

# **Preferential Access into the Chinese Market: How good is it for Africa?**

By Ralitza Dimova (Manchester University)  
and Cathy Co (University of Nebraska)

# Introduction

- Conceptual insights on export oriented growth
  - Rationale behind continuous movement up the international value chain (Cline, 1982; Hunt and Tybout; Hausmann et al, 2007)
- Challenges for Sub-Saharan Africa
  - Throughout the 1990s, 39 African countries depended for more than half of their exports on two primary commodities (Morrissey, 2005), due to
    - International trade barriers and tariff escalations (Collier and Venables, 2007; Morrissey, 2005)
    - Capacity constraints (Collier and Venables, 2007; Morris, 2006, McKay, 2000)
- Rationales for South-South cooperation
  - Main advantage: no conditionalities, helps where barriers to entering industrialised countries' markets may be much higher

# Research questions and hypotheses

- Does the preferential trade program affect significantly the quantity and quality of exports from SSA to China?
  - Can bilateral trade “lift” SSA up the value chain (a la “flying geese phenomenon”)
  - Or does it further entrap it in primary exports

# The preferential access program

- Forum on China-Africa Cooperation (FOCAC): main venue for collective dialogue between China and 49 African member states since 2000
- Preferential market access (duty-free access) was first promised at the 2<sup>nd</sup> FOCAC Ministerial Conference in 2003



**Program expanded to more than 4,700 items since July 2010.**

# Data and preliminary statistics

- Trade data at the six-digit Harmonized System (HS) codes level from UN Comtrade
- Sample size: 193 countries, 5215 products, 9 years

**Table 1. Number of Six-Digit Harmonized System Items Receiving Preferential Market Access**

Product Group	Number		MFN Duty Rates, % (Mean)	
	Phase I	Phase II	Phase I	Phase II
Food and Live Animals	24	44	11.38	12.93
Other Primary Products	32	62	6.16	6.27
Textile and Apparel	36	124	12.44	11.98
Chemicals, Machinery, and Transport Equip.	29	78	8.11	8.04
Other manufactures	<u>59</u>	<u>148</u>	<u>10.14</u>	<u>11.48</u>
All items	180	456	9.73	10.46

Notes: <sup>a/</sup> Other primary products includes beverages and tobacco; crude materials, inedible, except fuels; mineral fuels, lubricants and related materials; and animal and vegetable oils, fats and waxes. Other manufactures include manufactured goods classified chiefly by material (except textiles) and miscellaneous manufactured articles (except apparel and clothing). <sup>b/</sup>Number of six-digit 2002 Harmonized System codes.

## Some preliminary descriptive evidence

China's Top Five Imports from SSA				
Year	HS	Share	Desc.	Group
2010	270900	0.47	Petroleum oils & oils obt. from bituminous mins., crude	Other primary
2010	740311**	0.13	Cathodes & sections of cathodes, of ref. copper, unwrought	Other manufacturing
2010	740200**	0.13	Unrefined copper; copper anodes for electrolytic refining	Other manufacturing
2010	260500	0.05	Cobalt ores & concs.	Other primary
2010	260111	0.04	Iron ores & concs. (excl. roasted iron pyrites), non-agglom.	Other primary
	Top 5,	0.82		

# Methodology

- Effect of the preferential access program on China's imports from Africa (a la Frazer and Biesebroeck, 2010)

$$\ln IMP_{cpt}^* = \beta_0^* + \beta_1^* (i.country1_c * i.product1_p * i.prd1_t)^* + \beta_2^* (i.country2_c * i.product2_p * i.prd2_t)^* + \varepsilon_{cpt}^*$$

$$DDD = \underbrace{((\ln IMP_{period2}^{PC,PP} - \ln IMP_{period1}^{PC,PP}) - (\ln IMP_{period2}^{PC,NP} - \ln IMP_{period1}^{PC,NP}))}_{\text{Preference country-DD}} - \underbrace{((\ln IMP_{period2}^{NC,PP} - \ln IMP_{period1}^{NC,PP}) - (\ln IMP_{period2}^{NC,NP} - \ln IMP_{period1}^{NC,NP}))}_{\text{Non-preference country-DD}}$$

# Methodology

- Effect of preferential market access on export sophistication and concentration

$\ln EXPY_{ct}$  (or  $\ln HHI_{ct}$ )

$$= \alpha_c + \theta_1(i.country1_c * iprd1_t) + \theta_2(i.country2_c * i.prd2_t) + k'Z + \mu'PRDUM + v_{ct}$$

- Where

$$EXPY_{ct} = \sum_{p \in P_t} S_{pct} PROD_{pt}, \quad PROD_{pt} = \sum_{i \in C_{pt}} \frac{S_{pit}}{\sum_{k \in C_{pt}} S_{pkt}} PCY_{it}$$

$$HHI_{ct} = \sum_{p=1}^m \left( \frac{IMP_{cpt}}{IMP_{ct}} \right)^2$$



# Results from core regression analysis on quantitative impact

**Table 3. Regression Coefficient Estimates: Triple Interaction Terms**

	Full Sample (1)	Middle and Low Income Countries (2)	Low Income Countries (3)
<i>i.country1*i.product1*i.prd1</i>	-0.0989*** (0.025)	-0.1142*** (0.023)	-0.0707*** (0.024)
<i>i.country2*i.product2*i.prd2</i>	-0.0884*** (0.027)	-0.1308*** (0.023)	-0.1124*** (0.022)
<i>Phase I (2005-2007): triple interaction terms</i>			
Food and Live Animals	-0.0096 (0.075)	-0.0319 (0.073)	-0.1124 (0.091)
Other Primary Products	0.1577** (0.078)	0.1401* (0.073)	0.0985 (0.070)
Textile and Apparel	-0.2347*** (0.038)	-0.2497*** (0.040)	-0.1557*** (0.041)
Chemicals, Machinery, and Transport Equip.	-0.2354*** (0.051)	-0.2286*** (0.052)	-0.1482*** (0.044)
Other Manufactures	-0.0755* (0.041)	-0.0947*** (0.034)	-0.0247 (0.038)
<i>Phase II (2008-2010): triple interaction terms</i>			
Food and Live Animals	0.0560 (0.053)	0.0581 (0.049)	-0.0573 (0.059)
Other Primary Products	0.2080*** (0.074)	0.1668** (0.071)	0.0887 (0.086)
Textile and Apparel	-0.2277*** (0.040)	-0.2844*** (0.041)	-0.2620*** (0.043)
Chemicals, Machinery, and Transport Equip.	-0.2763*** (0.062)	-0.2884*** (0.051)	-0.1271*** (0.037)
Other Manufactures	-0.0320 (0.051)	-0.0917** (0.039)	-0.0750** (0.034)
Interactive fixed effects	yes	yes	yes
Observations	9,058,455	6,805,575	2,956,905

Notes: Numbers in parentheses are robust standard errors allowing for within six-digit HS product group correlation. ' respectively.

# How can the counter-intuitive results be explained?

- Political economy perspective: preference program badly designed
- Capacity constraints: preference program doesn't matter if there are internal constraints for export expansion within SSA

# Possible explanations 1: political economy

**Table 4. Probability of Inclusion on the Preference List: Probit Regression Estimates**

	Phase I	Phase II
<i>CHRCA</i>	0.0596*** (0.014)	0.0517*** (0.009)
<i>SSARCA</i>	0.0100** (0.005)	0.0195* (0.010)
Food and Live Animals	-0.2209*** (0.030)	-0.2858*** (0.018)
Textile and Apparel	-0.1933*** (0.058)	0.1178** (0.051)
Chemicals, Machinery, and Transport Equip.	-0.5453*** (0.065)	-0.5094*** (0.051)
Other manufactures	-0.2440*** (0.056)	-0.1583*** (0.048)
Constant	-1.6625*** (0.073)	-1.2588** (0.054)
Pseudo R-squared	0.063	0.052
Observations	5,215	5,215

Notes: Numbers in parentheses are robust standard errors with product group clustering. \*\*\*, \*\*, \* significant at the 1, 5, and 10% level respectively.

# Possible explanations 2: capacity constraints

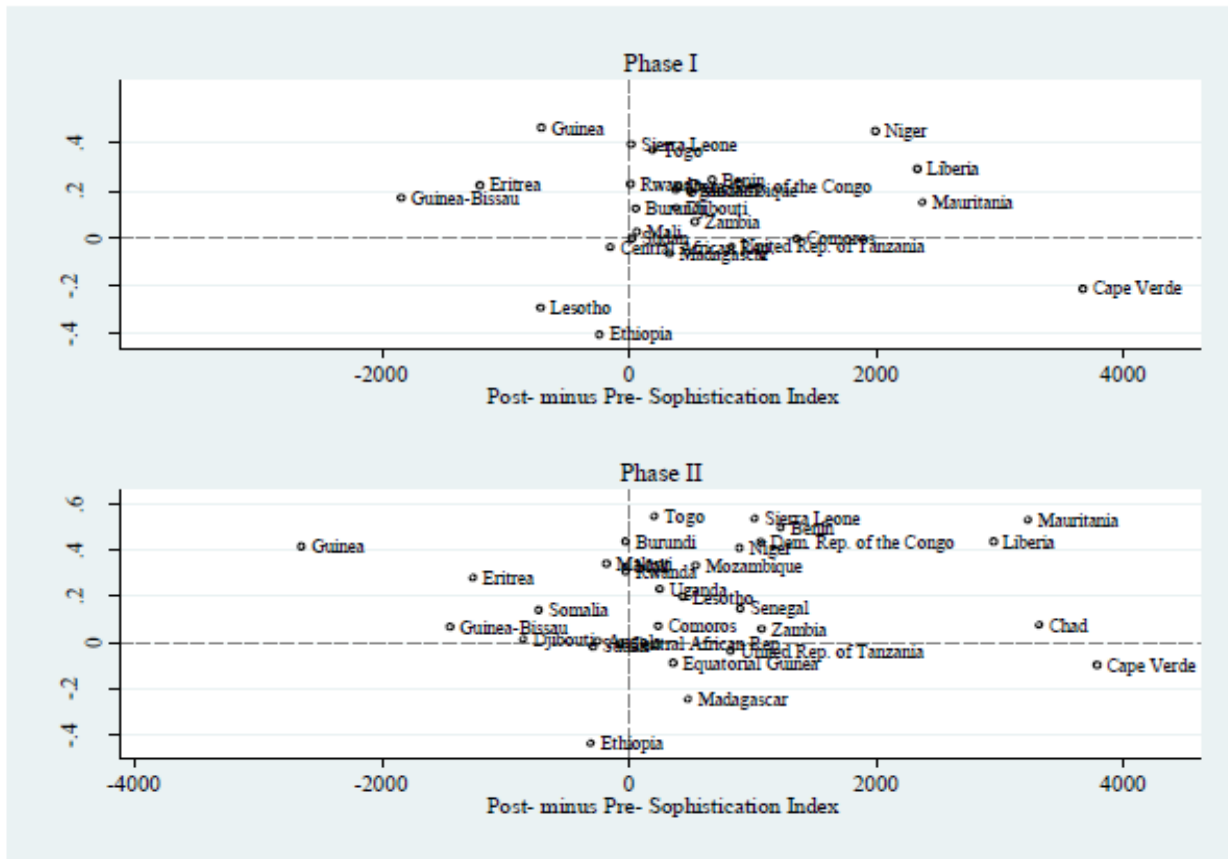
**Table 7. Regression Coefficient Estimates: Triple Interaction Terms**

	Omit zero observations pre-program (1)	Omit remaining zero observations (2)
<i>i.country1*i.product1*i.prd1</i>	-0.1011*** (0.033)	0.2629* (0.136)
<i>i.country2*i.product2*i.prd2</i>	-0.0828*** (0.022)	0.6930*** (0.144)
Observations	6,300,168	846,233

Notes: Numbers in parentheses are robust standard errors allowing for within six-digit HS product group correlation. \*\*\*, \*\*, \* significant at the 1, 5, and 10% level respectively.

# Results on product concentration and sophistication

Figure 3. Change in Product Concentration and Export Sophistication Indices



Note: Positive values for the vertical axis indicate a less concentrated export structure while positive values for the x-axis indicate increased export sophistication post-program implementation.

# Results on product concentration and sophistication

**Table 8. Product Sophistication and Concentration Regressions**

	Dependent Variable: nat. log EXPY			Dependent Variable: HHI		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>i.country1</i> * <i>i.prd1</i>	0.1447 (0.096)	0.1616* (0.094)	0.1523 (0.094)	-0.1277*** (0.041)	-0.1226*** (0.041)	-0.1317*** (0.041)
<i>i.country2</i> * <i>i.prd2</i>	0.1518 (0.128)	0.1591 (0.126)	0.1512 (0.126)	-0.1861*** (0.051)	-0.1839*** (0.050)	-0.2035*** (0.052)
nat. log real GDP per capita		0.4696* (0.256)	0.4516 (0.288)		0.1429 (0.090)	0.1803** (0.079)
log population			0.0880 (0.300)			0.2415 (0.173)
rule of law			0.1422 (0.150)			0.0148 (0.044)
Country-specific fixed effects	yes	yes	yes	yes	yes	yes
Period-specific fixed effects	yes	yes	yes	yes	yes	Yes
R-squared, overall	0.019	0.709	0.731	0.027	0.192	0.308
F-statistics	3.990***	3.820***	4.600***	2.750***	2.930***	3.070***
Observations	1,404	1,404	1,404	1,404	1,404	1,404
Number of countries	156	156	156	156	156	156

Notes: Numbers in parentheses are robust standard errors with country clustering. \*\*\*, \*\*, \* significant at the 1, 5, and 10% level respectively.

# Concluding remarks

- No evidence yet that the preference program was clearly beneficial for SSA countries
  - Some evidence of reduction in export concentration; also for export sophistication for individual SSA countries
- No clear indication that the program was designed following political economy considerations
  - However, exports of non-preference receiving products of preference receiving countries often exceed those of preference receiving products
  - There appear to be clear capacity constraints: moving from zero to positive exports is not easy