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# THREE CRITICAL ISSUES FACING MEXICO: INFRASTRUCTURE FINANCE, REGULATORY REFORM AND PRODUCTIVITY

A Report Based on the Proceedings of the  
U.S./MEXICO ASPEN GLOBAL FORUM  
Aspen, Colorado • November 13-16, 1997

International Center for Public Administration and Policy  
Institute for Policy Research & Implementation  
Graduate School of Public Affairs



University of Colorado at Denver



## University of Colorado at Denver

Institute for Policy Research & Implementation  
Graduate School of Public Affairs

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February 4, 1998

Dear Colleague:

I am pleased to send you this summary report of the Mexico-U.S. Aspen Global Forum. The Forum, a biannual meeting of top leaders in government and business from Mexico and the United States, occurred in Aspen, Colorado in November, 1997.

The Mexico-U.S. Aspen Global Forum has become a significant institution. It provides a "place" and a "process" supportive of frank binational discussions on key economic and community development issues facing Mexico and the United States. The "place," in November, the Snowmass Lodge, allowed participants to focus on complex problems in an atmosphere conducive to thoughtful dialogue; the "process," direct face to face discussions permitted participants to honestly share views, to disagree, at times, on important subjects, and to reach consensus, most times, on necessary policy options.

The focus of the Aspen Global Forum in November was on three critical issues facing Mexico: infrastructure finance, regulatory reform, and productivity. The agenda was premised on the work of three task forces established at a previous Aspen Global Forum in Queretero.

The dialogue in Aspen was always provocative and substantive. The agreements reached concerning innovative financial options, regulatory reform strategies, particularly in the solid waste disposal area of concern, and productivity policies were important. They will be important on a continuous basis to Mexico as well as to Mexico-U.S. business and government relationships and Mexico-MDB linkages.

The success of the November Forum was due to the leadership and commitment of Undersecretary Raul Ramos Tercero of Secretaria de Comercio y Fomento Industrial (SECOFI) and Undersecretary Pablo Reyes of Secretaria del Trabajo y Prevision Social (STPS) as well as to the Aspen Forum's co-convenor, Jaime Corredor, Executive Director of Banco Nacional de Obras y Servicios Publicos (BANOBRAS). Their respective senior staff persons Gonzalo Robles of SECOFI, Luis Felipe de la Torre of STPS, and Alfredo Navarrete Martinez and Arturo Olvera Vega of BANOBRAS provided continuous ideas concerning the Forum's agenda and continuous direction concerning the Task Forces. Jose Lopez, Fran Groff and Paul Janavs of the International Center's staff provided outstanding support to the Forum.

The World Bank made a significant contribution to the content of the Forum. They provided financial support and the significant intellectual acumen of Richard Clifford, Ulrich Lächler and Paul Martin.

I had the privilege to facilitate the Mexico-U.S. Aspen Global Forum and transcribe the ideas of Forum participants into the attached report. It was a privilege that I respected and hopefully treated with respect. We would welcome your comments on the summary proceedings and your interest in the Mexico-U.S. Aspen Global Forums.

Sincerely,

A handwritten signature in black ink, appearing to be 'M Kaplan', with a long, sweeping underline that extends to the right.

Marshall Kaplan  
Executive Director

MK:cr

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**Aspen, Colorado November 13-16, 1997**  
**List of Mexico Participants**

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Nicolas <b>Mariscal</b> .....	Presidente del Consejo, <b>Grupo Marhnos</b>
Luisa <b>Montes Contreras</b> .....	Directora de Analisis Financiero, <b>Secretaria de Medio Ambiente Rec. Nat. y Pesca</b>
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**Mexico-U.S. Aspen Global Forum**  
**Aspen, Colorado November 13-16, 1997**  
**List of U.S. Participants**

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Fred <b>Haddad</b> .....	Director, <b>Standard &amp; Poors</b>
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Allan T. <b>Marks</b> .....	Attorney, <b>Milbank, Tweed, Hadley &amp; McCloy</b>
Paul <b>Martin</b> .....	Environmental Specialist, <b>World Bank</b>
Thomas G. <b>Marx</b> .....	Director, Economic Specialist, <b>General Motors</b>
Tomoko <b>Matsukawa</b> .....	Senior Financial Officer, Project Finance and Guarantees, <b>World Bank</b>
Edward J. <b>McGrath</b> .....	Senior Partner, <b>Holme Roberts &amp; Owen</b>
Michael G. <b>O'Neil</b> .....	Director, <b>Merrill Lynch &amp; Co., Inc.</b>
Barry <b>Poulson</b> .....	Professor of Economics, <b>University of Colorado</b>
Walter <b>Ralph</b> .....	Manager, International Benefits, <b>General Motors</b>
David <b>Robinson</b> .....	Senior Consultant, Mexico, <b>Capital Investors, Ltd.</b>
Raul F. <b>Robledo Tovi</b> .....	Senior Vice President, <b>Lehman Brothers</b>
Kenneth <b>Telljohann</b> .....	Senior Vice President, <b>Lehman Brothers</b>
Tito Oscar <b>Vidaaurri</b> .....	Vice President, <b>Morgan Stanley</b>

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## Introduction

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The Mexico-U.S. Aspen Global Forum began several years ago. It is a unique institution. It brings together top business and government leaders from the U.S. and Mexico on a biannual basis; once in Mexico and once in the U.S. The Forums are off the record<sup>1</sup>; that is, they are not subject to daily news coverage. They provide a place and an environment where participants can discuss complex sensitive issues in a relaxed face to face format.

Last spring, Forum participants at a meeting in Queretero established three working task forces--each composed of approximately 15 respected Mexican and U.S. public and private sector officials--to explore ideas and options concerning diverse financing, regulatory, and productivity issues facing Mexico. The Task Forces were asked to work over a six month period. They would report their analysis and findings to the Mexico U.S. Aspen Global Forum in the fall of 1997.

Task Force One was asked to focus on developing specific strategies to fund needed infrastructure, particularly at the state and municipal level. Task Force One would also focus on making World Bank programs more responsive to Mexico's infrastructure needs. Task Force Two was asked to direct its attention to regulatory reform, particularly with respect to solid waste systems.<sup>2</sup> Task Force Three, importantly, was asked to identify productivity problems facing Mexico and define options to increase Mexico's productivity.

Banco Nacional de Obras y Servicios Publicos (BANOBRAS) was requested and agreed to convene Task Forces One and Two. Mexico's Secretaria de Comercio y Fomento Industrial (SECOFI) and Secretaria del Trabajo y Prevision Social (STPS) were asked and agreed to convene Task Force Three. Marshall Kaplan agreed to facilitate each Task Force.

The Task Forces more than met Mexico-U.S. Aspen Global Forum expectations. They worked diligently. They met at least twice in Mexico City. They communicated by e-mail and fax. They produced, with the support of World Bank and General Motors, three strategic reports.<sup>3</sup>

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<sup>1</sup>Day to day coverage of the Forums by the media is not permitted in order to encourage a more direct face to face dialogue and in order to permit participants to think about, consider and perhaps change their perceptions concerning key agenda issues. Further, participants, leaders and/or senior staff of key public and private sector organizations, are encouraged to offer their own and not their organization's views of problems. In this context, perceptions, ideas and comments expressed at the Forum are the views of the participants and not their organizations.

<sup>2</sup>Solid waste was selected as the focus because of on going efforts in Mexico to reform related regulations. It was also chosen because Forum participants felt that Task Force results could serve as a good prototype for regulatory reform in other infrastructure areas.

<sup>3</sup>These reports are available by request from the Institute for Policy Research & Implementation, University of Colorado at Denver, 1445 Market Street, Suite 350, Denver, Colorado, 80202.

The recently completed Aspen Global Forum was intense and provocative. It was attended by over 70 respected Mexican and U.S. business, academic and government leaders. It reached consensus on many important, indeed, strategic problems facing Mexico in each area of concern covered by the Task Forces. More relevant perhaps, participants concurred on a number of key strategies to: extend financial options for infrastructure; achieve regulatory reform and increase financing for need solid waste systems; increase productivity in Mexico. This report summarizes the proceedings in Aspen.

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## Discussion of Task Force One Report

### Expanding Financing Options for Infrastructure and Making the World Bank Programs Responsive to Mexico's Infrastructure Priorities

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Alfredo Navarrete of BANOBRAS,<sup>4</sup> led off the discussion of the report of Task Force One. Mr. Navarrete summarized the Task Force findings concerning impediments to infrastructure financing and Task Force observations concerning World Bank programs in Mexico. He also briefly presented Task Force recommendations concerning infrastructure finance and the World Bank.

#### Impediments

Forum participants agreed that the following factors impede Mexico's ability to secure infrastructure financing at the state and municipal level.

**No refined inventory of infrastructure needs exists at the state and local government level.** "We know the needs are great; we know that they differ by region and by community. We also know that capacity and resource limitations indicate the need for locally appropriate and relevant responses." (Miguel Jauregui Rojas) But no strategic assessment of needs generally exists in states and municipalities.

**Mexico's recent economic difficulties have made domestic and international investors wary of long term infrastructure investments in Mexico.** Absence of hedge instruments have made it difficult to accommodate periodic cycles in the market place. Sovereign and subsovereign risk calculations have affected investor decision making. Understandably, constraints with respect to credit enhancements have narrowed investor interest.

**"Mexico's relatively low saving rate and absence of significant pension funds have limited domestic capital resources."** (Nicolas Mariscal)

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<sup>4</sup>Mr. Navarrete was the convener of Task Force One.



**Capacity problems exist among Mexico's state and local governments.** They are exacerbated by a lack of good information and sometimes a willingness to share information. The relatively short tenure of elected officials and the absence of a professional civil service at the local level have made it difficult to build staff competence. Institutional capacity problems are matched by fiscal ones. Many municipalities, for example, have minimal tax bases. Appraisal as well as assessment approaches are at best uneven.

**The World Bank's partial risk and partial credit guarantee programs have not been used in Mexico.** Counter guarantee requirements combined with complex review and approval processes have limited their ability to foster or facilitate infrastructure financing.

## **Opportunities and Options**

Forum participants concurred in the need to develop options to extend Mexico's ability to fund priority infrastructure. "Mexico needs to find workable strategies that permit it to access both domestic and international capital for infrastructure." (Roberto Raymundo Barrera Rivera)

Previous Forums have dealt with national infrastructure priorities. The fall Forum focused on significant quality of life and economic development related infrastructure needs at the state and local level. "Because of the work of the Task Forces and the Forums, BANOBRAS has the opportunity to develop a sustained working partnership with other Mexican government agencies, the MDB's, particularly the World Bank, and the private sector. There is a window in Mexico now to really move forward on a number of critical infrastructure initiatives." (Paul Martin)

Mexico's economy is getting better. Its macro economic statistics are good. "Inflation is down, the budget is balanced, unemployment has been reduced, the current account balance sheet looks good. Investors, once again, are looking at good projects in Mexico." (Gerardo Perdomo Sanciprian) "We need to create the environment that will encourage investment in infrastructure at the state and local level. We do not have to wait for a comprehensive inventory or analysis of needs." (Nicholas Mariscal)

"Mexico knows its financing needs are great. We have to develop the tools to attract investors and to match priority projects with financing options. We have begun to do so. BANOBRAS has put in place several initiatives to facilitate local infrastructure improvement (e.g., training programs, lines of credit, loan and grant programs). Pension funds have been privatized. They will grow rapidly and will provide a source for future infrastructure investment." (Arturo Olvera)

More is needed. Mexico must define and put into place new financing tools to secure investor interest. Similarly, Mexico and the World Bank must develop and initiate new relationships that will assure access to relevant Bank programs. Finally, Mexico must develop and implement strategies that significantly increase the capacity of state and local governments.

## Developing New Financial Mechanisms

Individuals at the table in Aspen agreed with the Task Force. Mexico should move ahead quickly to develop several innovative financial strategies and mechanisms to secure international financing.

Unanimously, they recommended that Banobras, working in partnership with the World Bank, should establish a two part infrastructure finance option. Part One would entail a conventional project or revenue financed debt, denominated in inflation adjusted pesos. Debt service would be an obligation of the project. Business risks would be managed by borrowing spreads, coverage ratios, reserve funds and third party insurance or credit enhancements, possibly from BANOBRAS. Part Two, responding to foreign exchange risk and convertibility risk, would reflect a high grade currency swap. It would convert inflation adjusted peso debt related to a Part One project into U.S. dollars at a predefined ratio. BANOBRAS would agree to pay U.S. dollar amounts in exchange for pesos received from municipalities. The World Bank would guarantee the credit of BANOBRAS.

The initiative, according to Aspen participants, would have many advantages. It, for example, would permit the World Bank to actively play a role in helping Mexico secure international capital. While, consistent with its present policy, the Bank would not guarantee foreign exchange, it would guarantee the ability of BANOBRAS to, in effect, absorb foreign exchange risk. The initiative would likely secure investment grade ratings for infrastructure related debt. It would also open up the market to many different kinds of investors and permit BANOBRAS to foster necessary linkages between capital markets and select infrastructure projects. (Raul Robledo Tovi).<sup>5</sup>

Importantly, the Forum strongly recommended that BANOBRAS take the lead in developing a municipal bond type option for Mexico. The instrument would be used by municipalities and organismos. It would be backed by a contingent line of credit from BANOBRAS or other private sector financial institutions. Debt service would be denominated in inflation adjusted or indexed pesos and would be a fixed legal obligation of individual projects.<sup>6</sup> "Availability of BANOBRAS' contingent line of credit and BANOBRAS' willingness to provide a liquidity function would encourage investors to look hard at local issuances." (David Robinson)

Participants urged BANOBRAS to consider helping municipalities and/or organismos "pool and securitize" infrastructure debt. "If a pooling and securitization program were developed, it would expand the availability of infrastructure debt to municipalities or organismos." (Michael O'Neil)

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<sup>5</sup>The construct described above was initially developed by Ken Telljohn of Lehman Bros. Mr. Telljohn was a member of Task Force One.

<sup>6</sup>The Task Force meetings lead to a meeting between BANOBRAS staff, Task Force members and representatives of several Insurance Companies. The discussions were focused on use of BANOBRAS's contingent line of credit and liquidity as part of a infrastructure debt package involving insurance company funds. These discussions are continuing and could provide a "live laboratory" for testing the proposal to develop a municipal bond or debt type option.

BANOBRAS involvement and assumed credit enhancement would generate investor interest and would create in effect a secondary market for infrastructure debt. "Multiple regional issues would be joined together. They would be shared on an equitable basis linked to the amount, credit rating (if available) as well as maturity." (Micheal O'Neil)

Pooling and securitization would be efficient; that is, both would permit larger transactions and facilitate after market trading. Expenses would be shared so as to reduce costs to each borrower. BANOBRAS could secure more flexible amortization schedules. "Regionalization" of debt issues will encourage coordination of project planning and development.

BANOBRAS, through providing technical assistance and/or contingent lines of credit, should help municipalities and organismos package diverse "traunching options." "Investor interest in funding local projects, particularly projects which may be marginally profitable or which, despite the "numbers" appear, at the outset, somewhat risky, could be increased if income or pay back risks were assigned in a strategic manner; that is, if the debt were traunched." (Fred Haddad) Traunching would allow specific classes of debt holders contractual rights to the income of the project or enterprise system. "One class of the project or system's creditors or bondholders would have a senior right to the income generated by the project or enterprise. Other classes or creditors would have different rights to the pledged income. They would have a second lien." (Fred Haddad) Traunching would come into effect when the enterprise or project agrees to limit the issuance of senior debt and perhaps subsequent debt classes. Different standards or criteria would be established and agreed upon before new debt could be issued by the municipality or organismo.

## **Building a Partnership with the World Bank and other MDBs**

The World Bank has undergone many changes in the past few years. Its objectives are clear. "The Bank would like to make its programs more sensitive to the needs of countries, like Mexico, which qualify for its diverse program inventory." (Ulrich Lächler)

To its credit, World Bank officials in Mexico were instrumental in creating the Task Force on infrastructure finance at the last Aspen Forum in Queretero. They wanted to see if a new partnership could be built between Mexico and the Bank; a partnership premised on sustained close working relationships among individuals interested in responding to Mexico's many infrastructure priorities in a flexible manner.

Forum participants, including senior Bank staff, agreed with the Task Force One Report. They acknowledged the lack of success of the Bank's partial risk and partial credit guarantee programs; programs that, according to many, could benefit Mexico. They also acknowledged that Bank review and approval procedures, although better, still generate uncertainty . . . frustration . . . and delays.

## Recommendations

Several recommendations were endorsed by the Forum. Among them:

**The World Bank, to the extent possible, should decentralize decision making concerning risk and credit guarantees to the Mexican office of the Bank.** Decentralization is consistent with the ostensible mission of the Bank under its new leadership. It would allow the Bank to expedite review and sign off procedures. "It would assure a closer coincidence between projects and country needs." (Roberto Gutierrez)

**The guarantee programs should be tailored to specific kinds of projects and investor markets (e.g., water).** The Bank should also develop a set of policy guidelines that would help sponsors self select. The applicant would know that if he or she met the specifics, his or her project would generate fast tract reviews and likely early approval. "Tailoring the program and permitting project sponsors to work against an understandable precise policy framework would expedite reviews . . . reduce sponsor risk . . . and help secure sponsor interest." (David Robinson)

**The World Bank should eliminate the uncertainty concerning the effect risk and credit guarantees have on country level debt.** "Presently, the Bank tells us it can increase country level debt to accommodate guarantees which count as debt, but it is not policy. We need a hard and fast policy to this effect." (Alfredo Navarrete)

**The World Bank should reevaluate the need for counter guarantees from the government.**<sup>7</sup> The requirement impedes use of risk and credit guarantees and may be unnecessary given normal due diligence and the objectives of the guarantee. It is not a requirement of similar programs in other MDBs. Closer coordination with financial institutions, like BANOBRAS, could allow existing line of credit programs to provide necessary security.

## Building Capacity

Paralleling the definition and use of new financial strategies must be the development, over time, of increased local capacity. "We cannot expect the financial community to respond to local needs and locally generated debt unless local governance capacity is increased significantly." (Arturo Olvera Vega)

Capacity building, however, will take time; BANOBRAS and others should develop and test Forum proposed financial mechanisms with communities that illustrate desire to increase their capacity and that illustrate reasonable capacity. Simultaneously, Mexico should initiate a major sustained effort to strengthen local government. It should include at a minimum the following.

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<sup>7</sup>Bank staff indicated that counter guarantees are a legal requirement. If so, the requirement should be reconsidered by Bank leadership.

**Develop organismos--public organizations independent of municipalities--to provide or help provide local infrastructure.** Organismos will help fill the capacity gap while steps are taken to develop improved local governance. Like special districts in the U.S., they would be able to recruit their own staff, secure debt, maintain proper accounting and budgeting practices, collect user fees, etc.

**Condition financial assistance.** Federal assistance provided by varied government agencies to states and municipalities should be conditioned on performance targets and standards. Extra support should be provided to high performing state and local governments or government agencies.

**Expand technical assistance.** Different technical assistance approaches now used in Mexico should be evaluated regarding benefits and costs. There should be a quantum increase in quality technical assistance. Different delivery approaches should be tested and used if effective. They include but should not be limited to: teams of federal officials, universities, regional institutions, and consultants.

**Expand rating programs.** Ratings by appropriate rating agencies of municipal and/or organismo debt are critical to the development of a capital market for infrastructure. Ratings will "wet investor interest and reduce their fear of the uncertain." (Allan T. Marks) They "will encourage the collection, analysis and dissemination of relevant economic and project information." (Fred Haddad) "Ratings will also provide standards of performance for rated institutions." (Patricia Calvo) Increased use of ratings will go along way toward improving state and municipal governance. "We should start with organismos and then competent municipalities. We should show by example how important ratings are to investors." (Arturo Olvera Vega)

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## **Discussion of Task Force Two Report**

### **Strengthening Regulations and Related Financing Alternatives: Solid Waste Disposal**

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Simultaneous with creation of the Task Force on Infrastructure Financing, the Aspen Forum recommended and created a Task Force on Regulatory Reform and Financing. It was asked to develop a set of principles or guidelines to assure the development of effective solid waste regulations. They would respond to public interest objectives while meeting investor needs for certainty, transparency, and fairness. They would parallel Task Force consideration of innovative financial mechanisms and strategies to fund solid waste facilities. The Task Force efforts, if approved by the Forum, would serve as a prototype for a review of other infrastructure regulations.

Arturo Olvera Vega of BANOBRAS<sup>8</sup> presented the Task Force Report to the Forum in Aspen. He began by noting Mexico's solid waste disposal difficulties. "Solid waste disposal systems in Mexico are often not able to dispose of waste in a safe and efficient manner . . . A significant amount of waste ends up in uncontrolled open dumps, ravines, waterways. Only 15% of solid waste is adequately disposed of in Mexico."

## **Impediments**

Mr. Olvera, as well as others at the table in Aspen, noted impediments that limit Mexico's ability to develop effective solid waste strategies. Among them:

**Article 115 of the Mexican Constitution grants major responsibilities for solid waste disposal to municipalities.** Regrettably, only a handful of municipalities are up to the involved tasks. The absence of qualified staff and resources; the non collection of user fees or other cost recovery approaches; the difficulty in accommodating NIMBY pressures; the inability to control scavenging or dumping, the partial limited quality and content of regulations and the uncertain roles of federal state and local governments concerning solid waste regulations have made it tough on municipalities. Most municipalities have not developed regulations, technical standards and operational guidelines. Enforcement and sometimes transparency are casualties of capacity problems. Municipalities "generally do not view solid waste as a critical problem, like water. They have a large agenda and miniscule funds." (Eduardo Celis Rivas)

**The federal government's role with respect to solid waste disposal is premised on environmental statutes and the relationship between solid waste disposal and clean air and water mandates.** Diverse interpretations concerning statutory responsibilities, budget constraints, and sometimes, uncertainties concerning agency missions have impeded development of comprehensive regulations and related enforcement strategies.

**States have not responded to solid waste problems in a consistent manner.** Several states have developed standards related to siting and performance. However, the pattern is not uniform. Some have taken only marginal actions to define regulations. Most regulations do not reflect integrated waste management approaches. Land fill strategies dominate existing regulations. Enforcement is uneven. Again, constitutional uncertainties or perceptions of presumed uncertainties seem to affect state roles.

Mexico has begun to make progress in developing a more effective approach to solid waste management. The present Administration and many states and municipalities recognize that solid waste disposal must be accorded real attention. If "we do not develop a more comprehensive approach, waste will become a critical health and environmental issue for the country." (Luis Zarate Rocha) Perhaps, as relevant, "how and whether we are able to get rid of waste effectively will become an economic as well as community development issue. It will affect the ability of many

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<sup>8</sup>Mr. Arturo Olvera Vega was convenor of the Task Force.

communities to attract private firms and jobs." (Jorge Cerrilla Cardona)

Several Forum participants noted the increased coordination that now exists between federal agencies, like SEMENARP, SEDESOL, INE and BANOBRAS. They called attention to the strategic development of new funding initiatives and the increased provision of technical assistance by relevant federal agencies.

"We should also acknowledge the increased examples of corporatization or the creation of organismos and the renewed interest of private sector firms in developing and operating facilities. The evolution of both will help build capacity at the local level." (Arturo Olvera Vega) "If we can provide a predictable transparent regulatory framework . . . if we can find a way to collect user fees in a fair stable way . . . if we can respond to NIMBY pressures, private sector firms and organismos can and will play a larger role. We may need some government help in situations where social welfare needs are intense, but in most cases, we probably can find private capital to fund solid waste facilities." (Eduardo Celis Rivas)

## **Recommendations**

Aspen Forum participants from Mexico and the U.S. put forth several recommendations. They focused on the following.

### **Need to Develop and Enforce More Comprehensive Regulations**

While the constitution grants municipalities primacy concerning public sanitation, it does not deny an essential federal standard setting role, particularly related to health and environment and, by implication, community well being. The federal government should go much farther than it has in setting standards. It should push the limits of the law. Comprehensive standards should be developed for integrated solid waste systems and for solid waste disposal practices that reflect best practices tempered by least cost alternatives in Mexico and elsewhere.

Federal standards should acknowledge the varying capacity and resources of Mexican communities. They should set thresholds and performance targets. They should provide models of best practices/least cost alternatives concerning integrated systems. They should provide communities with strategies to reduce waste as well as increase recycling. They should encourage communities to separate the disposal of commercial from the disposal of household waste. Indeed, they should foster the privatization of disposal services related to commercial waste. Federal initiatives should balance command and control approaches with market mechanisms.

### **Need to Build State and Local Capacity**

Good regulations, without a quantum leap in state and local capacity, will not generate results. The federal government must initiate an expanded, strategic technical assistance program directed at building the management and operational capacity of appropriate local institutions engaged in solid waste disposal. It should reflect the varied disposal needs and capacity of individual states and communities. Alternative technical assistance approaches should be tested including, but not limited

to: use of new regional groups; use of consultants; use of existing agencies; use of Universities. Options concerning technical assistance should be built into the work of SEDESOL and BANOBRAS as well as other agencies concerned with solid waste facilities.

Increased targeted federal and World Bank help will likely be required to respond to solid waste needs. "Both existing and possible new programs should be conditioned on local performance and local obligations to improve management and operating capacity." (Karen Danart) Conditions should acknowledge each community's status and needs. Timetables reflecting community objectives and resources should be created by involved participants. Underperforming communities should face a reduction of federal support-loans, grants, etc. Communities that exceed performance commitments should secure incentives (e.g., additional funds, favorable differential on interest rates, extended lines of credit with better terms).

### **Need to Secure Private Sector Interest**

"Private sector interest in solid waste disposal is extensive. But we need to reduce the risks associated with projects. Mexico needs to secure fair predictable transparent regulations at all levels of government. It needs to end uncertainty at the local level, particularly, related to political pressures." (David Robinson)

Forum participants agreed that the recommendations approved by them concerning infrastructure financing would help extend access to capital markets for solid waste facilities. "Development of a two part debt/swap option could be useful for large projects. Pooling and securitization of municipal debt as well as possible creation of a municipal debt instrument would extend options to fund local facilities and develop integrated systems." (Raul F. Robledo Tovi) Perhaps, the most important tool to expand financial alternatives regarding solid waste disposal facilities would be "expanded use of BANOBRAS contingent line of credit to support debt for solid waste facilities." (David Robinson)

Financing solid waste facilities--small or large, simple or complicated--will be difficult without improved cost recovery approaches. "We know how difficult it is to set and collect user fees. User fees are politically controversial in both the U.S. and Mexico." (Allan Marks)

Irrespective of the difficulties, however, it is essential to establish a fair and effective cost recovery system if Mexico is to secure extensive private sector involvement. Alternatives to conventional user fees like adding waste disposal costs to property taxes and/or electricity bills should be considered by Mexican officials. But the bottom line should be clear. Costs must be equitably allocated to local citizens who benefit from solid waste disposal facilities and services. Cost recovery must be part of any strategy to respond to Mexico's solid waste disposal problems. Community willingness to develop and carry out cost recovery should be a prerequisite for federal support. "Continued investor and developer interest in the development and funding of solid waste facilities, generally, will require a predictable cash flow from fees or variations on a theme." (Tito Oscar Vidaurri)



### **Need to Deal with NIMBY (Not In My Backyard)**

Neither the U.S. nor Mexico has found a solution to NIMBY problems. Opposition from neighborhoods and larger communities, including states, to the siting of solid waste facilities is understandable. It raises issues, at times, concerning competing objectives between different levels of government and between government(s) and community groups.

Responding to NIMBY conflicts will not be easy, given the absence of an agreed upon definition of the public interest. Several "process" approaches, if used, will lesson tension and increase the odds that consensus can be reached in local communities. Among them: (1) development of fair transparent siting regulations and performance standards; (2) facilitate citizen involvement in the planning process associated with siting decisions; (3) development of a "follow the rules" transparent decision making process that acknowledges investor/developer and resident interests--a process that assures certainty and follow through once decisions are made in communities; (4) an educational effort to increase citizen understanding of the need for solid waste facilities; (5) a collaborative effort by the federal government, states and municipalities to define siting criteria and performance standards.

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## **Discussion of Task Force Three Report**

### **Increasing Productivity in Mexico: Problems and Opportunity**

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Mexico's slow productivity growth since the early seventies, a fact reflected in the report on productivity prepared by Task Force Three, was a cause of concern at the Aspen Forum. Many participants noted that, if trends concerning productivity continued, they would sap the strength of Mexico's economy and negatively affect the well being of its citizens. They agreed that faster rates of productivity growth are essential to the growth of aggregate income and reductions in poverty.

Several individuals at the table in Aspen were convinced that "Mexico can and will achieve improved rates of productivity growth over the next decade." (Luis Felipe de la Torre) "Structural reforms begun a decade ago have begun to show results. When the data is available for the current period, we believe it will show that productivity trends are or will soon be positive." (Gonzalo Robles)

### **Productivity Problems and Variables**

Despite the complexity of the subject matter, Forum participants were able to agree on many of the variables and problems impeding productivity growth in Mexico.

### **Productivity Measurements**

Estimates of Mexico's productivity growth vary considerably. But Aspen Forum delegates, based on analysis contained in Task Force Three, agreed that at best productivity trends have been uneven. Indeed, it is likely that total factor productivity increased by less than one percent from 1970 through the mid-nineties. Indeed, it may have declined in the early 1990's.<sup>9</sup>

Some of the reasons leading to Mexico's relatively poor performance regarding productivity relate to "the now changing but historically regulated nature of the Mexican market and trade; the cyclical nature of the economy and its relationship to investment; the comparatively slow rate of technological transfer; the non competitiveness of relatively large numbers of Mexico's labor force." (Barry Poulson)

### **Productivity and Macro Economics**

Mexico's roller coaster economy since 1980 has affected the nation's ability to sustain productivity growth. Periodic instability has limited the growth of capital markets. It has also made it more difficult for the government to sustain a steady course with respect to privatization and deregulation. Understandably, given budget constraints, it has negatively affected expenditures for infrastructure and made it more difficult to maintain strategic expenditures on education and training. In this context, "public capital growth rates with respect to electrical power, transportation and communications plummeted between the early seventies and the late eighties." (David Aschauer)

The "decline in infrastructure investment since the late eighties likely has had a negative impact on productivity in Mexico. Public capital improves economic performance, if it allows firms to reduce the amount of capital and/or labor and thereby costs to produce output." (David Aschauer) Clearly, because of the cyclical characteristics of the economy, "it has been difficult for both public and private sector to develop long term predictable investment strategies that would foster productivity improvements. Mexico has had to respond or react to periodic crises, the most recent of which began in December 1994 as a result of the peso devaluation." (John Cahillane)

### **Productivity and Economic Reform**

Mexico has initiated many policies and programs aimed simultaneously at privatization, economic deregulation and trade liberalization. They appear to have had a powerful effect on productivity. "Movement toward a free market system and the related opening of the economy have seemed to accelerate the rate of productivity increases, particularly in manufacturing." (Walter Ralph) "Mexico's relatively larger firms in the manufacturing sector--firms able to gain access to foreign investment and sometimes foreign partners--have reflected comparatively higher productivity growth rates. They have been forced to become more competitive and more efficient. They have reflected significant management, production and marketing improvements." (Barry Poulson)

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<sup>9</sup>A number of Mexican participants at the Forum indicated they believed that productivity trends turned around recently. They believe when recent data is available, it will show that productivity growth will reflect positive trends during the late nineties.

Economic sectors that have not been subject to extensive liberalization, deregulation and privatization have illustrated slower or more unpredictable productivity growth. Some firms within them have even witnessed negative growth rates.

Small and medium sized firms, generally, have often not fared as well as larger firms. Despite wage differentials, many have not been able to compete with imports. Firms hurt the most have not been able to adapt management to economic change and/or secure through investment newer technologies.

### **Productivity & Government Expenditures**

The high level of government expenditures in the eighties, particularly on government consumption, may have negatively affected productivity growth. "Total expenditures reached a high of 43% of GDP in 1987. At this level, they may have crowded out private spending and fostered a slow down in productivity." (Barry Poulson)

Programmatic expenditures began to fall during the eighties and reached a low of 15% in 1989--a low that was repeated again after the beginning of the economic crisis of the early nineties. Indeed, because of economic pressures resulting from devaluation in 1994, President Zedillo has had to follow a tight money and even tighter budgetary policy. This has made it difficult to keep pace with productivity related infrastructure and educational investments.

### **Productivity and the Legal System**

Mexico has made real progress in reforming regulations concerning its financial system. But up until relatively recently, "uneven contract enforcement combined with weak legal protection for creditors and minority shareholders helped account for Mexico's slow productivity growth." (Ulrich Lächler) Indeed, historically, the absence of equitable enforceable laws concerning property rights, contracts, shareholder and creditor rights impeded evolution of a strong financial system and investment in Mexico. A fair and efficient legal system is a prerequisite to an effective financial system. The link between both and productivity growth is clear.

### **Productivity and Labor**

In the past, government regulations related to wages, benefits and mobility fostered economic inefficiencies. They, also, appear to have negatively affected wage dispersion and productivity. Significantly, recent reforms, particularly efforts to streamline and reduce government regulations, have led to increased wage dispersion and a more open unrestricted labor market. "It is now easier to match employers needs with employee skills. Reduction in labor market restrictions has made it easier to bridge the gap between demand and supply of labor. The market is more a factor in determining wage levels and job mobility." (Luis Felipe de la Torre)

Increased wage dispersion has and will make it easier to set wages reflecting marginal productivity characteristics among workers. But, more dispersion may lead to further income problems at least in the near term. Unskilled workers will find it more difficult to maintain wages. Productivity growth may generate lower wage levels and again, in the short term, higher unemployment or underemployment.

## **Productivity, Management, Technology, Training and Education**

Mexico will need a significant increase in the supply of educated and trained workers. "Investment to foster technological change must be matched by investment in human capital if productivity is to grow significantly." (Luis Felipe de la Torre)

The educational system needs major reform. "Mexico has many fine competitive universities. However, there is an unequal distribution of higher education institutions throughout the nation. Mexico needs to do a better job of building such facilities. It needs to address the quality of college education, particularly outside the center." (Nicolas Mariscal)

Elementary and secondary education is a real problem. "We may need more money; we know we need to grant pre-college students more priority concerning investment. In the past, we have not focused on the needs of youngsters in public schools." (Nicolas Mariscal) Lack of trained and educated high school graduates has and will impede technological transfer and dispersion. Lack of trained and educated workers will also frustrate job mobility.

While Mexico focuses needed attention on its education system and the relationship of employee needs to education and training, it must also address problems caused by relatively low levels of investment in research and development. "A slow down in research and development expenditures, particularly in the private sector, has negatively affected smaller and middle sized firms. These firms have found it difficult to introduce competitive management, marketing and production processes." (Barry Poulson)

## **Policy Options**

Forum participants acknowledged the fact that the link between cause and effect relationships and productivity are imprecise. Because of this fact, they also noted that policy options to increase productivity are rarely governed by certainty concerning results. When it comes to productivity, many times, it is necessary to deal with probabilities and possibilities. "We should move ahead with policies where the benefits seem to outweigh the costs and where the risks of inaction are real." (Alejandro Ogarrío)

## **Recommendations**

Mexico has a good base upon which to build steady productivity improvements. Its macro economic policies have helped generate an economic recovery. Its political and social welfare reforms have won the respect of its citizens and outside observers. Its efforts to liberalize, privatize and deregulate the economy have resulted in visible productivity improvement in some sectors of the economy. In this context, participants recommended the following policies and strategies.

**Mexico should continue to grant emphasis to macro economic stability.** The fiscal and monetary policies and initiatives of the Zedillo Administration should continue in place. They "have facilitated an economic turnaround and they provide the framework within which Mexico can secure renewed

productivity growth." (Salvador Olvera Chaidez) They are tough but they are working. "Inflation is down; the account balance and budget appear in good shape. Investors have renewed confidence and are returning to Mexico." (Gerardo Perdomo Sanciprian)

**Mexico should continue to liberalize and privatize its economy, foster competitive markets and reduce trade restrictions.** Mexico's initiatives to open up its economy have been successful. They have led to a more competitive economy. "They have generated productivity gains among firms that have been able to respond to economic change." (Thomas Marx)

Mexico's continuous efforts to deregulate its economy and extend opportunities for foreign investment as well as trade should help foster an even, predictable, transparent regulatory field. Privatization of publicly owned and operated facilities should continue where such privatization will result in efficiency improvements and result in more extensive competition.

Clearly, the structural adjustments now occurring in Mexico could result in displacement of some firms and workers. Just as clearly, over time, Mexico's economy will become more efficient, effective, and productive. In a similar vein, over time, increases in Mexico's economy will expand job and income as well as quality of life choices. Social dislocations should be ameliorated through targeted government intervention to assure a reasonable safety net and to foster labor mobility.

**Mexico should strengthen existing and develop strategic new education and training programs.** Mexico has initiated some very innovative programs to help workers. For example, PROBECAT, a program to help the unemployed secure resources to find a job as well as to foster training by private firms and CIMO, a program that provides economic incentives to entrepreneurs to invest in worker training activities, reflect imaginative efforts to assist the un- and underemployed.

Much more is needed, however, to assure Mexican citizens increased opportunities to find upwardly mobile jobs in Mexico's rapidly changing economy. Workers displaced by economic restructuring should be able to secure increased training opportunities. Mexico's commendable efforts to foster training and retraining options in the private sector should be increased significantly. Strategic grants should be considered to foster innovative training initiatives. They would be directed at non profit groups, new regional institutions and universities.

Both on the job and for the job training initiatives will be required in Mexico. Tax benefits and direct subsidies to businesses should be evaluated with respect to impact and effectiveness in fostering on the job training.

Mexico has wisely resisted pressures to protect and/or subsidize inefficient non competitive firms. Expanded strategic management assistance to firms, particularly small and medium size firms, that reflect an ability to make it in the market place will be a wise investment. Such training should go well beyond skill building. It should focus on performance objectives and development of effective interrelated management, production and marketing systems. It should be delivered by diverse mechanisms including: consultants; mentors from successful firms; professional networks of small

and medium size firms. University and government agencies should be used only if their respective technical assistance personnel reflect appropriate training, background and experience. Mexico needs to experiment with different technical assistance models. No absolute wisdom exists as to the best approach.

Mexico, like the U.S., must look hard at how it is spending its education dollars. It has some severe education problems, particularly as they related to job market preparation. Mexico has made some great strides in improving its colleges and universities. But inequities in the distribution of higher education facilities and resources exist and must be addressed by Mexico.

Given resource constraints, Mexico should grant priority attention at the present time to elementary and secondary education within existing and future budgets. With some exceptions, the system is not turning out an adequate number of students who can compete easily in Mexico's changing job market. Most students will not move on to college. Mexico needs to develop a much better public education system, if high school graduates are going to be able to move on to good jobs.

**Mexico should consider strategic infrastructure investments.** "There is a clear link between productivity and infrastructure investment." (David Aschauer) Mexico should sustain efforts to develop diverse public private sector partnerships to develop needed infrastructure. In light of budget and debt constraints, "increased privatization as well as the development of organismos and the use of innovative security instruments to gain access to capital markets will be necessary." (Raul Robledo Tovi) Limited government enhancements may be required to respond to perceptions of sovereign and subsovereign risks. Closer working relationships with the MDBs should be developed in order to expand the use of relevant MDB programs.

**Mexico should consider alternative means to foster technological transfer and dispersion.** Technological transfer and dispersion are essential if Mexico is to increase productivity. But it will be difficult for government to foster both. Indeed, governments in most nations of the world have been notoriously bad in picking winners among competing technologies. Mexico's government, in this context, happily, is unwilling to pick winners among technologies.

Initiatives to strengthen and to assure transparency in the legal system governing patents, licenses, property and share holder rights will help create an environment favorable to invention and the use of new technologies.<sup>10</sup> Investments in human capital, through education and training initiatives, will be important in building skills required by complex state of the arts technology. Carefully targeted grant and loan programs should be considered on a limited basis to encourage technological innovation.

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<sup>10</sup>Mexico has made progress in creating a legal framework to protect industrial property. A government agency has been created to enforce new laws. It is called the Instituto Mexicano de la Propiedad Industrial. Among its responsibilities, it offers trade mark and patent registration.

“The national government’s capacity to sustain a stable and open market economy that continues to attract foreign investment has been, and will be in the future, critical to Mexico’s ability to incorporate technology in its industrial sector.” (Gonzalo Robles) It will provide the best assurance that technological transfer and dispersion will become a reality.

**Mexico should foster increased productivity research and continue a national dialogue concerning productivity.** Much more information and analysis are and will continue to be required concerning the impact of varied policies on productivity and the factors affecting productivity. Mexico should generate a set of strategic public, private sector and university partnerships aimed at increasing productivity related research.

Mexico should encourage a further dialogue on productivity issues and on the importance of productivity. Literally, productivity is everyone’s business. A national dialogue resulting in consensus on the need to improve productivity and on the need to set sector specific performance targets and quality standards would benefit the nation and would extend public and professional understanding of the need for effective productivity policies and programs.

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## Summary

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Aspen Forum participants commended BANOBRAS, the Secretaria de Comercio y Fomento Industrial and the Secretaria del Trabajo y Prevision Social for their leadership of the three Task Forces. While the Task Forces were initiated as independent groups with critical independent work programs reflecting key problem areas of concern, they became interrelated during Aspen Forum discussions. Clearly, the need to find improved and innovative ways to fund infrastructure and the need to develop fair and transparent regulations are critical to productivity. Just as clearly, productivity increases are essential to Mexico’s ability to find the resources to meet infrastructure as well as other national and local priorities.

The Forum urged BANOBRAS to convene a working Task Force including representatives of the World Bank and the private sector to precisely develop Forum defined infrastructure funding strategies within a six month period. Similarly, it urged BANOBRAS, INE and SEDESOL, perhaps through a similar working group, to take the lead in aggressively pursuing regulatory reform in the solid waste disposal area and in linking reform to specific funding options. There is a willingness among government agencies, the World Bank, business and community leaders to move forward. This willingness should be captured and converted into specific needed regulatory as well as financial initiatives. Mexico has a remarkable window of opportunity.

Finally, the Forum expressed a willingness to work with the Secretaria de Comercio y Fomento Industrial and the Secretaria Del Trabajo y Prevision Social to refine and help implement

productivity recommendations. Participants noted the importance of productivity to Mexico. They, unanimously, believed that Mexico can soon show visible and historically significant increases in productivity. If it is able to do so, it will also record significant economic progress and, over time, income improvements. Productivity growth is vital to quality of life achievements.

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