

Trade Costs and Exporter Dynamics in Africa

(Work in progress)

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Motivation

- Exports
 - Growth and development
 - Productivity
- African Continental Free Trade Agreement (AfCFTA)

What are the questions?

- Are African exporter dynamics different?
How?
- Are trade costs especially relevant in Africa
versus other regions? How?
- How do trade costs relate to diversification
among African exporters?

Database

“Exporters Dynamics Database” (World Bank)

- Export transactions in 40 developing countries (15 Africa) + 10 developed countries
- Information at aggregate and sectoral level (HS 2-digit, non-oil exports)
- Country-sector-year data 2002-2012
- Measures:
 - Size of exports per exporter / per new exporter
 - Number of exporters
 - Entry, exit, survival rates of exporters, products and destinations
 - Number of products and destinations per exporter

Africa's export dynamics

African exporters are fewer, smaller and relatively less diversified

Characteristics (2010-2012)	Africa	Other developing	Developed
Average number	3.6k	9k	22.4k
Export value/exporter	\$2.1m	\$3.4m	\$4.3m
Export value/new exporter	\$240k	\$294k	\$381k
Products/exporter	6.1	5.5	8.3
Destinations/exporter	2.4	3.0	3.9

Africa's export dynamics

Export activity is volatile.

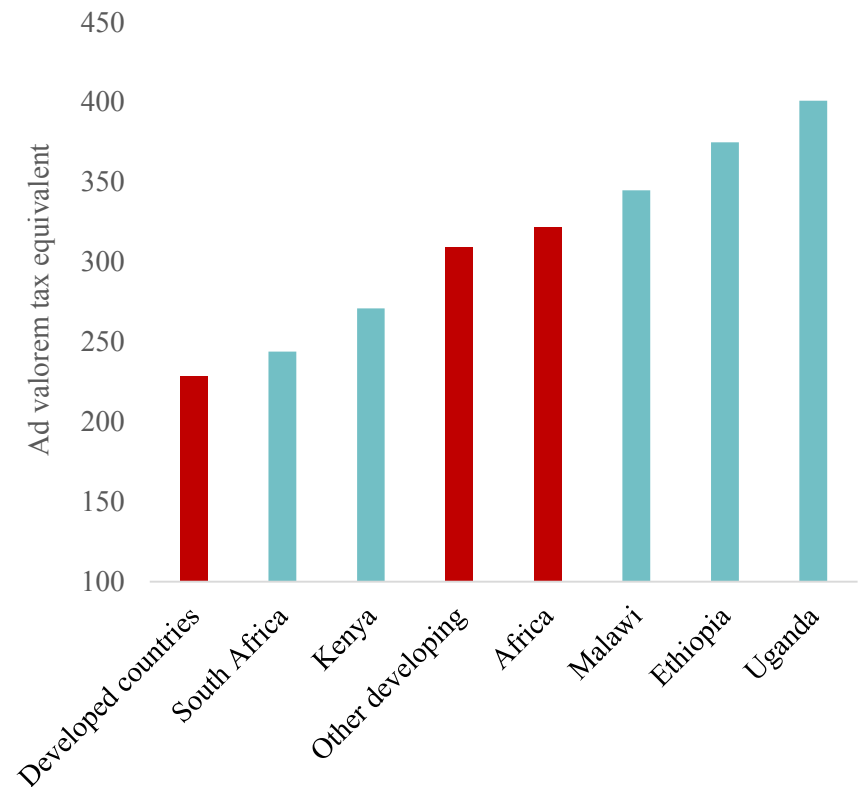
- Highest rates of *entry* and *exit* of exporting firms, exporting products and export destinations
 - Guinea, Malawi, Uganda: over 50% of firm entry (developed countries – 35%)
 - Botswana: over 70% product entry/exit among incumbents (developed countries – about 40%)
- Lowest probability of *survival* of exporting firms and products
 - Cameroon, Guinea, Malawi: less than 30% of firm survival after 1st year (developed countries – 41%)
 - Botswana, Kenya, Malawi, Senegal, South Africa and Zambia: less than 25% of product survival (developed countries – 31%)

Africa: trade costs

ESCAP-World Bank Trade Cost Database

- i) International shipping and logistics costs;
- ii) Tariff and non-tariff costs (indirect and direct costs associated with trade procedures and regulations);
- iii) Additional costs from differences in language, culture, currencies.

Average trade costs, 2010-2012



Are trade costs especially relevant in Africa?

➡ **Size of exporters** $_{ijt} = \alpha_i + \delta_t + \beta X_{jt} + \lambda \text{Trade costs}_{jt} * \text{Africa} + \varepsilon_{ijt}$

(*i* is sector; *j* is country; *t* is year)

Sector and year
fixed effects

GDP

GDP per capita

Trade over GDP

Commodity-dependent

Trade costs

OLS. Robust standard errors adjusted by “clustering” at country level

➡ **Survival** $_{ijt} = \alpha_i + \delta_t + \varphi \text{Size}_{ijt} + \beta X_{jt} + \lambda \text{Trade costs}_{jt} * \text{Africa} + \varepsilon_{ijt}$

Size of exporters

GLM. Robust standard errors adjusted by “clustering” at country level

Trade costs and size of exporters

	All exporters (1)	New exporters (2)	Surviving new exporters (3)
Size of the economy	0.538 (6.53)***	0.484 (6.90)***	0.565 (8.55)***
Level of development	0.066 (0.60)	-0.187 (2.39)**	-0.238 (2.96)**
Trade over GDP	0.011 (3.48)**	0.014 (6.42)***	0.014 (8.17)***
Commodity dependent	0.231 (1.13)	0.091 (0.61)	-0.063 (0.36)
Trade costs	-0.083 (0.50)	0.004 (0.04)	-0.044 (0.36)
Trade costs * Africa	-0.043 (-1.47)	-0.061 (2.53)**	-0.069 (3.27)**
Sectoral Dummies	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes
R-squared	0.49	0.39	0.38
Countries	38	37	34
Observations	9,264	8,732	5,977

➡ **Africa: Trade costs negatively associated to size of new exporters & surviving new exporters**

➡ **Results are robust to different periods and to using sample with only developing countries**

Trade costs and survival of exporters

	1-year survival (1)	1-year survival (2)	3-year survival (3)	3-year survival (4)
Size of exporters	0.094 (10.77)***	0.089 (9.81)***	0.116 (7.70)***	0.113 (7.26)***
Size of the economy	0.036 (1.41)	0.026 (0.90)	0.20 (0.55)	-0.004 (0.13)
Level of development	0.015 (0.43)	0.007 (0.17)	0.032 (0.90)	0.028 (0.74)
Trade over GDP	0.001 (1.73)*	0.000 (1.18)	0.002 (1.80)*	0.001 (1.48)
Commodity dependent	-0.044 (0.72)	-0.061 (0.95)	-0.086 (1.11)	-0.131 (2.05)**
Trade costs		-0.019 (0.36)		-0.026 (0.36)
Trade costs * Africa		-0.020 (2.12)**		-0.042 (3.73)***
Sectoral Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
AIC	0.85	0.85	0.52	0.53
Number of countries	38	34	35	31
Observations	7,359	6,613	7,055	6,203

➡ **Trade costs** negatively associated to **the survival of exporters** in Africa

➡ Results are robust to different periods and to using sample with only developing countries

Trade costs and diversification within Africa

$$\text{Diversification}_{ijt} = \alpha_i + \delta_t + \varphi \text{Size}_{ijt} + \theta \text{Trade costs}_{jt} + \beta \mathbf{X}_{jt} + \varepsilon_{ijt}$$

(i is sector; j is country; t is year)

Number of products
Number of destinations
(average per exporter/sector)

Sector and Year
fixed effects

Size of exporters

GDP
GDP per capita
Trade over GDP
Productive capacities

➡ **OLS.** Robust standard errors adjusted by “clustering” at country level
Sample: Only Africa countries

Trade costs and diversification within Africa

	Destinations (1)	Destinations (2)	Products (3)	Products (4)
Size of exporters	0.078 (14.05)***	0.078 (14.61)***	0.022 (4.46)**	0.026 (5.83)***
Size of the economy	0.044 (1.45)	-0.005 (0.26)	0.019 (0.39)	0.023 (0.78)
Level of development	-0.060 (1.65)	-0.043 (2.45)**	-0.014 (0.43)	-0.044 (0.81)
Trade over GDP	0.001 (1.12)	-0.001 (1.01)	0.001 (0.98)	0.001 (1.17)
Productive capacities	0.105 (2.27)**	0.189 (4.33)**	0.220 (4.21)**	0.264 (3.00)**
Trade costs		-0.098 (3.18)**		-0.002 (0.05)
Sectoral Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
R-squared	0.50	0.52	0.61	0.61
Number of countries	13	11	13	11
Observations	3,003	2,653	3,003	2,653

- ➡ **Trade costs:** negatively associated only to **diversification across destinations**
- ➡ **Size:** larger exporters are more diversified...

Conclusions and Implications

- Africa's export dynamics is **volatile**, with a lot of **experimentation** and difficulties to **maintain trade relationships** → **inefficiencies, uncertainties, lack of information, low capabilities/competitiveness**
- **Trade costs** are a key dimension in Africa export dynamics
 - **Size and survival** of exporters
 - **Diversification in terms of destinations**
- ➡ **Large benefits** from lowering trade costs and the associated **reallocation of resources**: expansion of most productive exporters
- ➡ Yet, impacts on **product diversification** will likely remain **limited** without strengthening **productive capacities**

Thank you