

OUT OF THE BORDER LABYRINTH: TRADE FACILITATION UNDER IMPACT EVALUATION

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7th Annual Conference of the LACEA Trade, Integration, and Growth Network (TIGN)
Sao Paulo, May 24, 2016



* The views and opinions expressed in this presentation are those of the author and should not be attributed to the IDB, its Executive Directors or its member countries.

TRADE FACILITATION

EVIDENCE, MEASURES AND REALITY

The Border

- Contrary to the dimensionless line-type of border assumed by theoretical models and empirical analyses, the real border can be thick.
- The border is a zone populated by agencies that develop and administer regulations firms have to comply with when engaging in international trade.
- Many of them have their own procedures and their own specific data requests.
- The median number of agencies with direct regulatory involvement in cross border transactions is 15 and this number can even top more than 30.

TRADE FACILITATION

EVIDENCE, MEASURES AND REALITY

The Border

- The border can then easily become a mountain hard to climb...



- ...or a labyrinth difficult to get through....



TRADE FACILITATION

EVIDENCE, MEASURES AND REALITY

Border Agencies and International Trade

- This is crucial because customs and other border agencies influence the time needed to ship goods from their origins to their destinations and...
- Time matters in trade and its importance is likely to grow because of increasingly segmented production chains and rising lean retailing, among other reasons.
- However, our understanding of how these agencies affect trade is limited.
- Lack of precise data has been a major obstacle.

TRADE FACILITATION

EVIDENCE, MEASURES AND REALITY

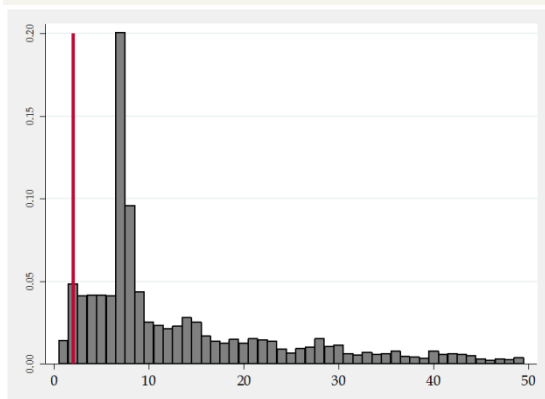
Border Agencies and International Trade

- In the economics literature these agencies' role has been so far primarily captured by (subjective) aggregated country-level measures of time/documents to trade.
- While useful as a first approximation, the question arises of whether we can do better in describing firms' actual experience with their countries' border agencies.
- The truth is that reality is much more complex than these indicators suggest...

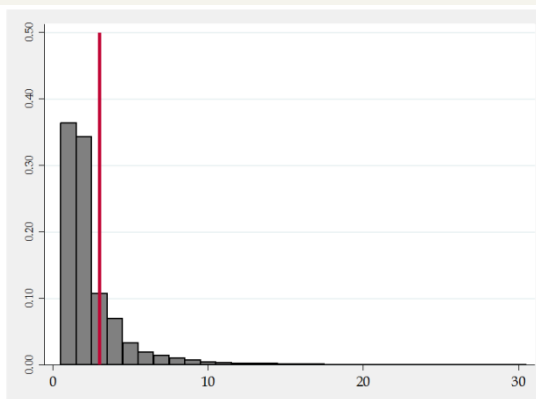
TRADE FACILITATION EVIDENCE, MEASURES AND REALITY

A few illustration from the export side (2011)

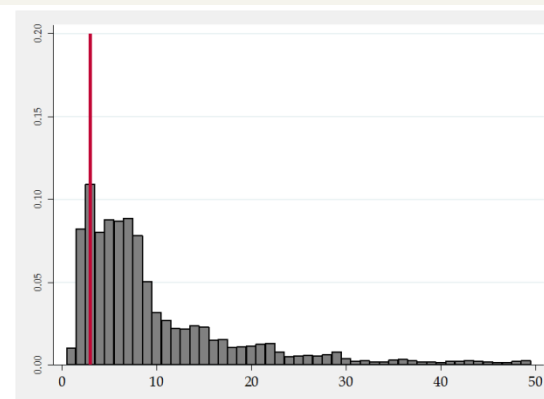
Costa Rica



El Salvador



Ecuador



TRADE FACILITATION

WHY DOES TIME TO TRADE VARY?

A Number of Key Trade Facilitation Concepts...

- Even though not a perfect measure, time to trade consists of an entire distribution across a universe of transactions (not a single value) and varies across firms, products, and destinations/origins. Besides the fact that **port handling takes varying time...**
- Time to trade varies because countries carry out **risk analyses** to identify shipments that are more likely to be non-compliant and allocate them to different verification channels (e.g., documental vs. physical inspections).

TRADE FACILITATION

WHY DOES TIME TO TRADE VARY?

A Number of Key Trade Facilitation Concepts...

- Time to trade varies because some products require specific authorization and their preparation and processing demand more or less time depending on whether **single windows** arrangements are or not in place.
- Time to trade varies because some firms are certified as **trustworthy operators** and can have access to express lanes and reduced clearance times.
- Time to trade varies because firms can trade under the regular regimes or simplified regimes (e.g. **postal exports**), in which case fewer documental and process requirements apply, and depending on whether initiatives are unilateral or regional (e.g., **transit trade**).

TRADE FACILITATION

THE PRACTITIONERS' VIEW

- Latin American and Caribbean countries have recently implemented various trade facilitation initiatives.
- Concepts such as risk analysis, transit trade, single windows, and authorized economic operators belong to practitioners' everyday activities.
- Furthermore, these are subject of several IDB's (and other international organizations') operations.
- ...And are cornerstones in the recent WTO Agreement on Trade Facilitation signed by countries in Bali.

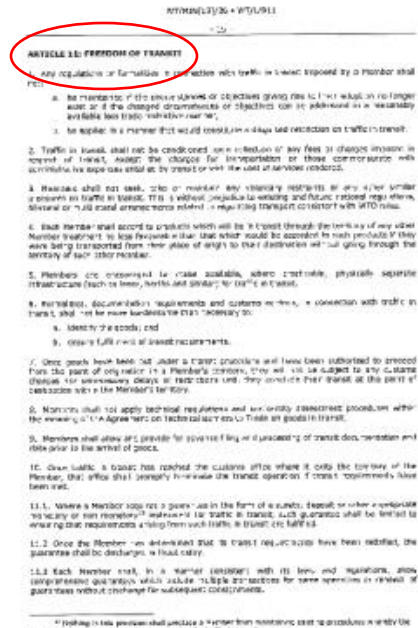
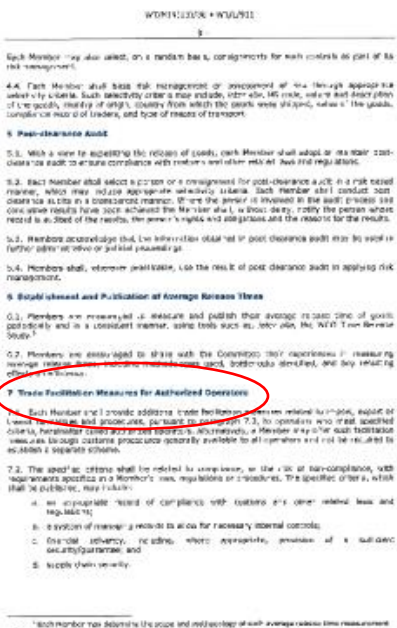
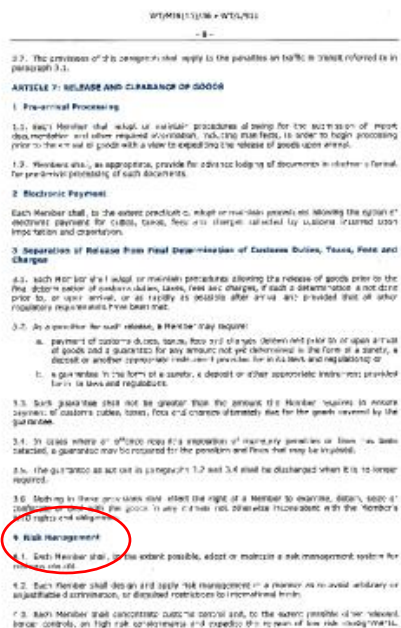
TRADE FACILITATION

THE PRACTITIONERS' VIEW

Risk Management

Authorized Operators

Transit Trade



- Many researchers are not familiar with these concepts. And these concepts can open an entirely new dimension of policy-driven research in international trade...

TRADE FACILITATION

THE RESEARCHERS' VIEW

- There is a relatively recent literature in international trade working with transaction-level data that explores the determinants of firms' trade decisions and outcomes.
- Contributing to this literature belongs to several international trade researchers' everyday activities.
- This literature can provide valuable insights into the impacts of the programs that practitioners design and implement.
- Many practitioners are not aware of this.

TRADE FACILITATION

THIS PROJECT

- This project aims to facilitate a meeting between research and policymaking and thereby favor complementarities and synergies to gain a deeper understanding of the influence of border agencies' actions on their countries' international trade.
- The ultimate goal is to inform policymaking and assistance activities by international organizations such as the IDB by analytically going beyond generic border frictions and into specific policies with the help of unprecedented data and rigorous methods.
- The project consists of series of impact evaluations of concrete trade facilitation initiatives introduced throughout Latin America and the Caribbean:
 - Total Import Delays
 - Customs Delays and Exports
 - Single Windows
 - Authorized Economic Operators
 - Postal Exports
 - Regional Transit Schemes

TRADE FACILITATION

THIS PROJECT

The Team

- Studies produced are the outcome of a collaborative research initiative involving researchers at different universities and the IDB including: Bruce Blonigen (University of Oregon) -who is the Research Project's Technical Advisor-; Federico Bennett (former IDB), Jerónimo Carballo (University of Colorado), Alejandro Graziano (University of Maryland), Jacint Jordana (IBEI), Carlos Salamanca (IDB), Georg Schaur (University of Tennessee), Olga Timoshenko (George Washington University), Victoria Valente (IDB), and Christian Volpe Martincus (IDB).
- These studies would not have been possible without the valuable support of several IDB colleagues including Juan José Bravo Moisés, Sandra Corcuera-Santamaría, Pablo Garcia, Aurelio Garcia Navarrete, Jaime Granados, Manuel Marquez Fariña, and Álvaro Sarmiento, and of several Latin American countries' agencies: DGA-Costa Rica, DGA-El Salvador, DIAN-Colombia, DNA-Uruguay, MINCIT-Colombia, PROCOMER-Costa Rica, PROMPERU-Peru, SAT-Guatemala, SAT-Mexico, SENAE-Ecuador, SERPOST-Peru, and SUNAT-Peru.

ROADMAP

1. Border Delays: It 's the Measure
2. Customs and Exports
3. Other Border Agencies: Single Windows
4. Border Procedures and Supply Chains: AEO
5. Border Procedures and Experimentation: Postal Exports
6. Regional Arrangements: Transit Trade
7. The Way Forward

BORDER DELAYS: IT'S THE MEASURE THE ISSUE AND THE QUESTIONS

- Imports have to be internationally shipped, arrive at the destination port, unloaded, possibly stored at port facilities, moved to customs, inspected, cleared, and picked up.
- Because these procedures take uncertain time, they affect inventory and financing costs, a firm's ability to plan production runs, and to respond to market fluctuations.
- Measurement and empirical evaluation of the benefits of trade facilitation policies is challenging because firms may optimally choose the amount of time they allocate to port-of-entry processing.
- **Questions: How long does it really take to import? How does this time affect firms' imports?**

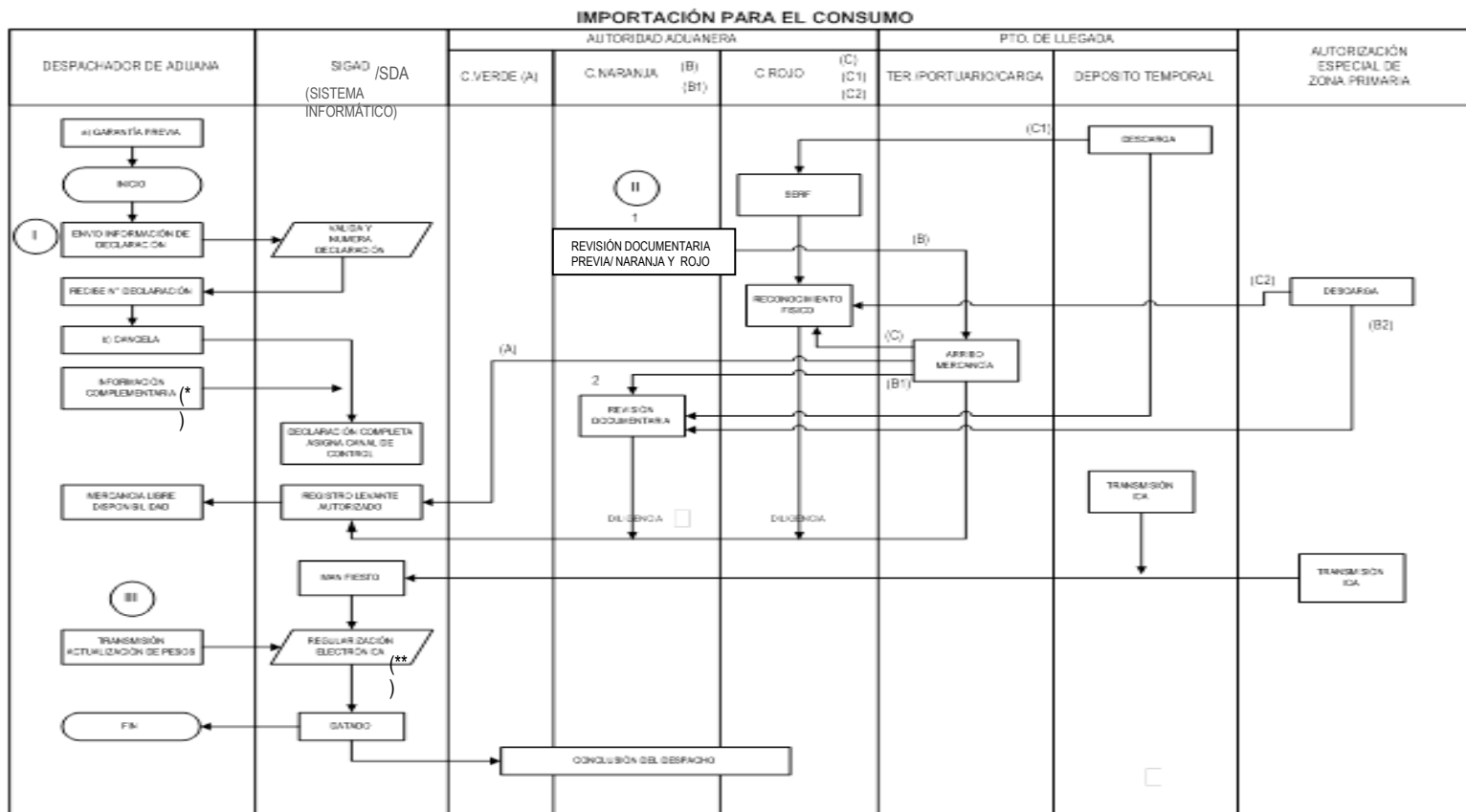
BORDER DELAYS: IT'S THE MEASURE

THE CASE STUDY: PERU

- Importing involves various steps and diverse actors.
- Upon arrival, the ship has to be unloaded by port operators. Unloaded shipments can then be held in warehouses while firms revise them and prepare the documents.
- Once ready, the customs broker completes an electronic customs document (DUA) and sends it to the customs, which validates the DUA, sends back a message containing the number assigned to the DUA and the date, and informs the associated tax and customs payments that are due.
- Upon payment (or warranty of it) of duties and fees, the shipments are assigned to a verification channel based on the customs' risk management system.
- After the verification, if any, has taken place, the customs releases the shipment. The merchandise can then be taken to its final destination within the country.

BORDER DELAYS: IT'S THE MEASURE

THE CASE STUDY: PERU



(*) SDA:
Rectificación

BORDER DELAYS: IT'S THE MEASURE

DATA AND METHOD

Data

- Transaction-level import data taken from all customs import declarations and load manifests processed at Callao over the period 2007-2013 from SUNAT. These accounted for $\frac{3}{4}$ of the total import value and the total weight.
- Each record informs: the importer ID, the origin country, the product code (10-digit HS), the transport company, the import value in US dollars, the weight in kilograms, the date the ship arrived, the date it was unloaded, the date the customs import declaration was created and registered, the date the physical inspection took place, the date the shipment was released by customs, and the customs verification channel.
- Data on firms' employment, location, sector, and starting date from SUNAT.

Method

- IV along with differences-in-differences (augmented by several sets of fixed effects).

BORDER DELAYS: IT'S THE MEASURE

DESCRIPTIVE EVIDENCE

Border Delays: Total and Stages, by Customs Verification Channel, 2007 and 2013									
Year	Stage		Mean	Percentile					
				5	10	25	50	75	90
2007	Total Border Delay	Green Channel	11.9	4.0	5.0	6.0	8.0	11.0	15.0
		Orange Channel	15.6	5.0	6.0	8.0	11.0	15.0	20.0
		Red Channel	20.0	7.0	8.0	11.0	15.0	20.0	25.0
2007	Port Delay	Green Channel	2.5	1.0	1.5	2.0	2.0	2.0	2.0
		Orange Channel	2.5	1.0	1.5	2.0	2.0	2.0	2.0
		Red Channel	2.5	1.0	1.5	2.0	2.0	2.0	2.0
2007	Preparation and Storage Delay	Green Channel	9.2	2.0	3.0	4.0	4.0	4.0	4.0
		Orange Channel	10.2	2.0	3.0	4.0	4.0	4.0	4.0
		Red Channel	11.4	2.0	3.0	4.0	4.0	4.0	4.0
2007	Customs Delay	Green Channel	2.1	1.0	1.0	1.0	1.0	1.0	1.0
		Orange Channel	4.9	2.0	2.0	2.0	2.0	2.0	2.0
		Red Channel	8.0	2.0	3.0	4.0	4.0	4.0	4.0
2013	Total Border Delay	Green Channel	11.6	4.0	4.5	6.0	8.0	13.0	29.5
		Orange Channel	16.9	5.0	6.0	8.0	13.0	21.0	42.5
		Red Channel	23.2	7.0	9.0	13.0	19.0	29.0	55.0
2013	Port Delay	Green Channel	2.1	1.0	1.0	2.0	2.0	3.0	4.0
		Orange Channel	2.1	1.0	1.0	2.0	2.0	3.0	4.0
		Red Channel	2.1	1.0	1.0	2.0	2.0	3.0	4.0
2013	Preparation and Storage Delay	Green Channel	9.7	2.0	3.0	4.5	7.0	11.0	27.0
		Orange Channel	10.7	1.0	3.0	4.5	7.0	13.0	31.0
		Red Channel	12.5	2.0	3.0	5.0	8.0	15.0	37.0
2013	Customs Delay	Green Channel	1.7	1.0	1.0	1.0	1.0	2.0	4.0
		Orange Channel	6.0	1.0	2.0	2.0	4.0	7.0	17.0
		Red Channel	10.5	3.0	3.0	5.0	8.0	13.0	25.0

- Import times exhibit substantial variability.
- There is an intermediate stage that accounts for a large portion of the total import times.
- Customs delays depend on the verification channel.

BORDER DELAYS: IT'S THE MEASURE

DESCRIPTIVE EVIDENCE

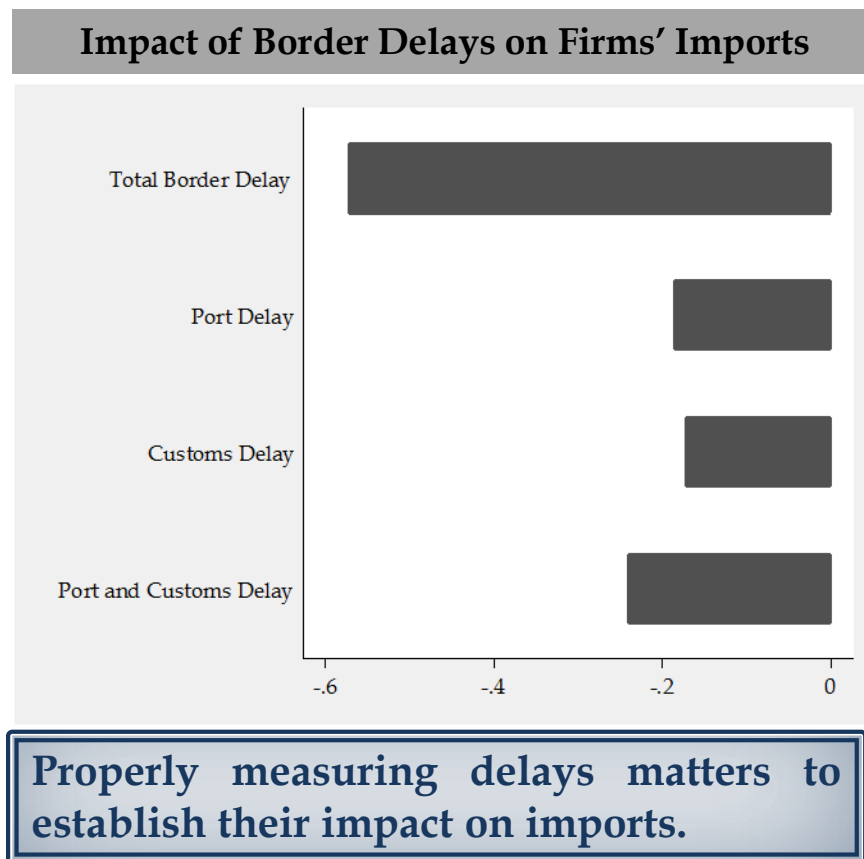
Border Delays: Total and Stages, by Firm Types, 2007 and 2013									
New Importers vs. Incumbent Importers									
Year	Stage		Mean	5	10	25			
2007	Total Border Delay	<i>New Importers</i>	21.7	7.0	8.0	11.0			
		<i>Incumbent Importers</i>	15.1	5.0	6.0	8.0			
2007	Port Delay	<i>New Importers</i>	2.6	1.0	2.0	2.0			
		<i>Incumbent Importers</i>	2.5	1.0	2.0	2.0			
2007	Preparation and Storage Delay	<i>New Importers</i>	13.5	2.0	3.0	5.0			
		<i>Incumbent Importers</i>	9.9	2.0	3.0	4.0			
2007	Customs Delay	<i>New Importers</i>	7.6	2.0	2.0	3.0			
		<i>Incumbent Importers</i>	4.5	1.0	1.0	2.0			
2013	Total Border Delay	<i>New Importers</i>	24.7	7.0	9.0	13.0	20.0	30.5	49.0
		<i>Incumbent Importers</i>	15.2	4.0	5.0	7.0	11.0	19.0	30.0
2013	Port Delay	<i>New Importers</i>	2.1	1.0	1.0	2.0	2.0	2.0	3.0
		<i>Incumbent Importers</i>	2.1	1.0	1.0	2.0	2.0	2.0	3.0
2013	Preparation and Storage Delay	<i>New Importers</i>	15.1	3.0	4.0	6.0	11.0	19.0	33.0
		<i>Incumbent Importers</i>	10.4	2.0	3.0	5.0	7.0	12.0	21.0
2013	Customs Delay	<i>New Importers</i>	9.5	1.0	2.0	4.0	7.0	12.0	19.0
		<i>Incumbent Importers</i>	4.6	1.0	1.0	1.0	2.0	6.0	12.0

➤ New importers take longer to import than experienced importers.

➤ This is primarily driven by preparation and storage delays and customs delays.

BORDER DELAYS: IT'S THE MEASURE

MAIN FINDINGS



BORDER DELAYS: IT'S THE MEASURE CONCLUSIONS

- Ranking countries according to survey-based aggregate statistics can be misleading.
- A substantial amount of port of entry delays are due to endogenous storage and preparation time, which vary across firms and products. It is not necessarily that port or customs are inefficient.
- Identifying the benefits of reducing delays is also challenging, because they depend on the source of the delay.
- It is important to focus on delays that are driven by the actual processing of the shipments and cost estimates of these delays.
- When so doing, border delays have a significant negative impact on firms' imports. The effect is substantially more pronounced on new and large importing firms.

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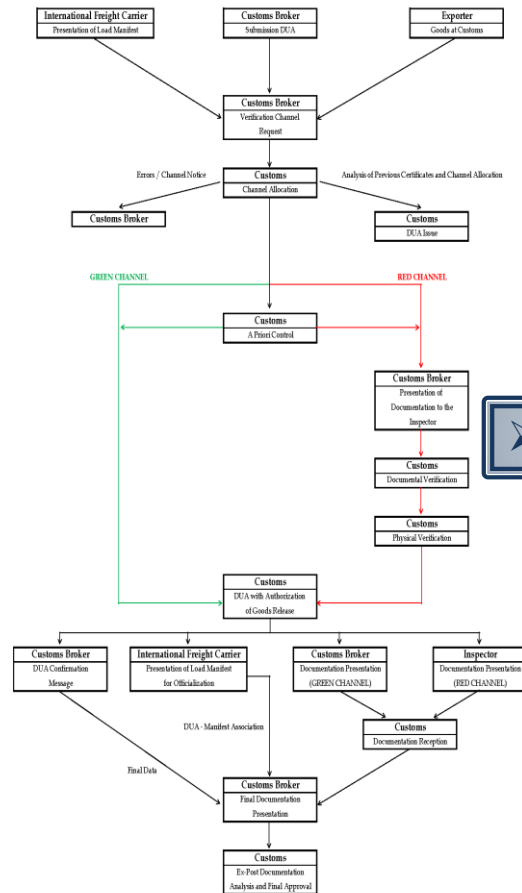
CUSTOMS AND EXPORTS

THE ISSUE AND THE QUESTIONS

- All trade transactions leaving or entering countries must be processed by the respective national customs and such a processing takes time.
- The within-country distribution of customs delays is far from uniform: export processing times by customs may range from 1 day to several days.
- Transaction-specific delays can be substantial and highly variable and therefore have significant effects on buying and selling decisions and thereby on firms' exports.
- **Questions: What are the effects of customs delays on firms' exports? What are the channels through which these effects arise? To what extent are these effects heterogeneous?**

CUSTOMS AND EXPORTS

THE CASE STUDY: URUGUAY



➤ Red Channel=Physical Inspection

CUSTOMS AND EXPORTS

THE CASE STUDY: URUGUAY



CUSTOMS AND EXPORTS

DATA AND METHOD

Data

- Transaction level export data from 2002 to 2011 from the Uruguayan customs DNA.
- Each record includes: a firm's ID, the product code (10-digit HS), the customs through which the shipment exits Uruguay, the destination country, the foreign buyer, the export value in US dollars, the transport mode, the weight in kilograms, the channel through which the transaction was processed (either green or red), the date in which the customs-processing of the shipment was requested (channel request), and date in which the shipment was authorized to leave the customs (release date).

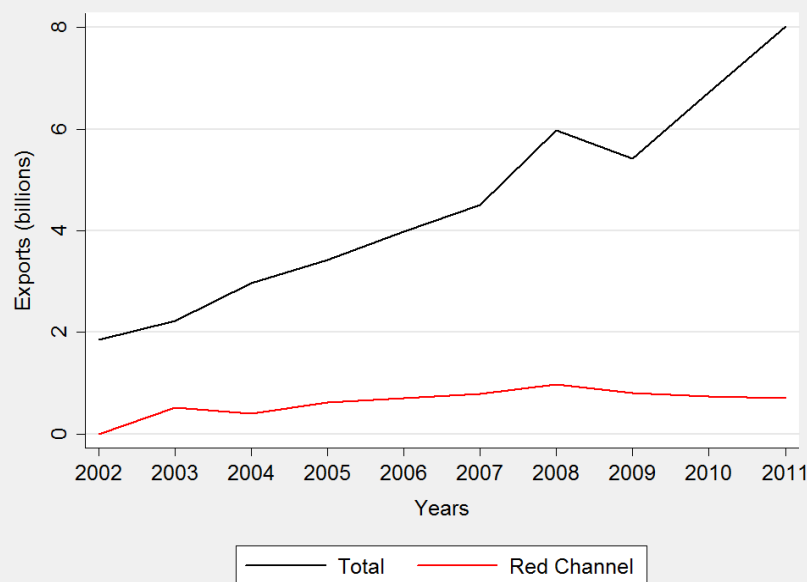
Method

- IV along with differences-in-differences (augmented by several sets of fixed effects).

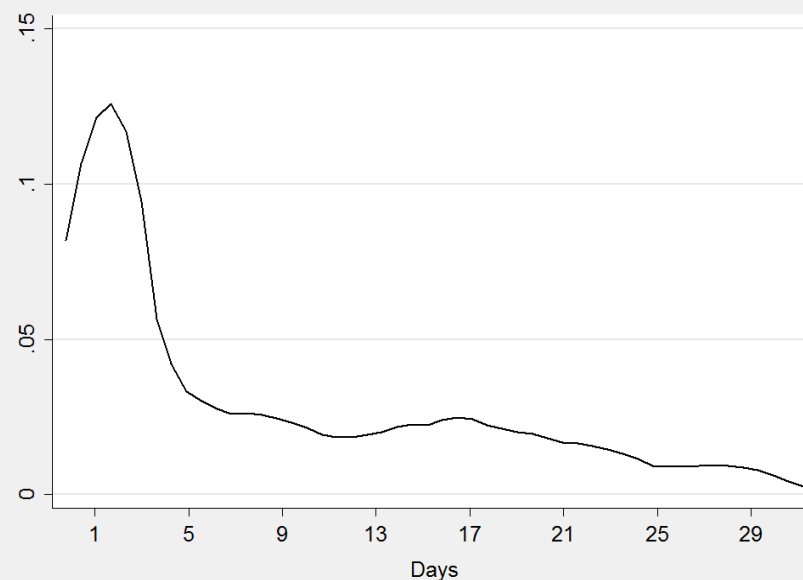
CUSTOMS AND EXPORTS

DESCRIPTIVE EVIDENCE

Share of Exports Under Red Channel



Distribution of Delays (Red Channel, 2011)

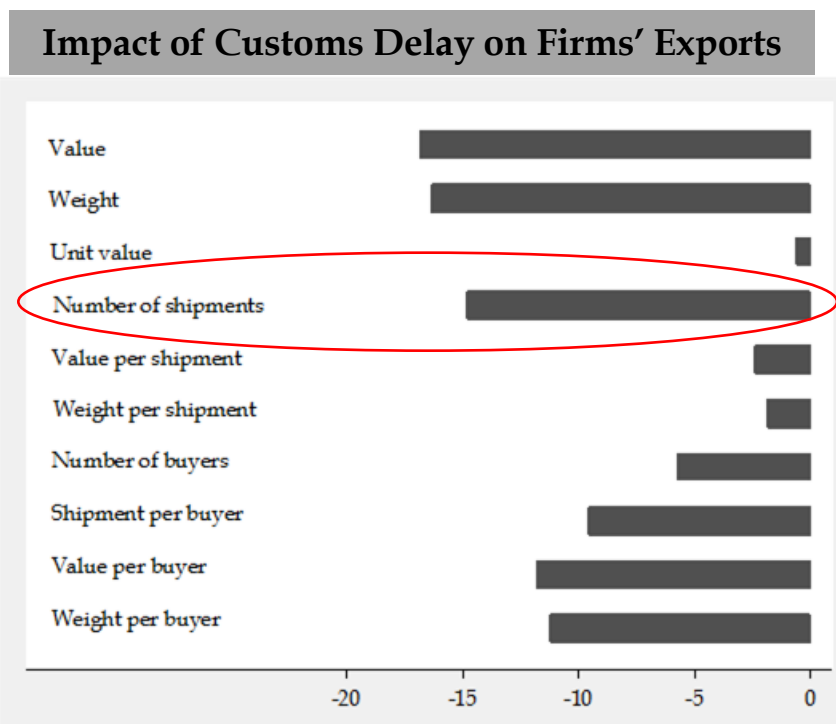


The share of exports under the red channel declined over time.

Customs delays under the red channel vary significantly across shipments.

CUSTOMS AND EXPORTS

MAIN FINDINGS



Customs delays have a significant negative impact on exports.

The number of shipments is the main channel of adjustment.

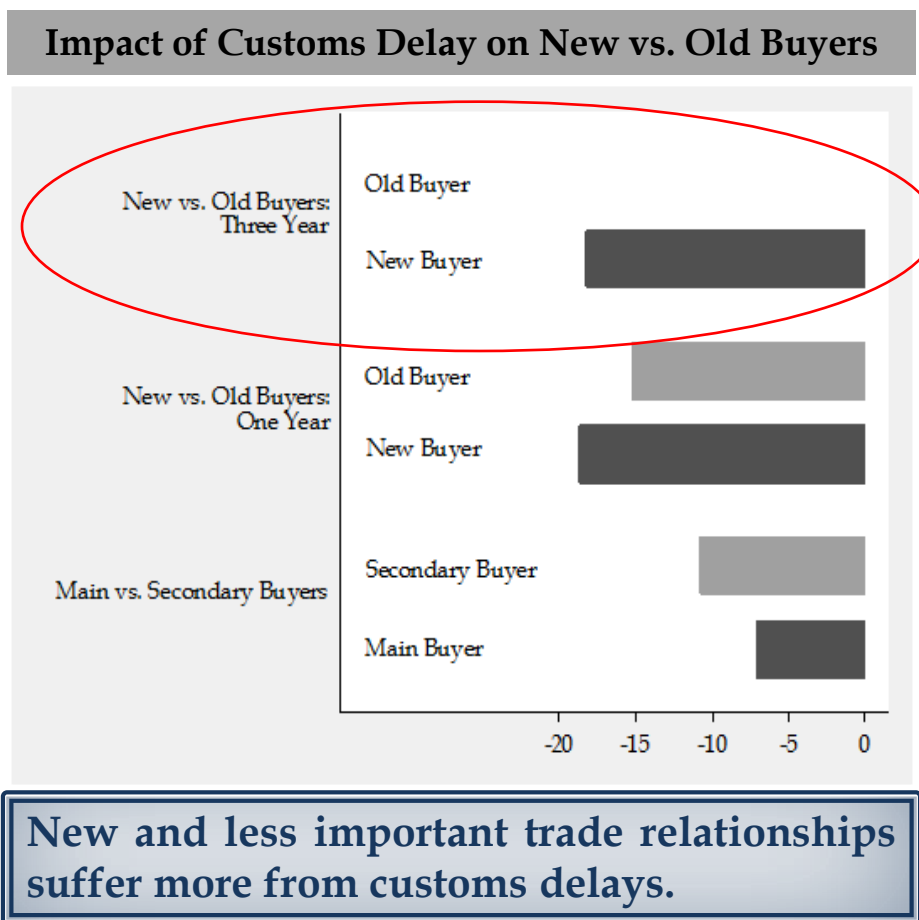
CUSTOMS AND EXPORTS

MAIN FINDINGS

- If all exports would have been physically inspected and such inspections would have taken two days, total exports in 2011 would have been 16% smaller.
- This provides us with a simple, direct measure of the benefits of having risk-based inspection procedures as opposed to manually inspecting every single transaction.
- The speed of the controls also matters: if all shipments would have been released within one day (as those green-channeled), exports would have been 5.9% larger.
- This export response is far from negligible. It corresponds to more than 6 times DNA's annual budget and more than 100 times URUGUAY XXI's annual budget.
- The implied benefit/cost ratio of increasing the number of specialized inspectors (by 170%) to make it possible to release all goods in one day would be roughly 100.

CUSTOMS AND EXPORTS

MAIN FINDINGS



CUSTOMS AND EXPORTS CONCLUSIONS

- Customs-driven delays have a significant negative effect on firms' foreign sales.
- These effects can be traced back to reduced number of shipments, the number of buyers, and exports per buyer, in terms of both value and quantity.
- This impact is stronger on new trade relationships and more pronounced for sales of time-sensitive goods and to distant countries.
- Some firms may have been forced to cease to exports to certain markets.

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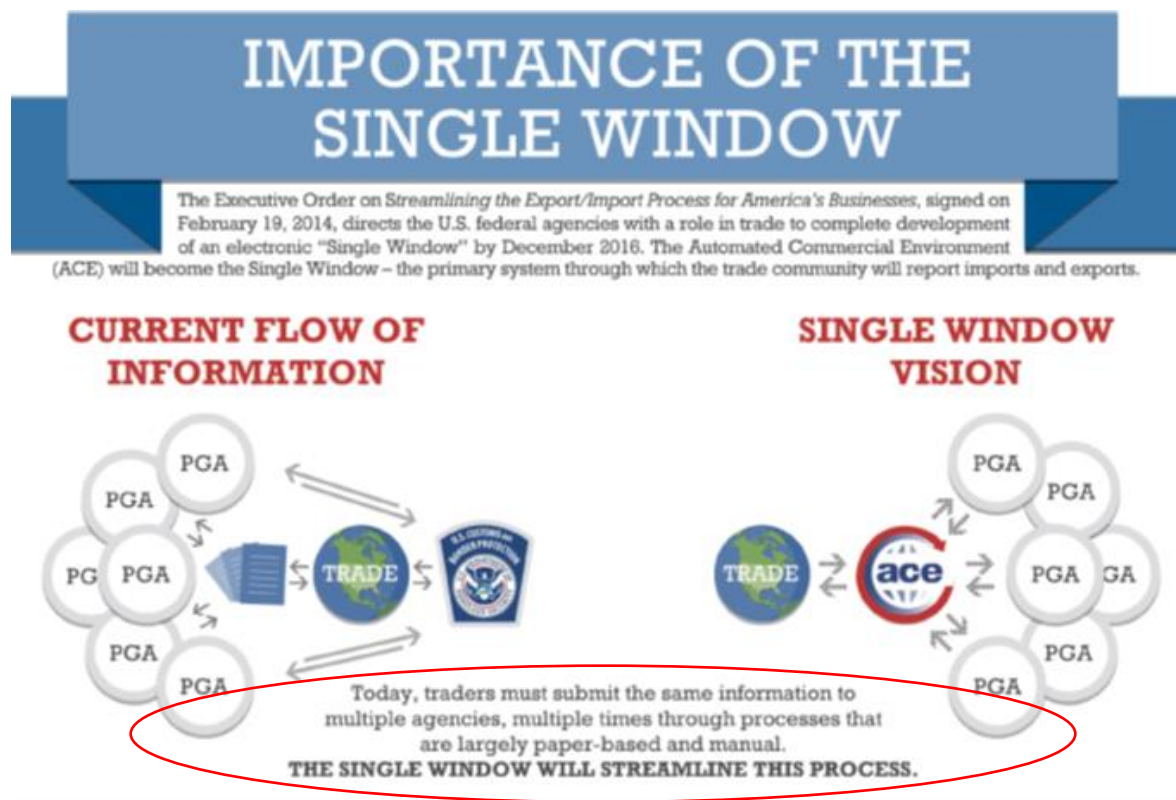
OTHER BORDER AGENCIES: SINGLE WINDOWS

THE ISSUE AND THE QUESTIONS

- Firms engaging in international trade have to interact with multiple border agencies that develop regulations and their respective procedures.
- In the absence of coordination, these procedures can be repetitive and redundant and can create significant trade costs, especially when paper-based.
- *Today, traders must submit the same information to multiple agencies, multiple times through processes that are largely paper-based and manual.*
- **This is how the US DHS introduced the Executive Order on Streamlining the Export/Import Process for America's Businesses on 02/19/2014...**

OTHER BORDER AGENCIES: SINGLE WINDOWS

THE ISSUE AND THE QUESTIONS



- Question: To what extent a narrowing of the institutional border allowed for by the introduction of ICTs leads to increased firms' exports?

OTHER BORDER AGENCIES: SINGLE WINDOWS

THE CASE STUDY: COSTA RICA

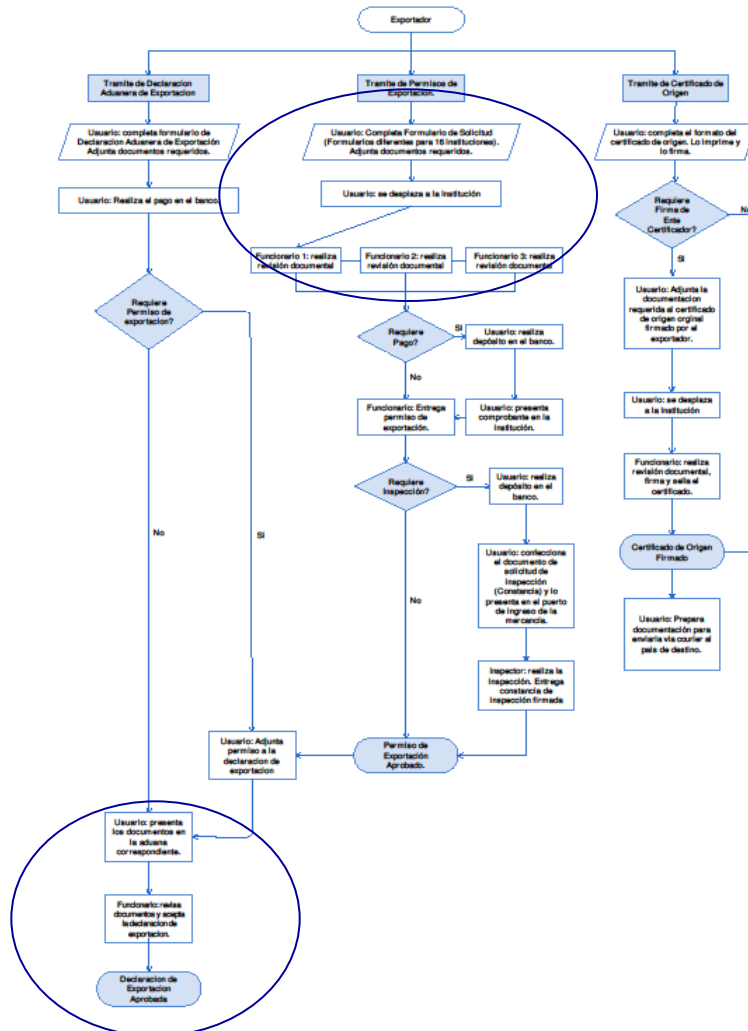
- More than 70 countries adopted trade single window schemes to streamline trade regulatory control processes and data submission procedures.
- In 2008 Costa Rica implemented an electronic trade single window.
- Forms are filled in just once online and the system automatically distributes them among the entities that have to issue permits –thus without going to a physical office or physically submitting the forms-. These permits are then submitted electronically to the customs system to be added to the customs declaration.
- The electronic trade single window was sequentially implemented by procedures (group of products) and customs branches (TICA) throughout the country.

OTHER BORDER AGENCIES: SINGLE WINDOWS

THE CASE STUDY: COSTA RICA

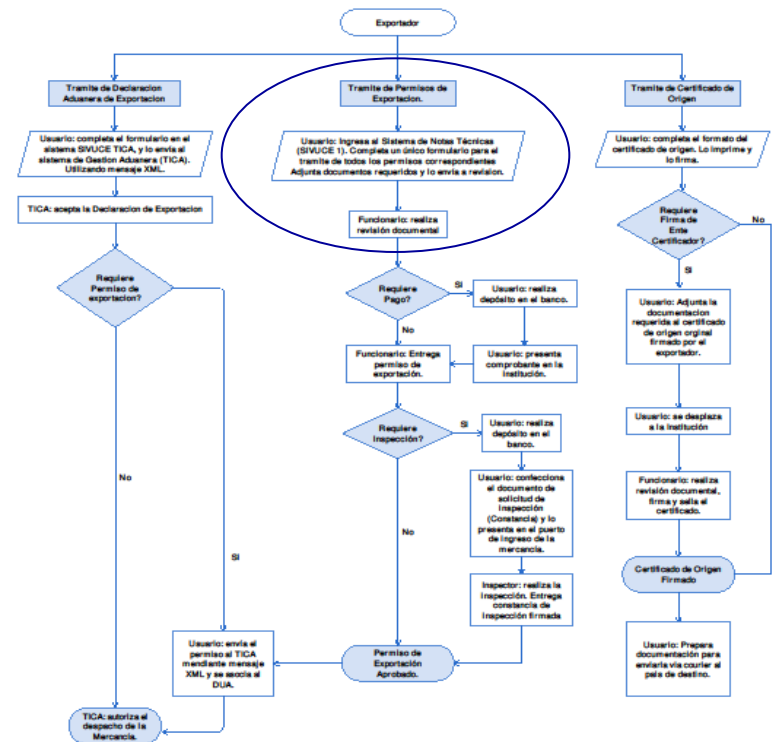
Before

Proceso Antes de VUCE - Flowchart



After

Proceso Actual (VUCE 1) - Flowchart



The process became shorter...and faster.

OTHER BORDER AGENCIES: SINGLE WINDOWS

DATA AND METHOD

Data

- *Customs*: Export data from 2007 to 2013. Each record includes the firm's ID, the product code (10-digit HS), the destination country, the foreign buyer, the export value in US dollars, and the weight in kilograms; and month in which the new customs information system started to operate in each port.
- *Permits*: Permits required to export each product from 2007 to 2013.
- *Single Window*: All export transactions processed through the single window from 2008 (establishment) to 2013; and information on the date in which each permit (and specifically products) could start to be processed with the single window in each port.

Method

- Differences-in-differences (augmented by several sets of fixed effects). Robustness: IV, Placebos, Event Study.

OTHER BORDER AGENCIES: SINGLE WINDOWS

DESCRIPTIVE EVIDENCE

Aggregate Export Indicators and Average Exporter: Exports Processed through the Electronic Single Window, 2007-2013				
Aggregate Export Indicators				
Year	Share of Electronic Single Window in Exports Requiring Permits			
	Exports	Firms	Products	Destinations
2007	0.000	0.000	0.000	0.000
2008	0.024	0.039	0.071	0.139
2009	0.405	0.563	0.459	0.759
2010	0.530	0.655	0.642	0.793
2011	0.553	0.731	0.669	0.807
2012	0.922	0.887	0.833	0.958
2013	0.933	0.911	0.853	0.926
Average Exporter				
Year	Average User of the Electronic Single Window			
	Exports	Products	Destinations	
2007	N/A	N/A	N/A	
2008	8.0	25.2	7.4	
2009	3.3	11.9	4.5	
2010	5.6	13.4	4.0	
2011	5.4	13.9	3.8	
2012	5.5	13.4	3.8	
2013	5.7	13.1	3.8	

The Electronic Single Window was implemented gradually...

OTHER BORDER AGENCIES: SINGLE WINDOWS

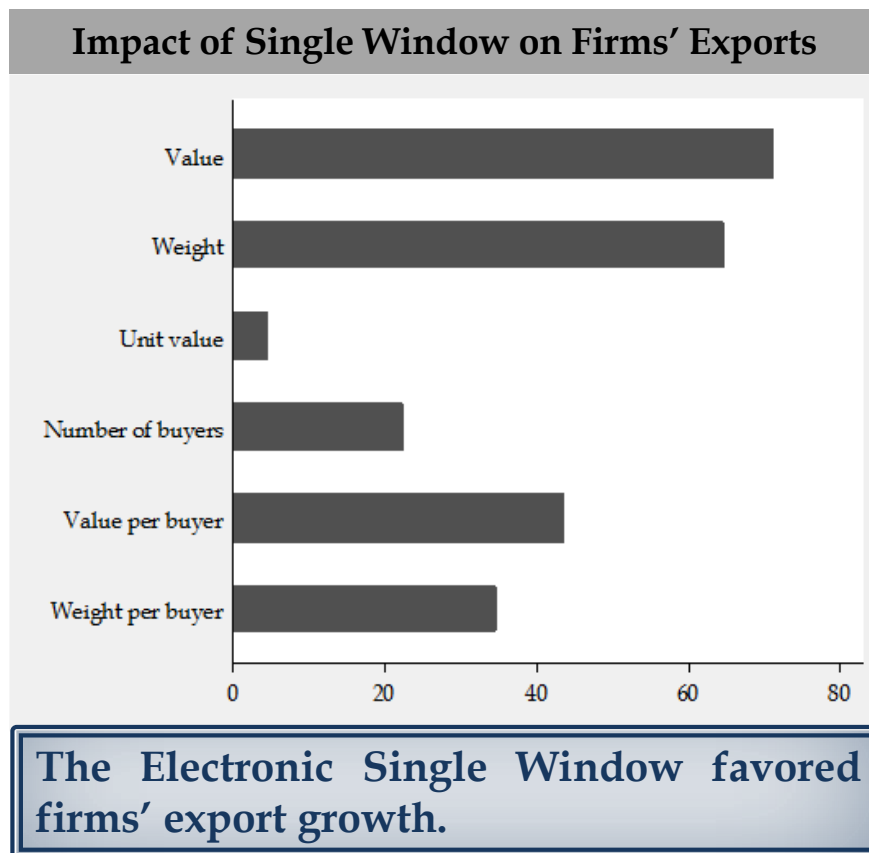
DESCRIPTIVE EVIDENCE

Technical Notes and their Incorporation into the Electronic Single Window							
Two Main Technical Notes in Terms of Export Shares							
Technical Note	Port	Year SW	Date SW	Year	Exports	Share in Products	Destinations
265	Caldera	2008	November 14	2008	0.033	0.167	0.125
265	Caldera	2008	November 14	2013	0.874	0.957	1.000
265	Peñas Blancas	2008	August 22	2009	0.600	0.504	0.800
265	Peñas Blancas	2008	August 22	2013	0.923	0.909	1.000
265	Santamaría	2008	December 2	2008	0.001	0.018	0.032
265	Santamaría	2013	December 2	2013	0.991	0.913	0.933
265	Limón	2008	July 16	2008	0.022	0.013	0.122
265	Limón	2013	July 16	2013	0.987	0.935	0.843
265	Paso Canoas	2009	January 29	2009	0.087	0.394	0.500
265	Paso Canoas	2009	January 29	2013	1.000	1.000	1.000
266	Central	2011	February 23	2011	0.808	0.250	0.909
266	Central	2011	February 23	2013	1.000	1.000	1.000
266	Caldera	2008	August 6	2008	0.056	0.048	0.182
266	Caldera	2008	August 6	2013	0.987	0.962	0.957
266	Peñas Blancas	2008	September 8	2008	0.181	0.126	0.833
266	Peñas Blancas	2008	September 8	2013	0.923	0.826	1.000
266	Santamaría	2009	March 24	2009	0.280	0.500	0.939
266	Santamaría	2009	March 24	2013	0.948	0.913	0.808
266	Limón	2008	June 3	2008	0.002	0.013	0.037
266	Limón	2008	June 3	2013	0.994	0.911	0.917
266	Paso Canoas	2008	October 21	2008	0.352	0.123	0.500
266	Paso Canoas	2008	October 21	2013	0.976	0.944	1.000
266	La Anexión	2010	December 14	2012	0.992	0.625	0.500
266	La Anexión	2010	December 14	2013	0.999	0.972	0.818

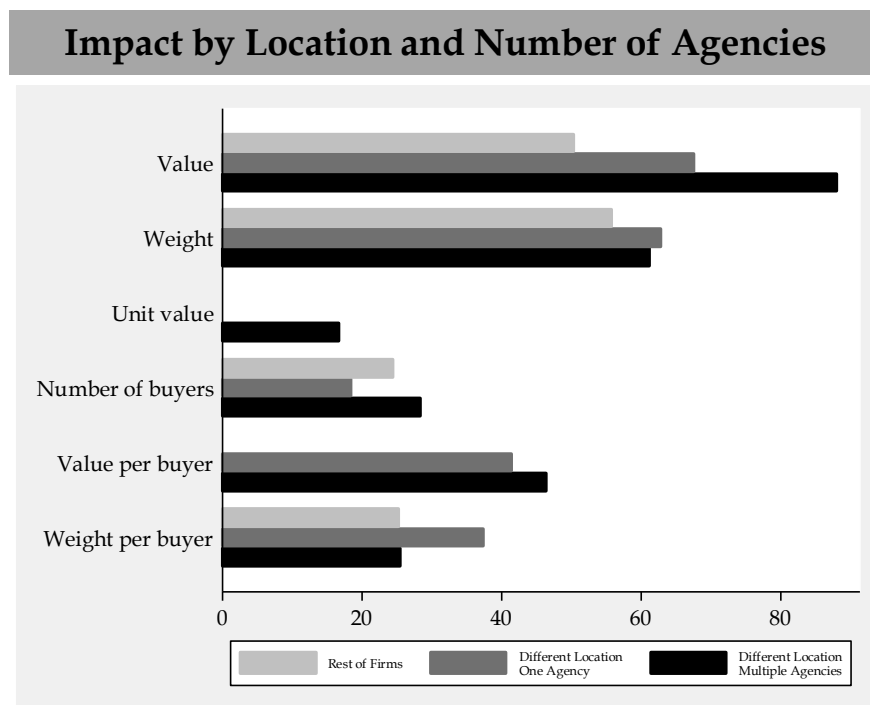
...across procedures (group of products) and ports (custom offices/destinations).

OTHER BORDER AGENCIES: SINGLE WINDOWS

MAIN FINDINGS



OTHER BORDER AGENCIES: SINGLE WINDOWS MAIN FINDINGS



Firms interacting with several agencies located in other regions benefited the most.

OTHER BORDER AGENCIES: SINGLE WINDOWS

CONCLUSIONS

- The border agencies and the regulations firms have to comply with when exporting may create a hard-to-cross formalities' labyrinth.
- Streamlined procedures narrow the borders and facilitate the movements of goods.
- ICTs can be a key element for these trade facilitation initiatives to be effective.
- Electronic single windows facilitate trade: the number of exporters increased and firms' exports grew faster along the buyer intensive and extensive margins.
- A word of caution: Computerization is not a panacea. Poorly designed procedures will not become mechanically efficient with ICTs. A careful redesign of procedures is a pre-condition for the adoption of these technologies to yield trade gains.

ROADMAP

1. Border Delays: It 's the Measure
2. Customs and Exports
3. Other Border Agencies: Single Windows
4. Border Procedures and Supply Chains: AEO
5. Border Procedures and Experimentation: Postal Exports
6. Regional Arrangements: Transit Trade
7. The Way Forward

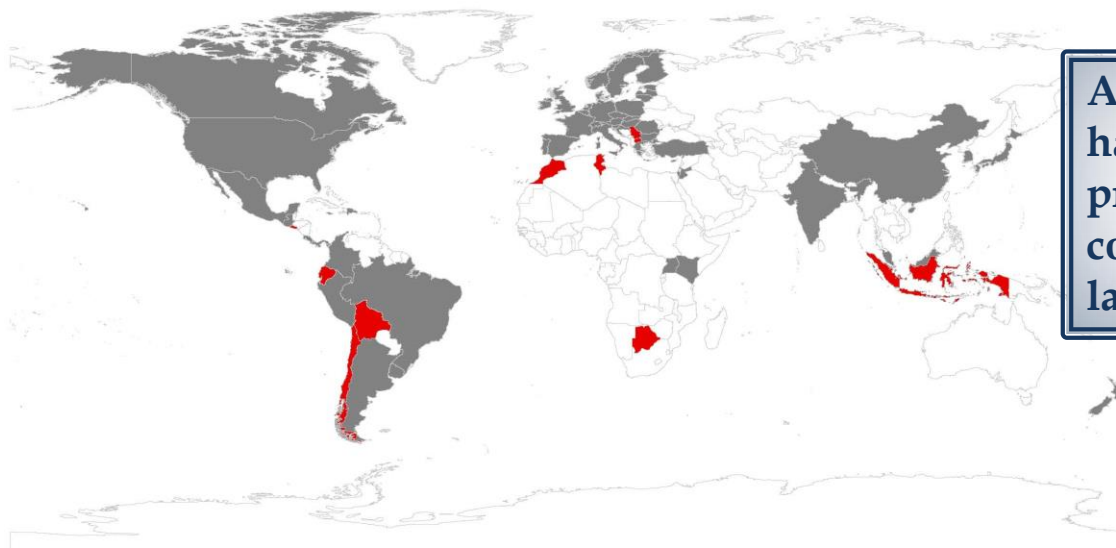
BORDER PROCEDURES AND SUPPLY CHAINS: AEO

THE ISSUE AND THE QUESTIONS

- The complexity of supply chains that involve multiple border crossings and several economic agents spread across different jurisdictions has strong security implications.
- Specific actions by individual actors are less visible and the potential for security breaches associated with terrorism or in the form of drug and contraband is higher.
- Border agencies reacted by introducing tighter border control measures. These measures could create additional costs and thereby negatively affect firms' trade.
- This is why various initiatives were also implemented to facilitate licit trade: Supply chains security motivated programs for Authorized Economic Operators stand out.

BORDER PROCEDURES AND SUPPLY CHAINS: AEO

THE ISSUE AND THE QUESTIONS



Almost 70 countries have active AEO programs and 16 countries are about to launch it.

- **Questions:** To what extent security-motivated supply chain programs facilitate trade? What are the effects of the associated customs' security certification on firms' export outcomes?

BORDER PROCEDURES AND SUPPLY CHAINS: AEO

CASE STUDY: MEXICO

- Mexico launched an AEO program, NEEC, in early 2012.
- In order to be eligible for NEEC certification, firms have to meet tax, customs, and security requirements.
- The Certification Process:
 - Firms must submit an application form and a profile (and pay a fee).
 - The customs assesses the application, the firm's profile, reviews its tax and customs compliance; and carries out validation/inspection visits to the firm.
 - The customs takes a decision about granting (or not) the NEEC certification.
- Certification is associated with advantages: reduced physical inspections and expedited customs clearance; and access to express/fast track lanes wherever available; administrative simplifications; and personalized attention.

BORDER PROCEDURES AND SUPPLY CHAINS: AEO

DATA AND METHOD

Data

- 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 weight in kilograms, the customs verification channel, the date in which the customs-processing of the shipment was requested, and the date in which the shipment was released.
- Information on whether the shipment was made by a firm that at the time in question was certified with the SAT as NEEC or under other SAT's programs, with the latter primarily referring to CC (Certified Company).

Method

- Differences-in-differences (augmented by several sets of fixed effects). Robustness: placebos, sample splitting, and general equilibrium effects assessment.

BORDER PROCEDURES AND SUPPLY CHAINS: AEO

DESCRIPTIVE EVIDENCE

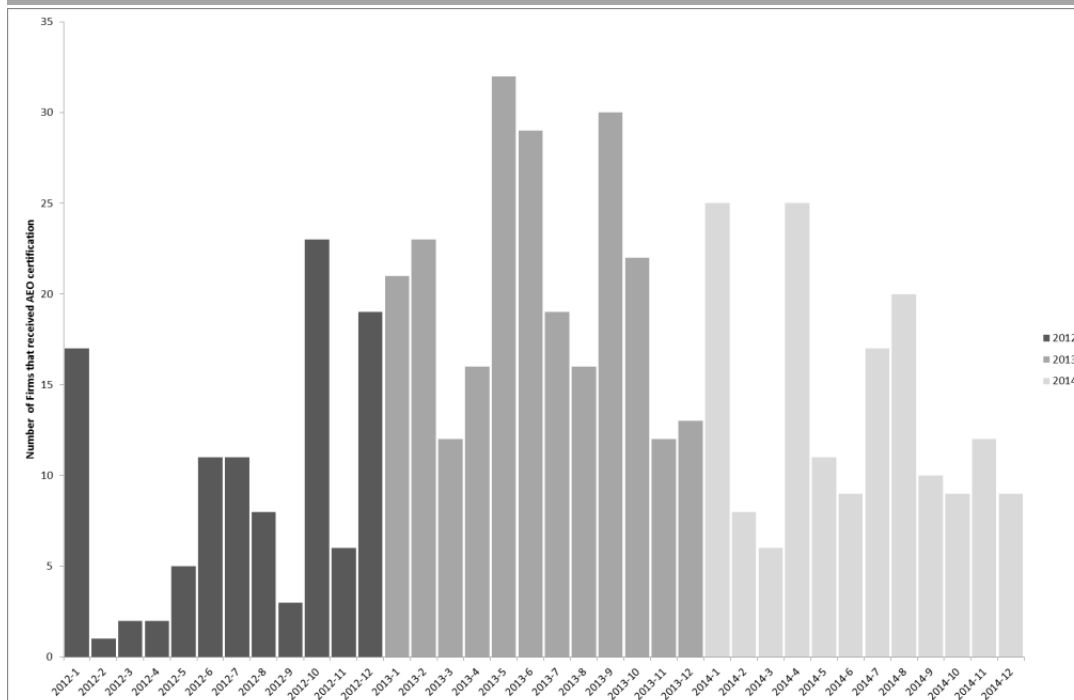
Aggregate Export Indicators and CC and NEEC Programs				
Year	Total Exports			
	Exports*	Firms	Products	Destinations
2009	230,110	33,118	9,142	210
2010	290,638	33,498	9,134	203
2011	346,124	33,563	9,191	209
2012	363,321	33,691	9,657	208
2013	369,753	32,826	9,456	204
2014	390,611	33,712	9,426	203
Year	All Certified Firms (Percentage Shares)			
	Exports	Firms	Products	Destinations
2009	70.510	3.992	57.810	87.143
2010	75.735	3.129	58.966	90.148
2011	74.836	3.346	60.603	89.474
2012	75.812	3.283	64.389	91.827
2013	75.644	3.080	62.035	89.216
2014	74.463	3.026	62.168	89.163
Year	CC Firms (Percentage Shares)			
	Exports	Firms	Products	Destinations
2009	70.510	3.992	57.810	87.143
2010	75.735	3.129	58.966	90.148
2011	74.836	3.346	60.603	89.474
2012	60.911	3.274	63.757	91.346
2013	39.371	2.839	57.942	86.275
2014	34.198	2.213	55.082	80.296
Year	NEEC Firms (Percentage Shares)			
	Exports	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

NEEC firms account for 1% of the exporters but for more than 40% of total exports...

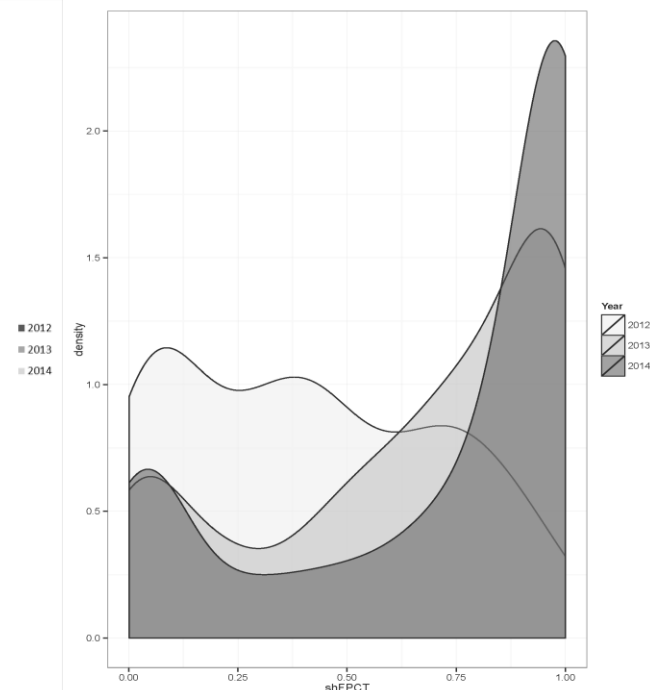


BORDER PROCEDURES AND SUPPLY CHAINS: AEO DESCRIPTIVE EVIDENCE

Timing of Certification



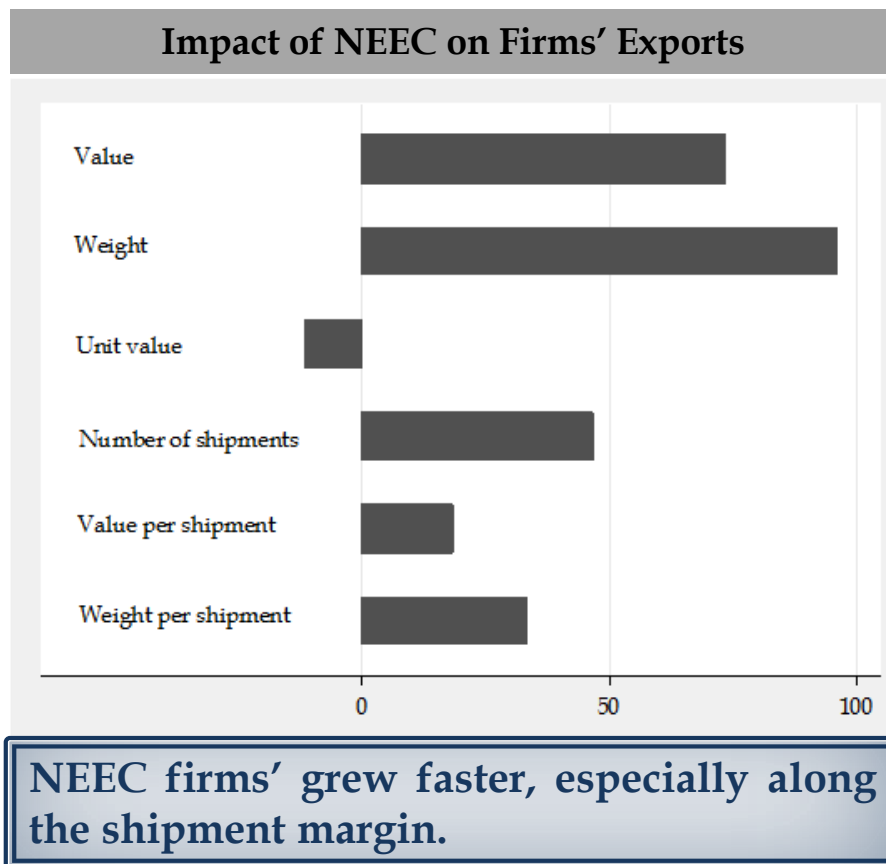
Share of NEEC



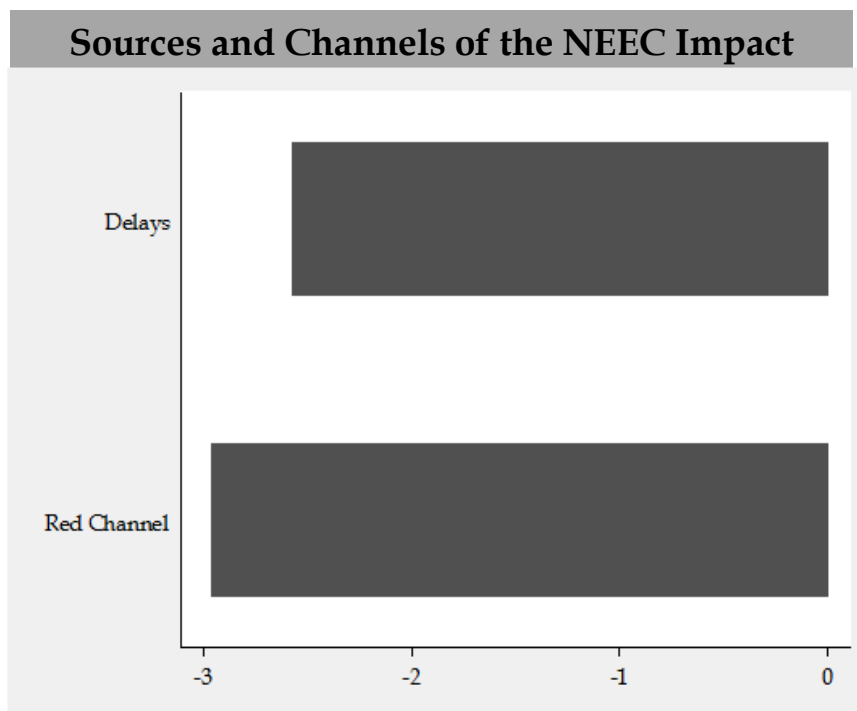
Firms obtained their NEEC certifications in different months...

...and they can have transactions both as NEEC and non-NEEC within year.

BORDER PROCEDURES AND SUPPLY CHAINS: AEO MAIN FINDINGS



BORDER PROCEDURES AND SUPPLY CHAINS: AEO MAIN FINDINGS



NEEC firms' shipments are less likely to be inspected and spend less time in customs.

BORDER PROCEDURES AND SUPPLY CHAINS: AEO CONCLUSIONS

- Security concerns in a context of increasingly segmented supply chains and expanding trade led to a generalization of security-motivated certification programs.
- These programs seek to facilitate trade for trustworthy firms or AEOs. The Mexican NEEC is one leading example of such initiatives.
- The NEEC has resulted in increased firms' exports. This effect can be traced back to lower rates of physical inspections and thereby shorter clearance times and, to a certain extent, to reduced information barriers due to the quality signaling.
- The effect does not come at the expense of non-certified firms and has been stronger on time-sensitive products such as industrial inputs and capital and consumer goods.

ROADMAP

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BORDER PROCEDURES AND EXPERIMENTATION: POSTAL EXPORTS

THE ISSUE AND THE QUESTIONS

- With more than 650,000 offices staffed with 5.5 million employees, posts are the largest retail network worldwide.
- In recent years posts processed more than 65 million international parcels.
- Posts are present almost everywhere thanks to their physical network: they tend to be associated with lower costs to get the products to the country's border.
- Posts take care of the logistics of the transactions.
- Post are linked with each other and with key actors in the trade process by an electronic network (Post*Net). Governments have recognized posts as a critical trade interface and partnered with them to help firms access foreign markets.
- **Question: Can posts actually facilitate trade (particularly for smaller firms)?**

BORDER PROCEDURES AND EXPERIMENTATION: POSTAL EXPORTS

CASE STUDY: PERU

- Following Brazil's pioneering initiative, Peru launched *Exporta Fácil* in July 2007.
- *Exporta Fácil* is simplified export regime for postal exports meeting two main conditions: (1) the total value per shipment cannot exceed USD 5,000; (2) it may consist of several packages, but none of them can exceed 30 kilograms.
- Although all firms can export under this regime, it is primarily targeted to MSMEs.
- Firms have to fill in a simplified customs document (DEF), print this document, and take it along with the goods to be shipped to the nearest authorized SERPOST office.
- SERPOST acts on behalf of the firms before the customs and as the logistic operator.
- *Exporta Fácil* can be considered to reduce the export entry sunk cost as well as the per-period fixed costs.

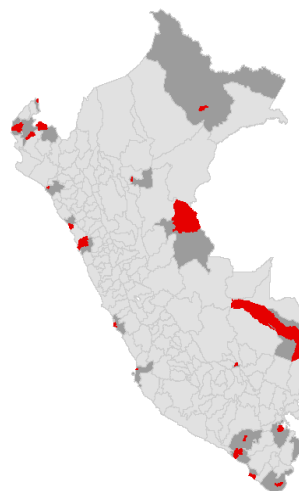
BORDER PROCEDURES AND EXPERIMENTATION: POSTAL EXPORTS

CASE STUDY: PERU

DUA		DEF	
DECLARACIÓN ÚNICA DE ADUANAS (DU) Formulario de declaración de mercancías para exportación. Incluye campos para datos del exportador, destinatario, mercancías, y valores.		DECLARACIÓN EXPORTA FÁCIL (DEF) Formulario simplificado de declaración de mercancías para exportación. Incluye campos para datos del exportador, mercancías, y valores.	
El formulario DUA es más extenso y detallado, requiriendo más tiempo y espacio para ser completado.		El formulario DEF es más compacto y simplificado, facilitando el proceso de declaración.	

Customs

SERPOST

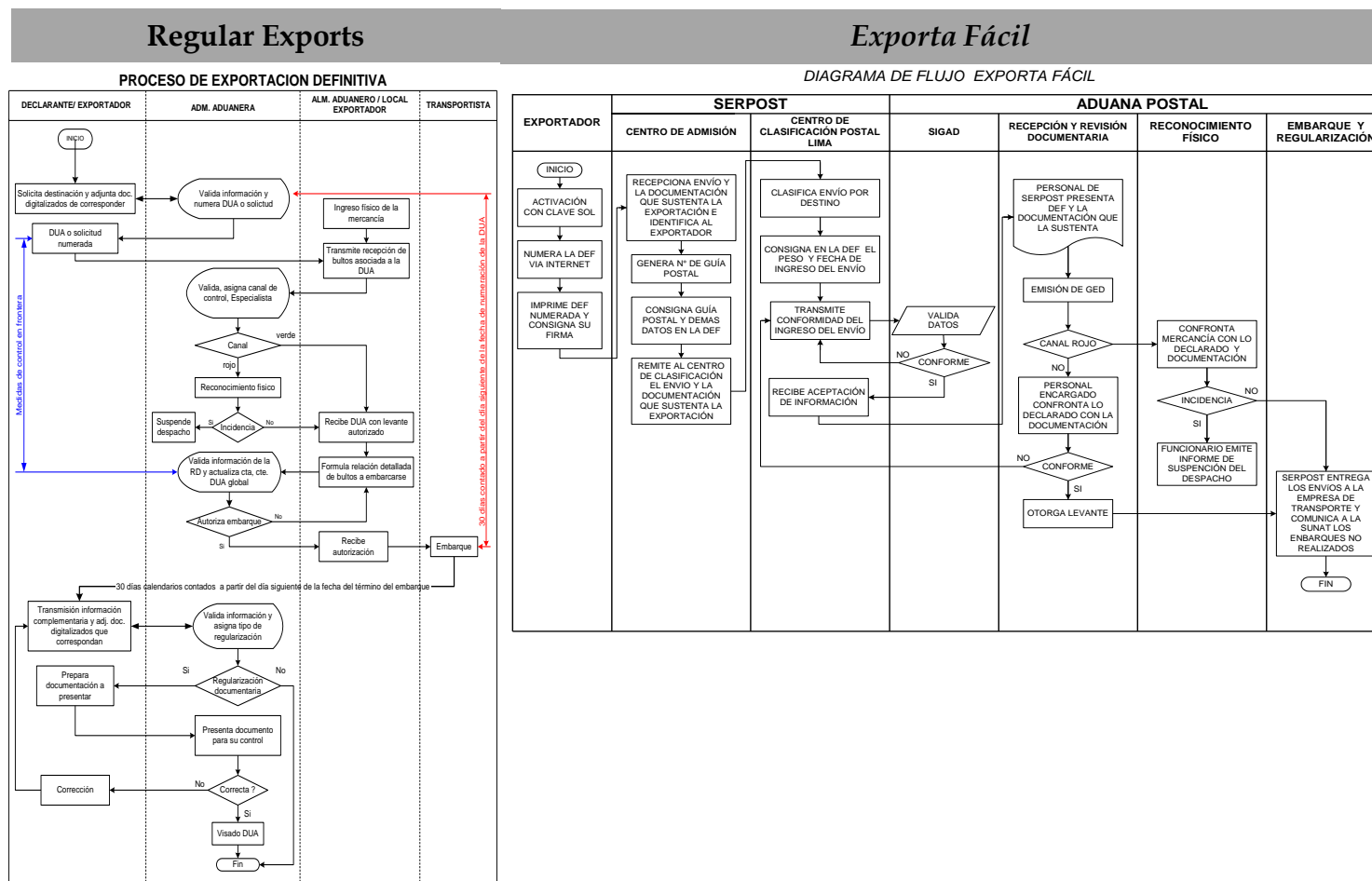


The EF declaration is simpler and easier to fill in.

Postal offices are more geographically spread than customs.

BORDER PROCEDURES AND EXPERIMENTATION: POSTAL EXPORTS

CASE STUDY: PERU



The EF process is simpler.



BORDER PROCEDURES AND EXPERIMENTATION: POSTAL EXPORTS

DATA AND METHOD

Data

- Transaction-level regular export data from 2000 to 2014. Each record includes the firm's ID, the product code (10-digit HS), the customs office, the destination country, the transport mode, the export value in US dollars, and the weight in kilograms.
- All *Exporta Fácil* transactions since the inception of the program, i.e., 2007-2014.
- Firm-level data on employment, location, activity, starting date, and legal form.

Method

- Pooled OLS and fixed effects (in both cases supplemented with several set of fixed effects along the different dimensions of the data).

BORDER PROCEDURES AND EXPERIMENTATION: POSTAL EXPORTS

DESCRIPTIVE EVIDENCE

Number of Employees and Median Shipment Size by Exporter Type						
Number of Employees						
Year	Firms Using Only EF		Firms Using Only RE		Firms Using Both EF and RE	
	1-50	>50	1-50	>50	1-50	>50
2006	N/A	N/A	83.5	16.5	N/A	N/A
2007	100.0	0.0	82.5	17.5	100.0	0.0
2008	100.0	0.0	82.4	17.6	92.9	7.1
2009	100.0	0.0	82.8	17.2	95.2	4.8
2010	100.0	0.0	82.0	18.0	94.3	5.7
2011	99.7	0.3	82.4	17.6	92.9	7.1
2012	99.8	0.2	82.2	17.8	93.5	6.5
2013	100.0	0.0	81.2	18.8	96.5	3.5
2014	99.8	0.2	81.0	19.0	91.0	9.0
Median Shipment Size						
Year	Firms Using Only EF		Firms Using Only RE		Firms Using Both EF and RE	
	<=5000	>5000	<=5000	>5000	<=5000	>5000
2006	N/A	N/A	64.1	35.9	N/A	N/A
2007	100.0	0.0	61.8	38.2	91.8	8.2
2008	100.0	0.0	57.0	43.0	90.5	9.5
2009	99.8	0.2	57.4	42.6	89.9	10.1
2010	99.7	0.3	57.1	42.9	88.5	11.5
2011	100.0	0.0	54.4	45.6	93.0	7.0
2012	100.0	0.0	50.9	49.1	88.8	11.2
2013	100.0	0.0	50.0	50.0	92.0	8.0
2014	100.0	0.0	48.9	51.1	86.0	14.0

All EF exporters have less than 50 employees and their median shipments are smaller than USD 5,000.

EF exports primarily consist of specialized goods produced in small batches such as artisan apparel, leather products, and jewelry.

OECD countries are the main destination of EF exports.

BORDER PROCEDURES AND EXPERIMENTATION: POSTAL EXPORTS

DESCRIPTIVE EVIDENCE

Selected Sample and Share of <i>Exporta Fácil</i>						
Share of Selected Sample in Total Exports						
Year	Exports	Firms	Products	Destinations	Product-Destinations	
2007	0.8	40.6	48.6	58.2	38.0	
2008	0.8	45.1	53.8	64.4	43.4	
2009	0.7	41.5	55.2	67.2	39.3	
2010	1.0	41.6	57.6	71.0	43.2	
2011	1.0	44.1	57.6	67.6	42.6	
2012	1.0	38.5	57.2	68.8	40.1	
2013	0.7	35.6	56.6	68.4	37.9	
2014	0.7	35.4	52.1	69.8	36.2	
Share of <i>Exporta Fácil</i> in Selected Sample						
Year	Exports	Firms	Products	Destinations	Product-Destinations	
2007	0.4	6.0	11.4	47.7	4.6	
2008	1.2	17.6	22.1	65.8	12.1	
2009	2.0	19.3	25.5	68.1	16.1	
2010	2.4	21.8	24.6	73.1	16.0	
2011	1.7	25.3	27.0	78.0	17.8	
2012	1.5	22.8	25.2	74.6	16.1	
2013	2.3	24.1	26.2	78.1	17.1	
2014	1.0	24.1	27.6	72.7	17.6	

EF accounts for $\frac{1}{4}$ of the total number of exporters and export products and $\frac{3}{4}$ of the total number of destination in the selected sample.

BORDER PROCEDURES AND EXPERIMENTATION: POSTAL EXPORTS

MAIN FINDINGS

- *Exporta Fácil* can be seen as a publicly provided intermediation instance that helps reduce sunk entry and per period fixed export costs.
- *Exporta Fácil* thereby affects firms' exports:
 - *Entry*: new firms venture abroad, particularly in provinces *Exporta Fácil* offices.
 - *Experimentation*: new firms' exports (i.e., new product-destination combinations for a given firm) tend to be associated with program's use.
 - *Learning from own experience*: new regular exports that were first exported through *Exporta Fácil* tend to be larger and have higher likelihood to survive than their counterparts without a previous *Exporta Fácil* experience.
 - *Learning from others*: firms other than those using *Exporta Fácil* seem to benefit from the export knowledge generated by their peer users.

BORDER PROCEDURES AND EXPERIMENTATION: POSTAL EXPORTS CONCLUSIONS

- Postal export schemes have been put in place in several Latin American countries to facilitate trade, primarily for MSMEs.
- Such schemes streamline the export process by simplifying the paperwork and provide intermediation services whereby the designated postal operators receive the shipments, act on behalf of the exporters in front of the customs, and take care of the logistics of these shipments to ensure delivery at the destination.
- Evidence indicates that these programs make it easier to penetrate foreign markets and thereby facilitate export experimentation and learning.

ROADMAP

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REGIONAL ARRANGEMENTS: TRANSIT TRADE

THE ISSUE AND THE QUESTIONS

- Overland exports from El Salvador to a non-border partner such as Panama have to be shipped through intermediate countries. This is known as **international transit**.



REGIONAL ARRANGEMENTS: TRANSIT TRADE

THE ISSUE AND THE QUESTIONS

- Without explicit special provisions for such a transit, deliveries undergo a costly succession of import and export border clearance procedures including the filling of paper-based documents and the loading and unloading of trucks.
- Under well-functioning transit regimes, the administrative burden is decentralized away from entry points to lower the costs of border crossing.
- Customs clearance is delayed: there is no need to import and re-export the products at intermediate point nor to pay import duties, domestic consumption taxes, or other charges, or go through the import regulations-related processes.
- **Question: What are the trade effects of changes in transit-related border procedures?**

REGIONAL ARRANGEMENTS: TRANSIT TRADE

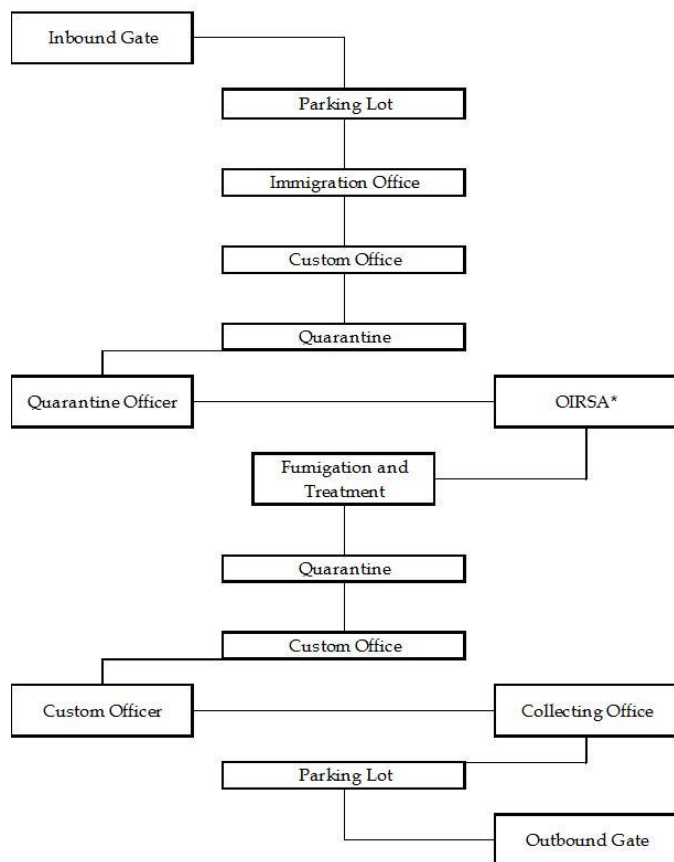
CASE STUDY: EL SALVADOR

- The TIM (*Tránsito Internacional de Mercancías*) is one of the few operating regional transit systems in the developing world, which covers border crossings between Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, and Mexico.
- The TIM implied:
 - the simplification of clearance procedures,
 - the gradual adoption of a single electronic form, and
 - the interconnection of all participating border agencies to enable a unique control at each bilateral border.
- This substantially reduced the document preparation costs, sped up document review and processing at these borders and accordingly trade across them; and facilitated information flows on each order and specifically real-time control of shipments.

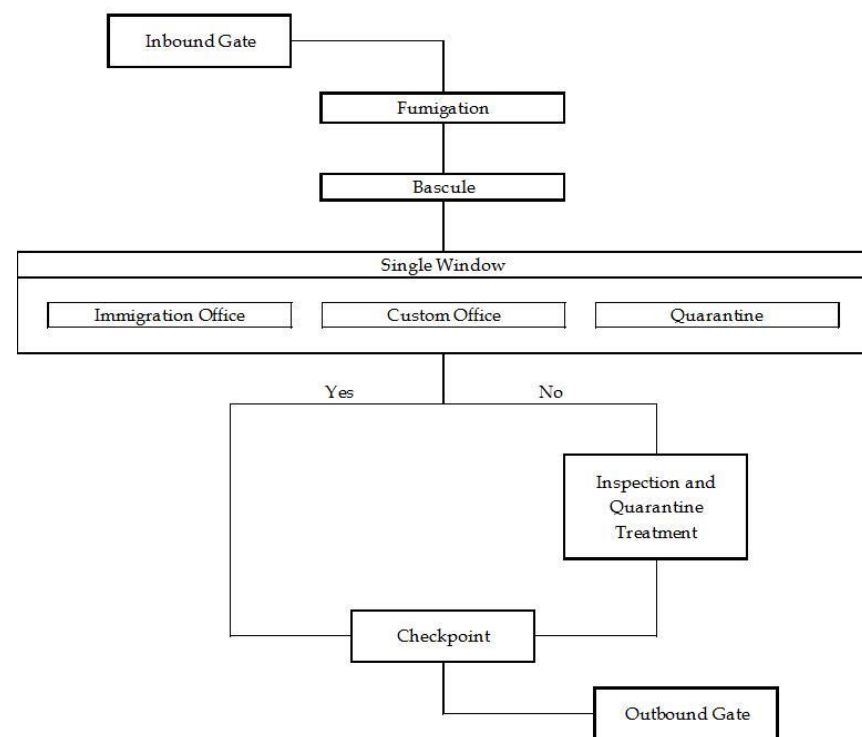
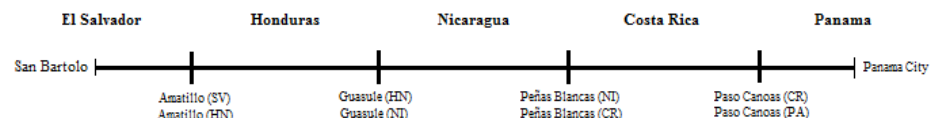
REGIONAL ARRANGEMENTS: TRANSIT TRADE

CASE STUDY: EL SALVADOR

Before



After



[The TIM in action...](#)



REGIONAL ARRANGEMENTS: TRANSIT TRADE

CASE STUDY: EL SALVADOR

- The TIM was sequentially implemented across trade corridors starting in 2011.



REGIONAL ARRANGEMENTS: TRANSIT TRADE

DATA AND METHOD

Data

- *Customs*: Transaction-level export data from 2007 to 2013. Each record includes the firm's ID, the product code (8-digit HS), the customs office, the destination country, the foreign buyer, the transport mode, the export value in US dollars, and the weight in kilograms.
- *TIM*: Transactional-level transit data from 2011 to 2013. These data allows for identifying which specific transactions were processed under the regional transit scheme and when and which not.

Method

- Differences-in-differences (augmented by several sets of fixed effects). Robustness: IV, placebos, event study, sample splitting, external validity (Guatemala) and general equilibrium effects assessment.

REGIONAL ARRANGEMENTS: TRANSIT TRADE

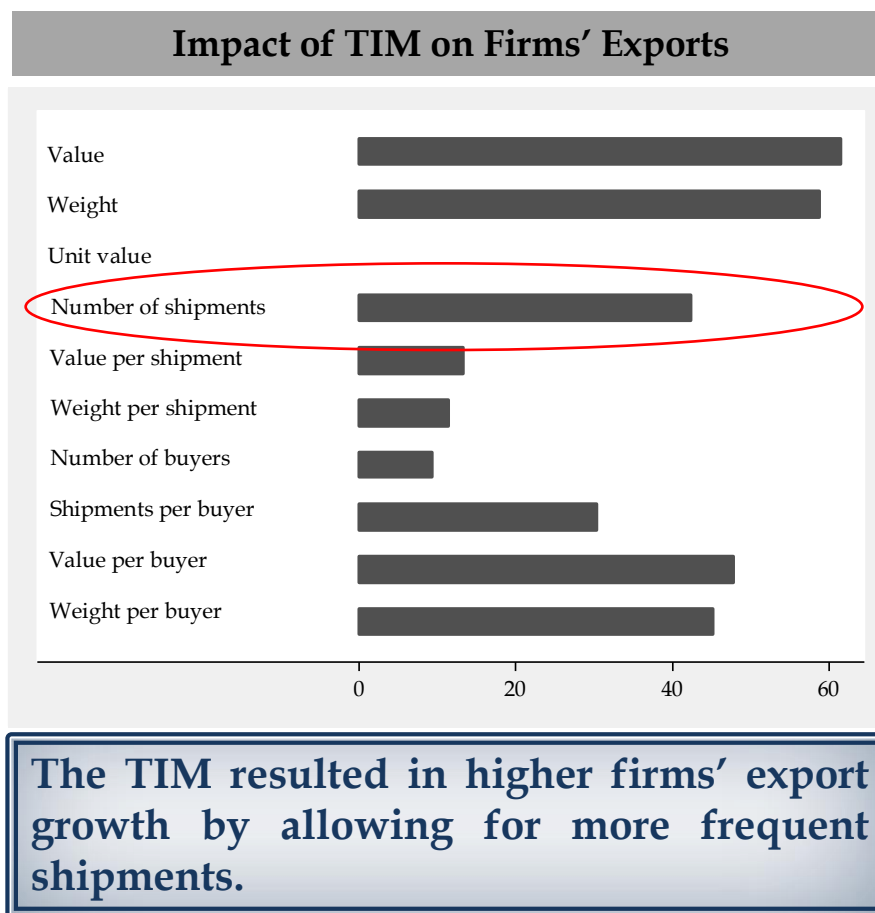
DESCRIPTIVE EVIDENCE

Aggregate Export Indicators				
Indicators	All Sample		Central America	
	2010	2013	2010	2013
Export Value	4,024	5,100	0.433	0.450
Number of Shipments	321,155	403,249	0.801	0.814
Number of Exporters	2,272	2,333	0.826	0.826
Number of Products	3,133	3,277	0.939	0.937
Number of Destinations	111	113	0.045	0.044
Number of Buyers	9,273	9,340	0.727	0.711
Number of Customs	25	29	0.840	0.759
Overall TIM Share				
Share of TIM on Exports	0.000	0.260	0.000	0.365
Share of TIM on Shipments	0.000	0.278	0.000	0.300
Share of TIM on Exporters	0.000	0.365	0.000	0.418
Share of TIM on Products	0.000	0.577	0.000	0.589
Share of TIM on Destinations	0.000	0.372	0.000	1.000
Share of TIM on Buyers	0.000	0.268	0.000	0.334
Share of TIM on Customs	0.000	0.172	0.000	0.227
Share of TIM on Internationally Transiting Exports				
Share of TIM on Exports	0.000	0.271	0.000	0.646
Share of TIM on Shipments	0.000	0.444	0.000	0.634
Share of TIM on Exporters	0.000	0.518	0.000	0.734
Share of TIM on Products	0.000	0.678	0.000	0.773
Share of TIM on Destinations	0.000	0.360	0.000	1.000
Share of TIM on Buyers	0.000	0.386	0.000	0.743
Share of TIM on Customs	0.000	0.143	0.000	0.176

The TIM was implemented gradually.

REGIONAL ARRANGEMENTS: TRANSIT TRADE

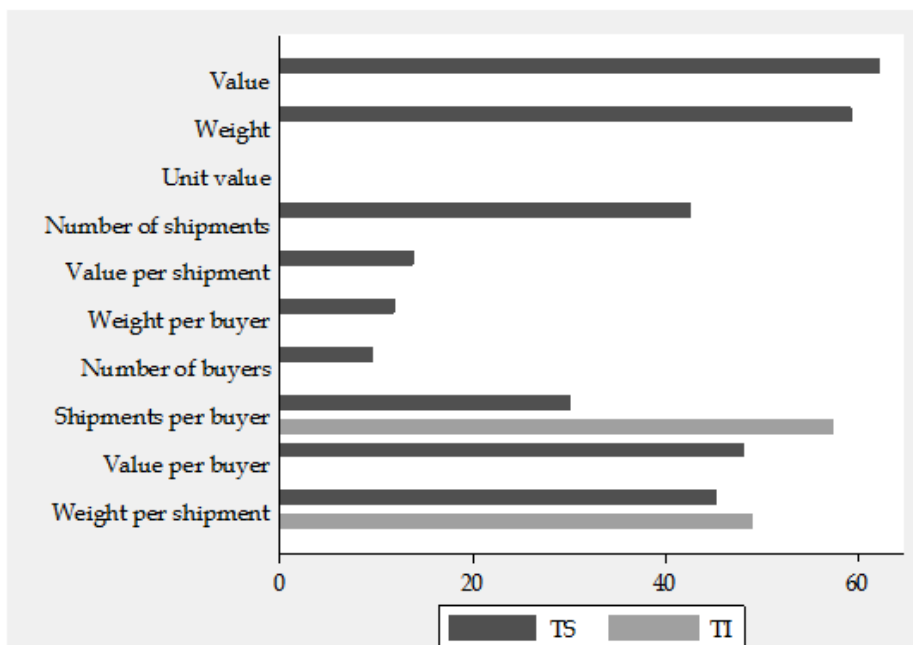
MAIN FINDINGS



REGIONAL ARRANGEMENTS: TRANSIT TRADE

MAIN FINDINGS

Impact of TIM on Firms' Exports by Type of Good



The TIM effect on firms' export was stronger on time sensitive goods.

REGIONAL ARRANGEMENTS: TRANSIT TRADE

CONCLUSIONS

- The TIM worked: Simplified transit border procedures reduced trade costs and consequently facilitated trade. Exports processed under the new transit system grew faster than their counterparts subject to regular transit procedures.
- This positive effect on firms' exports can be mainly traced back to an increased number of shipments.
- This is evidence that, to a significant extent, border frictions are due to regulations and procedures that can be reduced through appropriate trade policies.
- Gains from upgraded transit regimes are not uniformly distributed. Streamlined transit procedures influenced export specialization. Their impact has been larger on foreign sales of time-sensitive and differentiated goods.

ROADMAP

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THE WAY FORWARD

- Progress towards trade facilitation in Latin America and the Caribbean has been noticeable in recent years.
- However, much remains to be done. The implementation of the WTO Trade Facilitation Agreement provides countries in the region with a unique opportunity to move forward this policy agenda.

THE WAY FORWARD

- In addition to endow border agencies with proper personnel and technological means to accomplish their mission and, among other things, countries have to:
 - ensure better coordination between agencies, enhanced design of their procedures, and effective and interoperable mechanisms to process permits and certificates, which would create the conditions for comprehensive single windows as well as for integrated border controls;
 - further improve their risk management systems, including the adoption of an integral risk approach linking all border agencies and exploiting data from relevant non-border agencies;
 - upgrade their transit regimes; and
 - strengthen and connect their AEO programs with those of peers through MRAs.
- Trade gains from these measures are likely to be substantial and so could also be those coming along in terms of employment and productivity.