
Trust No One? Security & International Trade

AEO Mexico Case Study

Christian Volpe & Sandra Corcuera
Integration and Trade Sector



OUTLINE

- Background
- What we know and what we don't
- Objective of the research
- AEO Program
- Methodology & Data
- Findings & Results
- Robustness of the Research
- Colateral Findings

IDB Research on Trade Cost in LAC

BRINGING DOWN THE BARRIERS

IDB Research on Trade Costs in Latin America and the Caribbean
Integration and Trade Sector

How long will it take to get my product through customs?

= LOGISTICAL COSTS =

More efficient and streamlined customs procedures would boost LAC firms' competitiveness in export markets. Evidence from Uruguay shows that if all shipments subject to physical inspection cleared customs within one day, exports would increase by 5.9%.

Which markets give my firm the best chance of success?

= INFORMATION COSTS =

Policies to help firms overcome information barriers are an important tool for discovering new markets. Assistance from Trade Promotion Organizations (TPOs) has led to 17% faster export growth in Peru, 9% faster growth in export destinations in Costa Rica, and 14% faster export growth for small firms receiving assistance for the first time in Argentina.

How much will it cost to ship my product to its destination?

= INTERNATIONAL TRANSPORTATION COSTS =

Reducing the cost of shipping to destination countries would boost the region's competitiveness. A decrease of 10% in international transportation costs would yield an increase in intra-regional exports of more than 30% on average for LAC countries.

Can I transport my product quickly and inexpensively to the nearest port?

= DOMESTIC TRANSPORTATION COSTS =

Improving domestic transportation infrastructure would increase the ability of LAC firms to take part in international trade—especially for those firms located in remote areas. In Colombia, a 1% reduction in domestic transport costs would increase agricultural and manufacturing exports by 8%.

How can my firm participate in global value chains?

= COORDINATION COSTS =

Global value chains (GVCs) are key drivers of global trade, but LAC's participation in GVCs tends to be low. In 2010, the share of parts and components in total manufacturing exports was 40% in Asia and only 14% in Latin America. If countries in LAC improve the quality of port, airport and telecommunication infrastructure to the level observed in the European Union, FDI associated with GVCs would increase by an average of 20%.

How can my country's network of trade agreements help me sell abroad?

= REGULATORY COSTS =

In order to take advantage of tariff reductions negotiated under LAC FTAs, firms have to comply with a dizzying array of rules of origin. In one survey of firms in four Latin American countries, over 60% responded that harmonization and cumulation of these rules would have medium to very high benefits for their business.

WHAT WE KNOW.....

- AEO is well recognized world wide
- Agreed General Perception on AEO benefits & quality mark
- AEO status may not be free depending on the level of compliance on security
- The number of firms vary widely across countries but they account for high shares of the countries' trade

WHAT WE DON'T KNOW.....

- No empirical evidence on how AEO programs affect trade

OBJECTIVES OF THE RESEARCH

- To what extent do security-motivated supply chain programs such as AEO facilitate trade?
- What are the effects on firms' exports outcomes such as quantities, prices and shipping frequency?

AEO MEXICO

- Launched in 2012
- From 88 firms in 2012 to 400 in 2014
- 1.3 % of total exporters (33.712)
- 40% of Mexico total exports (USD400 billion)
- 43% of total number of products (9.500)
- 81% of the total number of destinations (>200)

Table Aggregate Export Indicators and NEEC

Year	Exports*	Firms	Total Exports	
			Products	Destinations
2009	230,110	33,118	9,142	210
2010	290,638	33,498	9,134	203
2011	346,124	33,563	9,191	209
2012	363,321	33,691	9,657	208
2013	369,753	32,826	9,456	204
2014	390,611	33,712	9,426	203

Year	Exports	NEEC Firms (Percentage Shares)		
		Firms	Products	Destinations
2009	N/A	N/A	N/A	N/A
2010	N/A	N/A	N/A	N/A
2011	N/A	N/A	N/A	N/A
2012	14.901	0.321	20.669	53.846
2013	36.272	1.021	38.166	73.039
2014	40.265	1.397	43.497	82.759

Source: IDB's calculations based on data from SAT

AEO MEXICO

- Non AEO export firms average exports:
 - USD11 million, 11 products and 2.5 destination countries
- AEO firms average exports:
 - USD334 millions, 89 products and 9 destinations countries

METHODOLOGY

- Differences –in–Differences estimations
- Robustness with placebos, sample splitting and general equilibrium effects assessment, amongst others.

$$\ln X_{fpct} = \alpha NEEC_{fpct} + \lambda fpc + \delta ft + \rho pct + \varepsilon_{fpct}$$

$$\Delta \ln X_{fpct} = \alpha \Delta NEEC_{fpct} + \delta ft' + \rho pct' + \varepsilon_{fpct}$$

$$\Delta RC_{fpct} = \beta \Delta NEEC_{fpct} + \delta ft' + \rho pct' + \varepsilon_{fpct}'$$

$$\Delta \ln D_{fpct} = \gamma \Delta NEEC_{fpct} + \delta ft' + \rho pct' + \varepsilon_{fpct}'$$

$$\Delta \ln D_{fpct} = \theta \Delta RC_{fpct} + \delta ft' + \rho pct' + \varepsilon_{fpct}'$$

$$\Delta \ln X_{fpct} = \sigma \Delta \ln D_{fpct} + \delta ft' + \rho pct' + \varepsilon_{fpct}'$$

$$\Delta \ln Z_{fpct} = \alpha Z \Delta NEEC_{fpct} + \delta ft' + \rho pct' + \varepsilon_{fpct}$$

$$\Delta \ln X_{fpct} = \sum_{i=1}^I \alpha_i \Theta_i \Delta NEEC_{ft} + \delta ft' + \rho pct' + \varepsilon_{fpc}$$

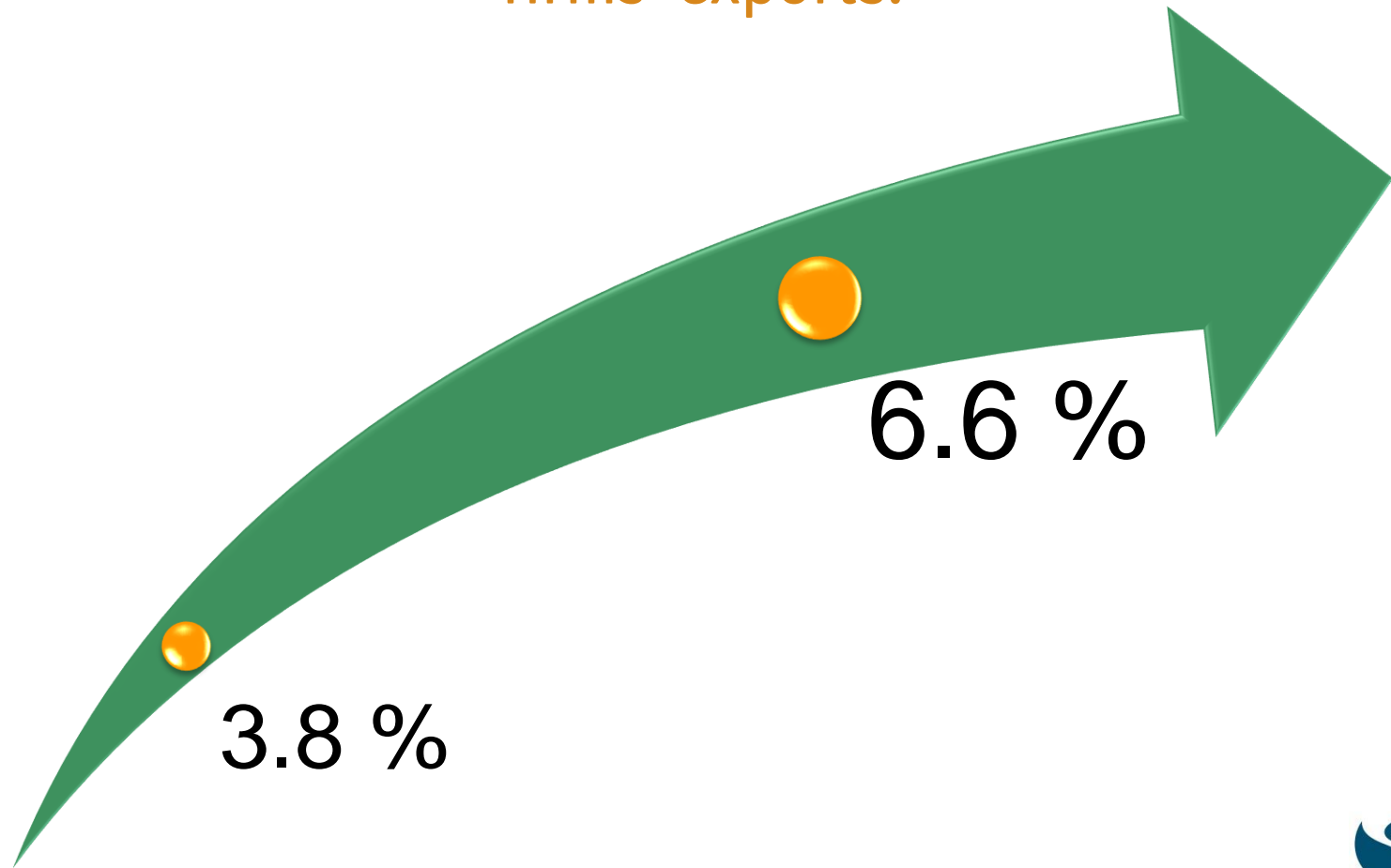
DATA

Two databases kindly provided by Mexican customs (SAT)

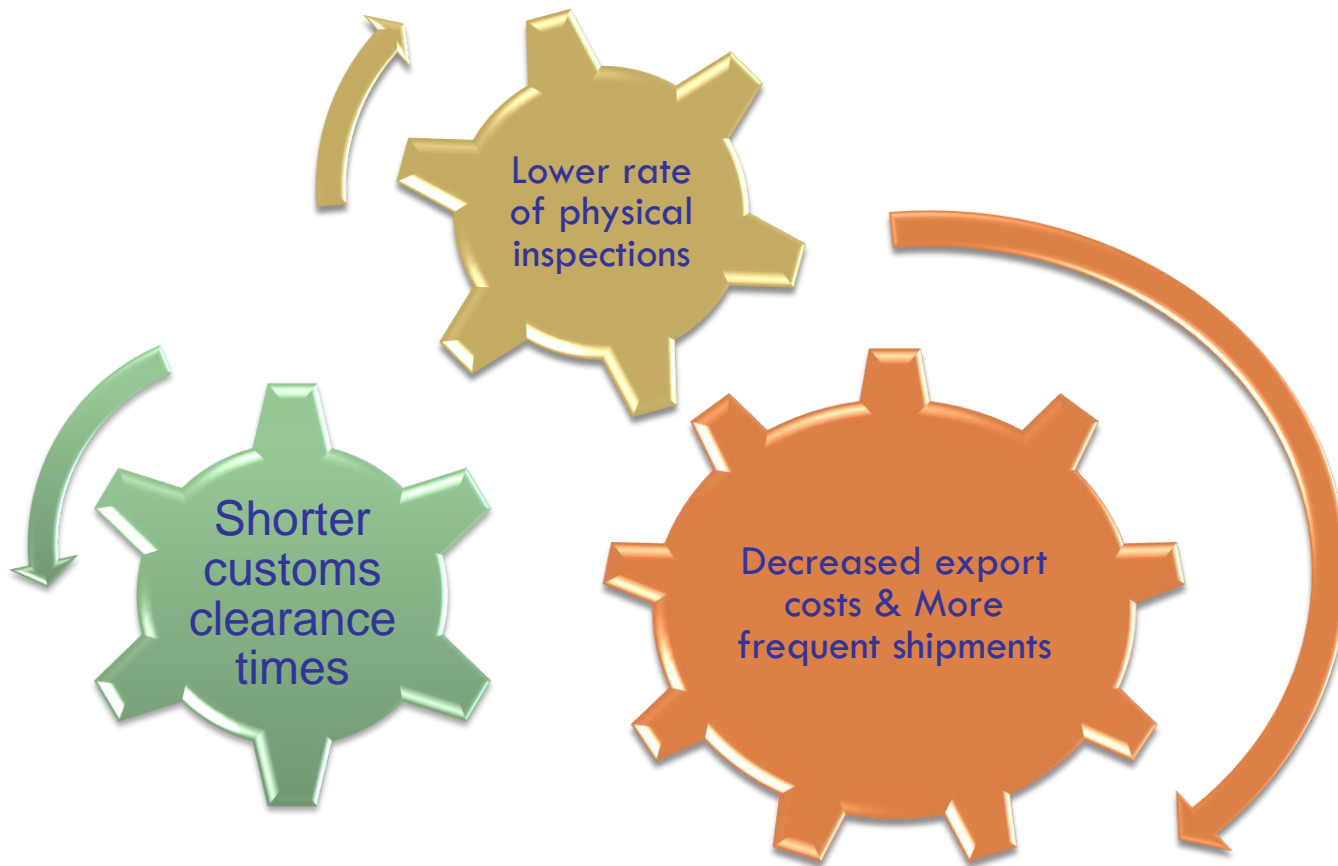
- Transaction-level export and import data from **2002 to 2014**. Each record includes the firm's ID, the product code (10-digit HS), the customs office, the destination/origin country, the export and import values in US dollars, the quantities (weight) in kg, the channel (green or red), the date in which the customs-processing of the shipment was requested, the release date.
- Information on the status of the certification of each registry.

FINDINGS & RESULTS

AEO certification has been associated with increased firms' exports.

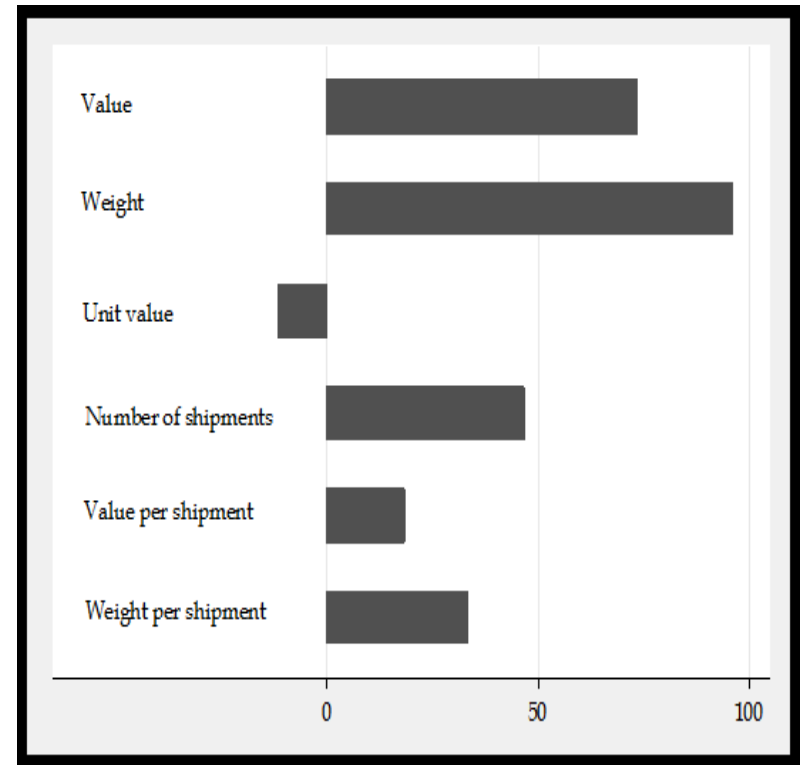
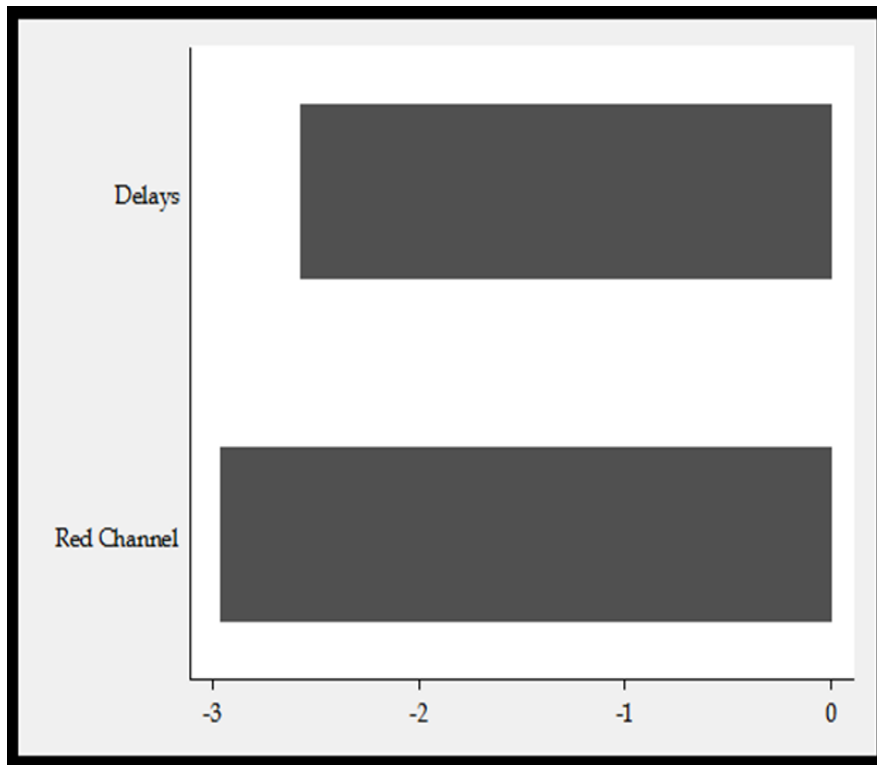


FINDINGS & RESULTS



FINDINGS & RESULTS

Impact of AEO on firms' exports, inspection levels and time at customs



Source: IDB's calculations based on data from SAT

ROBUSTNESS CHECKS

- Granularity (distortions in the research representability)
- Zeroes (non observable patterns)
- Non Parallel Previous Trends (similar trade patterns between the AEO and the control group)
- The timing of certification
- Omitted Variable Bias
- Self selection of firms into the certification program
- General Equilibrium Effects: Net Export Increase versus Export Redistribution

COLATERAL FINDINGS & RESULTS

- AEO certification serves as a quality signaling mechanism reducing information barriers and asymmetries
- AEO certification also has a positive impact on imports
- The AEO program generates a net saving of almost 100,000 US dollars for the public sector per year
- Effects have been larger on exports of textiles, industrial supplies, and capital and consumer goods, generally considered time-sensitive
- AEO appears to have helped firm reach new export markets

COLATERAL FINDINGS & RESULTS

- AEO has made it possible for firms to better respond to time-specific demands from foreign buyers by shipping more just-in-time and therefore to export more, but this has raised shipment volatility in terms of frequency and size.
- In short, AEO has allowed for expanded firms' exports and at the same time has increase shipping variability

CONCLUDING REMARKS

- Our difference-in-differences estimates suggest that AEO has resulted in increased firms' exports.
- Importantly, this effect does not come at the expense of non-certified exporters, so that the program appears to have positively affected country-level exports.
- The evidence further indicates that the AEO has favored an expansion of foreign sales along both the destination intensive margin -and the destination extensive margin.
- Finally, the effects seem to have been stronger on time-sensitive products such as textiles and consumer goods and industrial inputs.

NEXT STEPS

- To replicate the research in another country in Latin America with the same methodology (planned).
- To conduct another research on the impact of MRAs on trade in Mexico (ongoing)

ADDITIONAL RESOURCES

- **Study:** <https://publications.iadb.org/handle/11319/7994>
CHAPTER 3 Trustworthiness Makes a Difference at the Border and Beyond: Authorized Economic Operators
- **Blog:** <https://blogs.iadb.org/integration-trade/2017/11/07/firm-steps-toward-exporting-to-more-and-more-markets-the-authorized-economic-operator-program/>

Thank you !

Sandra Corcuera: sandracs@iadb.org



@CorcueraSandra

@BID_Comercio

