Institute of Current World Affairs

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Institute Fellows and their Activities

Adam Smith Albion. A former research associate at the Institute for EastWest Studies at Prague in the Czech Republic, Adam is spending two years studying and writing about Turkey and Central Asia, and their importance as actors the Middle East and the former Soviet bloc A Harvard graduate (1988; History), Adam has completed the first year of a two-year M Litt Degree in Russian/East European history and languages at Oxford University [EUROPE/RUSSIA]

Christopher P. Ball An economist, Chris Ball holds a B A from the University of Alabama in Huntsville and attended the 1992 International Summer School at the London School of Economics He studied Hungarian for two years in Budapest while serving as Project Director for the Hungarian Atlantic Council As an Institute Fellow, he is studying and writing about Hungarian minorities in the former Soviet-bloc nations of East and Central Europe [EUROPE/RUSSIA]

William F. Foote Formerly a financial analyst with Lehman Brothers' Emerging Markets Group, Willy Foote is examining the economic substructure of Mexico and the impact of free-market reforms on Mexico's people, society and politics Willy holds a Bachelor's degree from Yale University (history), a Master's from the London School of Economics (Development Economics; Latin America) and studied Basque history in San Sebastian, Spain He carried out intensive Spanish-language studies in Guatemala in 1990 and then worked as a copy editor and Reporter for the *Buenos Aires Herald* from 1990 to 1992. [THE AMERICAS]

John Harris A would-be lawyer with an undergraduate degree in History from the University of Chicago, John reverted to international studies after a year of internship in the product-liability department of a Chicago law firm and took two years of postgraduate Russian at the University of Washington in Seattle Based in Moscow during his fellowship, John is studying and writing about Russia's nascent political parties as they begin the difficult transition from identities based on the personalities of their leaders to positions based on national and international issues [EUROPE/RUSSIA]

Pramila Jayapal Born in India, Pramila left when she was four and went through primary and secondary education in Indonesia She graduated from Georgetown University in 1986 and won an M B A from the Kellogg School of Management in Evanston, Illinois in 1990. She has worked as a corporate analyst for PaineWebber, an accounts manager for the world's leading producer of cardiac defibrillators and manager of a $7 million developing-country revolving-loan fund for the Program for Appropriate Technology in Health (PATH) in Seattle Pramila is tracing her roots in India, and studying social issues involving religion, the status of women, population and AIDS. [SOUTH ASIA]

Marc Michaelson A program manager for Save the Children in The Gambia, Marc has moved across Africa to the Horn, there to assess nation-building in Eritrea and Ethiopia, and (conditions permitting) availing and unavailing humanitarian efforts in northern Somalia and southern Sudan With a B A in political science from Tufts, a year of non-degree study at the London School of Economics and a Master's in International Peace Studies from Notre Dame, he describes his postgraduate years as "seven years' experience in international development programming and peace research" [sub-SAHARA]

Randi Movich The current John Miller Musser Memorial Forest & Society Fellow, Randi is spending two years in Guinea, West Africa, studying and writing about the ways in which indigenous women use forest resources for reproductive health With a B.A in biology from the University of California at Santa Cruz and a Master of Science degree in Forest Resources from the University of Idaho, Randi is building on two years' experience as a Peace Corps agroforestry extension agent in the same region of Guinea where she will be living as a Fellow with her husband, Jeff Fields — also the holder of an Idaho Master's in Forest Resources [sub-SAHARA]

John B. Robinson A 1991 Harvard graduate with a certificate of proficiency from the Institute of KiSwahili in Zanzibar, John spent two years as an English teacher in Tanzania He received a Master's degree in Creative Writing from Brown University in 1995 He and his wife Delphine, a French oceanographer, are spending two years in Madagascar with their two young sons, Nicolas and Rowland, where he will be writing about varied aspects of the island-nation's struggle to survive industrial and natural-resource exploitation and the effects of a rapidly swelling population [sub-SAHARA]

Teresa C. Yates A former member of the American Civil Liberties Union's national task force on the workplace, Teresa is spending two years in South Africa observing and reporting on the efforts of the Mandela government to reform the national land-tenure system. A Vassar graduate with a juris doctor from the University of Cincinnati College of Law, Teresa had an internship at the Centre for Applied Legal Studies in Johannesburg in 1991 and 1992, studying the feasibility of including social and economic rights in the new South African constitution [sub-SAHARA]

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William F. Foote is an Institute Fellow examining the economic substructure of Mexico.

Mexico's Troubled Toll Roads

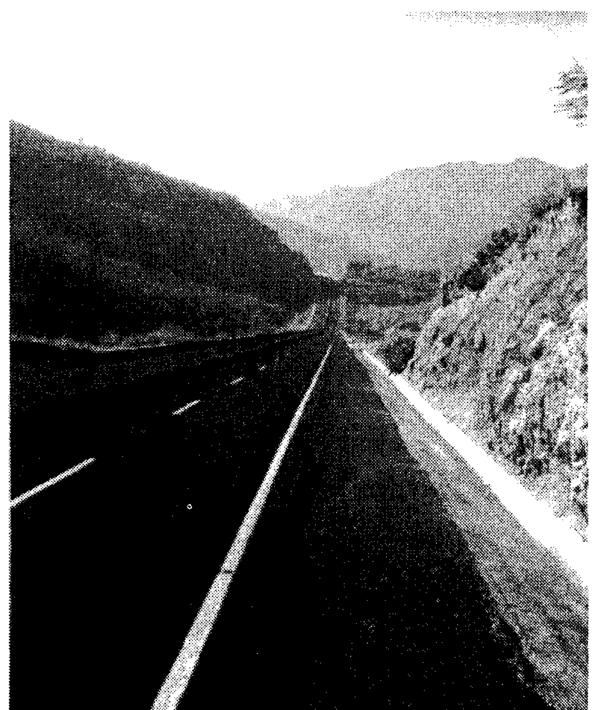
MEXICO CITY, Mexico February 3, 1997

By William F. Foote

Mexico has nifty turnpikes. Four-laned and freshly paved, they crisscross this ruggedly handsome country from top to bottom: across desert plateaus, over cacti-laden sierra, through perfumed pine forests, into misty jungles.

From 1989 to 1994, in an ambitious road-building program, the government of former President Carlos Salinas de Gortari laid down 3,600 miles of privately-financed superhighways. In just six years Mexico built what had taken two decades to achieve in western European countries. But there was a distressing irony. While the government cut public expenditure on transport infrastructure, private concessionaires built some of the most expensive stretches of asphalt ever laid down by the hand of man. Motorists were singularly unimpressed by the fancy yet outrageously costly toll roads. In the wake of the disastrous 1994 peso devaluation, one understands why Mexicans, when forced to choose, might rather walk.

Problem is, they would be paying the tolls anyway, albeit indirectly through taxes. In January, the federal government announced outlays of 26.1 billion pesos (U.S.$3.3 billion) over the next 30 years to restructure 52 highways built under private concession in the early nineties. This adds to last year's 14-billion-peso (U.S.$1.7 billion) toll-road rescue plan targeting the Mexican banking system, which, while state-owned, financed roads on non-market terms. As for the private concessionaires, they have all renegotiated payments and turned over debt service and road maintenance to the government.


Empty superhighway stretching across the Mexican sierra

Despite these adjustments, motorists still shun the superhighways. Taking the free, parallel alternatives to each tolled highway that are required by Mexican law, they drive at their own risk: highway robbery is rampant, policing is patchy. Like covered wagoneers in the Wild West, local truckers have taken to traveling by convoy to thwart the growing legions of roadway bandits. Barely paved and crater-filled, their overcrowded routes are bruising on vehicles and trade alike.

It was not supposed to be this way. Not long ago, the National Highway Program was the talk of the Americas as cash-strapped governments turned to private-sector concessions to satisfy their people's hunger for infrastructure services. During the early 1990s, billions of dollars began flowing into infrastructure projects across the region: telephone service, ports, airports, electricity, water, sanitation systems, highways.

In Mexico, roads took on great significance because of the North American Free Trade Agreement. In 1989, roughly 80 percent of Mexico's exports were being shipped North by land; yet there were only 600 miles of poorly-maintained highways in the whole country. Transport infrastructure offered a key to capitalizing on trade reform by linking Mexico's economy with that of the U.S. A modern, integrated turnpike system became a top priority for Carlos Salinas.

During his six-year term, at a cost of nearly U.S.$15 billion, Mexico conducted a road-building campaign on a par with Hitler's autobahns and New Jersey's highway splurge of the 1960s and '70s. At first, the strategy drew praise from pundits and market analysts the world over. In 1992-4, the National Highway Program received a global thumbs-up as Mexican construction companies and the federal government launched toll-road bonds in the international capital markets.

Domestically, however, things were amiss. Cars and especially trucks avoided the new roads, put off by some of the highest tolls in the world. Before the devaluation, for example, the 250-mile trip from Mexico City to Acapulco cost U.S.$63. In 1993, the auto toll for the 14-mile stretch from Mexico City to Toluca was U.S.$6.30 dollars and at least twice that for trucks. By contrast, the entire 148-mile journey on the New Jersey Turnpike cost $4.60 .[1]

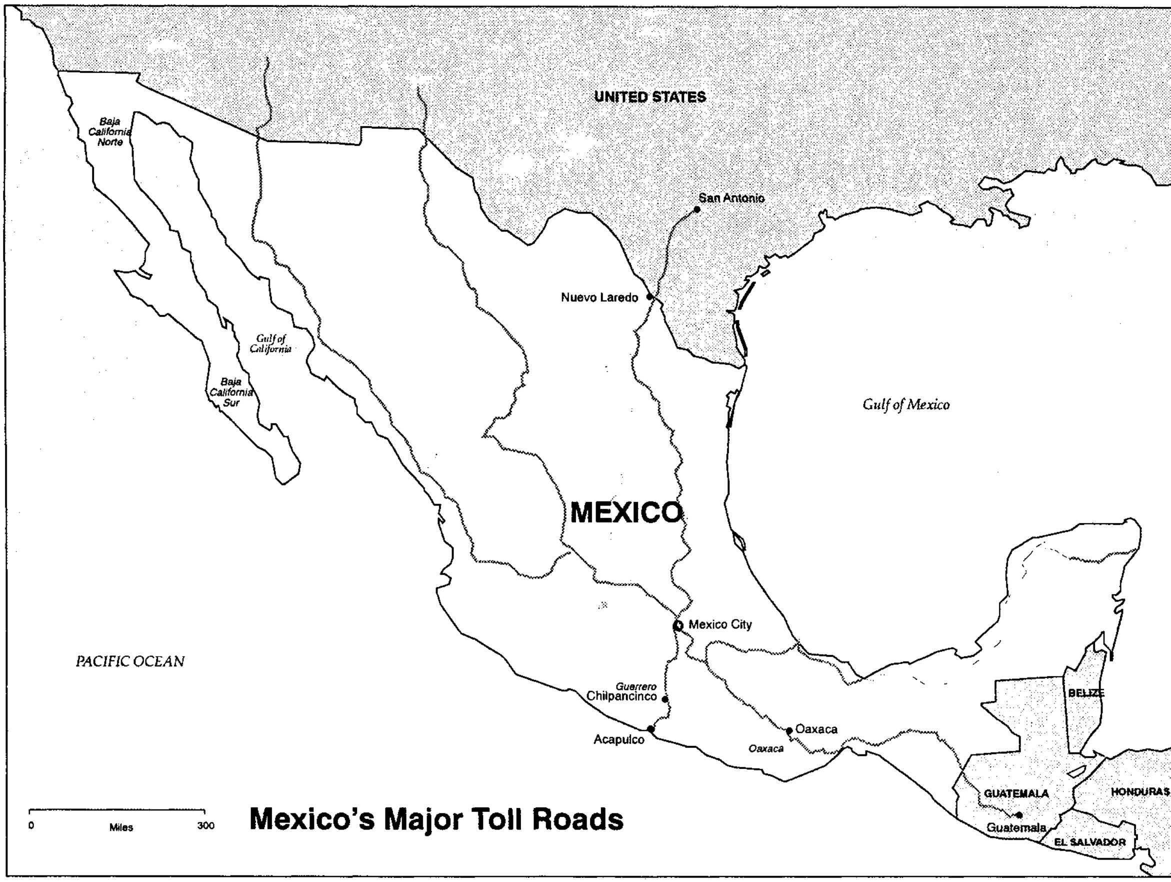
The causes for these inflated tolls are numerous and complex. Any analysis, however, must include the Mexican government's hasty road designs, traffic studies and cost projections. Grossly overoptimistic, these project guidelines led to lower-than-projected traffic and skyrocketing construction costs. Once highways were in operation, revenue collected at toll booths — needed to maintain roads, recoup investments, pay off debts — dropped to a fraction of projected levels.

When selecting concessionaires, moreover, the government favored investors who promised to transfer the road back to the state in the shortest amount of time. This encouraged concessionaires, who wanted to earn a profit within the concession period, to negotiate higher toll rates, which scared away traffic. At the same time, partial blame rests on Mexico's formerly state-owned banks (privatized in 1992), which lended to the highway projects without performing the normal valuations and screening processes. Considered together, these shortfalls clearly helped pave the way toward today's multi-billion-dollar bailout packages.

Since Mexico's financial crisis broke, however, a reductionist view of the not-so-super highway program has taken hold. The toll-road troubles, some argue, are a result of the botched peso devaluation rather than the aforementioned problems. No doubt, the impact of Mexico's

Freshly-paved turnpikes crisscross Mexico, like this one near the southern Pacific coast.

[1] *The New York Times*, Feb. 27, 1993.



financial meltdown on turnpike operations and financings has been enormous — traffic volumes have dwindled to all-time lows; interest rates have soared on the conessionaires' bank debt. But these factors are circumstantial and after the fact. The effects of devaluation should not obscure the fundamental, underlying causes of the program's failure that predated the outbreak of crisis.

Thus the opposing views of the toll road program: On one side, advocates call the glitches natural points on Mexico's free-market learning curve. When formerly state-led economies explore the unfamiliar territory of private concessions, they argue, such problems are to be expected. On the other side, critics suggest that hasty road designs, traffic studies, and uncontrolled costs offered myriad opportunities for sweetheart deals, if not blatant corruption. Far from an innocent educational process, the toll roads embodied the crony capitalism that characterized the economic reforms of the Salinas regime. Whatever the conclusion, or the nature, of the problem, billions of tax dollars must now go toward paving the solution.

TURNPIKE CONSTRUCTION: STRUCTURAL BUMPS

The story began by the beaches of Acapulco in the poor, southern state of Guerrero. In the 1980s, Jose Francisco Ruiz Massieu, the local governor and former brother-in-law of Carlos Salinas, became obsessed with improving road access to the city's oceanside resorts. The drive from Mexico City was a tortuous eight hours, windy and dangerous. A new turnpike would cut the journey in half and thus boost domestic tourism to Mexico's Pacific coast. It would be called the Highway of the Sun.

The project coincided with sweeping free-market reforms in Mexico. Elected in late 1988, President Salinas targeted transport infrastructure as part of his national modernization plan. More than any other activity, road construction showcased Mexico's traditional propensity toward corruption in public works. Minimal engineering studies combined with hasty cost projections created ample opportunity for the padding of budgets. Contractors and public officials presupposed the constant renegotiation of contracts, specifications, and costs. So what if the numbers never quite added up? The government was footing the bill.

The Highway of the Sun was supposed to be different. As Mexico's first experiment in privately-financed infrastructure, the strategy developed was standard international practice. The Transportation Ministry granted concessions through a competitive bidding process. Typically, concessionaires were special-purpose entities owned by one or more construction companies. Their job was to finance, build, operate and maintain highways in accordance with standards, specifications and designs set by the government. In return, concessionaires received the right to retain all the revenues derived from operating roads for the life of their concessions. When those contracts expired, highway operation and toll collection would revert to the government.

The underlying purpose was to reduce public expenditure on infrastructure. Therefore, concessionaires could not turn to the state coffers to finance projects. They would rely instead on short-term interim loans from commercial banks as well as their own "sweat" equity. But this was high-cost financing. That's why, once the superhighways were up and running, the concessionaires planned to refinance their short-term loans in the Mexican or international markets to extend maturities and obtain cheaper interest rates.

That was the basic formula that would apply to all 52 concessions of the National Highway Program — at least, that was the theory. In practice, the result was somewhat different. According to numerous sources familiar with the toll road experiment, the Highway of the Sun came to represent a hybrid of state-led and free-market models, a blending of sorts of the old ways with the new.

"The Mexico City-Acapulco road had a swing effect," says one prominent banker who, like many people I interviewed on this subject, requested anonymity. "It was a sliding of sorts into a new kind of thing. In hindsight, I don't think anybody fully realized what they were getting into — not the government, nor the commercial banks, nor the construction companies."

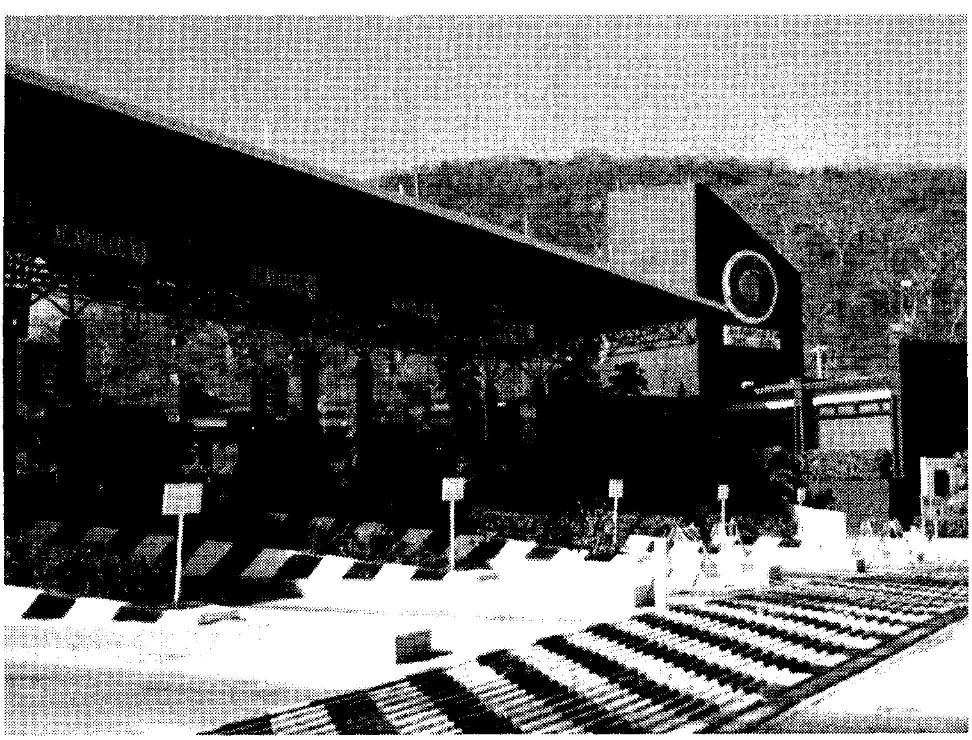
The consensus seems to be that the toll-road program resembled traditional public works far more than the government would care to admit. Most conspicuously, the absence of a comprehensive blueprint or master plan prior to the granting of highway concessions smacked of bygone days. By all accounts, the Transportation Ministry's designs and specifications for the construction of the roads were incomplete.

Granted, some problems are inevitable. The construction of a turnpike in Oaxaca, for instance, had to be diverted due to satellite photos that mistook unexcavated archeological ruins for a conventional foothill. In general, however, the lack of thorough, reliable project preparation created serious distortions in the construction, cost structure and operation of Mexico's superhighways.

"This was the government's biggest mistake," says Ernesto Marcos, formerly chief financial officer of Pemex, Mexico's state-owned oil company. "The transport authorities should never have called for bids without finishing their engineering homework first."

Some blame the inertial power of habit. Steeped in state-dominated tradition, public works bureaucrats and contractors could not be expected to change overnight. Others point to politics — namely, Carlos Salinas's haste to build highways in order to claim personal credit during his six-year presidential term. The fact that Mexico paved roads faster than any other country lends credence to this theory. Consider Italy, which began its highway program in 1965, building 6,500 kilometers of roads in thirty years. By contrast, Mexico built 5,800 in six!

Hurriedness hampered strategic planning. Take the untimely delivery of the rights-of-way on which toll roads



Modern toll booths, or casetas, *pop up regularly on the Mexico City-Acapulco superhighway.*


First-class buses and fancy cars on the toll road to Acapulco

were to be located. In its haste, the federal government failed to ensure that local authorities would assume the responsibility for liberating the rights-of-way in areas under their jurisdiction before highway construction began. As a result, during construction, road-building crews would often reach conflictive spots where the rights-of-way were still in dispute. To continue working, contractors would simply leap over the contested spot, leaving it for later. Waiting months for a conflict resolution, however, implied huge financial costs as interest payments accumulated.

This issue illustrates a general communication gap between the Transportation Ministry and local governments that would undermine other aspects of the highway program. Consider the ring-road concessions granted for numerous Mexican cities. Called *libramientos,* these much-needed highways promised to keep trucks and long-distance buses from congesting and polluting urban streets. In order for these toll roads to be financially sustainable, however, such vehicles should have been prohibited, to the extent possible, from entering city centers. This would have ensured traffic volume on the new toll roads. Because the risk of noncooperation on the part of local officials was never considered, however, many ring roads are virtually abandoned and 18-wheelers continue to clog downtown areas.

Traffic studies were another problem. While conducted by so-called independent traffic engineers, they reportedly fell below the standards required for such an undertaking. Traffic projections are critical for sustainable project financings as they offer the key to determining when investments will be recouped and what the capital returns will be. In Mexico, they were conducted in a period of months versus the standard year and a half in the United States. In addition, to improve outlooks, so-called independent traffic engineers allegedly monitored only the most traveled stretches of superhighway and at the busiest hours of the day.[2] As a result, once toll roads were in operation, projected traffic typically outstripped actual use by up to 30 percent.

The aforementioned shortfalls—in engineering studies, rights-of-way, inter-governmental coordination, traffic reports—underscore a major underlying flaw of the toll road program: the lack of risk allocation. According to project-financing experts, the effective distribution of risk amid all parties involved is a golden rule for the success of privately-financed infrastructure projects. This never happened in Mexico. Toll-road project risks were neither properly defined nor effectively allocated. As a result, following the peso devaluation, the ones who ultimately swallowed the cost of rescuing the superhighways were not their sponsors but the Mexican tax payers.

ON BANKING AND BIDDING

Commercial banks are by nature averse to risk. Without effective risk allocation for the toll-road projects, how did the concessionaires convince Mexico's commercial banks to grant them short-term construction loans? The answer is easy: before 1992, the commercial banks were state-owned. The government simply instructed them to finance the toll roads on non-market terms. This explains why they neglected to perform serious credit analyses of the projects.

"If it were today," says Jose Enrique Silos, a financier at Bancomer who helped furnish credit for six toll roads, "we would probably have been more careful with our analyses. We would have believed less of what the contractors and the government presented to us."

In 1982, Mexico nationalized its financial institutions in response to debt crisis. Politicians and bureaucrats, not financiers, began managing many of the banks. One in particular, called Serfin, would become the government's favorite vehicle for

[2] *La Reforma*, March 23, 1995.

financing infrastructure projects in the 1980s. So closely was Serfin associated with the government that its TV advertisements made no reference at all to financial services — flashing the Mexican flag said it all.[3]

Not surprisingly, Serfin went on to become the major financier of the National Highway Program, starting with the Mexico City-Acapulco road in 1989. Lending on non-market terms, however, would exact a price. Seven years later, as a direct legacy of those loans, Serfin turned over U.S.$3.5 billion of non-performing debt to the federal government in a restructuring program designed to keep the entire Mexican banking system from crashing.

Politics are also rumored to have played a role in the bidding process for highway concessions. As explained earlier, the Transportation Ministry rewarded investors who promised to transfer roads back to the state in the least amount of time. Shorter concessions — 10 to 15 years versus the standard 25 to 30 years — encouraged contractors to set high tolls, which scared away traffic. Perhaps more worrisome, however, are the rumors of favoritism that allegedly underscored the supposedly competitive bidding process.

"The bidders knew the whole thing was a game," says Ernesto Marcos, who now works as a private consultant to ICA, Mexico's largest construction company. Putting it more bluntly, a Mexican banker who asked not to be identified suggests that "the entire bidding process was irregular, dishonest, and arbitrary."

Political connections seem to have been an important criteria in the awarding of concessions. Consider the allocation of toll-road projects to Mexico's three major construction companies: GMD, ICA, and Tribasa. Together they laid over half of the 3,600 miles of blacktop built during the Salinas years. Curiously, every single concession in the Mexico City area, considered the most profitable by far, went to Tribasa. As a result, between 1989 and 1994, when adjusted for inflation, Tribasa's assets increased in value by 35 times, its revenues by 24, and its net income by nine.[4]

What explains this spectacular success? How did Tribasa, a relatively unknown company before the National Highway Program, become the second biggest contractor in Mexico? Some point to Carlos Hank Rhon, the son of Mexican billionaire Carlos Hank Gonzalez, who has served as governor of Mexico State, mayor of Mexico City, and Minister of Tourism. Hank Gonzalez is considered to be one of the most powerful behind-the-scenes leaders of the PRI, Mexico's long-ruling "official" party. His son, who now runs the family businesses, sat on Tribasa's board.

Regardless of how concessionaires won their contracts, no investors would have risked their capital without guarantees and incentives from the government. By nature, basic infrastructure projects have relatively low profit margins and often require government backing even when transferred to the private sector. In the case of the National Highway Program, the Transportation Ministry opted to grant blind guarantees of traffic flows, called *aforos* in Spanish. As stipulated in the private concessions, the government set forth minimum traffic volumes and allowed concessionaires to increase tolls semi-annually in accordance with inflation.

In hindsight this was a mistake. Due to the hasty preparation of the highway projects, construction companies were bound to overrun their original budgets. Blind traffic guarantees only exacerbated this trend for, as costs crept upward, the concessionaires believed they could recoup their investments in the same time frame by simply increasing the tolls. Guaranteed traffic volume was the constant and the tariff level the variable. Hence their financial models looked great despite cost overruns. There was just one problem: Nobody seems to have considered the inelasticity of demand (*i.e.*, the shallowness of motorists' pockets) in a country like Mexico.

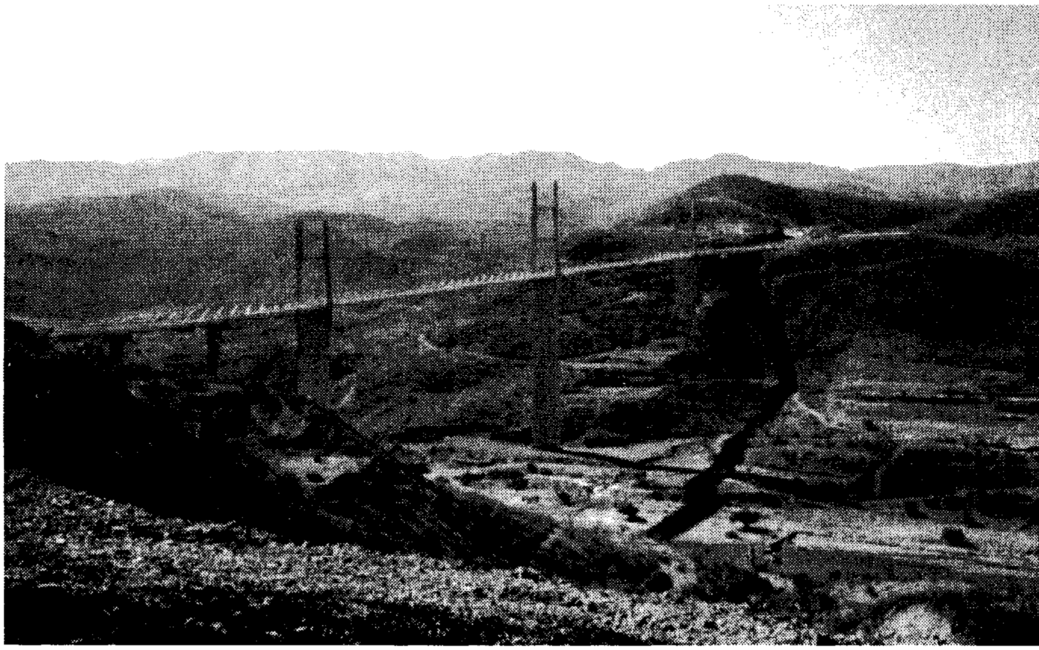
"By offering traffic guarantees," explains Ernesto Marcos, "the federal government acted as if it were the concessionaires' client." Put another way, the transport authorities led the construction companies to believe that traffic volume would pay for everything. Unfortunately, the final client was not the Transportation Ministry but the user, who failed to materialize as expected.

On a recent trip from Mexico City to Acapulco, I observed some of the excesses encouraged by the blind traffic guarantees. Driving south from the federal capital, my wife and I admired Mexico's rugged landscape: mountains erupting with greenery, deep and sloping valleys shooting off in all directions. Toll booths popped up regularly. After passing through Chilpancingo, the dusty capital of Guerrero State, we reached the Mezcala River and crossed over a soaring, state-of-the-art suspension bridge. The words of Mr. Marcos came to mind as we marveled at the Herculean engineering feat:

"It's an absurdly luxurious bridge. Mexico didn't need that kind of design. It was far more than the tolls could ever pay for." The numbers suggest as much: the Highway of the Sun cost U.S.$2.1 billion to build, more than twice the original estimate. As for the other 51 concessioned toll roads across the country, cost overruns averaged more than 50 percent of projected outlays.[5]

Still, the blind traffic guarantees had one major benefit: they ensured the success of securitizations of Mexican toll-road revenues in the international capital markets.

[3] Ibid.
[4] Ibid.
[5] *World Bank Development Report 1994: Infrastructure for Development*, Oxford University Press (1994), p. 99.



Soaring over the Mezcala River, this suspension bridge was cause for construction cost overruns.

This was of considerable consequence, since a key element in the strategic planning for the National Highway Program involved tapping global debt markets in order to refinance the toll roads once they were operating. The larger construction companies — ICA, GMD, Tribasa — would hire foreign investment banks to help them secure lower-priced, longer-term financing.

Well-versed in project financing, the Wall Street bankers were certainly aware of the flaws in Mexico's toll-road program. Yet they perceived the government's blind traffic guarantees as tantamount to sovereign risk. As the "market" saw it, even if traffic volumes fell below projected levels, dragging down toll revenues earmarked for debt service abroad, the Mexican government was promising to honor the concessionaires' payments. In addition, exchange-rate risks had been hedged by making the securitizations payable in dollars to protect U.S. investors against any potential devaluation of the peso. The risks for foreign bond holders, therefore, seemed reasonable.

The first attempt to attract international investment in a Mexican toll road project — Tribasa's Mexico City-Toluca toll road securitization — was not favorably greeted by the market. At the time, most blamed bad investment banking — namely, a cumbersome, hard-to-understand deal structure. By contrast, the 1993 securitization of revenues from two other toll roads built by Tribasa (Ecatepec-Piramides and Armeria-Manzanillo) was better received and the securities were significantly oversubscribed. In 1994, the federal government launched the Mexico City-Cuernavaca toll-road bond. This was one of the few turnpikes not transferred to the private sector. It too was a success.

Wall Street romancing buoyed hopes for the highway program. Despite all the problems, the global investors had apparently embraced the private-concession experiment. Press coverage was even upbeat — but not for long. On December 20th, 1994, President Ernesto Zedillo's botched peso devaluation dumped a bucket of ice water on Mexico's overheated economy, ushering in the country's worst financial crisis in modern times and washing out the nascent toll road recovery.

Within months, the financial status of the concessioned roads was in the worst shape ever. On one hand, the international bonds were payable in U.S. dollars, yet all toll revenues were collected in pesos. Accordingly, the precipitous decline in the value of the peso relative to the dollar made the peso cost of servicing the debt skyrocket. On the other hand, crisis-pinched motorists were even less able to use the superhighways than before. As Mexico's entire financial system teetered on the brink of collapse, the government scrambled to resolve the turnpike troubles through complex debt restructurings.

Two years have since passed. Not surprisingly, in Mexico today the effects of crisis have tended to overshadow whatever happened before the devaluation. Whether it's industry, commerce, agriculture, infrastructure, all eyes are focused on mitigating the impact of recession. As Mexico's economy begins to recover, however, at least in terms of macroeconomic indicators, one should be wary of the devaluation becoming a smoke screen for the past. Current circumstances, however bad they may be, should not hide the underlying problems regarding Mexico's economic reforms that predate the crisis.

There are signs that this is happening with the turnpikes. To be fair, some of the toll-road troubles might have been a function of Mexico's free-market euphoria of the early 1990s. As one Mexican banker puts it:

"People can cite all these dreadful mistakes, but they forget what it was like back then, when everything seemed possible, when Mexico was on a virtuous circle. Glitches were to be expected in such an ambitious free-market reform process. They could have been worked out if it hadn't been for the devaluation."

Maybe, but upon review of those glitches, one wonders whether the toll-road program was ever really about the free market. In fact, one finds it hard to escape the conclusion that the National Highway Program was a deeply flawed, incomplete experiment in reform. Yes, the private sector participated, but government intervention permeated the process and created serious distortions. Far from beginning a new chapter of progressive economic reform in Mexico, the concessioned superhighways ended up being, as Mr. Marcos put it, "old-fashioned public works with a private twist."

TOLL ROAD RESTRUCTURING: A MORAL HAZARD?

Guillermo Melchor, whose family owns a moving company in Mexico City, would love to send his drivers on the turnpikes. His clients, however, would have to pay 30 percent extra to cover the tolls, prices that would make the Melchor brothers uncompetitive. So their drivers dodge pot holes on the free highways and pay a different kind of toll: armed bandits assault their trucks three to four times a month.

Guillermo Melchor discussing the toll roads inside his moving company office.

"Our drivers carry rocks and clubs," says Melchor, "but the robbers all have guns."

The Melchors are not alone. Visit Transportes Gonzalez, a major trucking company also based in Mexico City, and hear a similar story. Operations Manager Estevan Gonzalez, who is in charge of 100 trucks and 400 trailers, explains the hidden costs of using the old roads. "Take the tires on our trucks. They should last for 220,000 kilometers, but we only get 150,000 on the old roads."

For security reasons, Mr. Gonzalez requires that all his drivers travel in convoys of at least five trucks. Armed guards may be hired on special request from the client. "We recommend it," says Gonzalez, explaining that, unlike the Melchor brothers, Transportes Gonzalez ships top-end goods to Nuevo Laredo at the Texas border: refrigerators, stereos, washing machines. "With that kind of merchandise," he adds, "there's only so much we can do."

The outlook seems bleak. Until the tolls come down, Mexico's trucking industry will continue to wage a losing battle against the wayward roads of the free highway system. "We wouldn't have these problems," concludes Mr. Melchor, "if we could just afford the toll roads."

Statements like these illustrate a serious dilemma for Mexico's transport authorities as they restructure the troubled toll-road program. The blind traffic guarantees stipulated in the private concessions, and the contractual commitment to index tolls to inflation, run counter to the need to lower tolls to stimulate traffic demand. This constitutes a public-policy conflict that creates a moral hazard. To successfully restructure the ill-fated National Highway Program in the wake of economic crisis, the government will have to address this and other sticky issues.

The stakes are high. On the domestic front, pressure to lower tolls is mounting from local motorists. Internationally, the toll roads are widely seen as a litmus test of Mexico's ability to address urgent development needs in the context of a balanced budget. Going forward, the country will no doubt have to rely on privately financed infrastructure projects to avoid public deficit spending. It cannot afford, therefore, to have its first experiment in off-budget highway financing perceived as a failure. The country's ability to fuel long-term growth could be seriously constrained.

More to the point, Mexico must avoid at all costs a highly visible default on its international toll-road bonds. Were this to happen, the spillover effects might impair investment in Mexico's privatization of other infrastructure services: railroads, ports, potable water systems, waste management facilities, etc. At the same time, Mexico has pegged its road-infrastructure investment needs at U.S.$12.5 billion over the next five years. Thus the importance of restructuring the highway financings in a way that lowers tolls and stimulates traffic, while still

Estevan Gonzalez stands in the truck yard of Transportes Gonzalez.

honoring Mexico's contractual commitments to concessionaires and foreign investors alike.

This process is underway. Initiated soon after the 1994 devaluation, the toll-road restructuring can be divided into two phases. The first priority was saving the banks. In 1995, a complex structure was created by which, over the long-term, the government will assume a significant portion of the commercial banks' non-performing obligations in the highway projects. Last year, phase one of the restructuring plan cost the government 14.1 billion pesos (U.S.$1.7 billion).

Stage two has only just begun. In broad terms, it involves bailing out the private concessionaires. While structural details of the scheme remain vague, the government has already earmarked 26.1 billion pesos (U.S.$3.3 billion) over the next 30 years for this purpose. Sources suggest the authorities will establish a master trust that will undertake a debt-for-equity swap to recapitalize the highway concessionaires. The government will assume the latters' debt in most of the toll roads in exchange for equity holdings proportional to the concessionaires' debt in the total value of each project.

"It's an intelligent plan," says Ernesto Marcos. The primary advantage, he adds, is that it frees the cash flow that the concessions generate (*i.e.*, toll revenues), which will allow for an eventual refinancing of the turnpike projects. As for the concessionaires, the price to be paid for having their books cleaned of non-performing debt is a substantial dilution of their equity control in the toll road projects. By strengthening the concessionaires' balance sheets through a reduction or elimination of their debt, the government hopes to boost construction activity in Mexico and thus stimulate the economy in general. "It's a reasonable solution," concludes Marcos.

Some fervently disagree. "Saving the banks was one thing," says one Mexican financier. "But rescuing the construction companies is entirely another. In my opinion, using tax dollars to bail out people who abused the concessionary scheme is downright immoral."

Whatever the conclusion, many people reason that, for better or worse, the toll roads are there and that's worth something. All judgments aside, Mexico has 3,600 miles of state-of-the-art turnpikes that will be useful sooner or later. This is true, no doubt, but what of the opportunity cost? Fifteen billion dollars is an impressive sum. How does one justify spending so much on fancy superhighways in a country with enormous deficits in basic health services, primary and secondary education, sewage treatment plants, waste management systems?

"That's an impossible reflection," replies another prominent banker. "What you really have to ask yourself is whether doing something that was 60 percent successful was better than doing nothing at all." He has a point. Imperfect advances can be worthwhile. Question is, in the case of Mexico's National Highway Program, to what degree? ❑

Institute of Current World Affairs

Fellows and their Activities

Adam Smith Albion. A former research associate at the Institute for EastWest Studies at Prague in the Czech Republic, Adam is spending two years studying and writing about Turkey and Central Asia, and their importance as actors the Middle East and the former Soviet bloc. A Harvard graduate (1988; History), Adam has completed the first year of a two-year M. Litt. Degree in Russian/East European history and languages at Oxford University. [EUROPE/RUSSIA]

Christopher P. Ball. An economist, Chris Ball holds a B.A. from the University of Alabama in Huntsville and attended the 1992 International Summer School at the London School of Economics. He studied Hungarian for two years in Budapest while serving as Project Director for the Hungarian Atlantic Council. As an Institute Fellow, he is studying and writing about Hungarian minorities in the former Soviet-bloc nations of East and Central Europe. [EUROPE/RUSSIA]

William F. Foote. Formerly a financial analyst with Lehman Brothers' Emerging Markets Group, Willy Foote is examining the economic substructure of Mexico and the impact of free-market reforms on Mexico's people, society and politics. Willy holds a Bachelor's degree from Yale University (history), a Master's from the London School of Economics (Development Economics; Latin America) and studied Basque history in San Sebastian, Spain. He carried out intensive Spanish-language studies in Guatemala in 1990 and then worked as a copy editor and Reporter for the *Buenos Aires Herald* from 1990 to 1992. [THE AMERICAS]

John Harris. A would-be lawyer with an undergraduate degree in History from the University of Chicago, John reverted to international studies after a year of internship in the product-liability department of a Chicago law firm and took two years of postgraduate Russian at the University of Washington in Seattle. Based in Moscow during his fellowship, John is studying and writing about Russia's nascent political parties as they begin the difficult transition from identities based on the personalities of their leaders to positions based on national and international issues. [EUROPE/RUSSIA]

Pramila Jayapal. Born in India, Pramila left when she was four and went through primary and secondary education in Indonesia. She graduated from Georgetown University in 1986 and won an M.B.A. from the Kellogg School of Management in Evanston, Illinois in 1990. She has worked as a corporate analyst for PaineWebber, an accounts manager for the world's leading producer of cardiac defibrillators and manager of a $7 million developing-country revolving-loan fund for the Program for Appropriate Technology in Health (PATH) in Seattle. Pramila is tracing her roots in India, and studying social issues involving religion, the status of women, population and AIDS. [SOUTH ASIA]

Marc Michaelson. A program manager for Save the Children in The Gambia, Marc has moved across Africa to the Horn, there to assess nation-building in Eritrea and Ethiopia, and (conditions permitting) availing and unavailing humanitarian efforts in northern Somalia and southern Sudan. With a B.A. in political science from Tufts, a year of non-degree study at the London School of Economics and a Master's in International Peace Studies from Notre Dame, he describes his postgraduate years as "seven years' experience in international development programming and peace research." [sub-SAHARA]

Randi Movich. The current John Miller Musser Memorial Forest & Society Fellow, Randi is spending two years in Guinea, West Africa, studying and writing about the ways in which indigenous women use forest resources for reproductive health. With a B.A. in biology from the University of California at Santa Cruz and a Master of Science degree in Forest Resources from the University of Idaho, Randi is building on two years' experience as a Peace Corps agroforestry extension agent in the same region of Guinea where she will be living as a Fellow with her husband, Jeff Fields — also the holder of an Idaho Master's in Forest Resources. [sub-SAHARA]

John B. Robinson. A 1991 Harvard graduate with a certificate of proficiency from the Institute of KiSwahili in Zanzibar, John spent two years as an English teacher in Tanzania. He received a Master's degree in Creative Writing from Brown University in 1995. He and his wife Delphine, a French oceanographer, are spending two years in Madagascar with their two young sons, Nicolas and Rowland, where he will be writing about varied aspects of the island-nation's struggle to survive industrial and natural-resource exploitation and the effects of a rapidly swelling population. [sub-SAHARA]

Teresa C. Yates. A former member of the American Civil Liberties Union's national task force on the workplace, Teresa is spending two years in South Africa observing and reporting on the efforts of the Mandela government to reform the national land-tenure system. A Vassar graduate with a juris doctor from the University of Cincinnati College of Law, Teresa had an internship at the Centre for Applied Legal Studies in Johannesburg in 1991 and 1992, studying the feasibility of including social and economic rights in the new South African constitution. [sub-SAHARA]

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