

Trade & Environment in North America

Abstracts

08

23 April 2008

Session 1 – 9:30

Structural Changes in Mexico; Economic Growth, Trade Liberalization, NAFTA and the Environment

Gustavo Alanís Ortega, Mexican Environmental Law Center (*Centro Mexicano de Derecho Ambiental–Cemda*)

Based on the studies conducted by Simon Kuznets, who found an “inverted U” relationship between income levels and unequal income distribution, various researchers have reported a similar relationship between per capita income levels and environmental performance. That is, at low income levels, an increase is accompanied by worsened environmental performance. However, at a certain income threshold, economic growth comes with improvements in environmental performance. This phenomenon is known as the “environmental Kuznets curve” (EKC). Various factors explain the curve, including structural changes in national production, which is taken for granted as income increases.

Mexico’s opening to international trade and its adhesion to the North American Free Trade Agreement (NAFTA) have affected both national and per capita incomes and also the country’s production structure. On the one hand, the evolution of the industry and service sectors’ participation in the economy showed marginal change with liberalized trade, perhaps slightly accentuated with NAFTA’s entry into force. On the other hand, growth in national GDP has been modest while per capita GDP has been paltry, though less fluctuating and volatile than in the past.

The environmental effects of these phenomena may be explained by EKC. However, evidence is not yet conclusive.

Session 1 – 9:50

Pollution and International Trade in Services

Arik Levinson, Economics Department, Georgetown University / National Bureau of Economic Research

Two major topics in recent rounds of international trade negotiations have been environmental concerns, and services trade. While each is undoubtedly important, they are unrelated. The service sector emits only a small part of overall pollution and those service industries that do pollute do not trade internationally. This paper uses data on trade in services from the US Bureau of Economic Analysis, and data on the pollution intensity of various industries from the US Environmental Protection Agency, to demonstrate that the correlation between services trade and pollution intensity is negative.

Session 2A – 11:10

Liberalization of Financial Services Under NAFTA and its Effect on the Environmental Performance of the Agricultural Sector in Mexico

Department of Sustainable Development of the General Secretariat of the Organization of American States with contributions from Claudia S. de Windt, Isis Márquez, Rodrigo Martínez, Oscar Ceville and Xiaohang Liu.

As a result of its peso crisis in 1994–1995 and the need for capital, the Mexican government accelerated the financial liberalization process projected under NAFTA, increasing foreign ownership of banks. These changes and ensuing legislation greatly affected the credit market in Mexico. In general, research has shown that larger banks tend to prefer lending to large businesses as well as large-scale farmers, given the fact that their managerial structure makes the evaluation process for small businesses and farm loans costly and unprofitable.

Results from a survey conducted by OAS-DSD with major foreign-owned banks in Mexico showed preferences toward farm efficiency, large-scale farming, and crops such as maize and frijol in northern Mexico. Environmental pressures in this region, such as loss of soil, fertility reduction, salinization, agrochemical residues, and groundwater contamination and scarcity, could potentially be exacerbated by the lending criteria of private banks, which focus on efficiency rather than on sustainability, under the assumption that this approach will increase profitability and reduce risks. Even though financial institutions have not stated it officially, it is clear that in order to achieve “efficiency,” these producers have to sacrifice environmental benefits, for instance, by increasing the use of pesticides and fertilizers.

While this is an area that requires further research, to ensure sustainability the above-mentioned challenges must be addressed in an integrated approach, through dialogue at the national and regional levels, taking into account the roles of different stakeholders and bridging the gap in access to credit between small and large-scale farmers. Some recommendations include a shift in production and reallocation of resources toward crops that provide comparative advantages from a sustainability perspective, and the establishment of a specialized form of soft credit for farmers that choose to join an organic certification scheme. If it contributes to environmental protection, this last option could potentially benefit financial institutions by improving their image.

Session 2B – 11:10

NAFTA, Tourism and the Environment in Mexico

Luz Aída Martínez Meléndez, Department of Natural Resources and Ecological Economics, University of Vermont

The purpose of this study is to determine how the North American Free Trade Agreement (NAFTA) has influenced the Mexican tourism sector and its effects on the environment. As there is no specific chapter on tourism under NAFTA, we assess the linkage between the sector and the Chapter 11 of the Agreement, finding evidence of dispute resolution requests by US investors in tourism projects in Mexico. We also conduct a quantitative analysis of US and Canadian foreign direct investment. The study concludes that NAFTA represented greater certainty to investors, but was not the main driver behind the investments, since Mexican tourism was deregulated years before the Agreement entered into force. We provide a quantitative analysis of tourist flows from the United States and Canada to Mexico, finding that Mexico has been a preferred destination since before the Agreement was signed. Other variables have had a more significant influence on Mexican tourism patterns, such as Mexican currency devaluation, natural disasters and international safety concerns.

This analysis of NAFTA, tourism and the environment in Mexico recognizes the importance of Articles 14 and 15 of the North American Agreement on Environmental Cooperation (NAAEC), acting as a forum of expression and mechanism for attending to citizen submissions on failures in environmental law enforcement in the NAFTA countries. We conduct a qualitative analysis of the environmental law framework on issues involving tourism, finding evidence of CEC citizen submissions regarding enforcement failures with respect to tourism developments in Mexico. The study recognizes the importance of Mexico's social organization to denounce enforcement failures, highlighting the difficulty of quantifying the effects as official reports include only those cases of effective enforcement of the environmental laws. Acknowledging that economic indicators are not sufficiently comprehensive to include the environmental impact of tourism-related activities, we provide an economic-environmental balance at one tourist destination preferred by international visitors, which has been given priority status for tourism development and environmental conservation in Mexico. The balance concludes that the greatest environmental impact is of global importance: CO₂ released into the air by air transportation, followed by the local impact of water consumption, waste generation and electricity usage, in that order.

Session 2B – 11:30

Tourism, Trade and the Environment: Tourism and Coastal Development in the Mexican Portion of the Mesoamerican Reef

Vanessa Pérez Cirera, World Wildlife Fund–Mexico,

Gina DeFerrari, World Wildlife Fund–United States

Using the case of the Mexican portion of the Mesoamerican Reef, this paper presents an analysis of the relationship between trade, tourism development and its impacts on the environment, using the methodology of the Organization for Economic Cooperation and Development for trade-related environmental effects.

While tourism-related coastal development is a worldwide threat to marine conservation, there is no evidence that trade (measured here as tourism-related Foreign Direct Investment) as result of NAFTA or other trade agreements signed by Mexico have changed the historic trend in tourism development (measured here as a continuous increase in hotel rooms without significant environmental regulation). Also, there is no evidence that a significant increase of tourism development has produced a greater use of or even an increase in the environmental regulations. However, specific regulations to preserve the integrity of landscapes (i.e., land use plans) and ecosystems (like special protection for mangrove swamps) become the specific arenas where tourism development and environmental management come into conflict.

Session 3A – 13:45

Transportation Services, Air Quality and Trade

Linda Fernandez, Department of Environmental Sciences, University of California, Riverside

Transportation services help the economies of the three NAFTA Parties. Traffic congestion and delays at border ports of entry between NAFTA countries result in two negative consequences: poor air quality and delayed trade flows. Econometric analysis and panel data are applied in this study to assess whether transportation services related to NAFTA have resulted in more pollution at border ports of entry and whether policies under NAFTA have helped to alleviate delays and reduce air pollution at the shared ports of entry.

Panel data for use consist of variables that include air pollutants, frequency and magnitude of transportation flows (including commercial trucks and passenger vehicles) for ports of entry along both the Canada-US border and the Mexico-US border.

Session 3A – 14:15

Environmental Implications of Trade Liberalization on North American Transport Services: The Case of the Trucking Sector

Linda Fernandez, Department of Environmental Sciences, University of California, Riverside

This paper offers an assessment of the environmental impact of trade liberalization on the cross-border trucking sector in North America, using econometrics and panel data from the time period covering NAFTA (1994 to present) and at ports of entry on both the Canada-US and the Mexico-US borders. The connections between trucking, air quality and trade are described for the US, Canadian and Mexican trucking services industries. Then, the econometric method and data from North America are described that help measure the impacts of the trucking sector on traffic and trade flow, as well as the environmental impacts on air quality along international borders in North America.

The final part of the research evaluates the effectiveness of policies to ameliorate air quality impacts of trucking. Even though many policies for improved port-of-entry operations may be under discussion rather than at the implementation stage among the NAFTA partners, attempts are made to draw upon port-specific differences at both the US-Canadian border and the US-Mexican border.

Session 3B – 13:45

The Evolution of the Environmental Services Industry in Mexico, 1995–2005

Grant Ferrier, Environmental Business International, Inc.

George Stubbs and Fiona O'Donnell-Lawson, Project Contributors

It was presumed that the passage of NAFTA would stimulate considerable growth in markets for environmental goods and services in Mexico, and the rapid development of an environmental industry in Mexico. While the commercial activity of companies solving environmental problems is no sure measure of environmental quality, it is a valuable indicator of how both the private and public sector is responding to environmental challenges and of the impact that various policy instruments are having on environmental expenditures. This paper quantifies the growth and evolution of environmental market in Mexico since 1995 and characterizes the contribution of imports and Mexico's own environmental industry.

While annual growth in the environmental market has been on the order of five to ten percent since 1995, environmental companies say NAFTA played only a minimal role in driving that growth. The companies believe that market demand could be much higher with better enforcement and, indeed, Mexico's market evolution lags that of other nations. The Mexican environmental market has seen notable increases in activity and cooperation in the past but imports have outpaced the development of Mexico's environmental industry.

In the broadest terms, NAFTA has not brought proportionally more pollution to Mexico, as many had feared, but it is gradually bringing higher standards of environmental performance due to the influx of multinational firms operating under their own guidelines. The challenge is to turn these standards into the norm rather than the exception and to work with Mexican authorities to apply similar standards to their environmental infrastructure.

Session 3B – 14:05

**Effects of Trade Liberalization on Provision of Urban Solid Waste Collection, Recycling, and Final Disposal Service:
The Case of Mexico's Northern Border Region**

Claudia María Martínez Peralta, Sonora State Commission of Ecology and Sustainable Development
(*Comisión de Ecología y Desarrollo Sustentable del Estado de Sonora*)

Mexico, and in particular the northern border region, is facing serious challenges caused by accelerated urbanization. One of the most difficult to manage and resolve is the provision of urban solid waste collection, recycling, and final disposal services. The study focused on 10 cities of the region, where nearly 10 percent of Mexico's total waste is generated. In 2005, nearly 56 percent of urban solid waste in the region was produced by Tijuana and Ciudad Juárez alone. Per capita urban solid waste generation varied from 0.74 kg/day in Anáhuac, a city of less than 20,000, to 1.91 kg/day in Mexicali. An estimated 40 percent of the volume is composed of recyclables such as plastics, glass, and metals. Finally, although these cities have regulatory instruments governing the management of sanitation services, these have not functioned properly because they are rarely enforced, due to the inadequate technical capacity and knowledge of the personnel involved in providing the service.

Session 3B – 14:25

Growth in the Supply of Municipal Environmental Services to Communities on Mexico's Northern Border (1995–2005)

Tomás Balarezo and **Alberto Ramírez**, Border Environment Cooperation Commission (BECC)

The North American Free Trade Agreement (NAFTA) fostered structural changes throughout the US-Mexico border region. This transformation made border cities—more specifically, Mexican border towns—springboards for global competition. Since 1994, the year NAFTA entered into force, the Mexican economy has generally shown dynamic performance, as reflected in the home construction sector. A strong, orderly homebuilding sector is a sign that the economy is actively engaged and certain social satisfiers associated with major urban services are being met, such as trash collection services, drinking water supply, sewer services and wastewater treatment.

The weak point in the process is the fact that the border's required environmental infrastructure has not been developed on par with the region's fast economic and demographic growth. In the early years of NAFTA, the demand for urban services associated with the environment was far above the infrastructure available at that time. This was particularly a problem in the border's 14 sister cities, home to nearly 30 percent of the total population of northern Mexico.

Population growth and the development of the maquiladora industry have put pressure on the region's natural resources, especially water, which is already limited in desert zones. Air pollution problems associated with the large number of vehicles in the region have also increased, as have greenhouse gases. Waste management issues—including hazardous waste and used tires—have exceeded the authorities' capacities. The Border Environment Cooperation Commission (BECC) and the North American Development Bank (NADB), as active participants in the US-Mexico Environmental Program (Border 2012), have developed and funded environmental infrastructure projects involving drinking water systems and wastewater and municipal waste management. Paving projects are also being carried out to reduce particulate emissions; water conservation programs are being furthered in farming areas; and, more recently, alternative power projects are underway (biogas, wind, minihydraulics).

Even with these programs, new challenges continue to appear and much remains to establish a basis for sustainability.