

Exporter Dynamics Database Version 2.0

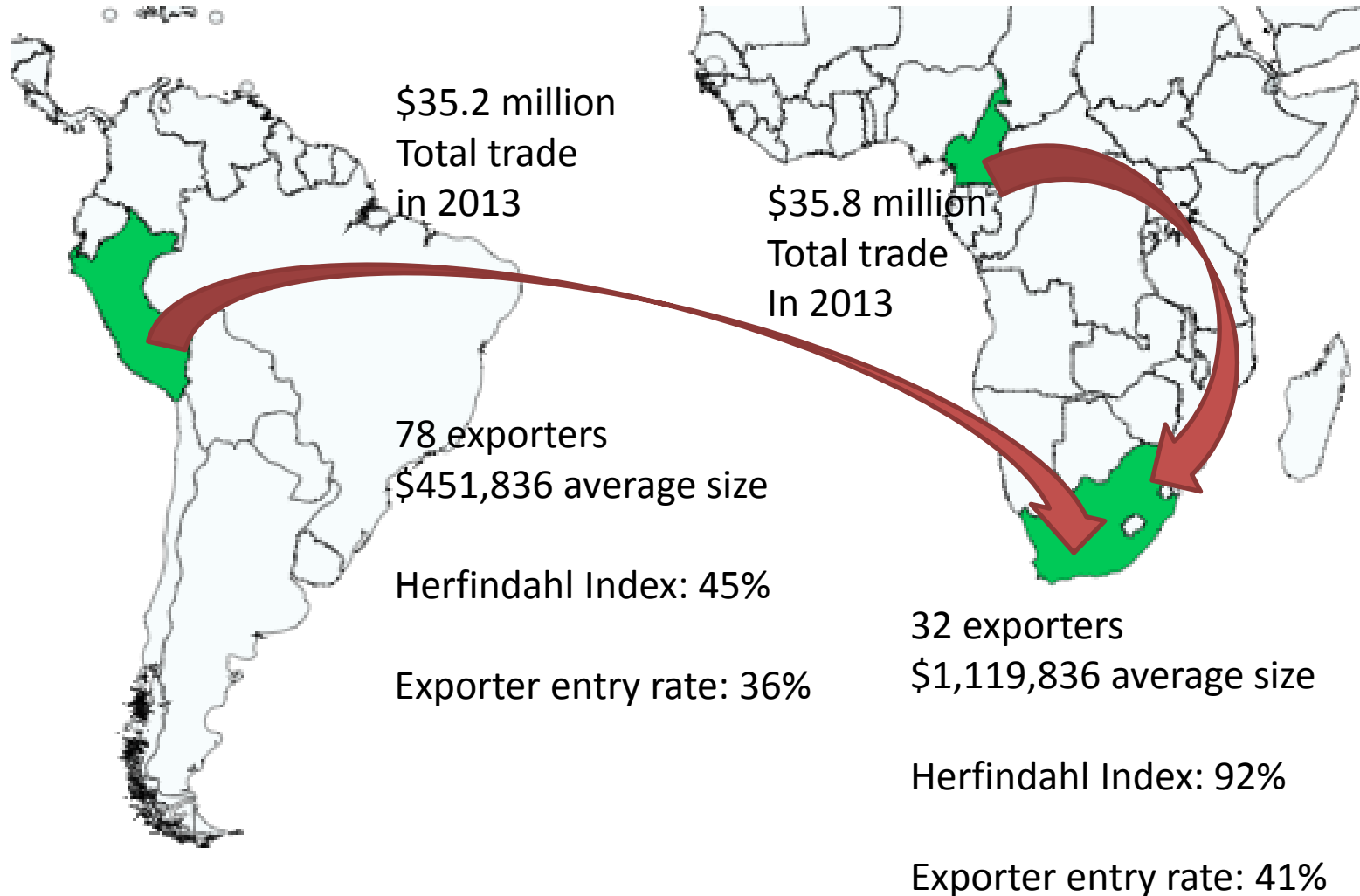
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Washington DC October 20 2015

A project funded by KCP, MDTF, and SRP

What we knew about bilateral trade flows and what we know now



... and how about total exports of a given product?


Nicaragua:
\$ 105 million in 



41 exporters
\$2,581,599 average size

Top 5% exporters: 62%

Exporter Entry: 44%
1st-y Entrant Survival: 39%

Thailand:
\$ 99 million in 



643 exporters
\$153,474 average size

Top 5% exporters: 84%

Exporter Entry: 48%
1st-y Entrant Survival: 34%

- Firm-level data is key to understand the micro foundations of export growth
 - It provides information about the characteristics of the exporters
 - The degree of concentration among these exporters
 - And their entry, exit and survival dynamics
- The Exporter Dynamics Database (EDD) version 1.0 filled this analytical gap by providing a comprehensive source of information on firms that export and their dynamics

Exporter Dynamics Database

What measures are included in the EDD?

- *Basic characteristics of export sector*
 - Number of exporters, exporter size (in export value), exporter growth
- *Export concentration/diversification*
 - Herfindahl indexes, share of top X% exporters, number of products or destinations per exporter, number of exporters per product or destination
- *Firm dynamics in the export sector*
 - Exporter entry, exit and first-, second-, or third-year entrant survival rates
- *Firm-product dynamics*
 - Product entry, exit and survival rates for incumbent exporters and share of new products in exporter values
- *Firm-destination dynamics*
 - Destination entry, exit and survival rates for incumbent exporters and share of new destinations in exporter values
- *Unit prices*

What is basis for constructing the measures in the EDD?

- Customs data collected for each country covers the universe of export transactions
 - Data includes in each country values and quantities exported by each firm of each product (HS 6-digit) to each destination country in each year
 - We exclude only oil sector exports (HS chapter 27)
- For products we use a consolidated set of HS 6-digit codes that are consistent across HS1996, HS2002, HS2007, and HS2012 revisions

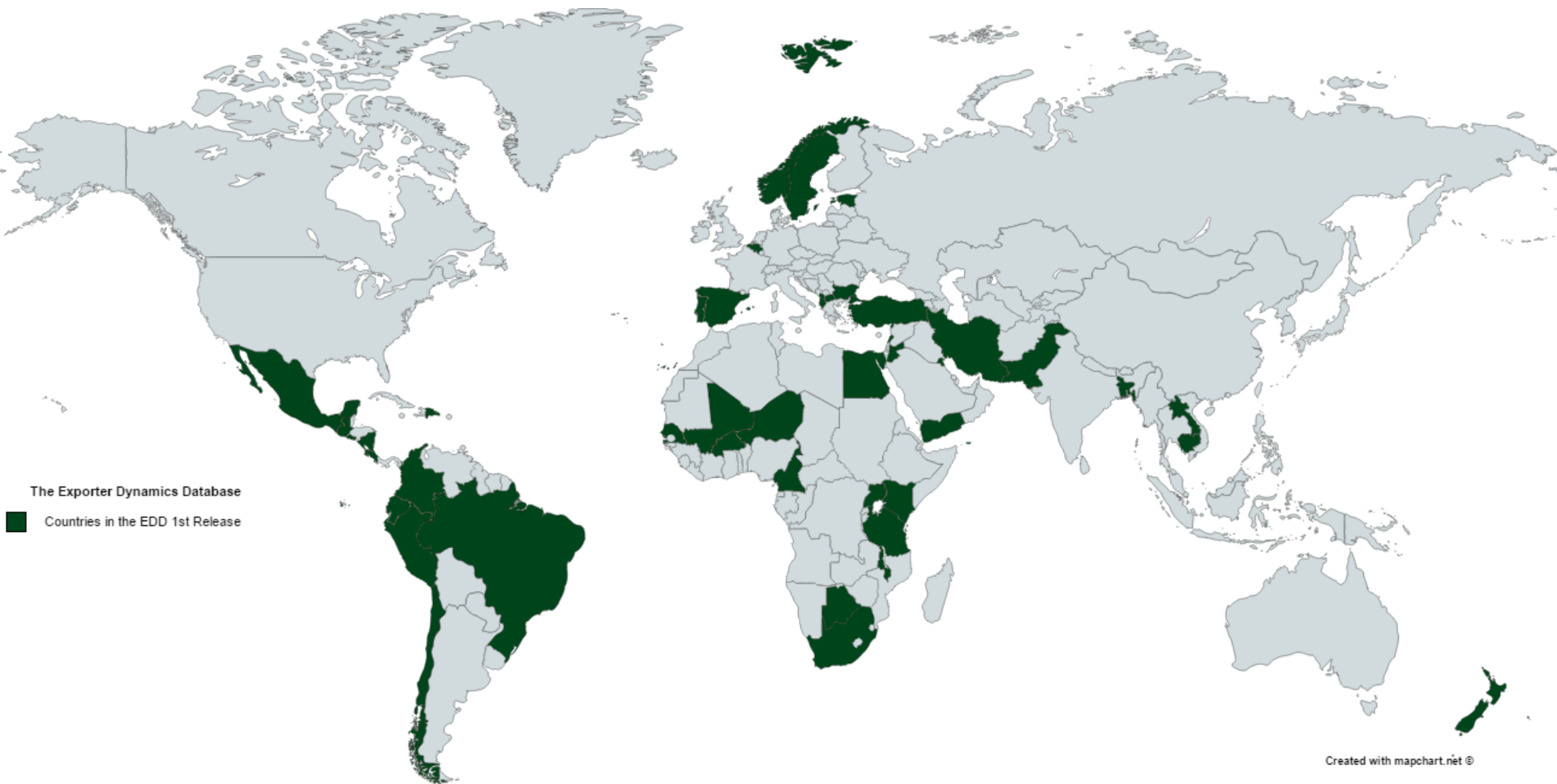
Disaggregation levels of the EDD measures

- Exporting country-year level
- Exporting country-product-year level with product being either HS 2-digit or HS 4-digit or HS 6-digit
- Exporting country-destination-year level
- Exporting country-HS 2-digit product-destination-year level **NEW**
- Exporting country-ISIC 3-digit-year level **NEW**

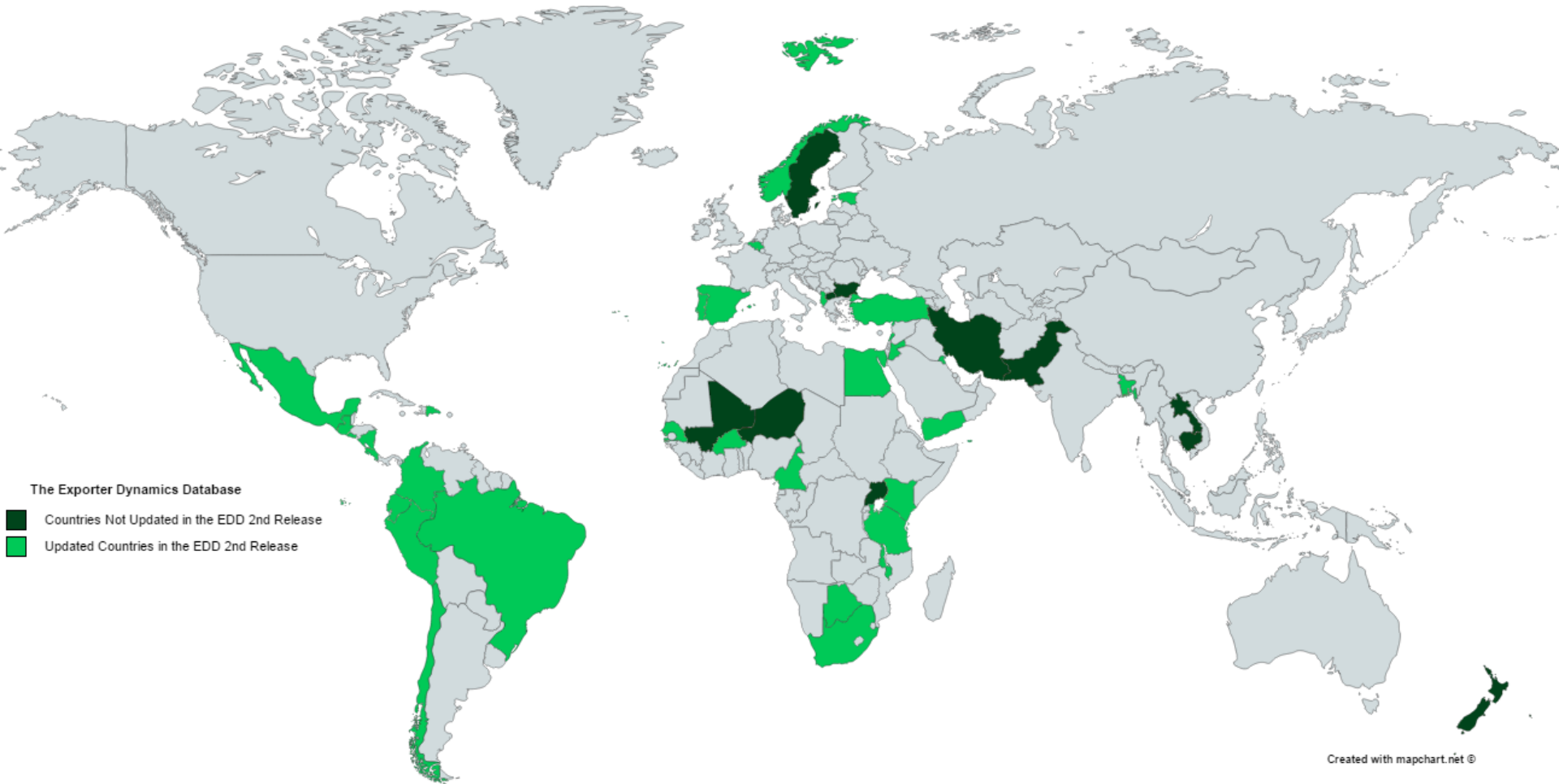
Flavors of the EDD measures

- Measures at 7 different disaggregation levels are available in 4 different flavors:
 - Covering all export transactions
 - Covering export transactions for firms whose annual exports are all larger than 1,000 USD **NEW**
 - Covering export transactions for manufacturing only **NEW**
 - Covering export transactions for manufacturing only and for firms whose annual exports are all larger than 1,000 USD **NEW**

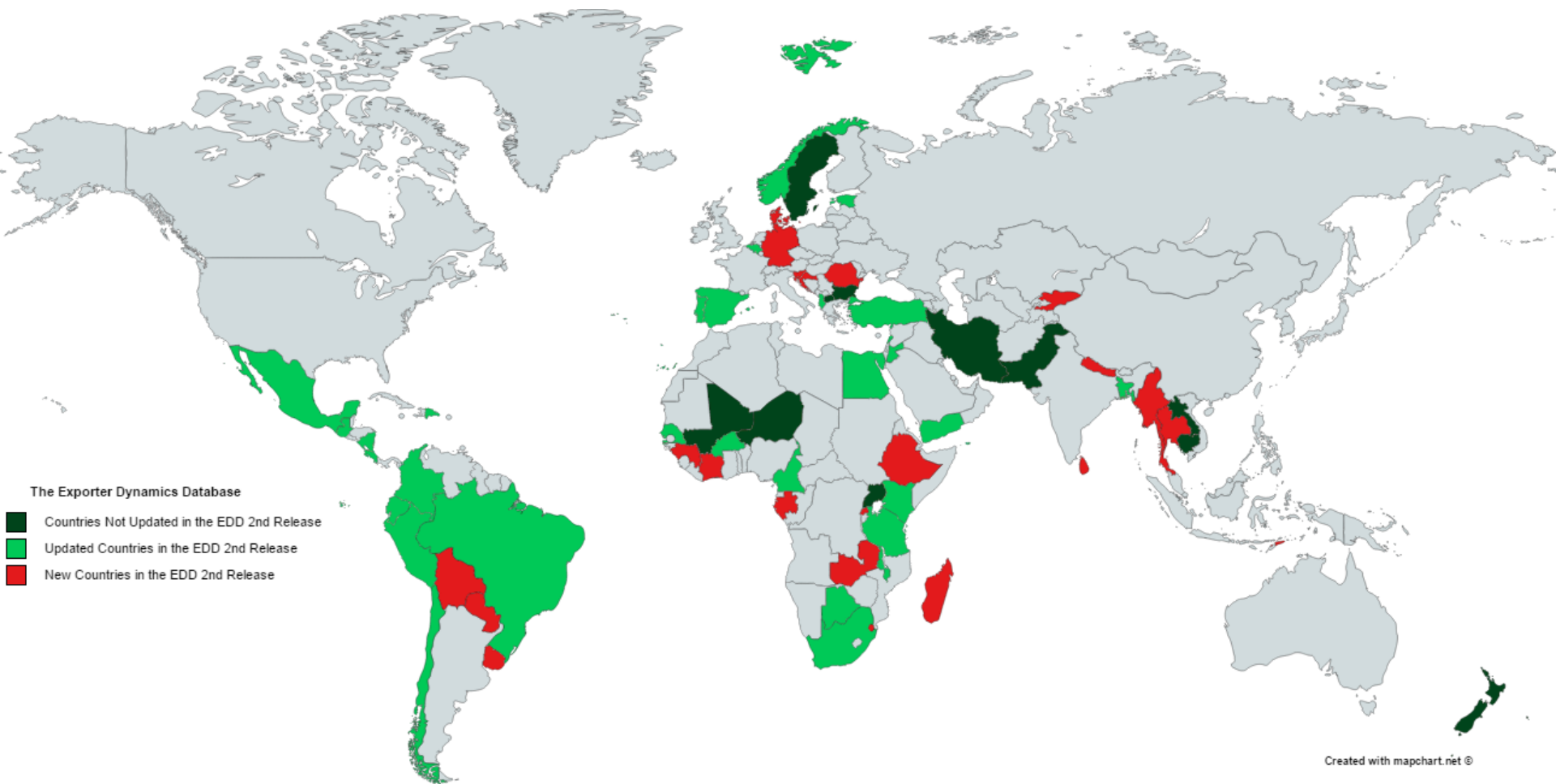
EDD version 1.0 covered 45 countries



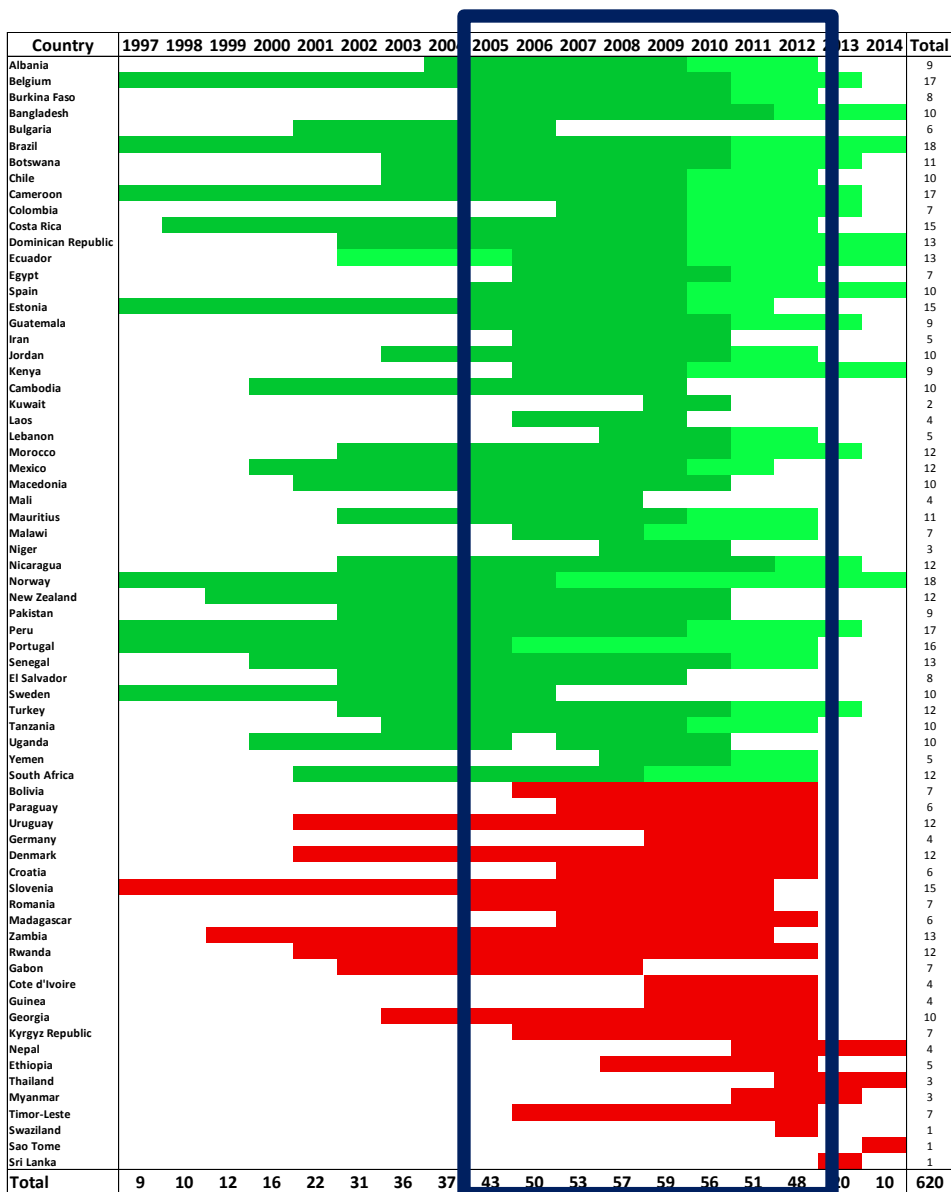
Data for 34 existing countries was updated



Data for 25 new countries was added



EDD version 2.0 covers mostly the 2000s and 2010s

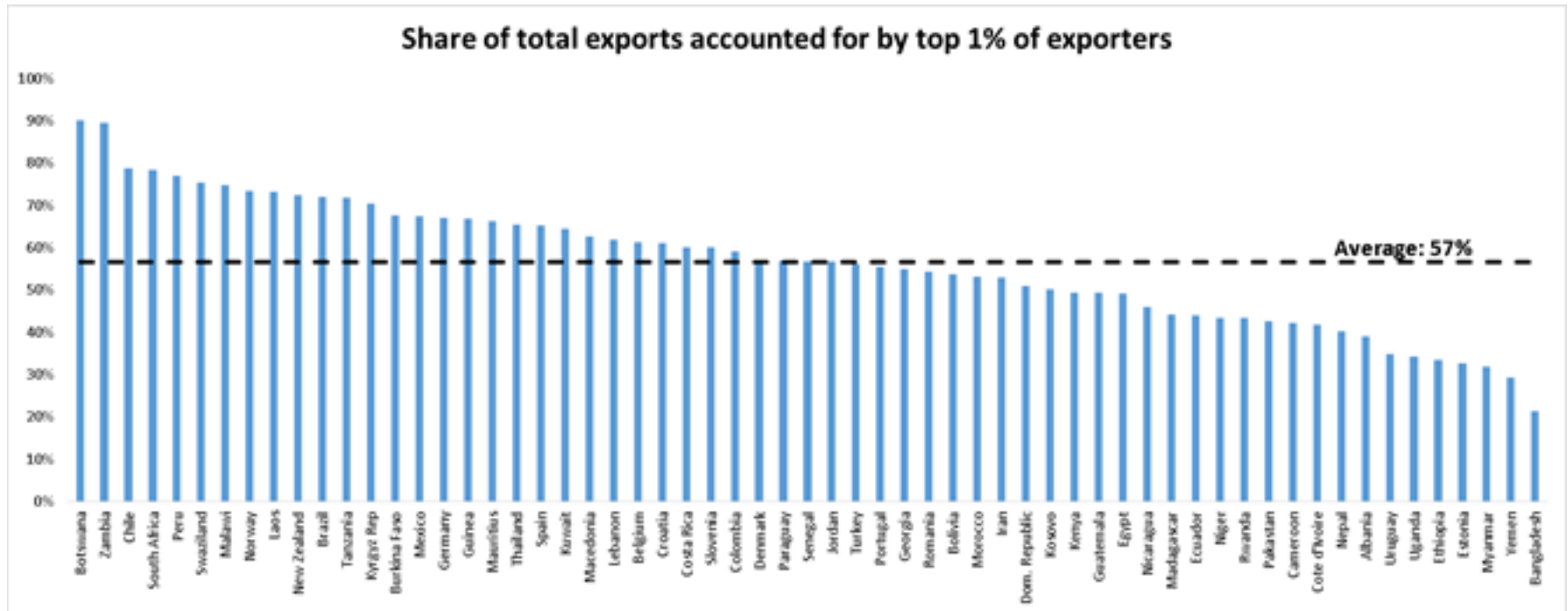


Public and Free Access to the Exporter Dynamics Database:

<http://econ.worldbank.org/exporter-dynamics-database>

Facts and Research Findings based on the EDD

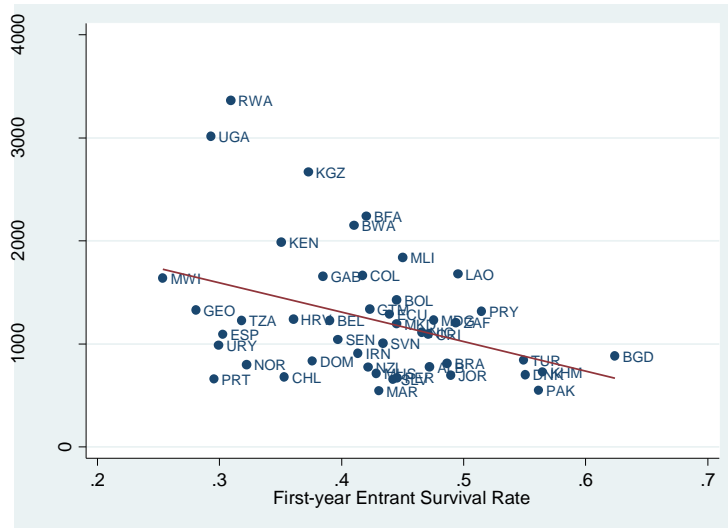
Across countries exports are highly concentrated among their largest firms



Source: based on Exporter Dynamics Database version 2.0.

- The role of these export superstars for countries' comparative advantage is studied in Freund and Pierola (2015, REStat)

Entrant survival is higher in the presence of lower trade costs and larger networks



Survival rates of new exporters are higher in lower trade costs economies

Regressions based on measures at exporting country-HS 2-digit-destination-year level

First-Year Entrant Survival Rate

	(1)	(2)	(3)	(4)
Lagged Ln (Number of Exporters)	0.026*** (0.000)	0.029*** (0.000)	0.026*** (0.000)	0.030*** (0.000)
Year Fixed Effects	Yes	Yes	Yes	Yes
HS 2-Digit Fixed Effects		Yes		
Destination Fixed Effects			Yes	
HS 2-Digit-Destination Fixed Effects				Yes
Observations	719,409	719,409	719,409	719,409
R-squared	0.015	0.047	0.027	0.098

Presence of other exporters of same product to same market helps survival of new exporters

Source: based on Exporter Dynamics Database version 2.0.

Sources of the great trade collapse

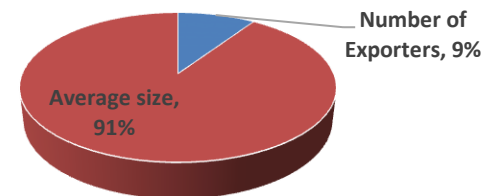
- The trade collapse resulting from the global financial crisis was entirely driven by the intensive margin (mean exporter size)
 - After accounting for countries' different degrees of distress from the crisis and for sectoral demand and supply shocks

*Regressions based on measures
at exporting country-HS 2-digit-year level*

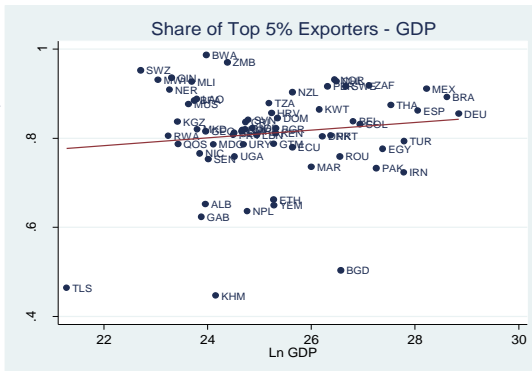
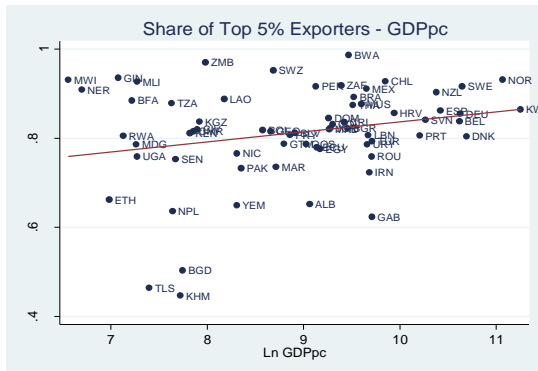
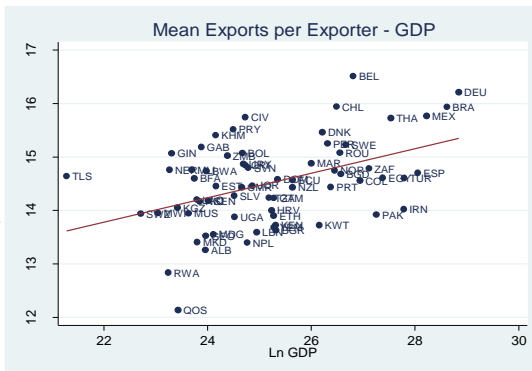
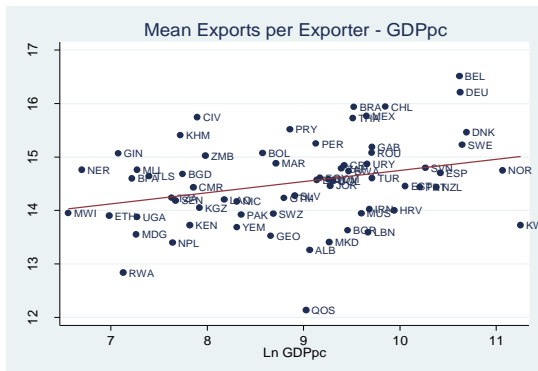
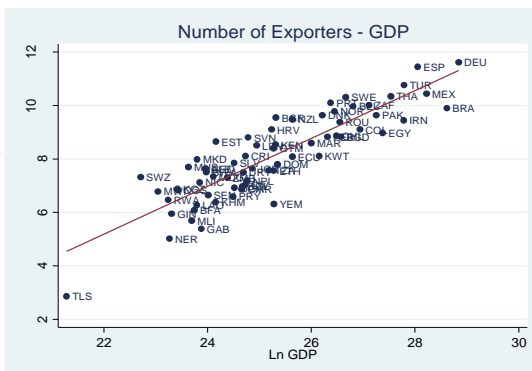
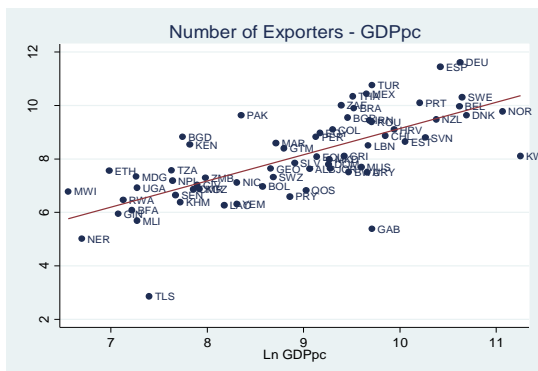
	Growth in Total Exports	Growth in Number of Exporters	Growth in Mean Exports per Exporter
	(1)	(2)	(3)
Dummy for Global Financial Crisis Year	-0.254*** (0.030)	-0.024 (0.014)	-0.230*** (0.023)
Exporting Country Fixed Effects	Yes	Yes	Yes
HS 2-Digit Fixed Effects	Yes	Yes	Yes
Observations	31,242	31,242	31,242
R-squared	0.018	0.026	0.015

Source: based on Exporter Dynamics Database version 2.0.

Export growth decomposition during the collapse



How do export-sector characteristics vary with country size and stage of development?



Positive correlations between number, size concentration of exporters and either GDP per capita or GDP

Establishing the robustness of those correlations

	<i>Regressions for measures at exporting country-HS 2-digit-year level</i>			<i>Regressions for measures at exporting country-destination-year level</i>			<i>Regressions for measures at exporting country-HS 2-digit- destination-year level</i>		
	Ln Number of Exporters	Ln Mean Exports per Exporter	Share of Top 5% Exporters	Ln Number of Exporters	Ln Mean Exports per Exporter	Share of Top 5% Exporters	Ln Number of Exporters	Ln Mean Exports per Exporter	Share of Top 5% Exporters
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Ln GDPpc	0.479*** (0.098)	0.463*** (0.093)	0.045*** (0.012)	0.441*** (0.092)	0.173** (0.067)	0.060*** (0.009)	0.271** (0.102)	0.233*** (0.064)	0.028*** (0.009)
Ln GDP	0.660*** (0.067)	0.408*** (0.065)	0.040*** (0.007)	0.783*** (0.071)	0.280*** (0.058)	0.038*** (0.006)	0.416*** (0.072)	0.341*** (0.049)	0.034*** (0.006)
HS 2-Digit Fixed Effects	Yes	Yes	Yes						
Destination Fixed Effects				Yes	Yes	Yes			
Bilateral Gravity Covariates				Yes	Yes	Yes	Yes	Yes	Yes
HS 2-Digit- Destination Fixed Effects							Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	33,488	33,459	22,670	46,162	45,716	24,751	599,299	599,299	131,613
R-squared	0.716	0.441	0.316	0.736	0.318	0.307	0.466	0.394	0.419

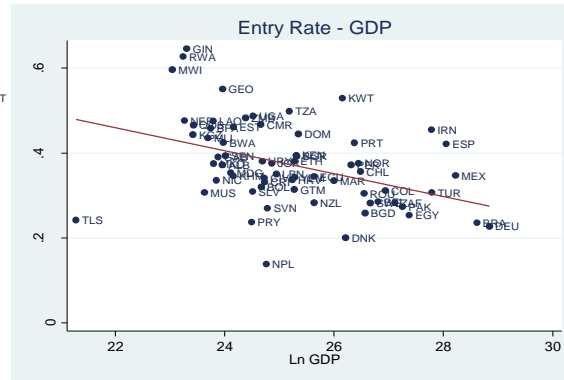
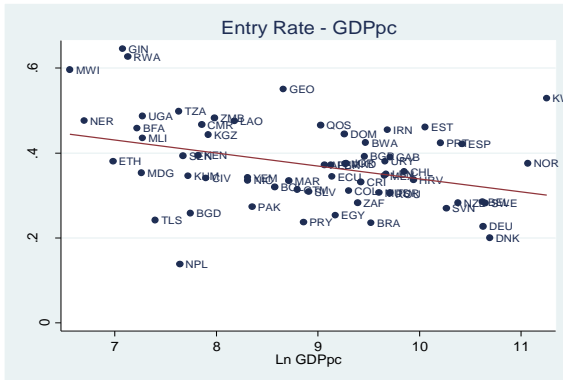
Source: based on Exporter Dynamics Database version 2.0. following Fernandes, Freund and Pierola (2015, JDE)

- **Larger economies and more developed economies have: more exporters, larger exporters, and more concentration in the top 5% of firms**
- Even after controlling for sectoral composition of exports, differences across destination markets, and cyclical effects

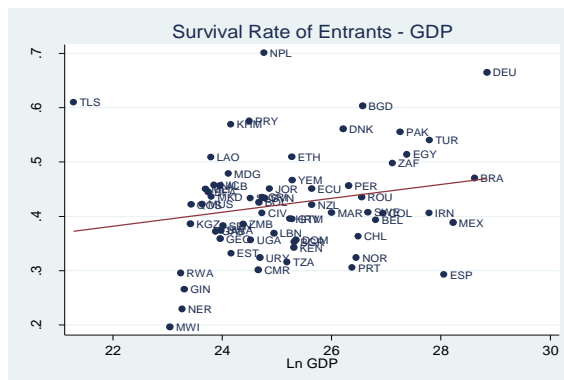
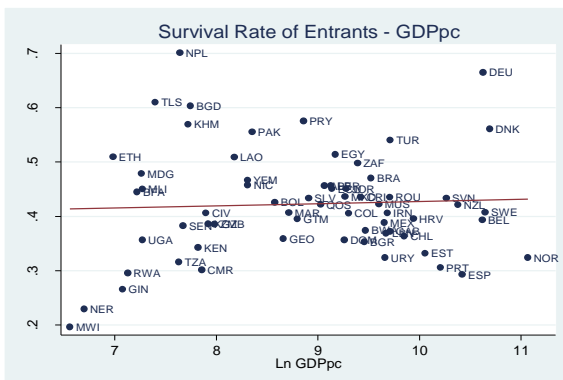
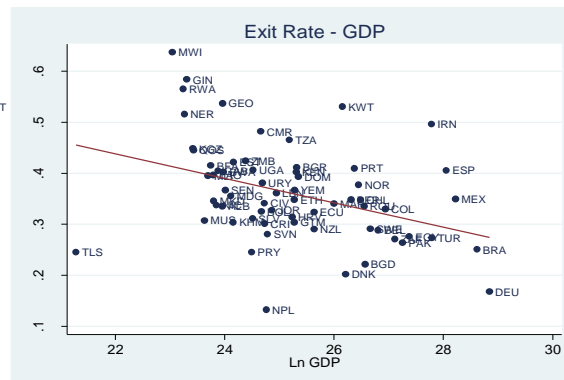
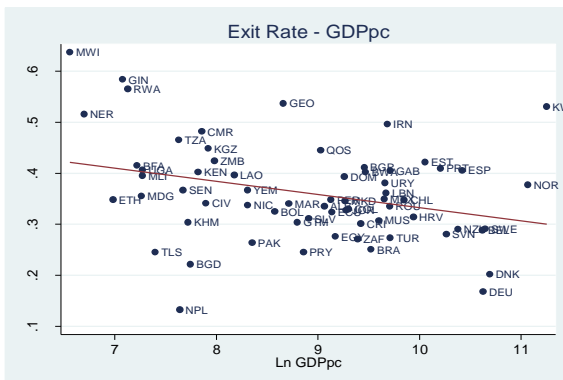
What is the magnitude of the effects?

- Relative to a country at the 25th percentile of the GDP per capita distribution (Cameroon), a country at the 75th percentile of the GDP per capita distribution (Mexico) has:
 - 87 percent larger number of exporters
 - 84 percent larger mean exports per exporter
 - 8.2 percentage points larger share of exports accounted for by the top 5% of exporters

How do exporter dynamics vary with country size and stage of development?



Negative correlations between exporter turnover and positive correlations between entrant survival and either GDP per capita or GDP



Source: based on Exporter Dynamics Database version 2.0. following Fernandes, Freund and Pierola (2015, JDE)

Establishing the robustness of these correlations

	<i>Regressions for measures at exporting country-HS 2-digit-year level</i>					<i>Regressions for measures at exporting country-destination-year level</i>					<i>Regressions for measures at exporting country-HS 2-digit-destination-year level</i>				
	Entry Rate	Exit Rate	Entrant Survival Rate	Net Entry Rate	Turnover Rate	Entry Rate	Exit Rate	Entrant Survival Rate	Net Entry Rate	Turnover Rate	Entry Rate	Exit Rate	Entrant Survival Rate	Net Entry Rate	Turnover Rate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Ln GDPpc	-0.063*** (0.011)	-0.065*** (0.011)	0.031*** (0.009)	0.003 (0.002)	-0.120*** (0.022)	-0.043*** (0.010)	-0.042*** (0.010)	0.018* (0.009)	-0.001 (0.003)	-0.071*** (0.019)	-0.050*** (0.009)	-0.054*** (0.011)	0.030** (0.013)	0.005* (0.003)	-0.074*** (0.019)
Ln GDP	-0.005 (0.007)	-0.003 (0.007)	0.002 (0.005)	-0.002 (0.002)	-0.001 (0.016)	-0.034*** (0.007)	-0.033*** (0.007)	0.025*** (0.005)	0.001 (0.002)	-0.035*** (0.012)	-0.017** (0.006)	-0.015** (0.007)	0.013** (0.005)	-0.001 (0.002)	0.043*** (0.013)
HS 2-Digit Fixed Effects	Yes	Yes	Yes	Yes	Yes										
Destination Fixed Effects						Yes	Yes	Yes	Yes	Yes					
Bilateral Gravity Covariates						Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HS 2-Digit-Destination Fixed Effects											Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	31,465	31,412	26,212	30,805	30,805	48,658	48,141	39,777	44,279	44,279	883,355	868,703	643,804	695,860	695,860
R-squared	0.234	0.242	0.131	0.008	0.249	0.202	0.194	0.105	0.011	0.143	0.147	0.149	0.096	0.018	0.181

Source: based on Exporter Dynamics Database version 2.0. following Fernandes, Freund and Pierola (2015, JDE)

- **In more developed economies, exporter entry and exit rates are lower while first-year survival of entrants is higher**
 - Even after controlling for sectoral composition of exports, differences across destination markets, and cyclical effects

What is the magnitude of the effects?

- Relative to a country at the 25th percentile of the GDP per capita distribution (Cameroon), a country at the 75th percentile of the GDP per capita distribution (Mexico) has:
 - 11 percentage points lower exporter entry and exit rates
 - 6 percentage points higher first-year survival rate of entrants into export markets

Lessons from these facts

- Exporter dynamics change as countries get richer
 - In developing countries, there is high turnover with many firms entering export markets and exiting almost immediately
 - As countries develop, entrant survival is higher as fewer but more resilient exporters enter the market
- Larger exporters and more concentration at the top of the exporter-size distribution in richer countries is consistent with allocative efficiency in export markets improving as countries develop
 - In developing countries, distortions to resource allocation inhibit the emergence of very large firms resulting in a “truncated top” (rather than a “missing middle”)

What other uses for the EDD?

- The EDD has supported external research
 - 1,112 downloads of the EDD in FY2014
 - EDD used for research on the impact of FDI promotion policies, banking crises, etc.
- The EDD has been used in WB analytical work and policy advice on trade and competitiveness
 - Reports on Bangladesh, Brazil, Dominican Republic, Ethiopia, Georgia, Malawi, Peru, South Africa, Uruguay
 - Regional reports in SSA, MENA, LAC
- The EDD can help answer understand the relationship between exporter dynamics and policy factors such as:
 - Trade costs (logistics costs, customs delays)
 - Trade barriers (tariffs, non-tariff measures, contingent protection measures)
 - Business environment or economic shocks (exchange rates)
- The EDD can be used as a tool for the impact evaluation of trade facilitation reforms and export promotion programs => Nepal

Thank You!