

China's Involvement in Africa: empirical evidence

Accra, May 22nd



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China interaction with Africa started long time ago

- Bandung Conference (1955)
 - Maoist period: Political motivations prevail
 - Aid is the main channel of interaction
- FOCAC (2000)
 - New 'era' of bilateral relations- Economic factors prevail
 - Increasing amount of financial outflows (Aid+FDI) and growing bilateral trade

Outline: China-Africa economic ties after 2000

- An increasing integration through 3 main channels:
 - Aid (Economic Cooperation)
 - FDI
 - Trade
- Embodied in a 'South-South' Cooperation framework
- with 'No string attached' + 'Non interference on internal questions' resulting in close ties with fragile countries
- Empirical evidence on:
 - Determinants of FDI
 - Crowding-out of African exports

Preliminary Results

- Economic cooperation (aid) drives FDI
- FDI are driven by market size and natural resources
- China is “risk lover” (is not discouraged by political and economic uncertainty)
- China crowds out African exports of manufacturing

The first channel: Aid

- The definition is wider than ODA:
 - Chinese ODA=“External Assistance” (Kobayashi, 2008)
 - Centre for Chinese Studies (2008) points out that Chinese aid is in the form of economic cooperation and in the form of ODA
 - Aid in the form of Economic Cooperation prevails:
 - Focus on the infrastructural sector
 - Aid/FDI nexus

Economic Cooperation projects

- China holds a competitive advantage in huge projects financed by its foreign aid
- TAZARA railway (1966) was the first relevant project in Africa
- MOFCOM (2007): 800 aid projects in Africa at the end of 2006: **137 in agriculture, 133 in infrastructures** (stadiums, railways and roads), **19 schools, 38 hospitals**
- **Now, the so-called 'Angola Mode' prevails:**
 - Angola (oil/infrastructures); Gabon (iron/iron ore reserve);
 - Zimbabwe (chromium/coal mines and thermal power stations);
 - Sudan (oil/power plant); Republic of Congo (oil/dam);
 - Nigeria (oil/power plant); Ghana (cocoa/hydro power);
 - Guinea (bauxite/dam); DRC (copper and cobalt/infrastructures)

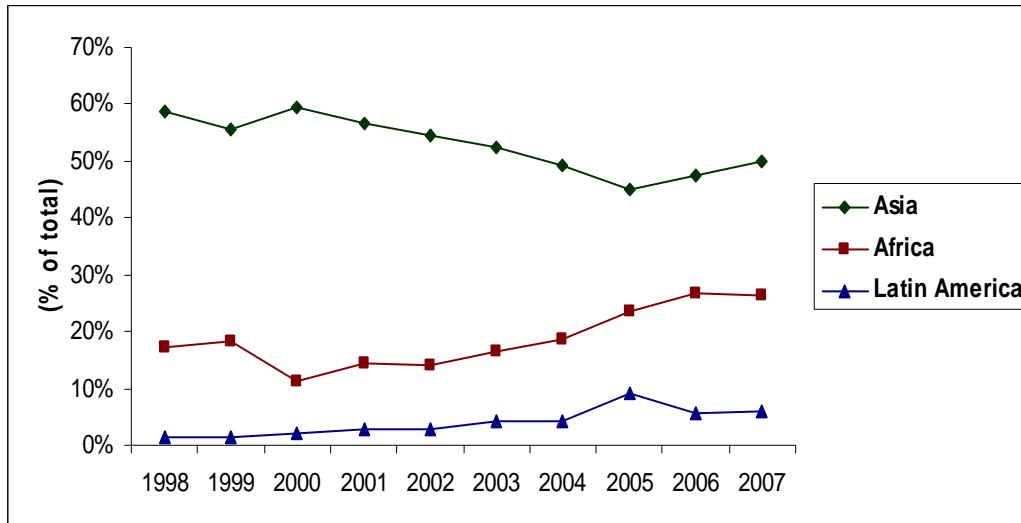
China's economic cooperation with fragile countries

- In some 'fragile' countries the role of China and other emerging donors is becoming relevant, also as a consequence of other donors' withdrawal (OECD, 2008; Alden, 2005).
- China's model of international cooperation with "no strings attached" is very popular in Africa.
- A consistent number of African fragile countries (such as Angola, Cameroon, Republic of Congo, DRC, Cote d'Ivoire, Eritrea, Liberia, Nigeria, Sudan, Togo and Zimbabwe) have received concessional loans from China Exim-Bank (OECD, 2008).
- The most important partners of China in Africa perform bad in terms of political freedom and the quality of governance (Pehnelt, 2007).
- **Rising Chinese engagement in 'rogue states' such as Sudan and Zimbabwe**, (Woods, 2007 and Brautigam, 2008), Strong military ties of China with **Sudan and Zimbabwe** (Shinn, 2008)

Concerns over Chinese concessional finance to Africa

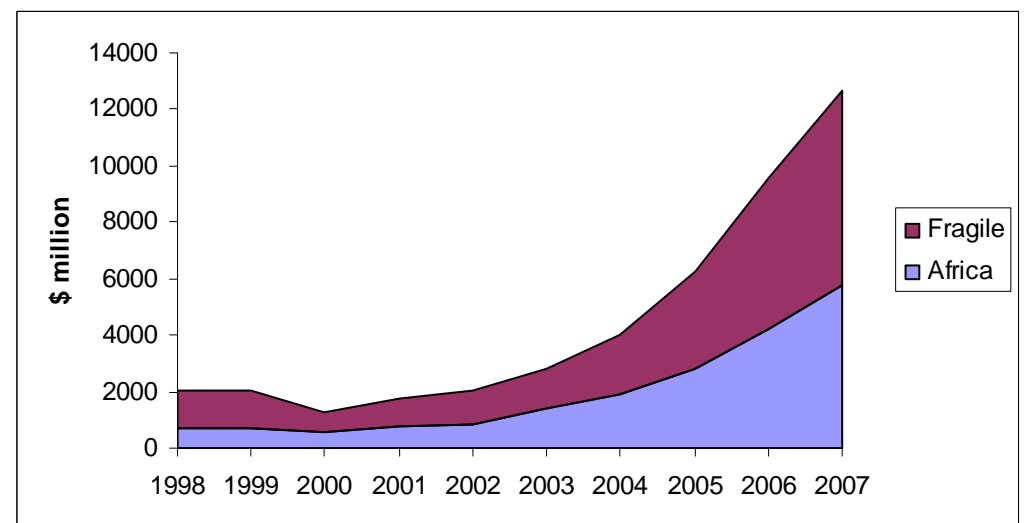
- Free riding on debt relief and debt sustainability of African countries
- Increase transaction costs of aid provision among donors (Aid Harmonization)
- Growing outflows to “fragile” countries, regardless their governments legitimacy

Chinese Economic Cooperation

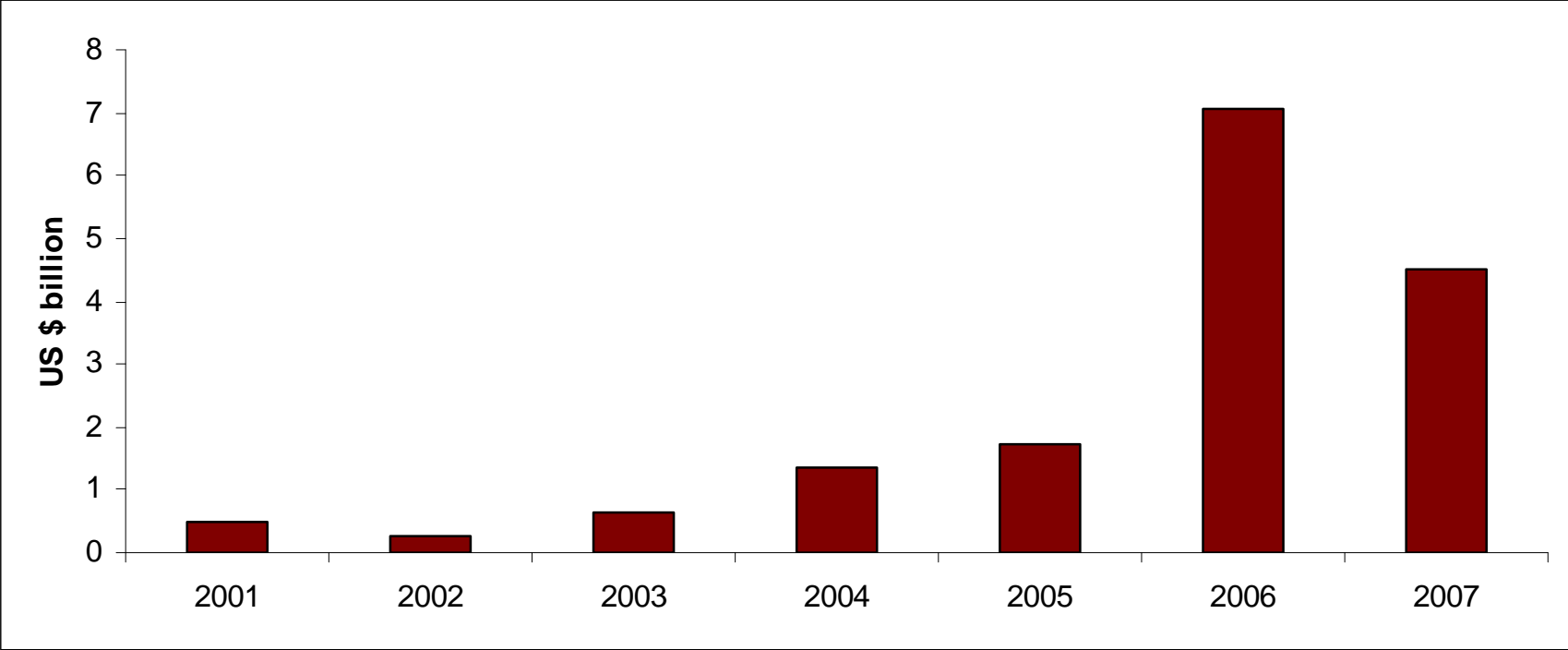


An increase for Africa in both relative and absolute terms in the last decade.

Flows to fragile countries increased more and account for an average of 57% of total.

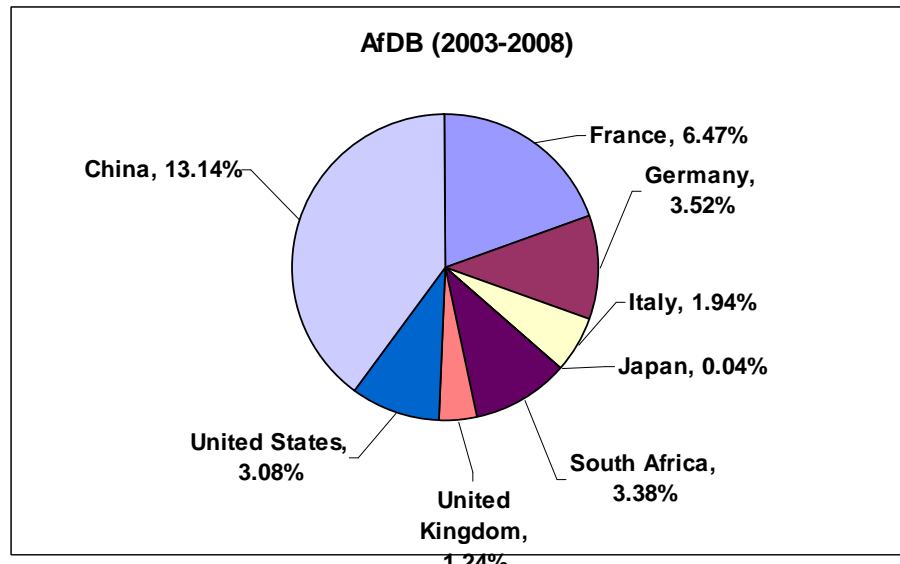
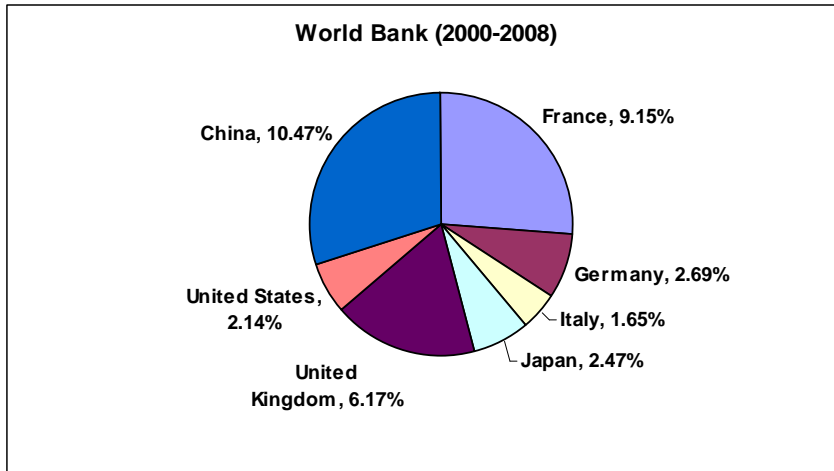


Particularly high in the Construction Sector



“Building Bridges”, World Bank (2008)

China gets over 10% of international bids in Africa

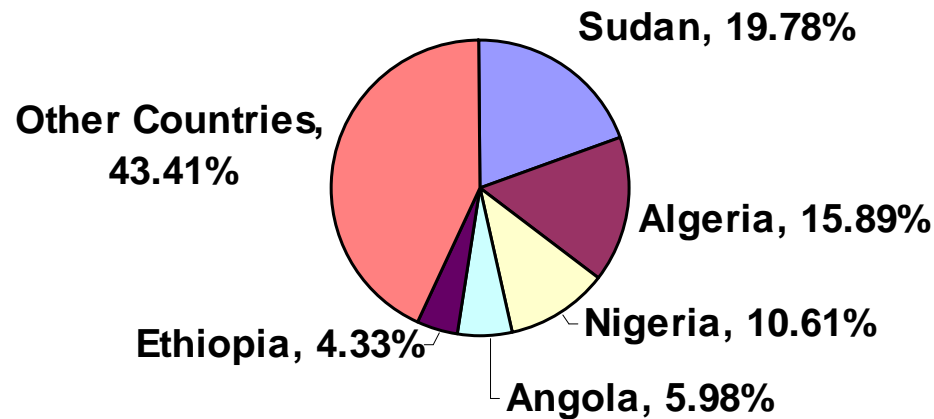


Over the last few years, China has displaced western contractors in international procurement bids financed by World Bank and AfDB in Africa

The top 5 recipients get 56% of Chinese economic cooperation flows..

Even if Chinese projects are spread almost everywhere in Africa

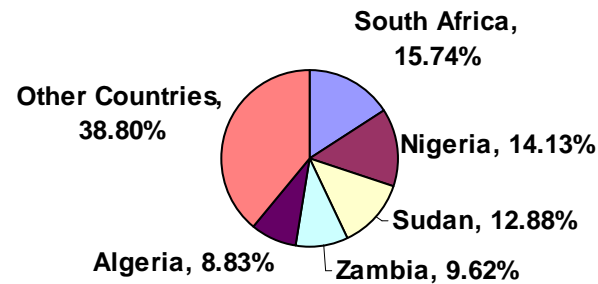
Cumulated Stock of Economic Cooperation, 1998-2007



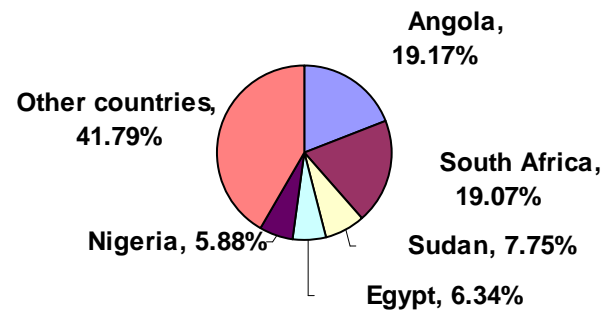
All the top 5 are fragile countries

..and are China's main trade partners and FDI recipients, too

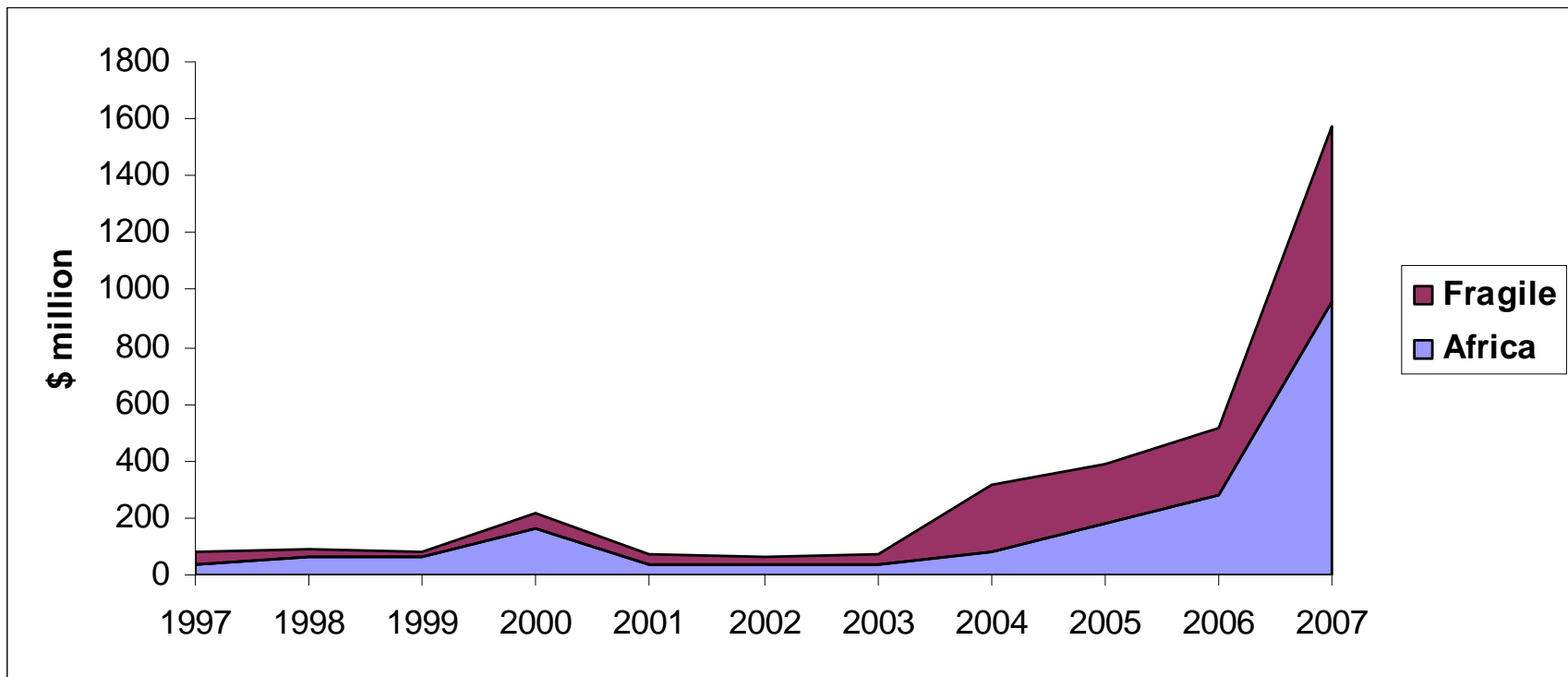
Stock of Chinese FDI to Africa, 2007



Total trade (EXP+IMP) China-Africa, 2007



The second channel: FDI



Chinese FDI to Africa

- 3 main types of Chinese FDI in Africa (World Bank, 2004):
 1. Target the Chinese market (import of natural resources)
 2. Target the African markets (export of low-cost manufactures)
 3. Target the World markets (tariff-jumping)
- Up to 2000, FDI were concentrated in natural resources and textiles (UNCTAD, 2007)
- Now, investments in infrastructures linked to natural resources' extraction and telecommunications prevail, involving mainly SOEs
- Private SMEs are investing in manufacturing

Source	Country			Sector	Employment
Campos and Vines (2008); Corkin (2008)	Angola			Construction (56%); Industry (29%); Retail (10%); Fisheries (2%) and Commerce (1.6%)**	n.a.
Ogunkola et al. (2008)	Nigeria	1999-2006	30 projects	Agro-allied industry, telecommunications (Private), Oil&Gas (Public)	n.a.
Maglad (2008)	Sudan	2006-2007	31	Construction (26%); Plastic products (19%); Machinery and electrical appliances (16%)	n.a.
Onjala (2008)	Kenya	2000-2006		Manufacturing (10%) and Services (10%)	5097
Mwanawina (2008); Kragelund (2008)	Zambia	1993-2006		Manufacturing (17%) and Services (12%)	10221
Tsikata et al. (2008)	Ghana	2001-2006	249	General trade (51%), Retail (33%);	n.a.
Razafindrevonona et al. (2008)	Madagascar	2000-2006	146	Manufacturing (33%), Retail (23%), were financial firms, 20% goes to wholesale trade	6041
Sanogo (2008)	Mali	2006	5	Chemicals, Agro-food industry, manufacturing	148

Chinese SOEs form
 JVs with local
 partners, being
 financed by Chinese
 loans and aid

ANIP does not record
 investments in oil and
 diamonds...

96% of total
 employment by
 Chinese MNEs is
 local

Half of the
 employment is in the
 manufacturing

FDI-Economic Cooperation nexus

- The most clear example of China's political and economic approach in Africa is Chinese 'state capital' approach promoted by Exim Bank lender's activities which involve SOEs in huge projects (Corkin and Bulke, 2008)
- "The Chinese Government regularly commissions SOEs for infrastructural aid projects in countries where it wishes to expand its sphere of influence. **The government selects construction companies for these projects through a competitive tendering process conducted in China open to all Chinese companies**" (Centre for Chinese Studies, 2007)
- "**As the "going out" of Chinese enterprises has become an official goal of the government, China's OFDI in Africa has been actively facilitated by the government aid programmes**" (OECD, 2008)
- China Exim Bank supports widely China's 'Going Out' policy, by financing domestic companies to move overseas. Chinese contractors, however, do not qualify as foreign investors given that do not risk their own equity capital but are indirectly financed by the Government, and, in addition, they do not gain control of any foreign affiliate (World Bank, 2008).

Does Economic Cooperation cause FDI?

Granger Causality test results on aggregated variables (1998-2007)

Ec. cooperation does not Granger-cause OFDI flow		
lag1	Chi2	25.83
	p>chi2	0.0000
lag2	Chi2	48.05
	p>chi2	0.0000
Ec. cooperation does not Granger-cause OFDI stock		
lag1	Chi2	9.78
	p>chi2	0.0018
lag2	Chi2	15.53
	p>chi2	0.0004
OFDI flow does not Granger-cause Ec. Cooperation		
lag1	Chi2	0.89
	p>chi2	0.3444
lag2	Chi2	3.76
	p>chi2	0.1525
OFDI stock does not Granger-cause Ec. Cooperation		
lag1	Chi2	2.18
	p>chi2	0.1401
lag2	Chi2	2.39
	p>chi2	0.3027

**IT DOES....
WE REJECT THE
NULL OF NO
CAUSALITY**

**NOT TRUE FOR THE
CAUSALITY FDI –
ECONOMIC
COOPERATION**

Will Chinese FDI keep increasing?

- Official announcements indicates an increase of aid
- Figures are planned to rise further in the next few years:
 - \$ 5 billion China-Africa Development Fund
 - 3 to 5 Special Economic Zones in strategic countries in Africa (e.g. Mauritius, Zambia, Tanzania)
- **Effects of the financial crisis still uncertain:**
 - in Congo and Zambia Chinese mining companies have left local mines in correspondence with the slowdown in prices of raw materials (e.g. copper), mine closures in Guinea and delays in the sign of new agreements between China and Gambia (Herbst and Mills, 2009; Farooki, 2009)
 - New, huge, investment agreement worth \$ 2.3 billion was signed with Liberia for iron ore mining (Farooki, 2009)

Market seeking

- *Chinese FDI to Africa are attracted by countries with high market potential*
- *Chinese FDI are motivated by the need to establish export platforms to export in third countries enjoying preferential treatments with African countries*

Variables	IGNI	OIL	CONF	CIVIL	INFL	TEL	LIT	IFDI	AGOA	LDEBT
Coefficient	1.918	2.271	-0.245	0.155	0.004	0.092	0.03	0.029	0.568	-0.538
t-stat	(6.60)***	(2.28)**	(1.94)*	-1.52	(3.22)***	(1.70)*	(2.84)***	(1.77)*	(4.08)***	(2.69)***

Natural Resource-seeking

- *Chinese investments to Africa are motivated by the search for a long term access to natural resources (especially Oil)*

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Risk aversion & Aid-FDI nexus

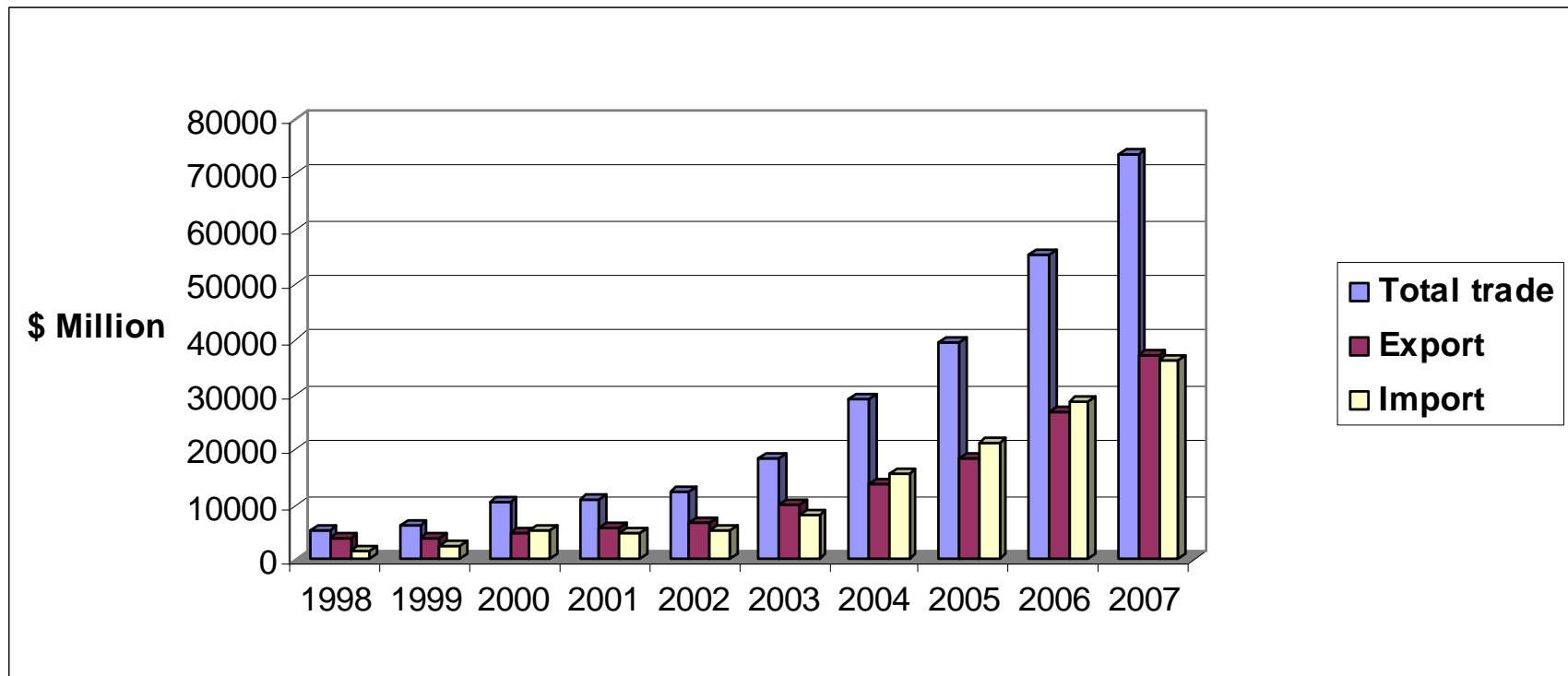
China seems to be risk lover (both Political – civil- and Economic –inflation and debt- variables)!

FDI are positively influenced by cooperation of the previous period (confirming Granger test)

	IOFDI98_07	ICOOP98_07
IGNI	1.113 (3.37)***	2.937 (3.82)***
OIL	3.150 (3.39)***	6.885 (3.18)***
CONF	-0.209 (1.71)*	0.050 (0.18)
CIVIL	0.188 (1.83)*	0.609 (2.55)**
INFL	0.003 (2.86)***	-0.004 (1.36)
TEL	0.105 (1.81)*	-0.022 (0.16)
LIT	0.017 (1.59)	-0.105 (4.18)***
IFDI	0.033 (2.07)**	0.024 (0.66)
AGOA	0.655 (3.36)***	0.478 (1.04)
IDEBT	-0.123 (0.56)	1.722 (3.40)***
ICOOP	0.055 (2.70)***	
Observations	352	352
R-Squared	0.9974	0.9878
Country fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Wald test(chi2) †		137.48

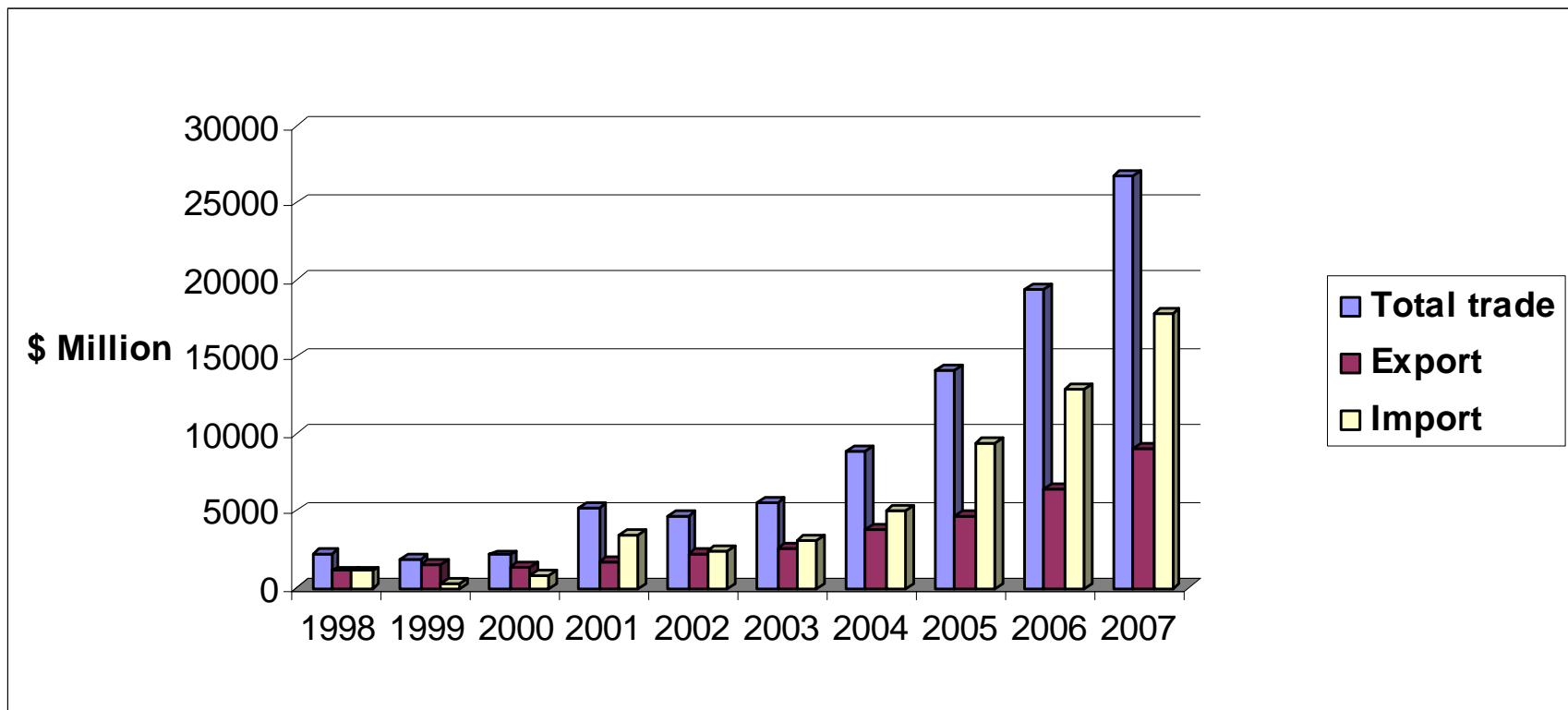
Third channel: trade

China-Africa trade is increasing



and in 2007 China has a small surplus...

..but not in trade with fragile countries



A focus on the manufacturing sector

- Still residual in most African countries export basket (UNCTAD, 2008)
- Lagging behind in terms of sophistication (Hausman et al., 2007; UNIDO, 2009)
- Very few success stories (i.e. Mauritius)
- Page (2009) has identified a group of 17 “African Achievers”
- The group includes also low income countries and is characterized by an higher concentration of exports in a small number of products and by a geographic distribution of markets skewed towards advanced countries
- This, however, makes these countries at risk due to the economic crisis
- Especially in Europe, where preferential trade measures (EBA) have underperformed compared to AGOA due to more restrictive rules of origin (Collier and Venables, 2007)

The African manufacturing sector faces several constraints

- Structural factors such as the lack of an access to the sea, poor infrastructures and huge costs of doing business as well as the inability to take advantage of economies of scale (UNECA, 2006; Carey et al., 2007)
- In addition, African countries have not been able to reap the benefits of international division of labor through the integration into global production networks, including commodity based sectors (Lall, 2005; Broadman, 2007).

“China Effect”

- Is China’s entry in the world market a new structural barrier to Africa’s exports in the manufacturing sector ?
- China has contributed to a reduction in world prices of manufactures (Kaplinsky, 2005)
- Compared to China, Africa is substantially lagging behind in terms of productivity, quality, indirect costs of trade (World Bank, 2007; Eifert et al., 2005; Subramanian and Matthjis, 2007)

The “China Effect” on the trade channel

(Kaplinsky, McCormick, Morris, 2006 & Kaplinsky and Morris, 2008)

	DIRECT	INDIRECT
COMPLEMENTARY	<ul style="list-style-type: none"> • Inputs for industries • Welfare gains for consumers from cheaper imports of manufacturing goods • Growth of exports to China 	<ul style="list-style-type: none"> • Higher global prices for commodities' exporters
COMPETITIVE	<ul style="list-style-type: none"> • Displacement of existing and potential local producers by cheap Chinese products 	<ul style="list-style-type: none"> • Increased competition from China for African exports to third markets (falling prices of manufacturing & falling market shares)

We estimate the competitive/indirect effect of China on African exports in the manufacturing:

$$\Delta X = f(\overset{+}{\text{GDPgrow}}, \overset{-}{T}, \overset{+}{TF}, \overset{+/-}{\Delta\text{CH_EXP}})$$

China crowds-out African exports at the industry level..

(ISIC-rev.2)

$\Delta \ln X$	Manufacturing	Textiles, Wearing, Apparel and Leather	Machinery and Equipment
$\Delta \ln Ch_exp$	-0.072	-0.067	-0.118
	(10.69)***	(3.31)***	(9.94)***
gdpgrow_i	0.065	0.091	0.066
	(22.15)***	(11.27)***	(14.63)***
gdpgrow_j	0.072	0.106	0.105
	(15.15)***	(7.58)***	(13.17)***
ldist_ji	-0.012	-0.038	-0.009
	(11.23)***	(11.70)***	(5.30)***
landlocked	-0.038	-0.021	-0.046
	(17.78)***	(2.35)**	(15.39)***
agoaUS	0.032	0.05	0.046
	(5.93)***	(2.72)***	(6.16)***
ebaEU	0.034	0.027	0.036
	(14.50)***	(3.14)***	(10.71)***
comesa	0.037	0.052	0.032
	(6.70)***	(3.68)***	(2.91)***
ecowas	-0.01	-0.072	-0.02
	(1.90)*	(4.79)***	(1.91)*
euromedEU	0.04	0.015	0.046
	(14.17)***	(1.76)*	(10.56)***
Constant	-0.076	0.035	-0.086
	(7.83)***	-1.17	(5.81)***
Observations	2963313	304121	1356693

Note the negative and significant Coefficients of Chinese exports

..and at the geographic level

$\Delta \ln X$	Main partners	Africa	SSA	SSA-SSA
$\Delta \ln Ch_exp$	-0.057	0.03	-0.074	-0.093
	(2.17)**	(1.78)*	(3.90)***	(4.49)***
gdpgrow_i	0.052	0.054	0.069	0.076
	(12.76)***	(4.82)***	(5.93)***	(6.01)***
gdpgrow_j	0.563	0.024	0.108	0.123
	(16.31)***	(1.89)*	(7.98)***	(8.32)***
ldist_ji	-0.016	0.006	-0.009	-0.009
	(11.16)***	-1.61	(2.54)**	(2.42)**
landlocked	-0.018	-0.06	-0.037	-0.035
	(6.38)***	(7.27)***	(4.81)***	(3.97)***
agoaUS	0.04			
	(5.49)***			
ebaEU	0.02			
	(6.20)***			
comesa		0.004	0.06	0.075
		-0.39	(4.57)***	(5.23)***
ecowas		0.018	0.016	0.022
		(2.67)***	(2.54)**	(3.10)***
euromedEU	0.013			
	(3.83)***			
Constant	0.021	-0.289	0.19	0.216
	-1.58	(10.01)***	(4.18)***	(4.34)***
Observations	1332157	529828	515568	471445

Note the negative and significant coefficient of Chinese exports on intra-SSA trade

“What’s in it for Africa?”- the Cons

- No information on Chinese aid effectiveness
- No clear relations with some “fragile” country (Sudan, Zimbabwe) and doubts on the principle of non-interference (Carmody and Taylor, 2008)
- No control over the determinants of investment flows (market size, natural resources, trade agreements)
- Positive spillover from investments are negligible (in terms of employment and technology transfer)
- Crowding-out of African exports

“What’s in it for Africa?”- the Pros

- Huge financial flows to countries left behind
- Chinese aid is “quick, inexpensive and highly visible” (Aschee, 2008)
- China is building incredible number of infrastructures
- Opportunity to enter Global Value Chains governed by Chinese Multinationals
- Geographic diversification of African exports
- “Calling for (re)-action” traditional partners