

China Africa relationship: good for both parts?

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Abstract

This paper examines the determinants of the recent surge in China-Africa trade linkages. For this purpose, we analyze a unique bilateral trade data set between China and African countries from 1997 to 2004. We study the structure and composition of China's increasing imports and exports to Africa. We show that China is importing a growing amount of raw materials from an increasing number of African countries. At the same time China products are being increasingly exported to a growing number of African nations. Moreover, we employ the standard gravity model to identify government quality of the China's African trade partners. As a benchmark we run the same regressions on other African major trading partners (France, Germany, UK, and USA). We conclude that China is the only country which is consistently willing to trade with African countries that have a lower political standing. By doing so; it fills a gap left open by the other major world economies, and might even play a key role in the future development of these countries.

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1 Introduction

During the last two decades emerging market economies have increasingly become major players at the global level. For instance, the five largest Emerging economies, comprising of Brazil, China, India, Mexico, and Russia, now account for about 20 percent of the world output and 27 percent of global investment flows in PPP terms. As a result, these countries have intensified their trade (and financial linkages) with developed countries but also with the least developing countries (LDCs).

One such a linkage that has received much attention in recent years is the China-Africa relationship. For instance, China's shares in Africa's trade have risen dramatically from less than one percent in the 1980s to about 13 percent and 11 percent in 2009, respectively for Africa's import and export of good and services. Moreover, and most importantly, China now accounts for more than any European individual country in Africa's trade.

In light of these considerations, this paper aims to provide a comprehensive analysis of the surge in China-Africa trade relations. In particular, we explain the driving forces of this linkage and which strategies have been used by Chinese authorities and business players. We use a very complete dataset to get a big and very detailed picture of the trade relations between China and each of the African countries. By looking for trends both at the aggregate level and at the disaggregate level, we provide a comprehensive overview of our results.

There has been a growing literature on the relationship between Africa and China (see for example, Zafar (2007), Dumludag et al. (2007), Obstfeld (2009), and Pilling (2009) . Our paper contributes to this literature in a number of ways. First, we examine a detailed and unique trade transaction data between China and each of the African countries over the period 1997 and 2004. The data set comes from the Chinese custom union. It consists of trade in goods grouped according to an 8 digit HS-code between each Chinese city and each of 59 African nations. With such a rich data set we are able to provide a better understanding of the sectorial interdependence between China and Africa.

For the purpose of the analysis we combine a descriptive analysis with an econometric framework. The descriptive analysis allows to identify the size and the dynamics of the goods that turn to be important for the China-Africa trade linkages. In the econometrics analysis, we run a number of gravity model regressions. In particular, we regress the China-Africa trade data on a number of indicators including the quality of government, income and physical distance between China and any African country. As a benchmark we use similar regressions to examine the driving forces of trade between African countries and their traditional trading partners including three European countries (France, Germany and UK) and the US. The results point to different relationships between government quality in African countries and China's import and export with these countries, respectively. More-

over, we find significant differences between government quality in China's and European import African partners.

The rest of this paper is divided as follows. Next section introduces and describes the data. We provide several key charts and comments of the data, that allow the description of trends and focus on the most interesting anomalies. In this section we ask the questions that we will focus on in part three. In part three we introduce the logic of the gravity model, and we show our results. Finally, section 4 concludes.

2 Stylized facts on China-Africa trade dynamics

2.1 Facts at the aggregate level

Figure (1) reports the value of Africa's exports and imports with China. Figures (2) and (3) report the shares of the top six African export and import partners, respectively. The data show a spectacular growth of China-Africa trade over the period 1980 – 2009. In particular, the values of China-Africa exports and import surged from US\$ 676.5 and 227.4 millions in 1981 to 43.3 and 52.9 *billions* in 2008. Moreover, Africa has had a trade deficit towards China until 2000. In this year for the first time, Africa reached a trade surplus vis-à-vis China. Starting in 2004 Africa constantly accumulates trade surpluses versus China until 2009, when a trend reversal occurs, coinciding with the financial crisis.¹

Most importantly China's export and import shares have increased by factors of about 168 and 5.4 respectively for African export and import. Furthermore, China has become the most important exporter to Africa whereas Germany, UK and US now play a relatively minor role in Africa (Figure 3). In the same way the rise of China import has led China to become the second largest importer from Africa, after the United States. To what extent has China-Africa trade surged in recent years?

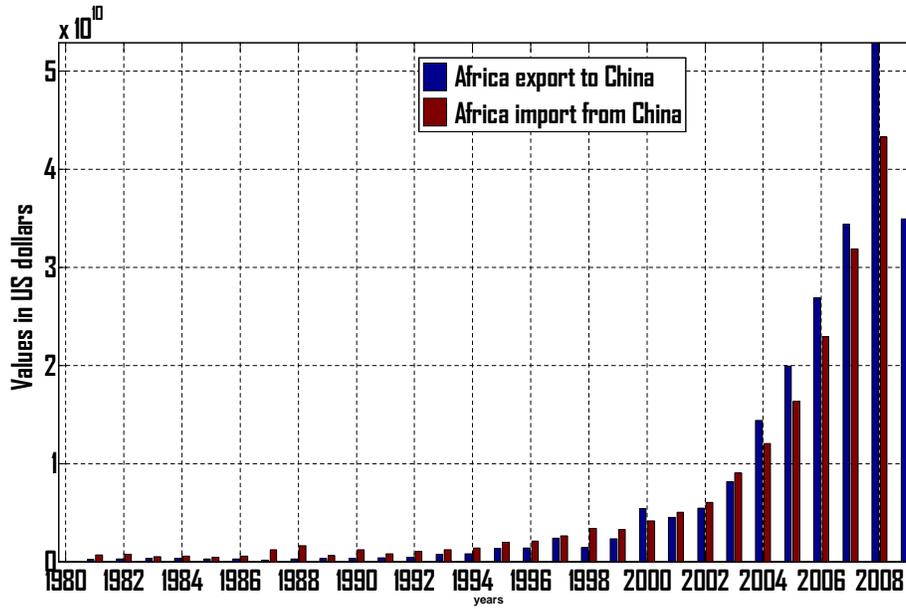
Moreover, Figure (1) shows that while China shares of Africa trade have risen considerably since 1980, China trade deficit with Africa has widened in recent years.²

One explanation for the sharp rise of China import from Africa could be that as China's economy is growing faster in recent years, it is requiring more raw materials. This demand is thus met by Africa's comparative advantage in these products. Moreover, as China starts importing from Africa it discovers a new potential market for Chinese products. This factor may explain the recent China's export growth to Africa. This tightening of the trade relation between China and Africa could be potentially very positive for both ends. In particular,

¹However, China trade (imports plus exports) with Africa only accounts for about six percent of Africa GDP (in 2007).

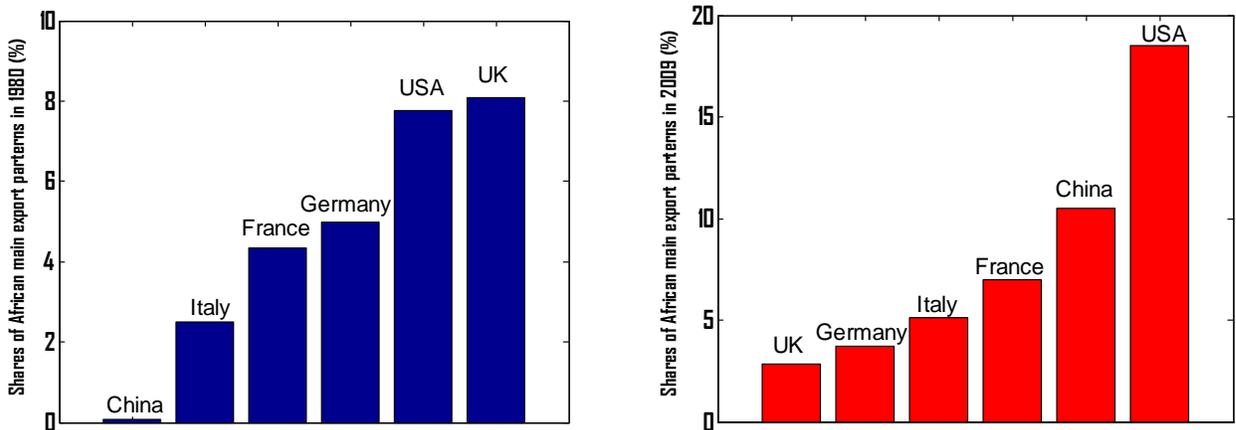
²However, Africa only accounts for less than five percent of China's total trade with the world.

Figure 1: China shares of Africa Trade



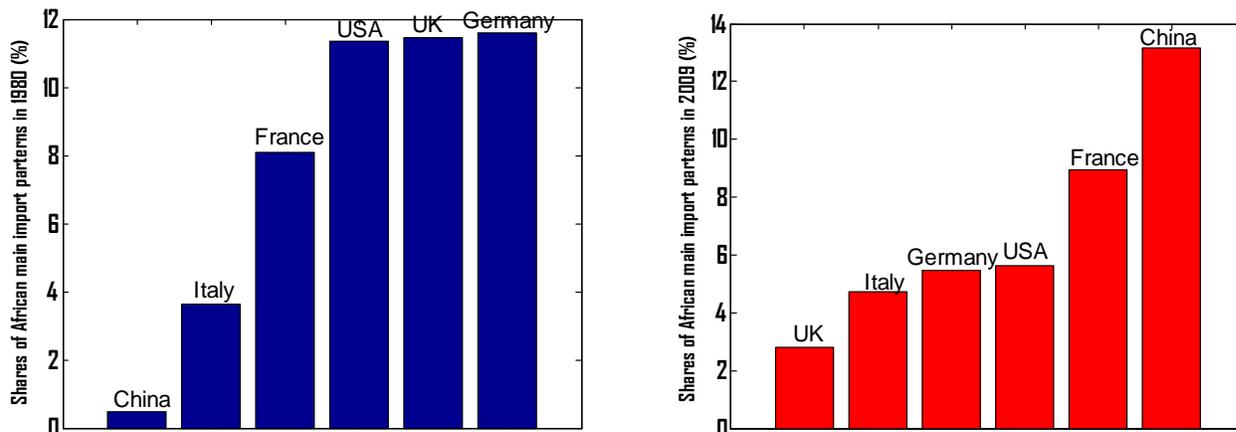
Sources: IMF, Direction of Trade and Statistics

Figure 2: Shares of African main export partners in 1980 and 2009



Notes: The shares are obtained as the ratio of export values of the main African export partners by the value of African total export to the world. Export shares in 1980 (2009) are plotted on the left (right) panel. Sources: IMF, Direction of Trade and Statistics

Figure 3: Shares of African main import partners in 1980 and 2009



Notes: The shares are obtained as the ratio of import values of the main African import partners by the value of African total import to the world. Import shares in 1980 (2009) are plotted the left (right) panel. Sources: IMF, Direction of Trade and Statistics

China's benefits from this relationship is twofold. On one hand, China is finding the necessary raw materials to fuel its growth. On the other hand, it is conquering a new export market. In the same way, Africa could benefit from several ways. One documented advantage from this interchange is the technology spillover (see for instance Obstfeld (2009) and Pilling (2009)). Section 3 explores other gains that Africa may derive from this trade. In the meantime, we provide a disaggregated analysis of the Africa-China trade dynamics.

2.2 Facts at a disaggregate level

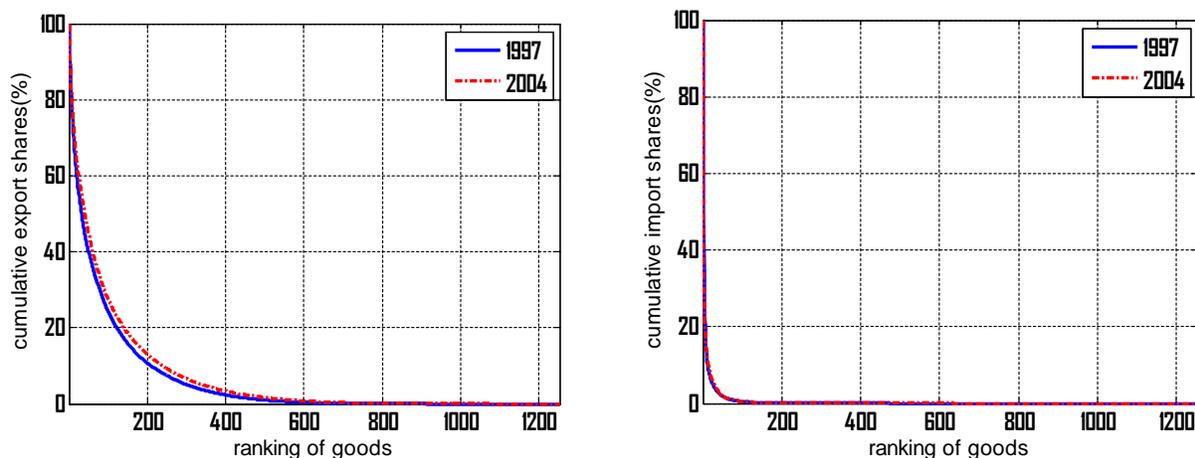
We use disaggregated bilateral trade data between China and each of 59 African countries in 1997 – 2004. For simplicity of the analysis, from here on we analyze the data in terms of China's imports and exports with Africa. The data come from the China customs statistics Beijing. The level of disaggregation is a HS 8-digit good codes amounting to about 10,000 products. The data are in current US dollars and when necessary we use the US CPI series to convert them in real terms.

The main focus of this section is to examine whether China-Africa trade growth has been characterized by diversification or specialization across products and across African countries. In order to do so we aggregate the HS 8-digit good codes into a HS 4-digit classification. This leads to 1252 categories of products.

2.2.1 Diversification or concentration across products

In a first exercise we compute the share of each of the 1252 products for exports and imports in each year and rank them in ascending order. Subsequently, we compute the cumulative shares across the 1252 goods in each year. Figure (4) reports the inverse of the cumulative shares for China export and import in 1997 and 2004.

Figure 4: Inverse Cumulative Shares of Trade



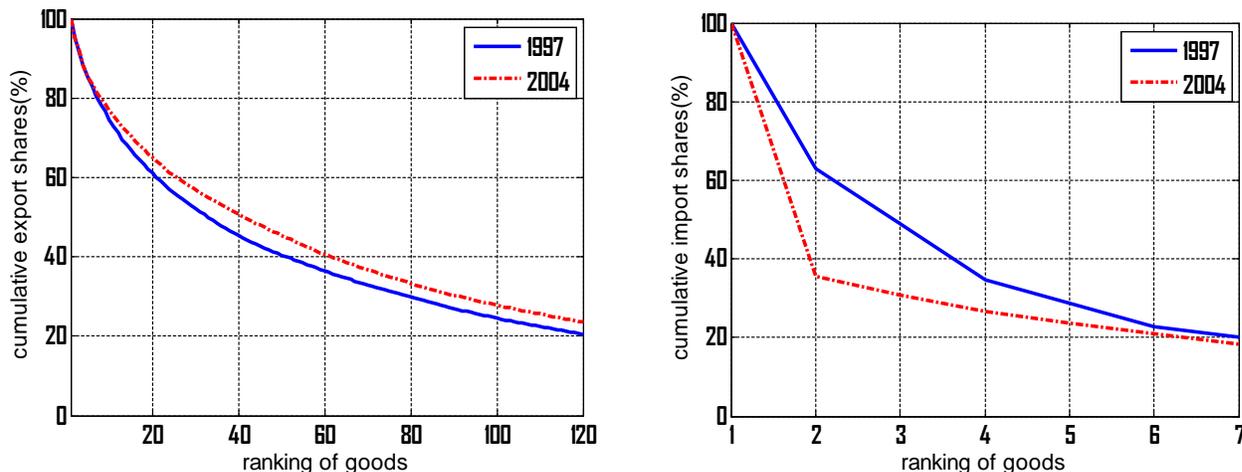
Notes: Inverse cumulative export shares (left) and inverse cumulative import shares (right)

Irrespective to the year considered, the data show that the inverse cumulative shares curve is closer to the origin for China import products from Africa than for China export products to Africa. This observation implies that China export products to Africa are more diversified than China import products from Africa. In particular, the top seven African goods imported by China account for about 80 percent of China's imports from Africa. As opposed to this, it takes about 120 goods to make up the same percentage of China's exports to Africa.

We shift our focus to the dynamics of the distribution of China's export and import products. Figure (4) does not provide a clear conclusion to whether China-Africa trade has become more specialized across products. In order to get a better insight we concentrate on inverse cumulative shares of goods that account for 80 percent of export and import in 1997. Figure (5) displays the results.

Comparing the inverse cumulative share curves between 1997 and 2004 shows a clear shift in the distribution across the products. Over just eight years the exports of China became more diversified, while Chinese imports became sensitively more specialized. This shift in the distribution of China-Africa trade products is in contract with the shift in the distribution of the overall China trade with the world. In particular, Amiti and Freund (2008) find that

Figure 5: Cumulative Shares of Trade, Top 80 percent



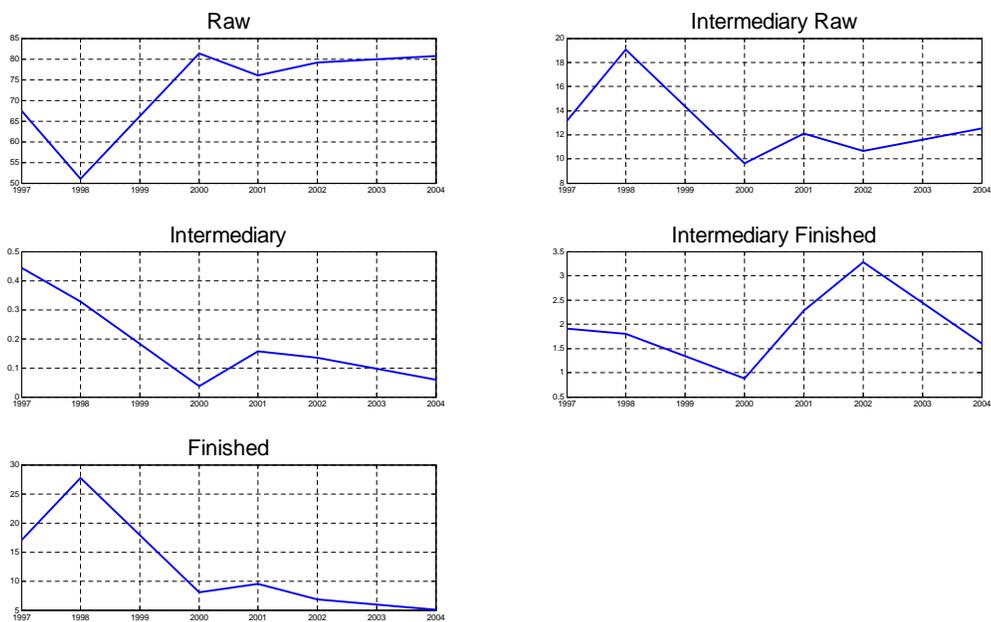
Notes: inverse cumulative export shares (left) and inverse cumulative import shares (right)

China export to the world has become more specialized between 1992 and 2005.

This data paints a picture in evolution. The clear trend of specialization in Chinese imports that is illustrated by Figure (4) can be explained by Figure (6). Here we operate a subdivision of imports in five major categories ranging from raw materials to finished goods, with three intermediate classes. It is immediately evident how the raw materials have gone from barely half of the imports to a share of 80 percent. This movement is matched by a parallel drop in finished goods. This fall, together with the relative drops in intermediary goods, sheds light over the increasing specialization of Chinese imports from Africa. It should be also noticed how the scales of the different goods are very different. In particular raw materials, which have always played a major role in China's imports, are increasing more than proportionally with the other categories. This fact also contributes to concentration of trade.

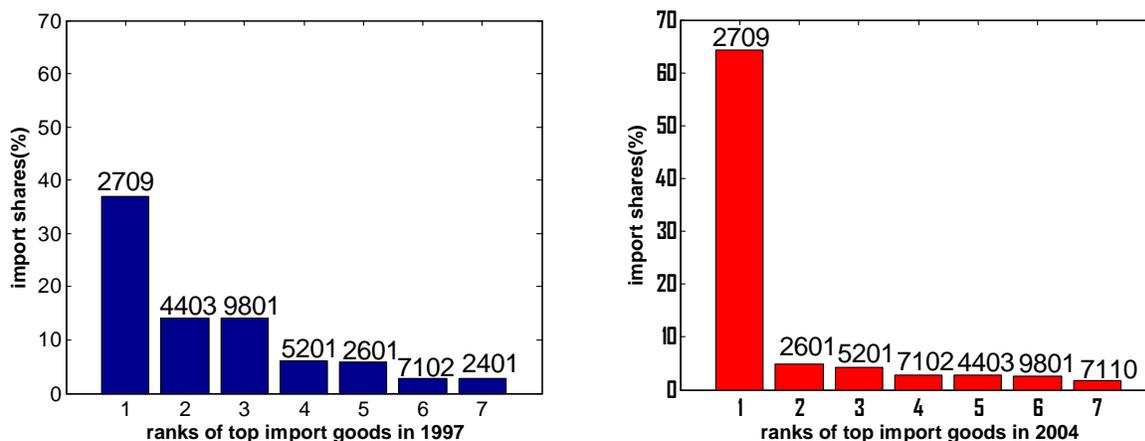
The great detail of our dataset allows us to dig deeper into which specific goods are leading the trend. The following figures show a snapshot of the most important Chinese imported (Figure 8) and exported (Figure 7) goods in 1997 and in 2004. We can see that in 1997 as in 2004, the top seven goods are all raw materials. This is consistent with our previous analysis. Looking at the dynamics of Chinese imports we see that overall the types of goods did not change between the years. However the most relevant factor that affected the distribution of China's imports is the share of crude oil (and its basic derivatives) in the total imported goods from Africa. More specifically, oil used to make up about 35 percent of Chinese imports, and by the end of our data it reaches two thirds of all China's imports from Africa. Going more in detail in the evolution of Chinese imports, we find that mineral

Figure 6: China import dynamics: raw vs finished goods



goods now make up the second most important share of imports from Africa. In the same period wood, which used to play the second dominant role, is now only fifth. Finally, crude tobacco is no longer among the top seven imports to China.

Figure 7: **Top 7 import goods**

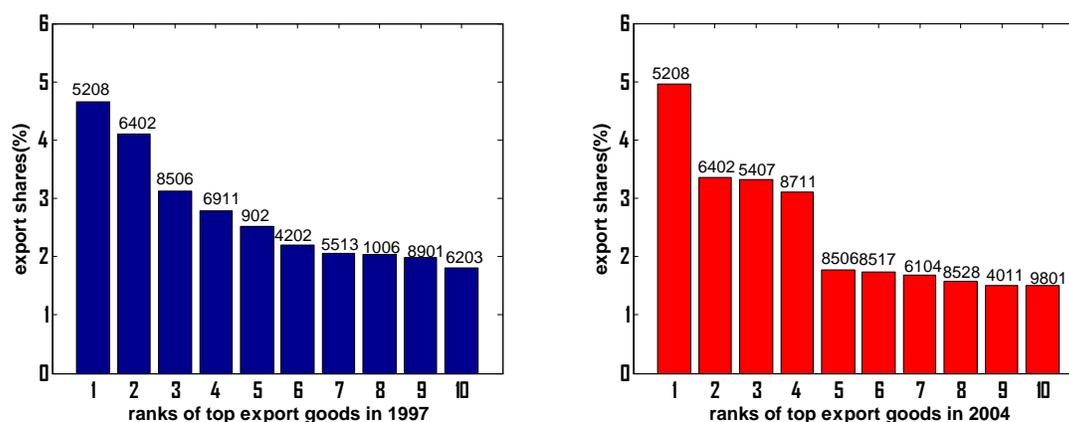


Notes: 2709=Petroleum oils and oils obtained from bituminous minerals, crude;4403=Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared;9801=Commodities not classified according to kind; 5201=Cotton, not carded or combed;2601=Iron ores and concentrates, incl roasted iron pyrites;7102=Diamonds, whether or not worked, but not mounted or set; 2401=Un-manufactured tobacco; tobacco refuse; 7110=Platinum, unwrought or in semi- manufactured forms, or in powder form

On the other hand Figure (8) describes a much different scenario for China export products to Africa. To start with, all the most important exports from China to Africa are manufactured goods, in both years. Moreover, while the percentages of the most relevant 10 goods are about similar between 1997 and 2004, the composition of this top 10 list changed considerably. With the exception of the first three goods, all the old most important goods are no longer so relevant just eight years after. Nevertheless, the first two most important goods still maintain their place in the ranking. These two are clothing and footwear. Examples of goods that entered this ranking are different types of clothing (i.e. women clothing), transportation vehicles, televisions. Instances of goods that are no longer so important are housing articles, trunks and traveling bags.

This change in the distribution calls for a deeper study of the data. The diversification of China exports is also influenced by the introduction of new products. Figure (9) shows the top 10 most relevant new products from 1997 to 2004. The right panel of Figure (9) shows that these products were not really new in 2004 but they have been introduced by Chinese firms to Africa at some earlier point in time. Specifically, goods like knitted fabrics and semi finished products of iron have started suddenly, after the new decade. On the other hand,

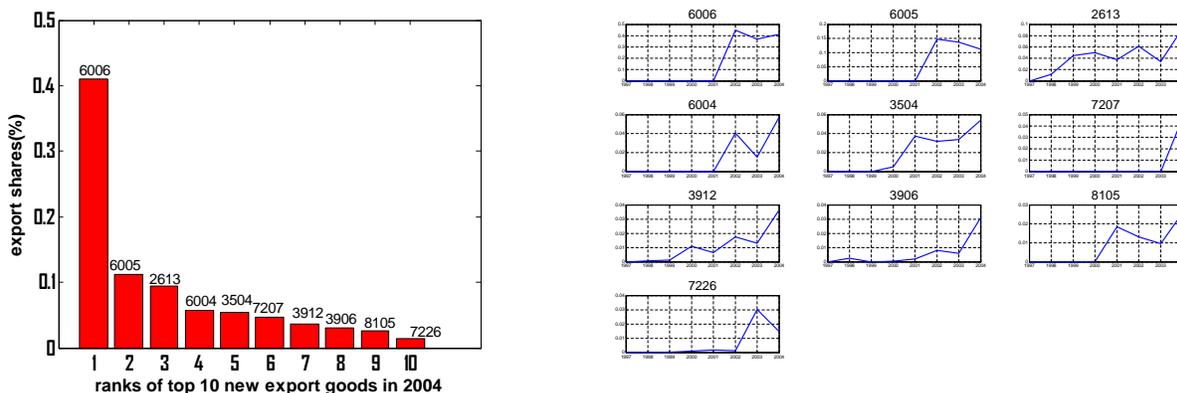
Figure 8: Top 10 export goods



Notes: HS definitions of these goods are as follows: 5208=Woven fabrics of cotton, with $\geq 85\%$ cotton, weight $\leq 200\text{g/m}^2$; 6402=Other footwear with outer soles and uppers of rubber or plastics; 8506=side-cars; Primary cells and primary batteries; 6911=Tableware, kitchenware, other household articles & toilet articles, of porcelain or China; 902=Tea, whether or not flavoured; 4202; 4202=Trunks, suit-cases and similar containers; travelling-bags, wallets and similar containers; 5513= 'Woven fabrics, with $< 85\%$ synthetic staple fibres, mixed with cotton, weight $\leq 170\text{g/m}^2$ '; 1006=Rice; 8901=Cruise ships, excursion boats, ferry-boats, cargo ships, barges & similar vessels for the transport; 6203=Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches & shorts, not knitted or; 8517=Electrical apparatus for line telephony or line telegraphy; videophones; 5407=Woven fabrics of synthetic filament yarn, incl woven fabrics obtained from materials of heading No 5404; 8711=Motorcycles & cycles fitted with an auxiliary motor, with or without side-cars; 6104=Women's or girls' suits, ensembles, trousers, bib & brace overalls, breeches & shorts, etc, knitted or crocheted; 8528=Television receivers (incl video monitors and video projectors); 4011=New pneumatic tyres, of rubber; 9801=Commodities not classified according to kind'

ores and cellulose have increased slowly, in a gradual manner, over the whole time span we study.

Figure 9: Top 10 new export goods in 2004



'6006' = 'Other knitted or crocheted fabrics'; '6005' = 'Warp knit fabrics, other than those of heading 6001 to 6004'; '2613' = 'Molybdenum ores and concentrates'; '6004' = 'Knitted or crocheted fabrics, width>30cm, with>=5% elastomeric yarn or rubber thread, excl heading 6001'; '3504' = 'Peptones and their derivatives; other protein substances and their derivatives; hide powder'; '7207' = 'Semi-finished products of iron or non-alloy steel'; '3912' = 'Cellulose and its chemical derivatives, in primary forms'; '3906' = 'Acrylic polymers in primary forms'; '8105' = 'Cobalt mattes & other intermediate products of cobalt metallurgy; cobalt & articles thereof, incl'; '7226' = 'Flat-rolled products of other alloy steel, width<600mm'

In this section we found evidence that China has concentrated its imports from Africa over the period of time studied. However the exports of China to Africa have followed a different dynamics, as new products entered the African market. In the next section it is interesting to look into the geographical distribution of trade. Does China trade with a limited number of African countries? Or in a specific region? Or even, is China targeting the natural resources of a wider array of African regions? The next section addresses these issues.

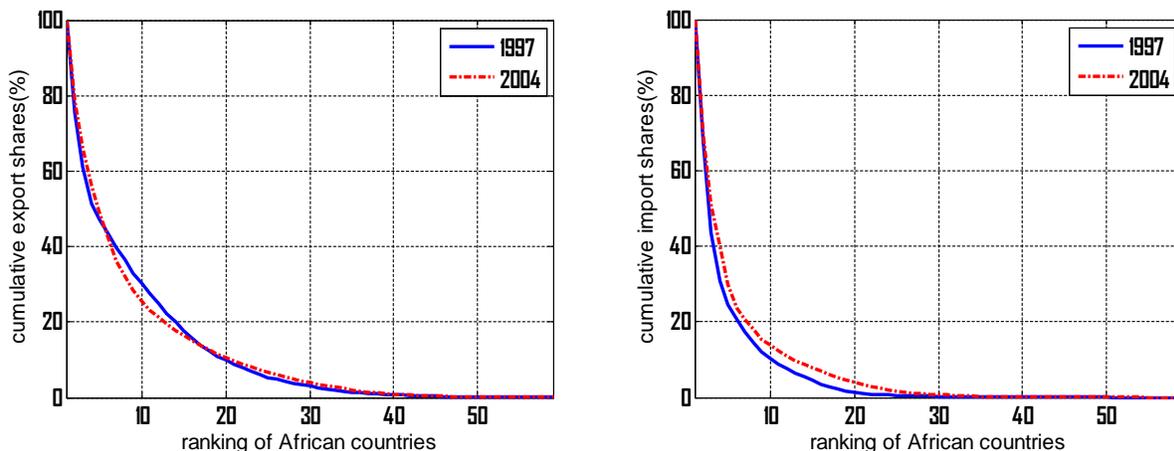
2.2.2 Diversification or concentration across African countries

This section describes the geographical distribution of Chinese trade on the African territory. We study whether China's trade with Africa is concentrated with a few countries or if it is widespread across the continent in the period from 1997 to 2004. For this purpose we aggregate the value of China's imports and exports across the 1252 goods and retain the dynamics of the aggregate at the country level. .

In particular for each year we compute the share of each of the countries for exports and imports and rank them in ascending order. Subsequently, we compute the cumulative shares

across the 59 countries in each year. Figure (??) reports the inverse of the cumulative shares for China exports and imports in 1997 and 2004.

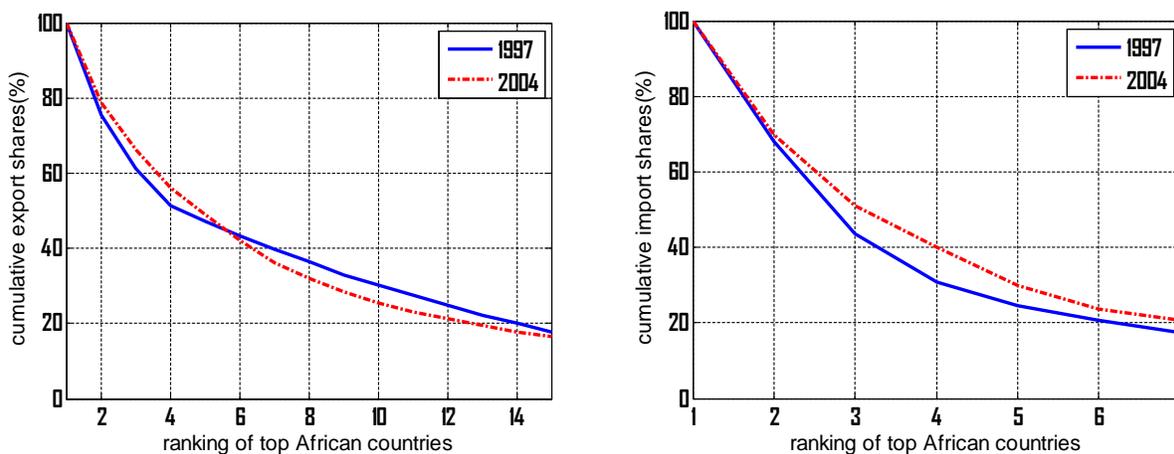
Figure 10: **Cumulative Shares of African Countries**



Notes: export shares (left) and import shares (right)

The data show that the China's import curve is closer to the origin. This observation suggests that while exports from China to Africa are well distributed across countries, imports of China are very concentrate. Moreover, Figures (11) and (10) show that the import curve shifts slightly upwards. This trend implies that China's import goods became more diversified across countries over the range of time 1997-2004.

Figure 11: **Cumulative Shares of Trade, top 80 percent countries**



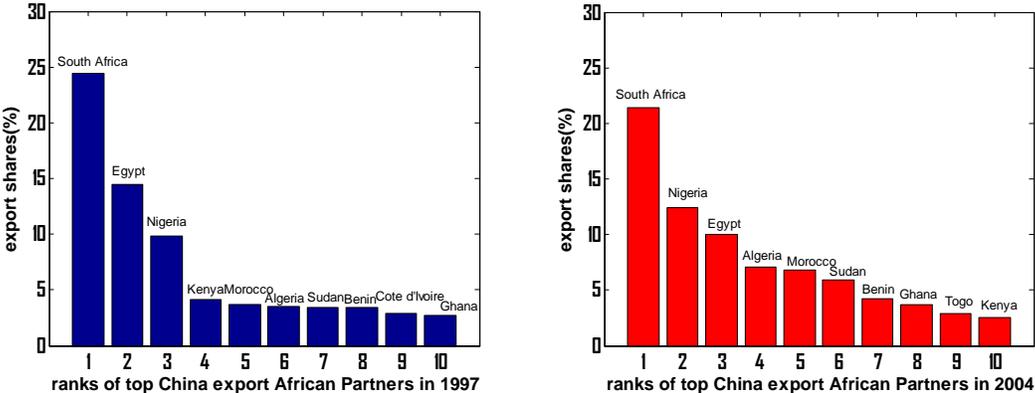
Notes: export shares (left) and import shares (right)

Our earlier findings show that China's imports from Africa became more concentrated on oil and mineral across our time span. Therefore the results of Figures (11) and (??)

pointing to the diversification across African countries, look interesting. Combining these two findings, it can be deduced that China’s need for raw materials increased in these eight years, therefore it started importing these goods from more and more countries in Africa.

We proceed to show the main African trade partners of China, and to check how these have changed over the years. Figures (??) and (13) display the top 10 China’s export and import African partners in 1997 and 2004. While the exporting countries remained quite similar over the years, the import countries have drastically changed.

Figure 12: **Top 10 china export african partners in 1997**



In particular, the biggest China’s import partner used to be South Africa. However in 2004, Angola, which used to be a minor exporter to China, became the main partner. In addition Egypt, which used to be second, completely disappeared from the top 10 list altogether. It is very possible that this change was due to the concentration of China’s import toward oil and minerals. To complete the picture of the data, we just show the six new countries that became China’s import partners in the course of the eight years under study. These are shown in Figure (14).

Figure 13: Top 10 china import african partners in 2004

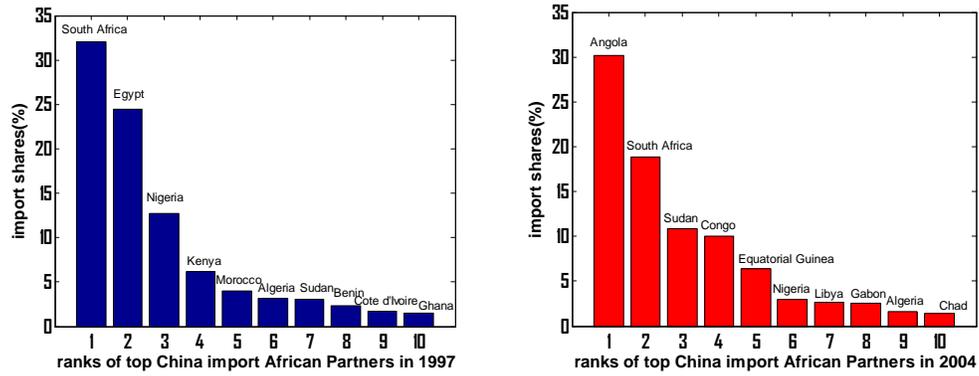
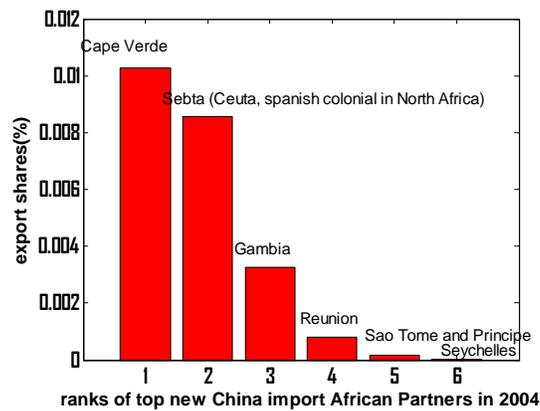


Figure 14: Top 10 new import partners in 2004



3 Empirical Model and Results

The figures above have highlighted several trends and motivate some questions. For instance, why does China import mainly from a few countries, while it exports more widely? What are the specifics of a typical African trade partner of China? How does the search for natural resources affect the choice of China’s trade partners? In order to shed light on these questions, we use the gravity model. Specifically, in addition to the standard gravity model variables, we are interested in the links between governance quality variables and China Africa trade. In order to place our analysis in a broader perspective we apply the same model to the trade of Africa with other major trade partners (France, Germany, UK, USA).

3.1 Model

We use an extended version of the gravity model employed in Rose (2004):

$$\ln(X_{i,j,t}) = \beta_0 + \beta_1 \ln(D_{i,j}) + \beta_2 \ln(Y_i Y_j / Pop_i Pop_j)_t + \beta_3 \ln(Y_i Y_j)_t + \gamma Governance_{j,t} + \varepsilon_{i,j,t}, \quad (1)$$

where

- $X_{i,j,t}$ denotes real export or import value of country i , ($i = China, France, Germany, UK, USA$) with an African country j at time t ; we use real aggregate trade values across the products using data from the China custom statistics and the IMF, DOTS. We also use disaggregated data on trade across the five sub-categories discussed above the text: raw material, finished goods, and three intermediate classes;
- $D_{i,j}$ is physical distance between country i and an African country j ; we use distance data available at the web-site of CEPII;
- Y_i and Y_j are real income for country i and an African country j , respectively; we use real GDP series in 2000 dollar. The data is obtained from World Bank database, *WDI* 2008;
- Pop_{ch} and Pop_j are total population of country i and an African country j , respectively; The data is obtained from World Bank database, *WDI* 2008;
- $\varepsilon_{i,j,t}$ is the error term;

- $Governance_{j,t}$ is a measure of government quality in an African country j at time t . We use six measures of governance quality provided by Kaufmann et al. (2009): Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. Kaufmann et al. (2009) report estimated values for these governance indicators in the range -2.5 to 2.5 in 1996 – 2008, where higher values indicate better governance outcomes.³

In Eq. (1) $D_{i,j}$, $\ln(Y_i Y_j / Pop_i Pop_j)_t$, and $\ln(Y_i Y_j)$ represent standard regressors in the gravity model analyzed in the literature (see, for instance,). In particular, the gravity model predicts that the closer are countries the more trade transactions they will do such that we would expect the sign of β_1 to be negative. Moreover, the gravity theory suggests that trade between two countries would be large the larger is either economy. So we would expect the sign of β_2 and β_3 to be positive. Finally, Eq. (1) includes an unusual gravity model regressor, i.e. $Governance_{j,t}$, which is our variable of interest. By doing so we would like to test whether countries that with better trade less with China. In the next section we will analyze data at an aggregate and disaggregated level respectively.

3.2 Results

For the aggregate trade gravity equations we use data from 1996 to 2006, while for disaggregated trade we use data from 1997 to 2004.⁴ In addition, data availability forces us to perform the regression analysis on 53 countries.

3.2.1 Results using aggregate export and import of the products

Table (1) reports estimated results for Eq. (1) on China export and import with Africa using the Seemingly Unrelated Regression (SUR) method.

The results show that the gravity model variables are most statistically significant for

³Following is a short summary of the governance variables as from Kaufmann et al. (2009) 1) Voice and Accountability (voice) – broadly defined as the voice that each citizen has in the making of the government; 2.) Political Stability and Absence of Violence (pstab) – the stability of the government and the perceived danger that this will be overthrown violently; 3.) Government Effectiveness (gov) – looking at the quality of the government policies; and their effectiveness and credibility; 4.) Regulatory Quality (regulatory) – the ability of the government to pass a regulatory framework to regulate private property; 5.) Rule of Law (Rule) – summarizing the perceptions on the credibility and enforcement of contracts; and 6.) Control of Corruption (Corruption) – looking at the perception of government power yielded to defend private interests and the extent of private elites.

⁴Due to data availability on governance quality the years 1997,1999 and 2001 were not considered in the aggregate regression. For the same reason, in the disaggregated regression for 1997 we use data on governance for 1996. Observations for the years of 1999 and 2001 are dropped from the disaggregated regression.

Table 1: Regressions analysis on aggregate China export and import

Equation	Obs	Parms	RMSE	R-sq	chi2	P	Equation	Obs	Parms	RMSE	R-sq	chi2	P
lRexp	318.00	4.00	1.87	0.21	84.28	0.00	lRexp	318.00	4.00	1.79	0.27	120.32	0.00
lRimp	318.00	4.00	4.39	0.15	55.72	0.00	lRimp	318.00	4.00	4.46	0.12	42.75	0.00
Coef.	Std.	Err.	z	P>z	[95%	Conf.	Coef.	Std.	Err.	z	P>z	[95%	Conf.
lRexp							lRexp						
dist	-3.84	0.71	-5.44	0.00	-5.23	-2.46	dist	-3.72	0.67	-5.54	0.00	-5.04	-2.41
pstab	0.00	0.11	0.02	0.99	-0.22	0.22	regulatory	0.88	0.16	5.34	0.00	0.55	1.20
ly	0.46	0.08	6.01	0.00	0.31	0.61	ly	0.48	0.07	6.77	0.00	0.34	0.62
lyp	-0.22	0.09	-2.36	0.02	-0.41	-0.04	lyp	-0.22	0.09	-2.43	0.02	-0.39	-0.04
constant	28.10	8.01	3.51	0.00	12.40	43.80	constant	26.25	7.68	3.42	0.00	11.20	41.30
lRimp							lRimp						
dist	-2.36	1.65	-1.43	0.15	-5.60	0.88	dist	-3.00	1.67	-1.80	0.07	-6.28	0.27
pstab	-0.91	0.27	-3.43	0.00	-1.43	-0.39	regulatory	0.23	0.41	0.57	0.57	-0.57	1.03
ly	0.79	0.18	4.45	0.00	0.44	1.14	ly	0.93	0.18	5.24	0.00	0.58	1.28
lyp	0.10	0.22	0.46	0.65	-0.33	0.53	lyp	0.04	0.22	0.18	0.86	-0.40	0.48
constant	-9.99	18.75	-0.53	0.59	-46.74	26.75	constant	-9.41	19.10	-0.49	0.62	-46.84	28.03
Equation	Obs	Parms	RMSE	R-sq	chi2	P	Equation	Obs	Parms	RMSE	R-sq	chi2	P
lRexp	304.00	4.00	1.81	0.21	83.15	0.00	lRexp	318.00	4.00	1.87	0.22	87.16	0.00
lRimp	304.00	4.00	4.39	0.10	34.68	0.00	lRimp	318.00	4.00	4.43	0.13	47.58	0.00
Coef.	Std.	Err.	z	P>z	[95%	Conf.	Coef.	Std.	Err.	z	P>z	[95%	Conf.
lRexp							lRexp						
dist	-4.13	0.70	-5.91	0.00	-5.50	-2.76	dist	-3.97	0.70	-5.64	0.00	-5.34	-2.59
corruption1	0.35	0.17	2.09	0.04	0.02	0.69	voice1	0.22	0.14	1.51	0.13	-0.07	0.50
ly	0.40	0.07	5.40	0.00	0.26	0.55	ly	0.47	0.07	6.27	0.00	0.32	0.61
lyp	-0.23	0.09	-2.53	0.01	-0.41	-0.05	lyp	-0.23	0.09	-2.43	0.02	-0.41	-0.04
constant	33.93	8.05	4.22	0.00	18.16	49.70	constant	29.04	8.00	3.63	0.00	13.36	44.73
lRimp							lRimp						
dist	-3.28	1.69	-1.94	0.05	-6.61	0.04	dist	-2.61	1.67	-1.56	0.12	-5.89	0.66
corruption	-0.72	0.41	-1.75	0.08	-1.53	0.09	voice1	-0.74	0.34	-2.14	0.03	-1.41	-0.06
ly	0.76	0.18	4.16	0.00	0.40	1.11	ly	0.90	0.18	5.08	0.00	0.55	1.24
lyp	0.00	0.22	0.00	1.00	-0.44	0.44	lyp	0.05	0.22	0.24	0.81	-0.38	0.49
constant	2.11	19.51	0.11	0.91	-36.13	40.34	constant	-12.11	19.01	-0.64	0.52	-49.38	25.15
Equation	Obs	Parms	RMSE	R-sq	chi2	P	Equation	Obs	Parms	RMSE	R-sq	chi2	P
lRexp	315.00	4.00	1.82	0.23	93.85	0.00	lRexp	318.00	4.00	1.79	0.27	120.32	0.00
lRimp	315.00	4.00	4.40	0.12	44.14	0.00	lRimp	318.00	4.00	4.46	0.12	42.75	0.00
Coef.	Std.	Err.	z	P>z	[95%	Conf.	Coef.	Std.	Err.	z	P>z	[95%	Conf.
lRexp							lRexp						
dist	-3.80	0.68	-5.56	0.00	-5.14	-2.46	dist	-3.72	0.67	-5.54	0.00	-5.04	-2.41
rule	0.48	0.15	3.17	0.00	0.18	0.78	government	0.88	0.16	5.34	0.00	0.55	1.20
ly	0.47	0.07	6.37	0.00	0.32	0.61	ly	0.48	0.07	6.77	0.00	0.34	0.62
lyp	-0.22	0.09	-2.43	0.02	-0.40	-0.04	lyp	-0.22	0.09	-2.43	0.02	-0.39	-0.04
constant	27.66	7.84	3.53	0.00	12.30	43.02	constant	26.25	7.68	3.42	0.00	11.20	41.30
lRimp							lRimp						
dist	-2.84	1.65	-1.71	0.09	-6.08	0.41	dist	-3.00	1.67	-1.80	0.07	-6.28	0.27
rule1	-0.79	0.37	-2.15	0.03	-1.51	-0.07	government	0.23	0.41	0.57	0.57	-0.57	1.03
ly	0.85	0.18	4.80	0.00	0.50	1.20	ly	0.93	0.18	5.24	0.00	0.58	1.28
lyp	0.00	0.22	0.01	0.99	-0.43	0.43	lyp	0.04	0.22	0.18	0.86	-0.40	0.48
constant	-7.13	18.97	-0.38	0.71	-44.30	30.05	constant	-9.41	19.10	-0.49	0.62	-46.84	28.03

Notes: lRexp (lRimp) is logarithm of real aggregate china export (import); dist is log of physical distance, ly is log of product income and lyp is log of product of per capita income. Estimation results are based on data from China custom statistics, in 1997-2004.

export. For instance, distance is negative and explains export significantly while it is not statistically significant for import. The product of aggregate income is positive and significant for import and export. This result is in line with the theory, since the mass of the two countries should be relevant for any dynamics regarding trade.

Turning now to the governance variables, the results show that when an African country increases its political stability, is less corrupt, has better rules of law China exports more to those countries. On the contrary China imports more from countries with more corrupt governments, with less rules of law, with less accountability. Note however, that this result may not necessarily capture the choice of Chinese import African partners. The reason is that most China imports from Africa are dominated by raw material and minerals and it might be the case that these countries are naturally characterized by bad governance. In order to investigate this issue we estimate the same gravity equation for imports of France, Germany, UK and the USA with Africa using a SUR regression. Table (2) reports the results.

The performance of these regressions is strikingly consistent. In all the regressions involving European countries, all the governance variables are significant and with a positive sign. Indicating that European countries trade more with countries and in times when the governance issues are getting better. Explicitly, Europe will trade more with countries that are more politically stable, are less corrupted, have a better rule of law and so on. A conclusion from this data could be that in order to export more to European countries, African countries have to better their political system, in all its facets.

On the contrary this is not clear with the US, where there are only two significant governance variables (regul and gov) out of six. It is worth noticing that for these two significant variables, the US has also positive coefficients.

Finally, China deserves a wider description of results. Two governance variables are significant, corruption and voice. However both the signs of the coefficients are negative. This means that as the African country gets in a worse shape (politically speaking), it exports more to China. This result is not common to any other country studied, yet it is rooted in the data. Furthermore, the gravity model works properly with a negative and significant distance coefficient for all the countries and in all the regressions with the single exception of China. In the case of China all the distance coefficients are significant but positive. This shows that China has a different model of imports than the traditional gravity theory. All the more, it seems to want to trade with countries that are consistently further away than others. All these results may be explained by the relatively concentrated number of countries that China imports from, as shown below in more detail.

The results of this comparison are supporting the wide spread belief that China is deliberately pursuing tighter economic relations with those countries that are isolated by the rest

Table 2: Regressions analysis on aggregate China, Europe and US import

Equation	Obs	Parms	RMSE	R-sq	chi2	P	Equation	Obs	Parms	RMSE	R-sq	chi2	P
lRimpch	422.00	4.00	0.73	0.14	69.35	0.00	lRimpch	409.00	4.00	0.74	0.14	65.97	0.00
lRimpfr	422.00	4.00	0.75	0.39	406.62	0.00	lRimpfr	409.00	4.00	0.74	0.42	452.46	0.00
lRimpger	422.00	4.00	0.68	0.35	266.19	0.00	lRimpger	409.00	4.00	0.66	0.39	313.21	0.00
lRimpuk	422.00	4.00	0.73	0.20	108.92	0.00	lRimpuk	409.00	4.00	0.66	0.35	226.81	0.00
lRimpus	422.00	4.00	1.13	0.11	79.40	0.00	lRimpus	409.00	4.00	1.15	0.10	73.43	0.00
Coef.	Std.	Err.	z	P>z	[95%	Conf.	Coef.	Std.	Err.	z	P>z	[95%	Conf.
lRimpch							lRimpch						
ldistch	0.42	0.20	2.16	0.03	0.04	0.81	ldistch	0.44	0.20	2.22	0.03	0.05	0.83
pstab	-0.06	0.04	-1.45	0.15	-0.15	0.02	corruption	-0.12	0.06	-1.94	0.05	-0.24	0.00
lych	0.47	0.06	7.23	0.00	0.34	0.59	lych	0.48	0.07	6.91	0.00	0.34	0.61
lypch	-0.10	0.03	-3.69	0.00	-0.15	-0.05	lypch	-0.11	0.02	-4.59	0.00	-0.16	-0.06
constant	-27.76	3.97	-7.00	0.00	-35.54	-19.99	constant	-28.35	4.23	-6.70	0.00	-36.64	-20.06
lRimpfr							lRimpfr						
ldistfr	-1.16	0.07	-17.31	0.00	-1.29	-1.03	ldistfr	-1.15	0.06	-17.79	0.00	-1.28	-1.03
pstab	0.20	0.04	4.37	0.00	0.11	0.28	corruption	0.42	0.06	6.74	0.00	0.30	0.54
lyfr	0.40	0.24	1.62	0.11	-0.08	0.87	lyfr	0.41	0.26	1.61	0.11	-0.09	0.91
lypfr	-0.21	0.03	-7.71	0.00	-0.26	-0.16	lypfr	-0.19	0.02	-7.77	0.00	-0.24	-0.14
constant	-6.63	13.64	-0.49	0.63	-33.35	20.10	constant	-7.88	14.27	-0.55	0.58	-35.85	20.09
lRimpger							lRimpger						
ldistger	-0.87	0.07	-11.65	0.00	-1.02	-0.72	ldistger	-0.86	0.07	-11.95	0.00	-1.00	-0.72
pstab	0.12	0.04	3.09	0.00	0.05	0.20	corruption	0.37	0.06	6.60	0.00	0.26	0.48
lyger	0.13	0.36	0.35	0.72	-0.57	0.83	lyger	0.20	0.37	0.53	0.60	-0.53	0.93
lypger	-0.22	0.02	-9.02	0.00	-0.27	-0.17	lypger	-0.22	0.02	-10.04	0.00	-0.26	-0.18
constant	6.06	20.23	0.30	0.77	-33.59	45.71	constant	2.09	21.08	0.10	0.92	-39.22	43.41
lRimpuk							lRimpuk						
ldistuk	-0.20	0.08	-2.49	0.01	-0.36	-0.04	ldistuk	-0.17	0.07	-2.34	0.02	-0.31	-0.03
pstab	0.32	0.04	7.48	0.00	0.24	0.41	corruption	0.72	0.06	12.93	0.00	0.61	0.83
lyuk	0.35	0.19	1.84	0.07	-0.02	0.72	lyuk	0.44	0.18	2.37	0.02	0.08	0.80
lypuk	-0.24	0.03	-9.04	0.00	-0.29	-0.19	lypuk	-0.21	0.02	-9.40	0.00	-0.25	-0.16
constant	-11.79	10.69	-1.10	0.27	-32.74	9.17	constant	-17.47	10.31	-1.69	0.09	-37.68	2.75
lRimpus							lRimpus						
ldistus	-0.59	0.15	-4.07	0.00	-0.88	-0.31	ldistus	-0.60	0.15	-4.05	0.00	-0.89	-0.31
pstab	-0.01	0.07	-0.14	0.89	-0.14	0.12	corruption	0.09	0.10	0.91	0.36	-0.10	0.28
lyus	0.84	0.27	3.06	0.00	0.30	1.37	lyus	0.80	0.30	2.72	0.01	0.22	1.38
lypus	-0.25	0.04	-6.27	0.00	-0.33	-0.17	lypus	-0.27	0.04	-7.20	0.00	-0.34	-0.19
constant	-37.53	16.38	-2.29	0.02	-69.62	-5.43	constant	-35.10	17.67	-1.99	0.05	-69.73	-0.48

Notes: lRimpch, lRimpfr, lRimpger, lRimpuk, lRimpus denote logs of real aggregate imports of China, France, Germany, UK, and the USA from Africa. Estimation results are based on data from IMF, DOTS, in 1996-2006.

Table 3: Regressions analysis on aggregate China, Euorpe and US import cont.

Equation	Obs	Parms	RMSE	R-sq	chi2	P	Equation	Obs	Parms	RMSE	R-sq	chi2	P
lRimpch	419.00	4.00	0.73	0.14	69.05	0.00	lRimpch	422.00	4.00	0.73	0.14	67.29	0.00
lRimpfr	419.00	4.00	0.73	0.42	441.39	0.00	lRimpfr	422.00	4.00	0.70	0.46	519.67	0.00
lRimpger	419.00	4.00	0.66	0.38	295.49	0.00	lRimpger	422.00	4.00	0.63	0.43	362.07	0.00
lRimpuk	419.00	4.00	0.66	0.34	223.29	0.00	lRimpuk	422.00	4.00	0.62	0.42	314.80	0.00
lRimpus	419.00	4.00	1.13	0.11	77.78	0.00	lRimpus	422.00	4.00	1.12	0.13	90.50	0.00
Coef.	Std.	Err.	z	P>z	[95%	Conf.	Coef.	Std.	Err.	z	P>z	[95%	Conf.
lRimpch							lRimpch						
ldistch	0.39	0.20	2.00	0.05	0.01	0.77	ldistch	0.43	0.19	2.23	0.03	0.05	0.82
rule	-0.08	0.05	-1.54	0.12	-0.19	0.02	regulatory	0.01	0.06	0.20	0.84	-0.10	0.12
lych	0.48	0.07	7.36	0.00	0.35	0.61	lych	0.48	0.06	7.40	0.00	0.35	0.60
lypch	-0.11	0.02	-4.63	0.00	-0.16	-0.06	lypch	-0.12	0.02	-5.11	0.00	-0.16	-0.07
constant	-28.12	4.04	-6.95	0.00	-36.04	-20.19	constant	-27.99	3.97	-7.05	0.00	-35.77	-20.20
lRimpfr							lRimpfr						
ldistfr	-1.14	0.07	-17.41	0.00	-1.26	-1.01	ldistfr	-1.15	0.06	-18.33	0.00	-1.28	-1.03
rule	0.36	0.06	6.47	0.00	0.25	0.46	regulatory	0.50	0.06	8.99	0.00	0.39	0.61
lyfr	0.46	0.24	1.88	0.06	-0.02	0.93	lyfr	0.51	0.23	2.23	0.03	0.06	0.96
lypfr	-0.19	0.02	-7.96	0.00	-0.24	-0.15	lypfr	-0.17	0.02	-7.49	0.00	-0.21	-0.12
constant	-10.48	13.52	-0.77	0.44	-36.98	16.03	constant	-13.98	12.85	-1.09	0.28	-39.16	11.21
lRimpger							lRimpger						
ldistger	-0.85	0.07	-11.66	0.00	-0.99	-0.71	ldistger	-0.86	0.07	-12.29	0.00	-1.00	-0.72
rule	0.27	0.05	5.50	0.00	0.18	0.37	regulatory	0.43	0.05	8.48	0.00	0.33	0.52
lyger	0.24	0.36	0.66	0.51	-0.46	0.93	lyger	0.30	0.34	0.88	0.38	-0.36	0.95
lypger	-0.22	0.02	-9.93	0.00	-0.26	-0.18	lypger	-0.20	0.02	-9.86	0.00	-0.24	-0.16
constant	-0.24	20.09	-0.01	0.99	-39.62	39.14	constant	-3.91	19.04	-0.21	0.84	-41.23	33.41
lRimpuk							lRimpuk						
ldistuk	-0.16	0.07	-2.16	0.03	-0.30	-0.01	ldistuk	-0.18	0.07	-2.65	0.01	-0.32	-0.05
rule	0.63	0.05	12.69	0.00	0.53	0.72	regulatory	0.76	0.05	15.57	0.00	0.66	0.85
lyuk	0.41	0.18	2.31	0.02	0.06	0.75	lyuk	0.49	0.16	3.01	0.00	0.17	0.81
lypuk	-0.21	0.02	-9.69	0.00	-0.25	-0.17	lypuk	-0.16	0.02	-8.43	0.00	-0.20	-0.13
constant	-15.64	9.82	-1.59	0.11	-34.89	3.61	constant	-21.17	9.14	-2.32	0.02	-39.07	-3.26
lRimpus							lRimpus						
ldistus	-0.56	0.15	-3.83	0.00	-0.84	-0.27	ldistus	-0.60	0.14	-4.18	0.00	-0.88	-0.32
rule	0.12	0.08	1.39	0.17	-0.05	0.28	regulatory	0.27	0.09	3.11	0.00	0.10	0.44
lyus	0.87	0.28	3.14	0.00	0.33	1.42	lyus	0.86	0.27	3.18	0.00	0.33	1.39
lypus	-0.27	0.04	-7.46	0.00	-0.34	-0.20	lypus	-0.26	0.03	-7.64	0.00	-0.33	-0.20
constant	-39.43	16.61	-2.37	0.02	-71.98	-6.88	constant	-38.58	16.25	-2.37	0.02	-70.42	-6.74

Table 4: Regressions analysis on aggregate China, Euorpe and US import cont.

Equation	Obs	Parms	RMSE	R-sq	chi2	P	Equation	Obs	Parms	RMSE	R-sq	chi2	P
lRimpch	422.00	4.00	0.72	0.15	77.15	0.00	lRimpch	422.00	4.00	0.73	0.14	67.29	0.00
lRimpfr	422.00	4.00	0.75	0.40	436.40	0.00	lRimpfr	422.00	4.00	0.70	0.46	519.67	0.00
lRimpger	422.00	4.00	0.67	0.36	280.87	0.00	lRimpger	422.00	4.00	0.63	0.43	362.07	0.00
lRimpuk	422.00	4.00	0.70	0.25	152.47	0.00	lRimpuk	422.00	4.00	0.62	0.42	314.80	0.00
lRimpus	422.00	4.00	1.13	0.10	86.13	0.00	lRimpus	422.00	4.00	1.12	0.13	90.50	0.00
Coef.	Std.	Err.	z	P>z	[95%	Conf.	Coef.	Std.	Err.	z	P>z	[95%	Conf.
lRimpch							lRimpch						
ldistch	0.66	0.20	3.28	0.00	0.26	1.05	ldistch	0.43	0.19	2.23	0.03	0.05	0.82
voice1	-0.12	0.05	-2.32	0.02	-0.21	-0.02	government	0.01	0.06	0.20	0.84	-0.10	0.12
lych	0.47	0.06	7.38	0.00	0.35	0.60	lych	0.48	0.06	7.40	0.00	0.35	0.60
lypch	-0.11	0.02	-4.63	0.00	-0.15	-0.06	lypch	-0.12	0.02	-5.11	0.00	-0.16	-0.07
constant	-30.03	3.97	-7.57	0.00	-37.81	-22.26	constant	-27.99	3.97	-7.05	0.00	-35.77	-20.20
lRimpfr							lRimpfr						
ldistfr	-1.28	0.07	-18.55	0.00	-1.42	-1.15	ldistfr	-1.15	0.06	-18.33	0.00	-1.28	-1.03
voice1	0.27	0.05	5.22	0.00	0.17	0.37	government	0.50	0.06	8.99	0.00	0.39	0.61
lyfr	0.43	0.24	1.79	0.07	-0.04	0.91	lyfr	0.51	0.23	2.23	0.03	0.06	0.96
lypfr	-0.17	0.02	-7.14	0.00	-0.22	-0.12	lypfr	-0.17	0.02	-7.49	0.00	-0.21	-0.12
constant	-8.54	13.55	-0.63	0.53	-35.09	18.02	constant	-13.98	12.85	-1.09	0.28	-39.16	11.21
lRimpger							lRimpger						
ldistger	-0.96	0.08	-12.47	0.00	-1.11	-0.81	ldistger	-0.86	0.07	-12.29	0.00	-1.00	-0.72
voice1	0.20	0.05	4.22	0.00	0.11	0.29	government	0.43	0.05	8.48	0.00	0.33	0.52
lyger	0.18	0.35	0.51	0.61	-0.52	0.87	lyger	0.30	0.34	0.88	0.38	-0.36	0.95
lypger	-0.20	0.02	-9.25	0.00	-0.24	-0.16	lypger	-0.20	0.02	-9.86	0.00	-0.24	-0.16
constant	3.36	20.06	0.17	0.87	-35.97	42.68	constant	-3.91	19.04	-0.21	0.84	-41.23	33.41
lRimpuk							lRimpuk						
ldistuk	-0.41	0.08	-5.11	0.00	-0.57	-0.25	ldistuk	-0.18	0.07	-2.65	0.01	-0.32	-0.05
voice1	0.47	0.05	9.65	0.00	0.38	0.57	government	0.76	0.05	15.57	0.00	0.66	0.85
lyuk	0.39	0.18	2.12	0.03	0.03	0.75	lyuk	0.49	0.16	3.01	0.00	0.17	0.81
lypuk	-0.18	0.02	-7.84	0.00	-0.22	-0.13	lypuk	-0.16	0.02	-8.43	0.00	-0.20	-0.13
constant	-13.53	10.34	-1.31	0.19	-33.80	6.75	constant	-21.17	9.14	-2.32	0.02	-39.07	-3.26
lRimpus							lRimpus						
ldistus	-0.71	0.15	-4.77	0.00	-1.00	-0.42	ldistus	-0.60	0.14	-4.18	0.00	-0.88	-0.32
voice1	0.09	0.08	1.14	0.26	-0.06	0.24	government	0.27	0.09	3.11	0.00	0.10	0.44
lyus	0.84	0.27	3.07	0.00	0.30	1.37	lyus	0.86	0.27	3.18	0.00	0.33	1.39
lypus	-0.26	0.04	-7.40	0.00	-0.33	-0.19	lypus	-0.26	0.03	-7.64	0.00	-0.33	-0.20
constant	-36.24	16.37	-2.21	0.03	-68.33	-4.16	constant	-38.58	16.25	-2.37	0.02	-70.42	-6.74

of world. However, before concluding whether this is the case, we should question whether this is the right key to interpret the data. It could very well be that the natural resources that China is importing are only available in countries that have a weak political system. In that case the negative coefficients of the previous regressions are simply highlighting the kind of imports to China. The following section will focus on this.

3.2.2 Results using disaggregate export and import

We estimate our gravity equation using disaggregated data in five sub-groups using SUR method on each of the five regressions for export and import separately. Table reports the results.

What we want to see here is whether there is a difference in the governance coefficients when the type of export or import is taken into account. The theory is that partner countries with a higher quantity of natural resources might be more prone to political instability. The tables highlight a very clear cut scenario. All the export markets that China is having in Africa are always following the gravity model as far as the distance variable. The coefficients for distance are always negative and strongly significant. Also the governance variables in the export regressions are always positively related to the amount of trade. This confirms the point of view that if a country has a stronger rule of law, or political stability in general, then China (and any other country) will be more likely to want to export there and use it as an open market. The export data of China, divided in all the 5 categories makes no difference in this sense. Most of the governance variables are significant in explaining the quantity of trade.

However when we look at import partners of China, we see a different picture. In this case we can indeed divide the results in the classes of raw materials (including intermediate to raw materials) and more elaborate goods (including intermediate goods, intermediate to finite, and finite goods). In the second class as described, we find similar characteristics of the equations to the ones of European trade patterns and export regressions. The distance variables are often significant and negative, and the governance variables are always found to be positive, when significant. This is still supporting the classical theory tested by the gravity model.

The large difference is found in accordance to the previous hypothesis when we focus on the class of imported raw materials. The amount of imported raw material seems to increase with different parameters. Here we find the variables of corruption and of political stability that are significant and with a negative coefficient. It is interesting how the only times when this is shown is precisely in the imports of raw material. In most other cases the governance variables are not significant. Out of the 10 possible coefficients of governance variables (5

Table 5: Regressions analysis on disaggregate China export and import: corruption

Equation	Obs	Parms	RMSE	R-sq	chi2	P	Equation	Obs	Parms	RMSE	R-sq	chi2	P
lRexpr	304.00	4.00	3.63	0.12	39.55	0.00	lRimpr	304.00	4.00	4.93	0.11	35.68	0.00
lRexprir	304.00	5.00	2.86	0.12	42.86	0.00	lRimpir	304.00	5.00	5.01	0.07	23.34	0.00
lRexpir	304.00	4.00	3.06	0.10	35.29	0.00	lRimpi	304.00	4.00	2.93	0.12	40.79	0.00
lRexpif	304.00	4.00	2.69	0.16	60.04	0.00	lRimpif	304.00	4.00	3.22	0.19	69.40	0.00
lRexpf	304.00	4.00	1.85	0.20	76.35	0.00	lRimpf	304.00	4.00	3.34	0.19	71.09	0.00
Coef.	Std.	Err.	z	P>z	[95%	Conf.	Coef.	Std.	Err.	z	P>z	[95%	Conf.
lRexpr							lRimpr						
dist	-4.50	1.40	-3.21	0.00	-7.25	-1.76	dist	-1.32	1.90	-0.69	0.49	-5.06	2.41
corruption	0.48	0.34	1.42	0.16	-0.18	1.15	corruption	-0.83	0.46	-1.79	0.07	-1.73	0.08
ly	0.64	0.15	4.27	0.00	0.35	0.94	ly	1.00	0.20	4.92	0.00	0.60	1.40
lyp	-0.08	0.18	-0.43	0.67	-0.44	0.28	lyp	-0.11	0.25	-0.42	0.68	-0.60	0.39
constant	19.55	16.13	1.21	0.23	-12.06	51.17	constant	-28.26	21.92	-1.29	0.20	-71.24	14.71
lRexprir							lRimpir						
dist	-4.53	1.10	-4.12	0.00	-6.69	-2.38	dist	-3.89	1.93	-2.01	0.04	-7.68	-0.10
corruption	0.68	0.27	2.56	0.01	0.16	1.21	corruption	0.10	0.47	0.22	0.82	-0.82	1.02
ly	0.42	0.12	3.60	0.00	0.19	0.66	ly	0.50	0.21	2.41	0.02	0.09	0.91
lyp	-0.23	0.15	-1.57	0.12	-0.51	0.06	lyp	-0.68	0.26	-2.66	0.01	-1.18	-0.18
wto	-0.08	0.21	-0.37	0.71	-0.49	0.34	wto	1.58	0.53	2.99	0.00	0.55	2.62
constant	32.36	12.67	2.56	0.01	7.54	57.18	constant	24.35	22.27	1.09	0.27	-19.30	68.00
lRexpir							lRimpi						
dist	-4.79	1.18	-4.05	0.00	-7.11	-2.47	dist	-2.95	1.13	-2.61	0.01	-5.17	-0.74
corruption	0.53	0.29	1.86	0.06	-0.03	1.10	corruption	1.17	0.27	4.28	0.00	0.64	1.71
ly	0.36	0.13	2.84	0.01	0.11	0.61	ly	0.32	0.12	2.61	0.01	0.08	0.55
lyp	-0.02	0.16	-0.12	0.90	-0.32	0.29	lyp	-0.51	0.15	-3.40	0.00	-0.80	-0.22
constant	36.04	13.63	2.65	0.01	9.34	62.75	constant	20.63	13.02	1.58	0.11	-4.89	46.15
lRexpif							lRimpif						
dist	-6.26	1.04	-6.02	0.00	-8.30	-4.22	dist	-7.56	1.25	-6.07	0.00	-10.00	-5.12
corruption	0.39	0.25	1.53	0.13	-0.11	0.88	corruption	0.74	0.30	2.46	0.01	0.15	1.34
ly	0.37	0.11	3.35	0.00	0.16	0.59	ly	0.42	0.13	3.16	0.00	0.16	0.68
lyp	-0.20	0.14	-1.44	0.15	-0.47	0.07	lyp	-0.71	0.16	-4.33	0.00	-1.03	-0.39
constant	50.89	11.98	4.25	0.00	27.41	74.36	constant	60.93	14.34	4.25	0.00	32.82	89.04
lRexpf							lRimpf						
dist	-3.78	0.71	-5.30	0.00	-5.18	-2.38	dist	-3.74	1.29	-2.90	0.00	-6.27	-1.21
corruption	0.27	0.17	1.53	0.13	-0.07	0.61	corruption	1.53	0.31	4.88	0.00	0.91	2.14
ly	0.43	0.08	5.65	0.00	0.28	0.58	ly	0.77	0.14	5.56	0.00	0.50	1.04
lyp	-0.26	0.09	-2.77	0.01	-0.45	-0.08	lyp	-0.65	0.17	-3.84	0.00	-0.99	-0.32
constant	29.26	8.22	3.56	0.00	13.15	45.37	constant	9.43	14.86	0.63	0.53	-19.70	38.57

Notes: lRexpr, lRexprir, lRexpir, lRexpif and lRexpf denote logs of real China exports of raw material, intermediate raw material, intermediate material, intermediate final products and final goods. Similar classification is obtained for China's import from africa.

Table 6: Regressions analysis on disaggregate China export and import: rule of law

Equation	Obs	Parms	RMSE	R-sq	chi2	P	Equation	Obs	Parms	RMSE	R-sq	chi2	P
lRexpr	315.00	4.00	3.68	0.13	47.42	0.00	lRimpr	315.00	4.00	4.95	0.12	43.54	0.00
lRexpr	315.00	5.00	2.95	0.14	51.95	0.00	lRimpir	315.00	5.00	4.97	0.08	26.79	0.00
lRexpi	315.00	4.00	3.13	0.13	48.34	0.00	lRimpi	315.00	4.00	2.90	0.13	47.35	0.00
lRexpif	315.00	4.00	2.81	0.17	64.92	0.00	lRimpif	315.00	4.00	3.18	0.19	71.72	0.00
lRexpf	315.00	4.00	1.85	0.22	87.10	0.00	lRimpf	315.00	4.00	3.33	0.18	69.99	0.00
Coef.	Std.	Err.	z	P>z	[95%	Conf.	Coef.	Std.	Err.	z	P>z	[95%	Conf.
lRexpr							lRimpr						
dist	-4.08	1.38	-2.95	0.00	-6.80	-1.37	dist	-0.69	1.86	-0.37	0.71	-4.34	2.96
rule	0.57	0.31	1.86	0.06	-0.03	1.17	rule	-0.65	0.41	-1.57	0.12	-1.46	0.16
ly	0.75	0.15	5.05	0.00	0.46	1.04	ly	1.12	0.20	5.60	0.00	0.73	1.51
lyp	-0.04	0.18	-0.23	0.82	-0.40	0.32	lyp	-0.09	0.25	-0.34	0.73	-0.57	0.40
constant	9.74	15.87	0.61	0.54	-21.37	40.84	constant	-40.27	21.34	-1.89	0.06	-82.11	1.56
lRexpr							lRimpir						
dist	-4.19	1.10	-3.80	0.00	-6.35	-2.03	dist	-3.38	1.87	-1.81	0.07	-7.05	0.28
rule	0.81	0.24	3.29	0.00	0.33	1.29	rule	0.30	0.41	0.73	0.47	-0.51	1.12
ly	0.54	0.12	4.59	0.00	0.31	0.78	ly	0.56	0.20	2.77	0.01	0.16	0.95
lyp	-0.18	0.15	-1.23	0.22	-0.47	0.11	lyp	-0.62	0.25	-2.48	0.01	-1.11	-0.13
wto	0.04	0.21	0.21	0.83	-0.37	0.46	wto	1.66	0.51	3.26	0.00	0.66	2.66
constant	22.52	12.66	1.78	0.08	-2.29	47.33	constant	15.91	21.47	0.74	0.46	-26.17	58.00
lRexpi							lRimpi						
dist	-4.32	1.18	-3.67	0.00	-6.63	-2.01	dist	-2.93	1.09	-2.68	0.01	-5.07	-0.79
rule	0.87	0.26	3.32	0.00	0.35	1.38	rule	1.16	0.24	4.81	0.00	0.69	1.64
ly	0.52	0.13	4.11	0.00	0.27	0.77	ly	0.36	0.12	3.07	0.00	0.13	0.59
lyp	-0.02	0.16	-0.15	0.89	-0.33	0.28	lyp	-0.54	0.14	-3.71	0.00	-0.82	-0.25
constant	23.95	13.50	1.77	0.08	-2.50	50.41	constant	18.73	12.50	1.50	0.13	-5.78	43.24
lRexpif							lRimpif						
dist	-5.64	1.06	-5.34	0.00	-7.71	-3.57	dist	-7.27	1.20	-6.07	0.00	-9.61	-4.92
rule	0.57	0.23	2.43	0.02	0.11	1.03	rule	0.74	0.27	2.77	0.01	0.22	1.26
ly	0.51	0.11	4.51	0.00	0.29	0.73	ly	0.46	0.13	3.56	0.00	0.20	0.71
lyp	-0.16	0.14	-1.12	0.26	-0.43	0.12	lyp	-0.69	0.16	-4.37	0.00	-1.01	-0.38
constant	37.74	12.12	3.11	0.00	13.99	61.49	constant	56.29	13.72	4.10	0.00	29.40	83.18
lRexpf							lRimpf						
dist	-3.49	0.69	-5.03	0.00	-4.85	-2.13	dist	-3.79	1.25	-3.02	0.00	-6.25	-1.33
rule	0.43	0.15	2.77	0.01	0.13	0.73	rule	1.20	0.28	4.32	0.00	0.66	1.75
ly	0.49	0.07	6.53	0.00	0.34	0.63	ly	0.81	0.13	6.03	0.00	0.55	1.08
lyp	-0.25	0.09	-2.67	0.01	-0.43	-0.07	lyp	-0.67	0.17	-4.03	0.00	-1.00	-0.34
constant	23.74	7.96	2.98	0.00	8.14	39.33	constant	7.87	14.38	0.55	0.58	-20.30	36.05

Table 7: Regressions analysis on disaggregate China export and import: political

Equation	Obs	Parms	RMSE	R-sq	chi2	P	Equation	Obs	Parms	RMSE	R-sq	chi2	P
lRexpr	318.00	4.00	3.74	0.13	47.51	0.00	lRimpr	318.00	4.00	4.94	0.14	50.68	0.00
lRexpir	318.00	5.00	3.04	0.12	42.86	0.00	lRimpir	318.00	5.00	4.89	0.11	38.04	0.00
lRexpi	318.00	4.00	3.18	0.12	42.89	0.00	lRimpi	318.00	4.00	2.97	0.08	27.77	0.00
lRexpif	318.00	4.00	2.89	0.16	60.13	0.00	lRimpif	318.00	4.00	3.21	0.17	64.08	0.00
lRexpf	318.00	4.00	1.89	0.20	80.79	0.00	lRimpf	318.00	4.00	3.41	0.14	51.73	0.00
Coef.	Std.	Err.	z	P>z	[95%	Conf.	Coef.	Std.	Err.	z	P>z	[95%	Conf.
lRexpr							lRimpr						
dist	-4.16	1.41	-2.95	0.00	-6.92	-1.39	dist	-0.30	1.86	-0.16	0.87	-3.95	3.35
pstab	-0.04	0.23	-0.18	0.86	-0.49	0.40	pstab	-0.73	0.30	-2.44	0.02	-1.32	-0.14
ly	0.75	0.15	4.91	0.00	0.45	1.05	ly	1.08	0.20	5.37	0.00	0.69	1.47
lyp	-0.03	0.19	-0.17	0.87	-0.40	0.34	lyp	-0.01	0.25	-0.02	0.98	-0.49	0.48
constant	9.88	16.00	0.62	0.54	-21.47	41.24	constant	-43.01	21.13	-2.04	0.04	-84.41	-1.60
lRexpir							lRimpir						
dist	-4.15	1.13	-3.66	0.00	-6.37	-1.93	dist	-2.79	1.84	-1.51	0.13	-6.40	0.82
pstab	-0.08	0.18	-0.43	0.67	-0.43	0.28	pstab	-0.90	0.30	-3.03	0.00	-1.48	-0.32
ly	0.52	0.12	4.21	0.00	0.28	0.76	ly	0.42	0.20	2.12	0.03	0.03	0.82
lyp	-0.18	0.15	-1.20	0.23	-0.48	0.12	lyp	-0.56	0.25	-2.27	0.02	-1.04	-0.07
wto	0.07	0.21	0.33	0.74	-0.35	0.49	wto	1.75	0.49	3.55	0.00	0.79	2.72
constant	22.80	12.88	1.77	0.08	-2.45	48.05	constant	15.38	20.94	0.73	0.46	-25.66	56.42
lRexpi							lRimpi						
dist	-4.46	1.20	-3.72	0.00	-6.81	-2.11	dist	-3.23	1.12	-2.88	0.00	-5.43	-1.03
pstab	0.40	0.19	2.09	0.04	0.03	0.78	pstab	0.38	0.18	2.11	0.04	0.03	0.73
ly	0.56	0.13	4.36	0.00	0.31	0.82	ly	0.35	0.12	2.93	0.00	0.12	0.59
lyp	-0.07	0.16	-0.42	0.67	-0.38	0.24	lyp	-0.58	0.15	-3.89	0.00	-0.87	-0.29
constant	23.21	13.60	1.71	0.09	-3.44	49.85	constant	21.72	12.71	1.71	0.09	-3.20	46.63
lRexpif							lRimpif						
dist	-5.68	1.09	-5.22	0.00	-7.81	-3.55	dist	-7.36	1.21	-6.09	0.00	-9.73	-4.99
pstab	0.09	0.17	0.50	0.62	-0.26	0.43	pstab	0.13	0.19	0.66	0.51	-0.25	0.51
ly	0.53	0.12	4.47	0.00	0.30	0.76	ly	0.44	0.13	3.39	0.00	0.19	0.70
lyp	-0.17	0.14	-1.16	0.25	-0.45	0.12	lyp	-0.71	0.16	-4.44	0.00	-1.03	-0.40
constant	37.17	12.34	3.01	0.00	12.98	61.36	constant	57.61	13.71	4.20	0.00	30.73	84.48
lRexpf							lRimpf						
dist	-3.49	0.71	-4.90	0.00	-4.89	-2.10	dist	-4.13	1.29	-3.21	0.00	-6.65	-1.61
pstab	-0.06	0.11	-0.54	0.59	-0.29	0.16	pstab	0.29	0.21	1.41	0.16	-0.11	0.70
ly	0.47	0.08	6.09	0.00	0.32	0.62	ly	0.78	0.14	5.63	0.00	0.51	1.05
lyp	-0.24	0.09	-2.55	0.01	-0.43	-0.06	lyp	-0.70	0.17	-4.11	0.00	-1.04	-0.37
constant	24.22	8.09	2.99	0.00	8.36	40.08	constant	12.18	14.59	0.83	0.40	-16.42	40.77

Table 8: Regressions analysis on disaggregate China export and import: government

Equation	Obs	Parms	RMSE	R-sq	chi2	P	Equation	Obs	Parms	RMSE	R-sq	chi2	P
lRexpr	318.00	4.00	3.69	0.15	57.78	0.00	lRimpr	318.00	4.00	4.98	0.12	44.85	0.00
lRexpir	318.00	4.00	2.93	0.18	70.12	0.00	lRimpir	318.00	4.00	5.03	0.06	20.11	0.00
lRexpif	318.00	4.00	2.82	0.20	78.97	0.00	lRimpi	318.00	4.00	2.81	0.18	69.57	0.00
lRexpf	318.00	4.00	1.82	0.26	112.31	0.00	lRimpif	318.00	4.00	3.12	0.21	85.15	0.00
lRimpf	318.00	4.00	3.18	0.25	108.53	0.00	lRimpf	318.00	4.00	3.18	0.25	108.53	0.00
Coef.	Std.	Err.	z	P>z	[95%	Conf.	Coef.	Std.	Err.	z	P>z	[95%	Conf.
lRexpr							lRimpr						
dist	-4.05	1.38	-2.93	0.00	-6.76	-1.34	dist	-0.78	1.87	-0.42	0.67	-4.44	2.87
government	1.01	0.34	2.99	0.00	0.35	1.67	government	0.41	0.46	0.90	0.37	-0.48	1.30
ly	0.78	0.15	5.33	0.00	0.50	1.07	ly	1.20	0.20	6.03	0.00	0.81	1.59
lyp	-0.03	0.18	-0.16	0.87	-0.39	0.33	lyp	-0.05	0.25	-0.21	0.83	-0.54	0.43
constant	7.80	15.79	0.49	0.62	-23.15	38.75	constant	-43.01	21.31	-2.02	0.04	-84.78	-1.23
lRexpir							lRimpir						
dist	-4.02	1.10	-3.66	0.00	-6.17	-1.87	dist	-3.08	1.88	-1.63	0.10	-6.77	0.62
government	1.35	0.27	5.02	0.00	0.82	1.87	government	0.94	0.46	2.05	0.04	0.04	1.85
ly	0.57	0.12	4.90	0.00	0.34	0.80	ly	0.66	0.20	3.27	0.00	0.26	1.05
lyp	-0.18	0.15	-1.21	0.23	-0.46	0.11	lyp	-0.54	0.25	-2.14	0.03	-1.03	-0.05
constant	19.82	12.54	1.58	0.11	-4.76	44.41	constant	8.62	21.53	0.40	0.69	-33.59	50.83
lRexpif							lRimpi						
dist	-3.98	1.16	-3.44	0.00	-6.24	-1.71	dist	-2.72	1.05	-2.59	0.01	-4.78	-0.66
government	1.39	0.28	4.92	0.00	0.84	1.94	government	1.69	0.26	6.59	0.00	1.19	2.19
ly	0.55	0.12	4.45	0.00	0.31	0.79	ly	0.35	0.11	3.13	0.00	0.13	0.57
lyp	-0.03	0.15	-0.22	0.83	-0.34	0.27	lyp	-0.55	0.14	-3.90	0.00	-0.82	-0.27
constant	19.80	13.21	1.50	0.13	-6.08	45.69	constant	17.70	12.02	1.47	0.14	-5.85	41.25
lRexpif							lRimpif						
dist	-5.48	1.05	-5.19	0.00	-7.55	-3.41	dist	-7.10	1.17	-6.07	0.00	-9.39	-4.81
government	1.03	0.26	4.01	0.00	0.53	1.54	government	1.21	0.29	4.24	0.00	0.65	1.77
ly	0.54	0.11	4.85	0.00	0.32	0.76	ly	0.46	0.12	3.70	0.00	0.22	0.70
lyp	-0.16	0.14	-1.12	0.27	-0.43	0.12	lyp	-0.70	0.16	-4.49	0.00	-1.00	-0.39
constant	34.89	12.06	2.89	0.00	11.26	58.52	constant	54.90	13.36	4.11	0.00	28.72	81.09
lRexpf							lRimpf						
dist	-3.43	0.68	-5.02	0.00	-4.76	-2.09	dist	-3.63	1.19	-3.06	0.00	-5.97	-1.30
government	0.84	0.17	5.04	0.00	0.51	1.17	government	2.08	0.29	7.15	0.00	1.51	2.65
ly	0.50	0.07	6.93	0.00	0.36	0.65	ly	0.80	0.13	6.34	0.00	0.55	1.05
lyp	-0.24	0.09	-2.66	0.01	-0.42	-0.06	lyp	-0.67	0.16	-4.24	0.00	-0.98	-0.36
constant	22.52	7.80	2.89	0.00	7.24	37.81	constant	7.46	13.60	0.55	0.58	-19.19	34.10

Table 9: Regressions analysis on disaggregate China export and import: regulation

Equation	Obs	Parms	RMSE	R-sq	chi2	P	Equation	Obs	Parms	RMSE	R-sq	chi2	P
lRexpr	318.00	4.00	3.69	0.15	57.78	0.00	lRimpr	318.00	4.00	4.98	0.12	44.85	0.00
lRexpir	318.00	4.00	2.93	0.18	70.12	0.00	lRimpir	318.00	4.00	5.03	0.06	20.11	0.00
lRexpif	318.00	4.00	2.82	0.20	78.97	0.00	lRimpi	318.00	4.00	2.81	0.18	69.57	0.00
lRexpf	318.00	4.00	1.82	0.26	112.31	0.00	lRimpif	318.00	4.00	3.12	0.21	85.15	0.00
lRexpf	318.00	4.00	1.82	0.26	112.31	0.00	lRimpf	318.00	4.00	3.18	0.25	108.53	0.00
Coef.	Std.	Err.	z	P>z	[95%	Conf.	Coef.	Std.	Err.	z	P>z	[95%	Conf.
lRexpr							lRimpr						
dist	-4.05	1.38	-2.93	0.00	-6.76	-1.34	dist	-0.78	1.87	-0.42	0.67	-4.44	2.87
regulatory	1.01	0.34	2.99	0.00	0.35	1.67	regulatory	0.41	0.46	0.90	0.37	-0.48	1.30
ly	0.78	0.15	5.33	0.00	0.50	1.07	ly	1.20	0.20	6.03	0.00	0.81	1.59
lyp	-0.03	0.18	-0.16	0.87	-0.39	0.33	lyp	-0.05	0.25	-0.21	0.83	-0.54	0.43
constant	7.80	15.79	0.49	0.62	-23.15	38.75	constant	-43.01	21.31	-2.02	0.04	-84.78	-1.23
lRexpir							lRimpir						
dist	-4.02	1.10	-3.66	0.00	-6.17	-1.87	dist	-3.08	1.88	-1.63	0.10	-6.77	0.62
regulatory	1.35	0.27	5.02	0.00	0.82	1.87	regulatory	0.94	0.46	2.05	0.04	0.04	1.85
ly	0.57	0.12	4.90	0.00	0.34	0.80	ly	0.66	0.20	3.27	0.00	0.26	1.05
lyp	-0.18	0.15	-1.21	0.23	-0.46	0.11	lyp	-0.54	0.25	-2.14	0.03	-1.03	-0.05
constant	19.82	12.54	1.58	0.11	-4.76	44.41	constant	8.62	21.53	0.40	0.69	-33.59	50.83
lRexpif							lRimpi						
dist	-3.98	1.16	-3.44	0.00	-6.24	-1.71	dist	-2.72	1.05	-2.59	0.01	-4.78	-0.66
regulatory	1.39	0.28	4.92	0.00	0.84	1.94	regulatory	1.69	0.26	6.59	0.00	1.19	2.19
ly	0.55	0.12	4.45	0.00	0.31	0.79	ly	0.35	0.11	3.13	0.00	0.13	0.57
lyp	-0.03	0.15	-0.22	0.83	-0.34	0.27	lyp	-0.55	0.14	-3.90	0.00	-0.82	-0.27
constant	19.80	13.21	1.50	0.13	-6.08	45.69	constant	17.70	12.02	1.47	0.14	-5.85	41.25
lRexpif							lRimpif						
dist	-5.48	1.05	-5.19	0.00	-7.55	-3.41	dist	-7.10	1.17	-6.07	0.00	-9.39	-4.81
regulatory	1.03	0.26	4.01	0.00	0.53	1.54	regulatory	1.21	0.29	4.24	0.00	0.65	1.77
ly	0.54	0.11	4.85	0.00	0.32	0.76	ly	0.46	0.12	3.70	0.00	0.22	0.70
lyp	-0.16	0.14	-1.12	0.27	-0.43	0.12	lyp	-0.70	0.16	-4.49	0.00	-1.00	-0.39
constant	34.89	12.06	2.89	0.00	11.26	58.52	constant	54.90	13.36	4.11	0.00	28.72	81.09
lRexpf							lRimpf						
dist	-3.43	0.68	-5.02	0.00	-4.76	-2.09	dist	-3.63	1.19	-3.06	0.00	-5.97	-1.30
regulatory	0.84	0.17	5.04	0.00	0.51	1.17	regulatory	2.08	0.29	7.15	0.00	1.51	2.65
ly	0.50	0.07	6.93	0.00	0.36	0.65	ly	0.80	0.13	6.34	0.00	0.55	1.05
lyp	-0.24	0.09	-2.66	0.01	-0.42	-0.06	lyp	-0.67	0.16	-4.24	0.00	-0.98	-0.36
constant	22.52	7.80	2.89	0.00	7.24	37.81	constant	7.46	13.60	0.55	0.58	-19.19	34.10

Table 10: Regressions analysis on disaggregate China export and import: voice

Equation	Obs	Parms	RMSE	R-sq	chi2	P	Equation	Obs	Parms	RMSE	R-sq	chi2	P
lRexpr	318.00	4.00	3.74	0.13	47.51	0.00	lRimpr	318.00	4.00	4.98	0.12	45.11	0.00
lRexpr	318.00	4.00	3.02	0.13	47.75	0.00	lRimpir	318.00	4.00	5.06	0.05	15.82	0.00
lRexpir	318.00	4.00	3.17	0.12	45.33	0.00	lRimpi	318.00	4.00	2.83	0.17	63.98	0.00
lRexpif	318.00	4.00	2.88	0.16	60.96	0.00	lRimpif	318.00	4.00	3.20	0.17	66.08	0.00
lRexpf	318.00	4.00	1.89	0.21	82.27	0.00	lRimpf	318.00	4.00	3.35	0.17	65.79	0.00
Coef.	Std.	Err.	z	P>z	[95%	Conf.	Coef.	Std.	Err.	z	P>z	[95%	Conf.
lRexpr							lRimpr						
dist	-4.22	1.41	-2.99	0.00	-6.98	-1.45	dist	-0.61	1.88	-0.33	0.74	-4.29	3.06
voice1	0.05	0.29	0.18	0.86	-0.52	0.62	voice1	-0.39	0.39	-1.02	0.31	-1.15	0.36
ly	0.76	0.15	5.07	0.00	0.46	1.05	ly	1.17	0.20	5.90	0.00	0.78	1.56
lyp	-0.04	0.19	-0.19	0.85	-0.40	0.33	lyp	-0.05	0.25	-0.19	0.85	-0.53	0.44
constant	10.16	16.05	0.63	0.53	-21.29	41.61	constant	-43.85	21.35	-2.05	0.04	-85.70	-2.01
lRexpir							lRimpir						
dist	-4.51	1.14	-3.96	0.00	-6.74	-2.28	dist	-3.28	1.91	-1.72	0.09	-7.02	0.46
voice1	0.55	0.23	2.34	0.02	0.09	1.01	voice1	0.14	0.39	0.35	0.72	-0.63	0.91
ly	0.55	0.12	4.59	0.00	0.32	0.79	ly	0.63	0.20	3.14	0.00	0.24	1.03
lyp	-0.19	0.15	-1.29	0.20	-0.49	0.10	lyp	-0.54	0.25	-2.15	0.03	-1.04	-0.05
constant	25.04	12.95	1.93	0.05	-0.34	50.42	constant	11.21	21.72	0.52	0.61	-31.35	53.78
lRexpir							lRimpi						
dist	-4.52	1.19	-3.79	0.00	-6.86	-2.18	dist	-3.72	1.07	-3.49	0.00	-5.81	-1.63
voice1	0.63	0.25	2.56	0.01	0.15	1.11	voice1	1.35	0.22	6.18	0.00	0.93	1.78
ly	0.53	0.13	4.19	0.00	0.28	0.78	ly	0.35	0.11	3.12	0.00	0.13	0.57
lyp	-0.05	0.16	-0.33	0.74	-0.36	0.26	lyp	-0.58	0.14	-4.11	0.00	-0.86	-0.30
constant	25.46	13.59	1.87	0.06	-1.18	52.10	constant	27.15	12.13	2.24	0.03	3.38	50.93
lRexpif							lRimpif						
dist	-5.74	1.09	-5.28	0.00	-7.87	-3.61	dist	-7.47	1.21	-6.20	0.00	-9.83	-5.11
voice1	0.22	0.22	0.97	0.33	-0.22	0.66	voice1	0.36	0.25	1.45	0.15	-0.13	0.85
ly	0.52	0.11	4.54	0.00	0.30	0.75	ly	0.44	0.13	3.44	0.00	0.19	0.69
lyp	-0.17	0.14	-1.15	0.25	-0.45	0.12	lyp	-0.71	0.16	-4.46	0.00	-1.02	-0.40
constant	38.01	12.36	3.07	0.00	13.78	62.25	constant	59.02	13.72	4.30	0.00	32.14	85.90
lRexpf							lRimpf						
dist	-3.64	0.71	-5.11	0.00	-5.04	-2.25	dist	-4.47	1.26	-3.54	0.00	-6.95	-2.00
voice1	0.18	0.15	1.21	0.22	-0.11	0.46	voice1	0.98	0.26	3.76	0.00	0.47	1.48
ly	0.48	0.08	6.44	0.00	0.34	0.63	ly	0.78	0.13	5.83	0.00	0.52	1.04
lyp	-0.25	0.09	-2.64	0.01	-0.43	-0.06	lyp	-0.70	0.17	-4.20	0.00	-1.03	-0.37
constant	25.07	8.10	3.09	0.00	9.19	40.95	constant	16.08	14.36	1.12	0.26	-12.07	44.23

variables, for the two classes of raw materials and intermediate to raw material) only in two cases we find the positive and significant coefficient which would be in line with the rest of the data, and common research.

The distance coefficient seems to pick up a similar irregularity in the data. It is consistently significant, with a negative coefficient in most of the data, except for the same 10 regressions, when it appears significant only twice.

As a general comment, the only two governance variables that appear significant (and positive) almost always, are the regulatory and the governance variables. They are only not significant in the strictly raw materials class.

These results show the value added of such a research. China seems to be importing raw materials from countries that are left out of trade partnerships by other world powers. In importing from these countries in some cases China is explicitly rewarding corruption, or a lower state of politics. However it is possible to make the more general remark that China imports from these countries despite the fact that the political conditions are not optimal. This allows the countries to still make use of their natural resources. This is a stark difference with Europe, which explicitly only rewards countries which have higher governance variables. China in this field is taking up a role of allowing countries whose political system is not yet at rest to still have a market to export its goods. This creates benefit for the countries in question. Europe and the US have often left an economic void, which China has recently started to fill.

4 Conclusions

This paper has used a unique data set to analyze the trade between Africa and China. We have provided a thorough analysis of the trade data over 8 years to show the main trends as well as the detailed dynamics of this process in evolution. We have shown that China has indeed drastically increased not only its trade level with African countries, but also its position of relevance among one of the most important economics for Africa to deal with. This position is quite closely reciprocated. Africa is a very big market that China has entered with its products. In the same time span, China has increased its imports from African countries at an even faster pace. The majority of the quantity of imports comes from raw materials. This class is also the only class that does not follow the stylized facts of trade, in the relationship China-Africa. A gravity model has highlighted that in the majority of the cases trade decreases with distance, and increases with political stability. This is not true however, when it comes to imports of raw materials. Here China fulfills the unique role of importing from countries that are further away and that do not necessarily have high levels of political stability, governance, rule of law. We have detailed supporting data to this conclusion. While our analysis does not show the final objective of the Chinese strategy, it highlights its benefits to the African countries. The European Union is the major trade leader to only reward political stability. This leaves out countries that do not meet its requirements. China is now importing from these countries, and creating a market for these countries to export to. Literature has traced in the past a positive correlation between trade and development or GDP growth. If this connection is assumed in existence, then ironically the Chinese strategy is taking up a crucial role in the future political stability of these “left out” countries.

It is left for further research whether this positive relationship between trade and growth can be found in these specific economies, as well as eventual spillover effects from trade and possibly FDI.

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