. Such cross-subsidization could be justified on the basis of network externalities. This model has been piloted by the Provincial Chinese Communications Ministries in tolled highway development. In several provinces, Provincial Toll Road Companies securitize existing toll road assets on domestic and Hong Kong stock exchanges, using the proceeds to finance new toll highway development.

⁴ To the extent this is already part of the overall bad debt portfolio of the troubled banks in Indonesia, it is not an *additional* liability for the government.

Lessons from France and Spain, which have among the more extensive toll road programs, may also be relevant. In particular, they have experimented with private toll road companies that operate more multiple roads(Gomez-Ibanez and Meyer 1992). In France, three of the four toll road companies went bankrupt in the 1970s, following the energy crisis, and were taken over by the government. The one remaining private company was the largest and has maintained efficient operations. Since then, France has used a system of cross-subsidization across companies to assist the investment programs in the underdeveloped regions. Spain has dispersed its toll road holdings among about a dozen or so companies. The impact of the oil crisis was felt also in Spain but with a less devastating effect. The government took over some of the smaller companies. However, the bulk of the toll road network continues to be in private hands. Spain has avoided cross-subsidization across companies on the grounds that this reduces the incentives for improved efficiency. In both France and Spain, initial tolls were set at different levels but the subsequent increases are based on a common formula. For example, in France, allowed tariff increase is at 95 percent of the increase in the consumer price index.

Lessons from the Metropolitan Transportation Authority in New York, an example of a relatively successful transport utility, may be relevant for urban public transport. The Metropolitan Transport Authority operates the subway, bus, and commuter railroad systems, which run chronic operating deficits, and also owns the Tri-borough Bridge and Tunnel Authority (TBTA). TBTA generates operating profits well in excess of half a billion U.S. dollars per year, which subsidize transit operations or enable infrastructure investments. The experience highlights the importance of coordinating the different transport modes.

The lessons from the international experience, therefore, caution that the objective of speeding up the development of urban and inter-city transportation networks through private capital may be untenable except in select circumstances. As such, while the economic crisis, and the consequent fall in ridership and traffic, undoubtedly created additional fiscal stress in Malaysia (as also in Thailand), the very basis of a strategy of accelerated development that does not take into account the integrated nature of transport networks must be reexamined.

Power sector

Government contingent obligations in the power sector arise mainly through long-term “take-or-pay” contracts with independent power producers (IPPs). Under these contracts, the government-owned power utility makes a commitment to buy (“take”) a minimum amount of power at a prespecified price or pay for that contracted power in any case. Typically also the power utility is financially strained and so the utility’s obligation is backed by the sovereign government, creating a government contingent liability. In developing countries, the IPP strategy was pioneered in the early 1990s by the

Philippines (World Bank 1994). The Philippine Government also waived sovereign immunity against claims made by international creditors.

The IPP strategy is attractive because it facilitates a rapid installation of power generation capacity at no immediate cost to the government. The government takes on a contingent obligation, which may never be called especially if the high economic growth projections materialize. The cost of not adding to capacity can be large since the lack of power can constrain growth. Following the Philippine example, other countries contracted with IPPs, especially in Indonesia, Pakistan, and Thailand. Except in the Philippines, disagreements and contract renegotiations have been a serious problem.

Malaysia. Obligations for IPPs are not borne directly by the Government but by Tenaga Nasional Berhad (TNB), the partially privatized power utility.⁵ These obligations arise in the context of long-term “take-or-pay” contracts with IPPs. If the exchange rate is allowed to float, the depreciation can also increase the costs of imported inputs and debt denominated in foreign currencies. These costs (unlike those for hikes in interest rates) are contractually passed on to Tenaga. How well Tenaga is able to bear these costs depends upon its financial condition.

In the run-up to the crisis, Tenaga’s financial situation was conditioned by its large U.S. Dollar-denominated borrowings, which resulted in significant foreign exchange losses as the Malaysian Ringgit weakened (box 2). As a consequence, while demand growth remained surprisingly strong following the crisis, Tenaga’s internal funding resources diminished, requiring fresh additional foreign borrowings. Tenaga

⁵ Electricity supply in Malaysia is the responsibility of three entities, each operating in its own area. In Peninsular Malaysia, the partially privatized Tenaga Nasional Berhad (TNB), earlier the National Electricity Board, is responsible. The Sabah Electricity Sdn. Bhd, under the majority ownership of TNB

sought to renegotiate its commitments to five IPP's; however, the proposal was not accepted by the IPPs, although in a small gesture, they agreed to receive payments monthly instead of weekly.

Box 2: Tenaga's approach to the crisis

The Government continues to be the principal shareholder of the electricity utility Tenaga Nasional Bhd, which suffered cash losses for 1998 that were significantly higher than in the previous year (table below). The big loss occurred on account of the currency depreciation. Demand growth slowed down but continued to be surprisingly strong. Electricity demand is expected to grow between 6 and 8 percent annually.

	For financial year ending on August 31, in RM billion	
	1997	1998
Turnover	10.0	11.4
Operating Profit	1.4	0.6
Foreign Exchange Loss	(1.3)	(3.5)
Loss After Tax	(0.1)	(3.1)

As a utility, Tenaga normally has access to significant internal funding sources; these have been limited recently, requiring fresh foreign borrowings. To reduce its debt service burden, Tenaga swapped a part of its dollar denominated debt into yen denominated debt, thereby reducing dollar exposure from 40 to 30 percent. The yen debt carries a significantly lower interest rate. However, Tenaga now takes on the risk of possible yen appreciation.

Source: *The Star*, Wednesday, November 11, 1998.

Indonesia. Concerns existed prior to the crisis about excess power generation capacity and the unsolicited long term take-or-pay contracts that the government-owned

with the state government retaining a minority share, supplies power in Sabah. The Sarawak Electricity

utility, PLN, signed with some of the 26 independent power producers (IPPs). The cost of this power is high by international standards and, more to the point, in relation with tariffs that can be realistically be charged to final consumers. The crisis aggravated PLN's debt burden in two ways. First, the Rupiah value of its US dollar denominated obligations (including debt service to the Government of Indonesia on on-lent loans, gas purchases for its own plants, and contracted purchases of power from IPPs) skyrocketed as Rupiah depreciated. Second, demand growth fell. For instance, energy sales in Java-Bali (80 percent of PLN's market) are now projected to remain flat. PLN's current weak financial situation implies that it will be unable to meet all its contractual obligations.

PLN's obligations can ultimately be the Government of Indonesia's obligations. It remains the case that the Government's "letter of comfort" to the sponsors of private projects does not oblige the Government to pay creditors and IPPs on behalf of PLN under the take-or-pay contracts. However, as more IPP's come on stream, PLN's fiscal situation is likely to come under increasing pressure. As a state-owned entity, PLN would have recourse to the Government at least on some of its other obligations.

The implications of the crisis are serious. The IPP capacity contracted for by PLN is just coming on stream. During the fiscal year 1999/2000, additional monthly payments of about \$50-60 million (about 0.4 percent of GDP) came due. These payments will continue to increase for the next 4-5 years as successive IPPs get ready to deliver power. Since virtually none of the new capacity that comes on stream will be used in the next 4-5 years, given the high level of contracted capacity and the sharp decline in demand, these new obligations will present a huge drain on the financial resources of PLN.

PLN and the Indonesian Government are also exposed to risks associated with legal action. In view of PLN's growing obligations, the Government has put on hold a number of negotiations for additional capacity (*Keppres 39/97*, September 1997). In principle, that is the right decision. However, some of the negotiations were at a relatively advanced stage. One promoter of such a project has taken the view that a commitment did already exist on the part of the Government and has sought claims under the United Nations Commission on International Trade Law.

Beyond IPPs: a more competitive model. As with transport infrastructure, some of the problems faced by Indonesia (and also other countries such as Pakistan and Thailand), stem from the underlying strategy. While negotiations of project terms to lower the prices paid to the IPPs can help, ultimately, far reaching sectoral reform will be required. Such a strategy will entail more active steps towards containing the generating capacity and by creating a sector structure that permits the transferring more risks on to the private providers.

The recent international experience offers several pointers. First, to create more competition in power generation, countries that have contracted with IPPs will have to deal with the stranded assets from past contracts—assets whose economic value will potentially decline after deregulation, either because the market test shows they are no longer needed or because they face greater market risks. Considerable controversy surrounds how much compensation is due to the owners of the stranded assets and how the compensation would be funded—two choices are taxpayers or consumers. In general, the consumer pays through a levy on the electricity bill. This need not raise the cost of

electricity if competition lowers the basic charges, but it will delay the benefits of lower overall bills.

Second, creating and operating an independent system operator (ISO) is crucial. The ISO ensures equal access to transmission lines and ensures the economic utilization of generation assets through overseeing the functioning of a spot market for electricity. Although the details of the spot market vary somewhat across countries, the principle is the same everywhere. Generators bid for defined time slots by declaring their marginal cost of supply. The ISO dispatches requirements for that slot choosing the generators with the lowest marginal costs; all generators receive a price equal to the marginal cost of the highest cost supplier, thus creating an incentive for efficiency. The price paid by the electricity distributor for electricity received from the ISO is regulated and equals some variable cost elements (including the spot price of the electricity in the relevant time periods) and transmission charges that are limited through a price cap formula.

Third, competition also occurs through direct contracting between generators and the larger users of electricity as well as with distributors who then retail power to final consumers. Typically, these contracts are not regulated and hence the price charged and length of the contracts is determined through direct negotiation between the buyer and the seller. The spot market for electricity and the direct contracts provide benchmarks for each other and, where competition is effective, average prices in the two markets should converge. Some a key regulatory issue, however, does arise. The generator will not typically transmit electricity to the customer buying the power. Rather, the customer “will take physical service from the local utility which will deliver power commingled from an undifferentiated array of generators who are making common, simultaneous use

of the transmission grid and distribution facilities” (California Public Utilities Commission 1996). Thus, the generator requires the agreement of the local utility to conclude its obligation to its customer; the pricing of such access requires regulatory oversight.

Finally, distribution rates are typically regulated through a price cap formula. Once again, certain variable costs of the energy are passed through while the fixed charges for distribution (for connection and making capacity available) are capped. Competition between distributors is increasingly permitted, especially for larger consumers, although as the Argentine example shows, small consumers are increasingly benefiting from choice of energy sources (see box 3).

Box 3: Competitive Power in Argentina

Argentina may well have the most competitive power industry in the world. At the end of 1997, generation capacity of 19,000 megawatts was shared by over 40 generation plants. Another 14 plants with total capacity of over 5000 megawatts were expected to be operational by the end of 2001. Most of the new plants were expected to employ the combined cycle technology, which allows greater operational efficiency and is economical at smaller scales than traditional thermal and hydro powered generation.

Distribution concessions were awarded to 17 principal distributors plus several smaller ones. Distributors are organized largely in line with state boundaries. Large consumers are able to bypass the distributors. Argentina has one of the most liberal definitions of large users: thus, many relatively small users are able to directly contract with generators. Two categories of large users are recognized: those with a requirement of more than 1.0 megawatt and a minimum annual consumption of 4380 megawatt hours must contract directly for at least 50 percent of their needs; those with peak requirements of between 0.1 and 2.0 megawatts must contract for all of their energy needs directly with

generators. Most contracts, in practice, are of relatively short duration since prices have been falling.

The competitive system is held together by a transmission and dispatch system and an overall regulatory framework for ensuring coordination and efficient pricing. The National Interconnected System covers about 90 percent of the Argentine population and the rest is served by a smaller grid. The system is managed by Compañía Administradora del Mercado Mayorista Eléctrico S.A. (CAMMESA), which is owned half by the government and the rest by various suppliers and users. While CAMMESA has been successful in operating the spot market for electricity, through which the various generators supply power to the transmission grid, expansion of the network has been more difficult to coordinate since it needs joint approval by several parties.

The regulatory task includes setting price caps for the transmission and distribution segments of the network. It is also intended that the regulator will supervise the periodic re-auctioning of the distribution networks. To augment the independence of the regulator, high standards have been set for qualifying as a regulator, the regulators have fixed terms and cannot be easily removed, the terms are staggered in the style of U.S. Public Utility Commissions to provide continuity to the regulator's activities, and an independent source of funding has been created through a levy on the various industry participants.

Source: Duff and Phelps 1998 and Estache and Rodríguez-Pardina 1998.

Malaysia's national sanitation project

Malaysia has made important strides in using the private sector for delivery of water and sanitation services (Haarmeyer and Mody 1998). Several water supply and treatment projects have been constructed on a build-operate-transfer basis. In addition, Indah Water Konsortium (IWK) national sewerage project demonstrates both the benefits and limits of the Malaysian approach. Prior to IWK concession, local governments bore responsibility for providing sewerage services. However, in most cases they lacked

necessary financial or technical resources and, as a result, existing physical plant was very neglected and needed investments were not undertaken. The unsolicited project proposal offered an innovative approach to dealing with an increasingly urgent sewerage problem. IWK's proposal was processed and approved very rapidly, and the award in 1994 yielded a dramatic improvement in the level of investment and in the quality of service.

However, IWK quickly began to encounter problems that became more serious over time and threaten the financial viability of the concession. Consumers protested against the rates charged soon after the concession was awarded, well before the economic crisis. As a result, IWK's contractually agreed to tariff structure was disallowed without clear compensatory arrangements and was not reestablished until 1997 at much lower levels. Indeed, it appears that several important details relating to the tariff and compensation structure, interim performance targets, and contract management were not addressed with sufficient detail in the concession agreement, perhaps in part due to the speed with which it was processed.

Notwithstanding the tariff structure change, poor collection rates are a critical ongoing problem complicated by the economic slowdown and lack of an effective enforcement mechanism. The economic crisis also prompted a 30 percent reduction in charges to commercial sector customers in July 1998. Compounding the revenue woes, the full magnitude of the physical rehabilitation needed was not anticipated, and IWK's management was further disrupted by three ownership changes during its first four years. As a consequence, the Government has had to make more than RM 450 million in long-term soft loans to IWK, in addition to other support.

Though many of IWK's difficulties are not uncommon, the approach taken has aggravated them. At least in four respects, the Malaysian approach runs counter to international trends:

- By eschewing a competitive bidding process in favor of a speedier negotiated transaction, the legitimacy of the prices charged was compromised. Consumers are more likely to accept paying for services where the prices charged are perceived as fair.
- By awarding a nationwide contract, the Government further limited its capacity to regulate the private supplier. In the U.K. and in some developing country cities (e.g., Manila and Mexico City), benchmarked competition has been employed. By splitting the concession area into distinct jurisdictions, the regulatory authority is able to compare and assess performance of the different operators, even though the operators do not directly compete with each other.
- By guaranteeing the minimum rate of return, the Government went against the trend of using "incentive" regulation. As is well known, under a guaranteed return, the operator has no incentive to control costs. In contrast, under incentive regulation, such as "price-cap" regulation, there exists a stronger incentive to limit costs.
- A final unusual feature of the contract was the separation of sewerage from water. In major concession contracts (e.g., Buenos Aires and Manila), water and sewerage have been jointly awarded to the private concessionaire. This allows charging for sewerage services as an add-on to the water service. In Malaysia, water services are under the provincial authorities and sewerage is under national authority. The inability to reconcile these two authorities led to the separate award of sewerage

services to private operators. This represents a missed opportunity from a financial standpoint, insofar as water utilities generally have much better success collecting revenues, thereby possibly resolving a very serious problem for IWK.

From the crisis to the long view

The crisis presents governments with a challenge—and an opportunity—to rethink their strategies in key infrastructure sectors. It is possible, as in Malaysia, to view the post-crisis problems as temporary and seek financial engineering solutions to tide over. This approach requires the assumption that the projects themselves and the sector structures are basically sound and that with the recovery of growth the projects will be financially viable. Clearly, a thorough overhaul of sector strategies is not required as a response to the crisis; a more modest effort will provide short-term relief. Alternatively, the governments could undertake a more fundamental review of project and sector economics to create a sounder basis for future operation and investment decisions. Even after recovery from the crisis, East Asian growth rates are unlikely to achieve the high levels just prior to the crisis. As such, the policy emphasis needs to shift from the creation of new assets to the more efficient use of assets. As Argentina demonstrates, a crisis allows a fundamental questioning of old infrastructure strategies and the possibility of mobilizing the political will to take difficult decisions.

A longer view is also desirable from a risk management perspective. Risk management entails three complementary tasks: mitigation of the risk at source, transferring the risk to parties better able to bear the risk, and monitoring and managing any residual risk that cannot be mitigated or transferred.

Ultimately, risk mitigation is the most desirable long-run strategy since it reduces the vulnerability of the economy to shocks and hence reduces the government's direct and indirect contingent liabilities. Mitigation is also beneficial because it can be typically associated with strategies that enhance efficiency of resource use, thus enabling faster growth and lower risk. Thus, for example, a power sector that is organized to permit competitive generation and distribution will foster efficient use of resources while at the same time lowering the risks arising from excessive installation of capacity. Risk would also be more effectively transferred to private providers than under the current system.

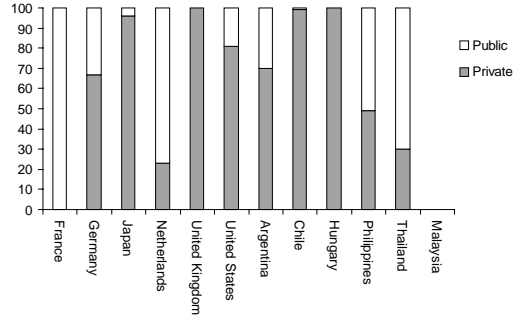
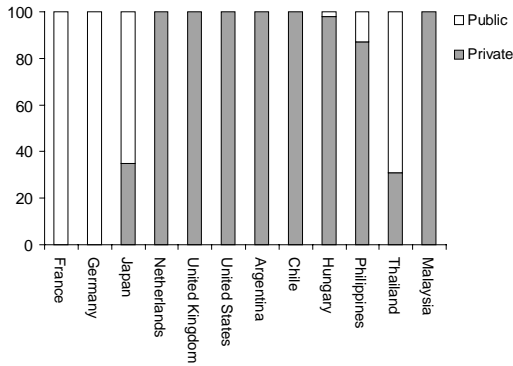
Sector strategies: comparing Malaysia and Chile. Malaysia is unusual in targeting its privatization initiatives to the “hard” sectors: transportation and water/sanitation. Although the share of privatized infrastructure investment in Malaysia and Chile are at comparable levels, significant sectoral differences exist between the two countries (figure 2). In interpreting figure 2, however, it should be noted, that the true extent of private participation in Malaysia is exaggerated since the figure more closely reflects the share of project value under private operation than the financial risk borne by private operators (see box 4).

Figure 2: Public and private investment in infrastructure across the world, 1995

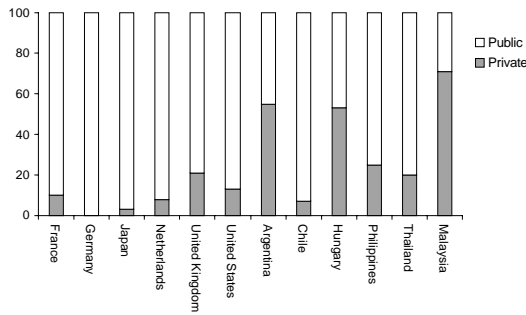
as a percent of total investment

Telecom

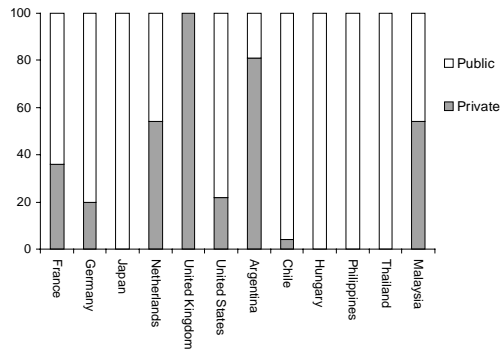
Power



Transport



Water & Sanitation



Source: World Bank staff estimates.

Box 4: How much risk do Malaysian project sponsors really take?

As in many countries, however, the true extent of private participation in Malaysia is less than the value of the “private” projects. The private capital at risk is substantially lower than the project cost, as the Government has provided support through a number of mechanisms: soft loans, equity investments, directed lending through banks and provident funds, and through various explicit and implicit guarantees.

- Government “soft” loans carry low interest rates (between 0 and 8 percent per annum, long grace periods of 10-15 years, and maturities as long as 25 years). These loans often finance the acquisition of land and are justified on grounds that the projects would not otherwise be economically viable and, by contract, are transferred to the Government at the end of the concession period.

- Equity participation through Government-owned holding companies and corporations, such as Khazanah, Employees Provident Fund (EPF), Petronas, and Tenaga.
- Government guarantees take different forms. In some transportation projects, the minimum revenue or traffic volume is guaranteed, while minimum revenue levels are assured to IPP project sponsors in the “take-or-pay” capacity payment arrangements. The Government also stands ready to compensate lenders and project equity providers in the event of project termination. In the Indah Water Konsortium (IWK) concession, the Government’s guarantee is technically broader and assures a minimum rate of return to the equity holders.
- Lending by domestic financial institutions (including EPF and other Government directed entities) has been a strength of Malaysian infrastructure development, as it has reduced reliance on foreign currency borrowings, a significant source of financial dislocation in other developing Asian nations. However, while such borrowing was intended to take place at “commercial terms”, lending institutions lacked incentives and, in some cases, perhaps the sophistication to conduct extensive due diligence given the Government’s support and sponsorship of projects.

Malaysia and Chile differ the in their philosophical motivations for privatization. Whereas Chilean privatization is integrally linked to a competition policy, competition within the infrastructure sector is virtually absent in Malaysia. Instead, privatization in Malaysia has been, and continues to be, driven by the aim to fill a perceived financing gap, although other considerations including socio-economic factors are at play as well. Unlike Chile, where the power sector is almost entirely private but transportation and water/sanitation investments continue largely in public hands, Malaysia has pursued nearly the reverse strategy. Chilean privatization of transport and water has been limited since competition in these sectors is difficult to achieve. Contrast also the differences in privatization approaches of the electric power sector. In Chile, power generators compete

to supply to a power grid. In Malaysia, the five private power producers have long-term take-or-pay contracts with Tenaga giving them a virtually assured market for the power they produce irrespective of efficiency. So while Chilean authorities have been concerned with maintaining adequate separation between generation, transmission and distribution of electricity, until recently, unbundling power sector services has not been a high priority policy matter in Malaysia.

Conclusions

Much of the discussion of guarantees for infrastructure in East Asia was initially conducted in terms of “optimizing” the guarantees (Johnston, Mody, and Shanks 1996). The assumption was that guarantees, in one form or another, were likely to be a permanent (or, at least, long-term) element of infrastructure financing. As such, the focus was on paring down the guarantees from the relatively extensive obligations taken on by governments in the early stages to more limited obligations that constituted a “core” minimum. The core obligations, in turn, were defined as those that reinforced government regulatory commitments with respect to rights of operation and pricing formulae. Financial guarantees were a device to hold governments to their word. Proposals in vogue included the timing of reducing the lists of risks for which governments provided guarantees and also the benchmarks (e.g., credit rating upgrades) that would trigger the reductions.

The East Asian crisis can be treated as an unusually extreme event unlikely to repeat itself and hence having no bearing on the basic approach to infrastructure privatization and hence having no additional bearing on the forms of government

commitment. However, the argument of this paper is that that would be a mistake. It is likely that the contingent liabilities that governments will eventually have to pay for will be less than thought at the height of the crisis. But that should not lull governments into assuming that the infrastructure strategy being pursued is without significant risks.

Throughout the region, as also in other parts of the developing world, projects based on government contingent support (either implicit or explicit) have encountered problems even outside of crisis conditions, with significant fiscal costs to governments. Long-term sustainability, for both risk management and efficiency reasons, requires a shift to a new model rather than tinkering with the old one.

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