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Madame Chairman, friends in the U.S.I.T.C.

Thank you very much for your invitation to participate in this public hearing as part of the seventh update of the report *The Economic Effects of Significant U.S. Import Restraints.*

I am honored to be here and I am delighted to participate today with the hope that my work in the field of the economics of border crossings, an indispensable element in international trade and global supply chains, can contribute with new insights and ideas to the discussion and bring some light on the forces behind them. For many years now, I have been extremely grateful to the U.S. International Trade Commission, which provided guidance to me to model the macro-economic impact of the border crossing inefficiencies or non-tariff barriers that I had documented during my research.

I consider border crossings an important element of the global logistics chain. A logistics system is as efficient as its most inefficient link. Border crossings are the equivalent of a dam in a river: it stops the flow, and this research is like taking the water out of the river and looking at stones and underneath the stones. Border crossings, among other things, can cause substantial delays, interrupting transport flows and making the cargo more susceptible to damage, loss, and tampering; in addition, pollution is generated from diesel engines, accelerating, stopping, idling and starting under heavy loads; and security risks are greater in congested environments.

As Hummels (2001) asserts in his paper:

> "non tariff barriers of various sorts and structural impediments are less obvious and perhaps more interesting, but also much more difficult to directly measure. As a consequence, researchers rely primarily on indirect methods: positing a model of bilateral trade flows and correlating flows with proxy variables meant to represent trade barriers."

My work "Institutional Arrangements that Affect Free Trade Agreements: Economic Rationality Versus Interest Groups" (Londoño-Kent, Erim PhD. Series Research Management 78, Erasmus University, 2006) examines the economics of border crossing of goods transported by truck between the United States and Mexico from the aspects of theoretical efficiency and institutional barriers to achieving such efficiency. My research uses a novel approach identifies institutional and legal barriers that impede the economic efficiency of border crossing, addresses traditional micro-economic theory, and considers the theories of economic behavior and political choice to explain this economic reality. Operational costs and the costs of time are incorporated into the GTAP model, which is in turn used to quantify the macro-economic effect of the border related inefficiencies.

As we know, commercial trucking is vital to the three NAFTA countries for their economic prosperity. At the time of my research, nearly 70 percent of all freight transported annually in the NAFTA countries was transported by truck; a minimum of 14 million trucks crossed the Canada-U.S. border per year and 9 million trucks cross the U.S-Mexico border per year. In June 2008, bilateral trade between U.S. and Mexico was $1 billion/day. While the NAFTA agreement recognizes and encourages the large and growing trade among the three countries, trucking practices across borders impedes the implicit seamless flow objectives of the NAFTA agreement.

My research in this area began with a time motion study of what actually happens at the busiest U.S. Mexican border crossing at Laredo. NAFTA assumes seamless border crossings without detailing how this would be achieved, particularly in the case of trucking, the most important cargo transport mode within NAFTA. My work revealed evidence that NAFTA has not led to an efficient border crossing: a border that could be crossed in 15 minutes with a single truck and driver takes several days, drivers, and pieces of equipment. In fact, it takes longer to cross the Rio Grande than to go from Chicago to Laredo by truck. This is in contrast with a mini time-motion study of an efficient border crossing at Ambassador Bridge between the United States and Canada, which has more traffic than all Laredo bridges combined, yet it has only 4 lanes versus the 22 crossing lanes available at Laredo, presenting perhaps ill-fated attempts to solve what amount to institutional problems by building more infrastructure.

The time motion study established which practices or regulations cause which inefficiencies and what are the consequences in terms of time, money and equipment. Such inefficiencies not only cost importers and exporters time and money – they also cause welfare losses to the entire economy because of the distortions they introduce to consumption and sourcing decisions.

The inefficiencies present at the Laredo Border Crossing have a secondary impact on overall trade more difficult to measure because many other variables affect overall trade. To measure the net impact of the border on United States /Mexico trade flows, the GTAP model was appropriate because of its capability to provide an elaborate and realistic representation of the economy, including relationships among all sectors, agents and other economies.

To measure the macro-economic impact of these non-tariff barriers, Fox, Francois and Londoño-Kent (Measuring Border Crossing Costs and their Impact on Trade Flows: The United States-Mexican Trucking Case, 2005) used the Global Trade Analysis Project (GTAP) model to simulate the reduction of border crossing costs between the United States and Mexico to the level observed between the United States and Canada. This cost reduction is modeled in two parts: the first part is treated as the removal of "iceberg", or deadweight, trade costs. The second part of the cost reduction is an increase in the efficiency of the border crossing procedure, modeled as a rise in the productivity of the traded goods. Simulation results indicate that the removal of such barriers could benefit the Mexican economy by $1.8 billion per year, while the U.S. economy could see a welfare increase of about $1.4 billion per year. Trade flows between Mexico and the United States would likewise increase, with southbound and northbound trade expanding by about $6 billion and about $1 billion per year, respectively.

While there are other nontariff barriers that have not been measured, such as substandard infrastructure, corruption and pollution, the paper "Global Review of Transit Systems" (Arvis, Londoño-Kent, World Bank, Draft, 2009), explores the practical and economic implications of changes to the NAFTA transit system put in place after the terrorist events of 9-11-01. These security measures have "thickened" the borders with Canada and Mexico, thereby increasing costs and delays associated with border crossing of goods, services and travelers. These security measures have a global impact in the logistics chain since they are applied to all countries, industrialized and less developed, that source goods to the United States.

These frictions lengthen delivery schedules, introduce uncertainty into these schedules, and make difficult the implementation of "just in time" inventory management and industrial processes, impeding a more efficient combination of the factors of production. While the U.S. and Mexican economies have already achieved a great degree of integration (over 80 percent of Mexican imports come from the United States and in 2008 bilateral trade has grown to over one billion dollars per day), removal of border impediments to trade can lead to still greater efficiencies and welfare for both parties. Reducing the time and the cost involved in shipping products will help the "just in time" process, reducing inventory and depreciation costs for shippers. These border-crossing frictions have pronounced implications for trade and the international organization of production. The reduction of border crossing frictions promotes the more efficient utilization of transport equipment, faster equipment turnover and additional savings in capital investments not only in transport equipment but also savings in infrastructure construction, maintenance, and reductions in transport-related pollution (Fox, Francois, Londoño-Kent, 2005).

While the shipping industry that has blossomed at the U.S.-Mexican border crossing at Laredo no doubt benefits any number of special interest groups in the border trucking and brokering industries, the overall welfare of the two economies is not well-served by the continuation of these artificial frictions at the border. This may be time for fundamental rethinking and consideration of security issues and economic rationality of an efficient border crossing system relieved from legal and institutional barriers. Security has become a new element in the transit system equation of the logistics chain.