African Review of Economics and Finance | ISSN 2042-1478 | Volume 8 | Issue 1 | June 2016

Fostering structural change? China's divergence and convergence with Africa's other trade and investment partners

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Abstract

The paper analyses the divergence and convergence of the characteristics of China's economic relationships with Africa – trade, investment and aid – with Africa's 'traditional' partners, i.e. Western industrialised countries. It argues that these relationships may foster structural transformation of African economies. The latter have indeed exhibited spectacular growth rates since the early-2000s, which have partly been driven by China, via China's demand for goods produced in sub-Saharan Africa and its contribution to high commodity prices. In addition, China's relationships with sub-Saharan Africa are driven by investment, not only in African countries' infrastructure, but also in industrial sectors, both being key determinants of structural transformation. The paper reveals the convergence of the trade relationships between China and sub-Saharan Africa with those of industrialised countries and sub-Saharan Africa, in particular similar ambivalent effects (the detrimental effects of commodity-based trade patterns and the positive effects of investment). However, in addition to differences regarding conditional aid, China's specific modalities regarding trade and investment may make an original contribution to sub-Saharan Africa's structural transformation.

Keywords: Sub-Saharan Africa; China; trade; investment; aid

1. Introduction[1]

China has been a major trading and investment partner of sub-Saharan African (SSA) economies since the early-2000s, with the economic impact of China's relationship with SSA having become the subject of an increasing literature. The paper analyses the divergence and convergence of the characteristics of China's economic relationships with Africa – trade, investment and aid – with those of Africa's 'traditional' partners, i.e. Western industrialised countries. The paper argues that these relationships may foster the structural transformation of SSA economies, including productivity growth and industrialisation.

Sub-Saharan Africa has indeed exhibited spectacular growth rates since the early-2000s, which have been driven by China via direct and indirect transmission channels, notably China's demand for SSA goods and China's contribution to high international commodity prices, SSA export structures being characterised by a high proportion of primary commodities. A long period of high growth rates, together with improved fiscal room for manoeuvre, may constitute a genuine opportunity for structural transformation for SSA. Equally, commodities may create linkages towards industrialisation. In addition, China's relationships with SSA are also driven by increasing investment, not only in SSA infrastructure, but also in industrial sectors, both being key determinants of diversification and structural transformation.

The paper reveals the convergence of the trade relationships between China and SSA with those between industrialised countries and SSA – its 'traditional' partners -, in particular similar ambivalent effects: i.e., the detrimental effects of the commodity-based trade patterns and positive effects of investment. The paper, however, shows the specificities of China's impact on SSA: in addition to differences in the matter of development cooperation and conditional aid (absence of conditionalities), China's specific modalities regarding trade and investment (notably in manufacturing) may make an original contribution to SSA industrialisation and structural transformation.

The paper is structured as follows. Firstly, it underscores the convergence of China with SSA's 'traditional' partners regarding trade and foreign direct investment. Secondly, it shows China's divergence vis-à-vis industrialised countries – regarding aid - and its potential contribution to SSA structural transformation.

1 Aspects of this paper have been published in the Proceedings of the 13th African Studies Conference, *Africa's Growing Role in World Politics*, T. Deych et al. eds., Moscow, Institute for African Studies of the Russian Academy of Sciences, 2014.

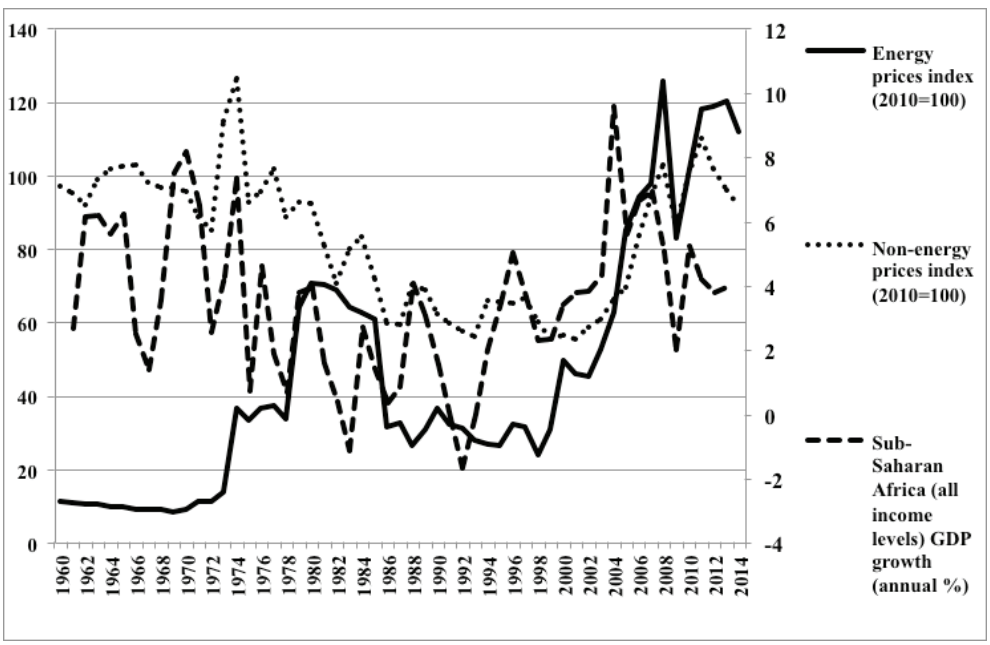
2. China's trade and investment policies: convergence with industrialised countries

2.1. The pattern of trade between sub-Saharan Africa and China: China's convergence with industrialised countries

(a) A similar trade pattern: trading commodities

Sub-Saharan Africa is characterised by an export structure that is based on commodities for its exports to all countries, developed and emerging –more than 75% of total exports in some SSA countries (World Bank, 2012). Both for fuel and non-fuel exporters, it is this distorted structure that has been the main driver of growth during the 2000s (5% in 2014, 4.5% in 2015, IMF, 2015), because of the increase in commodity prices (fuels and non-fuels) between the early-2000s and 2014, moreover with co-movements between all prices (Baffes and Haniotis, 2010) (*Figure* 1).

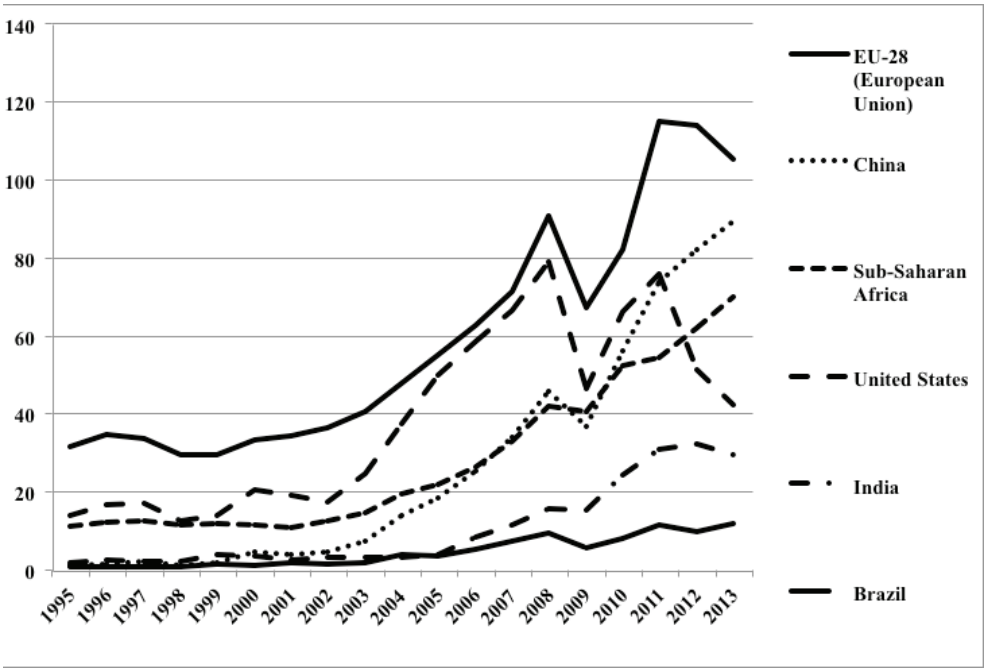
Figure 1: Sub-Saharan Africa: GDP growth rate (right scale) and commodity prices (2010=100, real 2005 US dollars, left scale), 1960-2014



Source: World Bank commodity prices data ('pink sheet') and World Bank World Development Indicators, March 2015.

Sub-Saharan African countries exported in 2013 a lower share of their products to their 'traditional partners' (the US and the EU countries) than in the previous decade, and a greater share to emerging countries, in particular China (*Figure* 2).

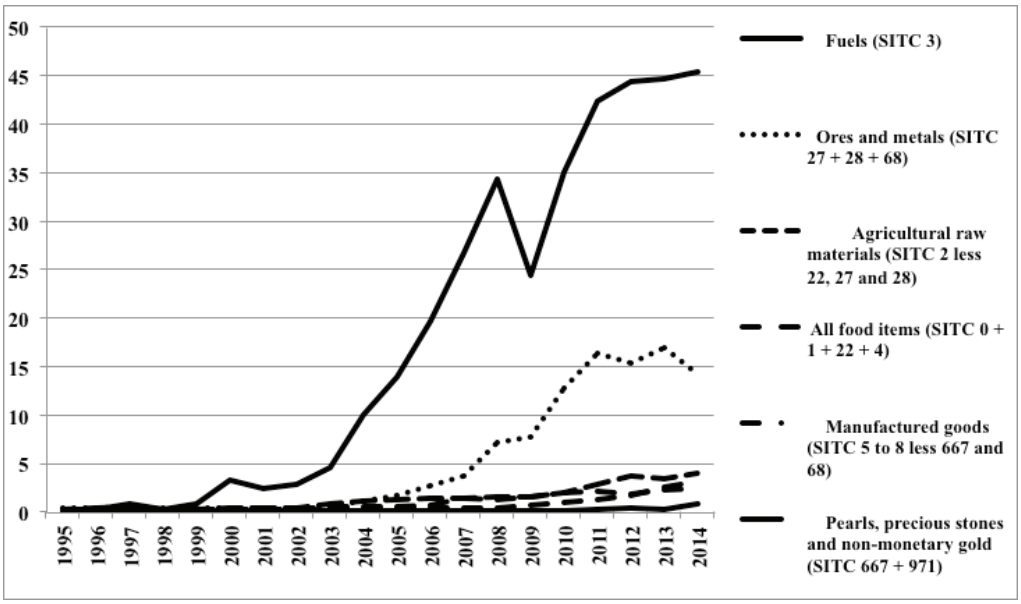
Figure 2: Sub-Saharan Africa: total exports, all products, billions US dollars, annual, 1995-2013



Source: UNCTAD Statistics: http://unctadstat.unctad.org, May 2015.

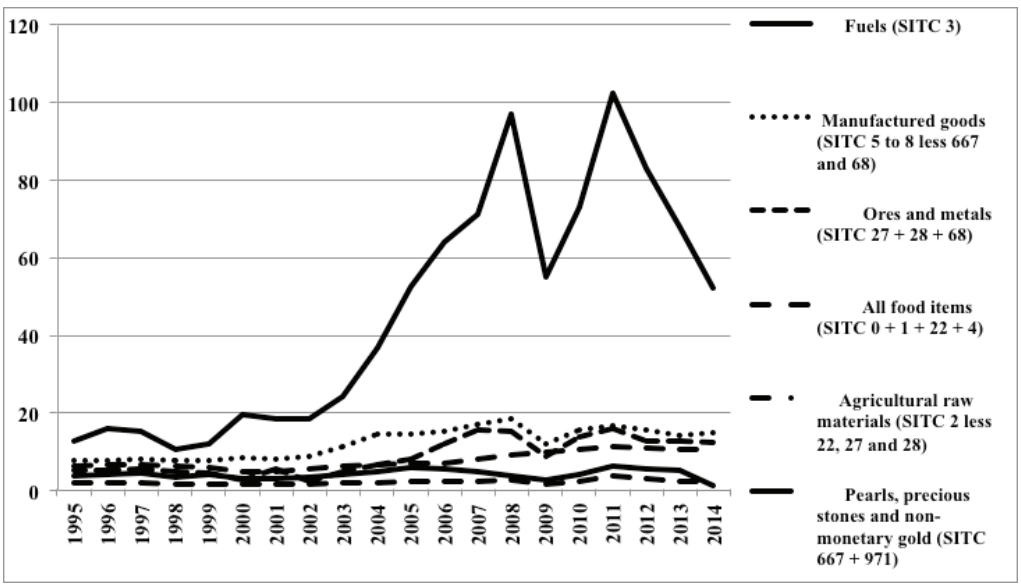
The sustained demand for SSA commodities by China represents a diversification of partners. A key point is that regarding its trade pattern with SSA, China does not exhibit any 'exceptionalism' (in contrast with its claims in the domain of international relations, Alden and Large, 2011), and China's trade pattern with SSA converges with the century-old pattern of developed countries (European countries and the United States). Western countries' trade commodities with SSA since the colonial period and their trade patterns still broadly follow the model of the 'small colonial open economy' – exporting commodities, importing manufactured products (Hopkins, 1973). China imports primary commodities ('hard' commodities, e.g. minerals, notably oil or metals, and 'soft' commodities, such as agricultural raw materials) from SSA and exports industrial products to the continent (Ye, 2010) (*Figures* 3a and 3b).

FIGURE 3A: SUB-SAHARAN AFRICA EXPORTS TO CHINA BY KEY PRODUCT GROUPS, 1995-2014, BILLIONS US DOLLARS



Source: UNCTAD Statistics: http://unctadstat.unctad.org, November 2015.

FIGURE 3B: SUB-SAHARAN AFRICA EXPORTS TO G8 COUNTRIES BY KEY PRODUCT GROUPS, 1995-2014, BILLIONS US DOLLARS



Source: UNCTAD Statistics: http://unctadstat.unctad.org, November 2015.

In 2014, primary commodities, precious stones and non-monetary gold thus represented 96.4% of SSA exports to China (67.3 billion US dollars out of a total of 69.8 billion), and 83.7% of SSA exports to G8 countries (78.5 billion US dollars out of a total of 93.7 billion).[2]

China continues this pattern of commodity-based export structure, via two channels: China's contribution to high international commodity prices and Chinese demand for SSA products. China has indeed become the first importing country in the world, and notably of primary commodities.[3] While China's impact on world trade and prices varies by commodity, China's demand and imports have become over the 2000s a central driver of high prices in a significant number of commodities (Akyüz, 2012), especially metals (e.g., aluminium, copper, iron) and agricultural raw materials (Roache, 2012). China is now the first energy consumer in the world (IMF, 2011a).

China also follows the same trade patterns as developed countries (European countries and the United States) regarding its exports to SSA, i.e. it exports industrial products. China's exports to SSA, however, are made up of products that are more situated in the low-end than those from developed countries. China's exports to SSA are different from its exports to developed countries, which involve more sophisticated products – as is the case for the trade of developed countries between themselves. China's trade is indeed driven by its comparative advantage in labour-intensive production and economies of scale in its shipping and light manufacturing sectors (Eisenman, 2012).

China's exports of low-end cheap manufactured products may be a threat to SSA manufacturing sectors and may strengthen the specialisation of SSA commodity-exporters in this export pattern (Kaplinsky and Morris, 2008) – which has been compounded by the appreciation of SSA countries real exchange rates relative to the Chinese renminbi (Guillaumont-Jeanneney and Hua, 2015). Moreover, even if they have declined relative to China over the 2000s, relative unit labour costs remain high in many SSA countries, which affects their competitiveness in labour-intensive manufacturing (Ceglowski et al., 2015). This detrimental impact of Chinese exports has been demonstrated and measured

2 Source: UNCTAD statistics: http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx. Primary commodities are defined by UNCTAD as the categories 0+1+2+3+4+68 of the United Nations Standard International Trade Classification (SITC).

3 Jamil Anderlini and Lucy Hornby, China overtakes US as world's largest goods trader, *Financial Times*, 10 January 2014: http://www.ft.com/intl/cms/s/0/7c2dbd70-79a6-11e3-b381-00144feabdc0.html#axzz32aXUvTX5

in the case of South Africa's exports of manufactures (Jenkins and Edwards, 2015), as well as employment and output in the manufacturing sector (Edwards and Jenkins, 2015) (for the periods 1997-2010 and 1992-2010 respectively) and particularly affects South African low-technology labour intensive industries. China's exports may thus have a negative impact on the possibility of structural transformation in SSA and therefore long-term growth. Yet China also exports machinery to SSA (e.g., excavators, bulldozers, etc). As argued by Poon (2014), Chinese technology capacities in medium technology machinery equipment sectors can be particularly helpful in filling gaps and bottlenecks that affects SSA manufacturing sectors - this sector has been viewed since Arthur Lewis' studies as a key route towards sustained growth.

*(b) The negative economic effects of a commodity-based export structur*e

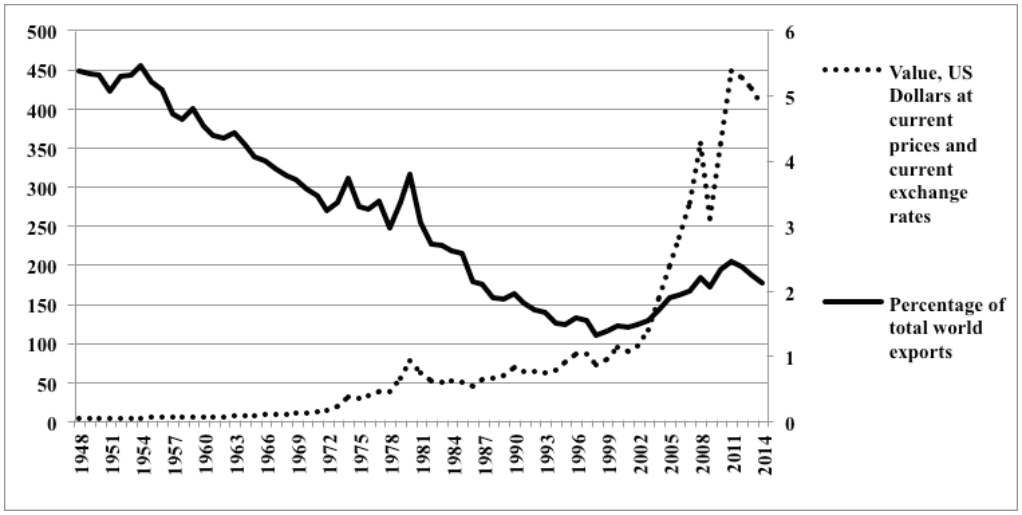
High commodity prices represent a positive gain for SSA exporters of these commodities, as they imply an enhanced fiscal space, hence more space for investment, which is a key determinant of long-term growth. Yet this commodity-based trade pattern has notorious negative effects (Sindzingre, 2012; Robinson and Sindzingre, 2012). Among them is the inherent volatility of commodity prices, which, in turn, spawns volatility in fiscal receipts and thereby the ratchet effects that may stall investment or generate unsustainable debt for investments already implemented - in addition to 'Dutch disease' (Nissanke and Kuleshov, 2013). Price shocks affect both exporters and importers: in oil-rich countries government revenues from natural resources represented 60% of total government revenues in 2011 (World Bank, 2012), while most SSA countries are oil importers and also vulnerable to oil price volatility. Price volatility has a negative impact on GDP growth rates for SSA countries not only because prices may decline, but also because volatility *per se*, i.e. repeated price shocks, is detrimental to long-term growth.

Indeed, after a remarkable increase during the 2000s, commodity prices (oil prices in particular), witnessed a sharp decrease at the end of 2014 due to several factors, including the US production of shale gas and oil and a deceleration of China's growth, with detrimental effects in terms of growth and fiscal revenues on SSA oil producers.[4]

This distorted export structure also affects SSA trade and explains the decrease of SSA's share in global exports, despite the increase of SSA exports in absolute value (*Figure* 4).

4 See http://blog-imfdirect.imf.org/2014/12/22/seven-questions-about-the-recent-oil-price-slump

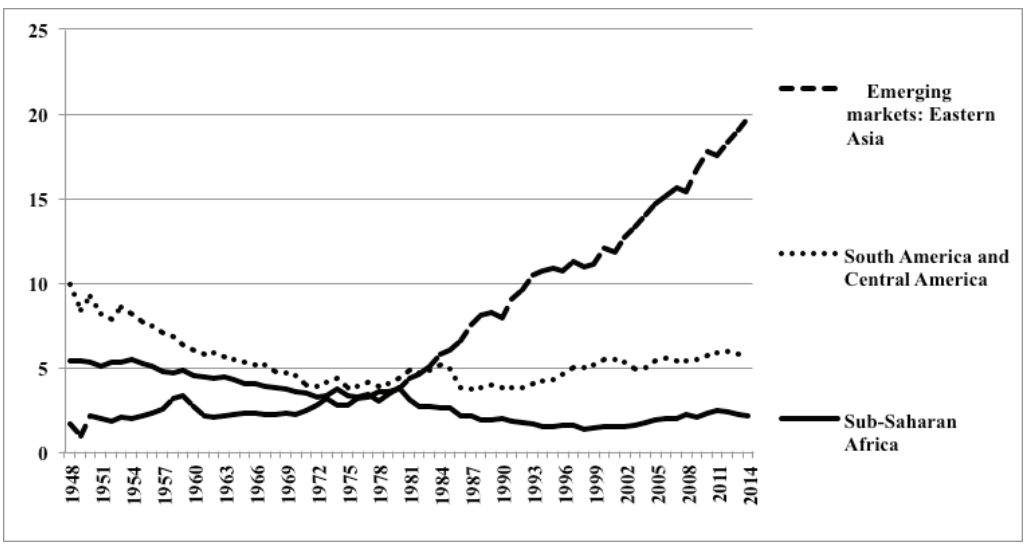
Figure 4: Sub-Saharan Africa's merchandise exports: percentage of world exports (right axis) and value (left axis), 1948-2014 (billions US dollars)



Source: UNCTAD Statistics: http://unctadstat.unctad.org, November 2015.

In other words, other countries trade goods with greater value added, thus generating more divergence than convergence of SSA with other countries (*Figure* 5).

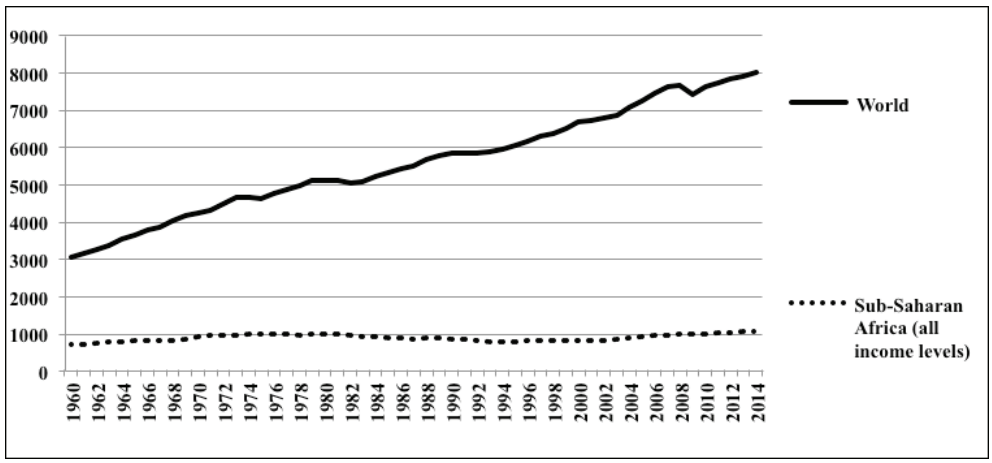
Figure 5: Share in world merchandise exports by region, 1948-2014 (percent)



Source: UNCTAD Statistics: http://unctadstat.unctad.org, November 2015.

Similarly, when SSA growth performances are put in a longer-term perspective, the broad picture is that of a divergence vis-à-vis other regions (*Figure* 6).

Figure 6: GDP per capita, Sub-Saharan Africa vs. the world, 1960–2014, constant 2005 US dollars



Source: World Bank World Development Indicators, March 2016.

In addition, SSA countries' trade and investment domestic policies may have little effect on their growth rates if the latter depend on price fluctuations that are determined by the growth and demand of other countries (the United States, European countries, China) and on the vagaries of trade partners' domestic policies. A key point is that the contribution of China does not exhibit any specificity as compared to SSA's 'traditional' partners and the increase in trade with China may just be a 'diversification of dependence' (Taylor, 2014a).

Equally, high commodity prices strengthen SSA commodity exporters' incentives to remain commodity producers (Sindzingre, 2013). These incentives also create crowding-out effects vis-à-vis the possibility for entrepreneurs to invest in industries and build industrial sectors, which are the best routes towards growth. Another key negative impact on growth of the dependence on primary commodities for exports is the low value added of commodities (compared with manufactured products) and the low productivity of commodity sectors, especially agriculture. Yet long-term growth is based on structural transformation: i.e., the shift from a regime of low-productivity to a regime of high-productivity (usually manufactured products): indeed, the difference in the productivity levels between high-income countries and SSA remains very large (Rodrik, 2011). Therefore, Chinese investment in SSA manufacturing sectors may have a significant positive impact.

2.2. Investment in sub-Saharan Africa by Chinese firms

(a) The convergence in the determinants of foreign direct investment in SSA by industrialised countries and China

Chinese foreign direct investment (FDI) is difficult to compute and available statistics are difficult to handle (Pairault, 2013a), due in particular to the use of tax havens and 'roundtripping' of FDI (Milelli and Sindzingre, 2013; Pairault, 2013b). China's FDI in SSA is equally difficult to analyse as Chinese official statistics (e.g., produced by China's Ministry of Commerce) underestimate actual FDI flows from China (Kolstad and Wiig, 2009), notably because of this 'roundtripping' and the use of offshore financial centres.[5] Chinese official statistics may be inconsistent with SSA countries national statistics on FDI, as in the case of South Africa: the official Chinese data on China's FDI stock in South Africa at end-2007 were 10 times larger than the official South African assessment, but for end-2008, the South African figure was 20% larger than the Chinese one (Gelb, 2010: 6). They also do not enable any cross-comparison (Pairault, 2013b) and are moreover ambiguous, as they may include in FDI services related to infrastructure (e.g., provision of equipment and construction), though such services are not FDI according to OECD, IMF or UNCTAD definitions (Pairault, 2013a).[6] For their part, UNCTAD data do not disaggregate Chinese FDI in SSA by sector.[7] Also, as shown by Deborah Brautigam, some studies use data from media reports that may not correspond to effective investment.[8] Figures may be reliable when a specific survey has been carried out in a given country, region or sector.

China's FDI in SSA does not represent an important part of total Chinese outward investment: according to China's Ministry of Commerce data, in 2014 China's FDI flows to 'Africa' represented only 2.6% of China's total FDI flows (to be compared to 69% to Asia) (CAITEC, 2015) (data for SSA are not provided). For SSA, however, China's FDI represents a rising share of its total inward

5 Ministry of Commerce (MOFCOM) data therefore 'doesn't tell us that much', as shown by Deborah Brautigam: see her post 'Updated!' China and US FDI Data: http://www.chinaafricarealstory.com/p/chinese-fdi.html

6 According to the IMF Balance of Payment Manual and OECD definition of FDI, 'FDI refers to an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor. (…) the investor´s purpose is to gain an effective voice in the management of the enterprise'. http://unctad.org/en/Pages/DIAE/Foreign-Direct-Investment-(FDI).aspx

7 UNCTAD data on Chinese FDI are in fact based on those provided by MOFCOM. See data on China on http://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDI-Statistics-Bilateral.aspx

8 See Deborah Brautigam's posts on this issue, e.g. 'Rubbery Numbers for Chinese Aid to Africa', 30 April 2013: http://www.chinaafricarealstory.com/2013/04/rubbery-numbers-on-chinese-aid.html

FDI (IMF, 2011b). Chinese investment in SSA countries exhibit wide variations and differences: it may represent an important share of inward FDI in some SSA countries, while in a large and diversified economy such as South Africa, China is not even the first emerging country investor (Gelb, 2014). Table 1 shows these variations for a selection of SSA countries.

Table 1: FDI flows in the host economy by geographical origin, China and four main developed investing countries, 2001-2012, millions US dollars

		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Angola	**China**	-	-	-	-	-	22	41	- 10	8	101	73	392
	France	38	-192	-79	22	678	694	694	519	-478	1 511	979	953
	Portugal	46	-17	30	86	192	246	-1 051	-965	-512	208	524	530
	United States	342	-263	- 36	- 22	98	280	- 99	789	77	1 968	707	-
	Italy	-	-	-	-	-	-	-	149	-110	100	-70	92
South Africa	**China**	-	-	9	18	47	41	454	4 808	42	411	-14	- 815
	Luxembourg	-	108	-6	24	-32	212	771	768	1 473	220	-1 668	844
	United Kingdom	468	3 395	3 628	7 031	7 942	2 697	3 470	2 421	1 548	3 800	2 906	8 036
	United States	-86	125	232	480	82	159	1 000	306	410	779	722	250
	Germany	-1 161	-129	-252	577	476	666	782	-34	307	740	605	316
Nigeria	**China**	-	-	-	-	-	-	-	-	-	-	1 132	4 631
	Lebanon	-	-	-	-	-	-	-	-	-	-	2	12 460
	United States	8	13	14	14	33	32	40	54	57	40	119	4 532
	United Kingdom	202	322	343	336	787	774	962	1 303	1 367	964	10	3 464
	Mauritius	-	-	-	-	-	-	-	-	-	-	560	16 792
Kenya	**China**	-	-	1	3	2	-	9	23	28	101	68	79
	United Kingdom	60	48	95	86	133	114	194	123	179	301	101	-9
	France	30	11	2	6	5	6	606	-192	13	-1	17	45
	Belgium	-	-	1	-	-	-	-	-	215	123	21	-331
	Switzerland	3	-	-1	9	10	16	15	4	- 8	-168	39	16

Ethiopia	**China**	-	-	1	-	5	24	13	10	74	59	72	122
	Italy	-	-	-	-	-	-	-	41	32	10	8	-39
	United States	1	2	1	1	-2	1	-	-	-	4	2	-
	Turkey	-	-	-	-	-	-	4	6	-	-	-	1
	Germany	8	-4	9	-1	- 2	1	5	4	3	-	-	-
Zambia	**China**	..	..	..	..	..	..	15	..	76	32	333	142
	Canada	..	..	..	..	..	..	147	..	203	443	466	724
	Australia	..	..	..	..	..	..	295	..	-116	389	119	-555
	South Africa	..	..	..	..	..	..	106	..	73	-51	-94	426
	United Kingdom	..	..	..	..	..	..	106	..	-98	251	112	227
Sudan	**China**	-	-	-	147	91	51	65	-63	19	31	912	- 2
	Germany	- 5	- 11	15	1	2	1	1	3	-	-	-	-
	Italy	-	-	-	-	-	-	-	23	-	1	2	3
	Turkey	-	-	-	-	-	2	4	4	2	-	-	-
	Luxembourg	-	-	-	4	- 1	-	-	7	-	-	-	-
Gabon	**China**	-	-	-	6	2	6	3	32	12	23	2	31
	France	105	46	-33	99	138	158	275	382	54	- 8	26	207
	Italy	-	-	-	-	-	-	-	1	41	-10	6	11
	Morocco	-	-	-	-	-	-	-	-	23	151	2	-
	United States	2	-182	11	61	-166	-17	130	-439	..	..	..	-
Namibia	**China**	-	-	1	-	-	1	1	8	12	6	5	25
	Germany	3	1	2	-	1	3	4	9	164	-	-	-
	Luxembourg	-	-	-	-	-	-1	-	-	-	-	-	621
	Spain	-	-	-	-	-	-	-	-	168	-	71	-127
	Poland	-	-	-	-	-	-	-	-	-	-	-	8

Source: UNCTAD database on bilateral FDI, based on information reported by economies. http://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDI-Statistics-Bilateral.aspx

According to the criteria developed by the canonical theory of Dunning (2000), the motives of FDI may be market-seeking, efficiency-seeking, resource-seeking, and strategic-assets-seeking motives (*Box* 1).

Box 1: The four main motives of FDI according to John Dunning's framework

Dunning (2000: 164-165) distinguishes four main types of activity of foreign multinational enterprises:

1. That designed to satisfy a particular (or a set of) foreign market(s), i.e. *market seeking*, or demand oriented, FDI.
2. That designed to gain access to natural resources, e.g. minerals, agricultural products, unskilled labour, i.e. *resource seeking*, or supply oriented FDI.
3. That designed to promote a more efficient division of labour or specialisation of an existing portfolio of foreign and domestic assets by multinational enterprises, i.e. *efficiency seeking* FDI.
4. That designed to protect or augment the existing ownership specific advantages of the investing firms and/or to reduce those of their competitors, i.e. *strategic asset seeking* FDI.

Milelli and Sindzingre (2013) analysed the behaviour of Chinese multinationals in SSA using Dunning's framework: they showed that it converges with the behaviour of Western multinationals, and, in particular, they demonstrate the convergence of the determinants of Chinese FDI in developed countries (in particular Europe) and SSA. While the determinants of Chinese FDI in developed countries were initially access to their markets, these now include efficiency-seeking motives and assets-seeking motives (assets-seeking motives remaining a contrast with developing countries). FDI is driven by host countries' endowments; SSA is endowed with natural resources, therefore FDI in SSA from developed countries as well as China is mostly driven by resource-seeking motives - natural resources being strategic inputs for China's growth. Resource-seeking motives characterise both Chinese and non-Chinese FDI in developed countries when these countries are resource-rich, e.g. Australia and Canada. Moreover, as shown by the many Chinese small and medium private enterprises that invest in SSA, market access has increasingly become a determinant of Chinese FDI (Zhang et al., 2013), together with efficiency- and

assets-seeking motives. Rising labour costs in China serve as incentives for relocating abroad, particularly in labour-intensive sectors where competitiveness is driven by prices (*Table* 2).

Table 2a: Motives of Chinese FDI: Europe versus Sub-Saharan Africa

Motive	**Europe**	**Sub-Saharan Africa**
Resource-seeking		Main motive due to abundant natural resources
Market-seeking	Still first motive	New motive but rapidly expanding in order to supply local markets
Asset-seeking	Motive rapidly expanding, particularly since the 2008 global financial crisis	
Efficiency-seeking	New motive, in order to acquire skilled workforce and regionally streamline organisational structures	Relocation of Chinese firms, particularly SMEs, in low technology and labour-intensive industries

Source: Milelli and Sindzingre (2013), using Dunning' (2000) conceptual framework.

Table 2b: Processes underlying Chinese FDI: Europe versus Sub-Saharan Africa

Process	**Europe**	**Sub-Saharan Africa**
Linkage		Linkages across Chinese communities and financial institutions, and African private sectors
Leverage	Large financial resources (state-owned enterprises, state banks, sovereign wealth funds)	Large financial inflows
Learning	Learning from previous partnerships in China with Western companies Learning from Chinese failures or difficulties encountered in Europe	

Source: Milelli and Sindzingre (2013), using Mathews' (2006) conceptual framework.

For example, a combination of market-, assets- and efficiency-seeking motives was illustrated by the purchase of Standard Bank, the largest bank of South Africa (Gelb, 2014: 16).[9] The behaviour of Chinese private enterprises does not substantially differ from that analysed by canonical theories of FDI (Lin and Farrell, 2013).

Indeed, a great share of all FDI in SSA is directed towards primary resources, in particular oil. Developed countries' investors invest in SSA resource sector; for example, in Angola, the United States is the leading investor in the oil sector (GAO, 2013). As with FDI in SSA from the rest of the world, Chinese FDI in SSA is also driven by resource-seeking motives, these resources being strategic for China's own growth (oil, metals, Kragelund, 2009). As with other countries' investments, Chinese FDI in SSA is therefore driven by the endowments of host countries in natural resources (Biggeri and Sanfilippo, 2009; Kolstad and Wiig, 2011; Cheung et al., 2012, 2013; Drogendijk and Blomkvist, 2013 - these three studies underscoring that Chinese FDI in SSA is also induced by market-seeking motives, thus confirming the convergence of the Chinese FDI patterns with those of industrialised countries).[10] Equally, Chinese FDI in commodity sectors is mostly driven by large government-backed multinationals, which represent the largest share of FDI in value (an estimation being 77% of China's FDI in SSA, Xu, 2014), while Chinese small and medium enterprises dominate in numbers. Publicly-funded enterprises play a major role in Chinese FDI in SSA (Pairault, 2013a, b), and this may be also the case for Western multinationals investing in SSA (e.g., in utilities), large investments abroad often being a dimension of foreign policy. Alves (2013a) lists some major investments of China in SSA: e.g., Sinopec in Nigeria and Gabon (oil); Minmetals in DR Congo (copper); CNOOC in Uganda (oil); CNMC in Zambia (copper); or Sichuan Hanlong in Cameroon and Congo (iron ore). This Chinese 'state capitalism' may be compared with the support that Western governments provide to their national companies (Taylor, 2014b), and is another element of convergence of China's economic behaviour with SSA's 'traditional' partners.

In addition, China's FDI appears to be increasingly driven by the 'linkages', 'leverage' and 'learning' motives (Mathews, 2006): firms invest in order to augment their competences by learning from their overseas investments (Kaplinsky and Morris, 2009). Finally, as Western multinational firms, Chinese firms have harnessed trade agreements, such as unilateral trade preferences. Some US in-

9 The Industrial and Commercial Bank of China (ICBC) concluded the largest FDI deal in South African history in 2007, when ICBC paid $5.5 billion for a 20% stake in Standard Bank, Africa's largest bank (China Daily, 25 March 2013).

10 The author thanks an anonymous reviewer for having suggested these studies.

vestors have come to SSA thanks to the AGOA (African Growth and Opportunity Act, a unilateral system of trade preferences granted by the US to a group of SSA countries that meet specific conditions), and China's firms have also invested in SSA in order to use the AGOA for exporting to US markets.

(b) The positive spillover effects of 'resource-for-infrastructure' contracts

The so-called 'commodity-for-infrastructure' contracts (sometimes referred to as the 'Angola model'), which are used by large Chinese firms, could constitute a difference with the pattern of FDI of Western countries. Chinese firms implement contractual packages in which investment in infrastructure (or loans) is exchanged for privileged access to and investment in commodities (Alden and Alves, 2009).

These deals imply a risk of lock-in for SSA economies in the production and exporting of commodities, being sometimes conditioned to a stream of export of commodities over several years (Foster et al., 2009). In the list computed by Alves (2013b), four of the major 'resource-for-infrastructure' concessional loans in SSA over 2006-12 are indeed in the oil sector (Nigeria, Ghana and Angola), with two others in the mining sectors. Also, they are often opaque regarding the terms and the uses of the loans, and in some cases they may be viewed more as 'debt' than 'investment' (Hausmann, 2015). They may be linked to China's interests, which are focused on the securing of the provision of raw materials for its own growth (Pairault, 2013b).

Many of these contracts, however, are used for infrastructure projects. SSA is characterised by very low levels of infrastructure - power, electrification and transport -, which generate huge transaction costs on the circulation of goods and people, and impede competitiveness, trade and therefore diversification and growth. The possible negative impact of Chinese 'resource-for-infrastructure' contracts compared to FDI from Western countries may be counterbalanced by the positive impacts of the improvement in infrastructure on SSA growth, as infrastructure is a key determinant of growth (Calderon and Serven, 2010). The China-Africa White Paper (The People's Republic of China, 2013) thus underscores Chinese enterprises and financial institutions' participation in SSA infrastructure, including transportation, communications and electric power projects, notably via commercial and concessional loans (e.g., the Addis Ababa-Adama Expressway of Ethiopia and the Kribi Deep-water Port of Cameroon). Some of China's main commercial banks have also started offering buyer's credit businesses in SSA, supporting e.g., the power grid in Ghana or hydropower stations in Ethiopia.

In fine, SSA countries and governments cannot be viewed as passive entities both vis-à-vis developed countries and China. Whatever the constraints analysed above, they have a capacity for 'agency' vis-à-vis the Chinese government and firms (Mohan and Lampert, 2013). As been demonstrated in Angola, the provision of infrastructure financed by oil-backed concessional loans may mask a relationship of 'uneasy allies' (Corkin, 2011b; 2013). As argued by Alves (2013c), *in fine* the responsibility to ensure positive outcomes for these 'infrastructure-for-resources' loans rests on the side of SSA as much as on China.

3. A specific contribution of China to sub-Saharan African economies?

3.1. A channel of relationships that contrasts China with Western countries: aid

(a) The contrast between Chinese and Western aid

Some SSA countries are excessively dependent on aid, e.g., for budgets, investment, maintenance, infrastructure, health, education. Net official development assistance (ODA) to SSA in 2013 represented 3% of GNI, 14.6% of gross capital formation and 8.2% of imports of goods, services and income (World Bank Development Indicators, 2015, table 6.11). Despite important variations within SSA, besides the small island economies of Oceania, SSA is the region of the world that is the most dependent on aid. This poor performance is being driven by SSA's low-income countries. Aid dependence induces well-known negative effects, including Dutch disease, those stemming from aid volatility (Bulir and Hamann, 2008), and the undermining of institutions, in particular tax institutions (Moss et al., 2006).

China's aid refers to an old tradition of cooperation, which began in the 1960s and includes most notably the construction of the Tanzania-Zambia railway (Brautigam, 2009; 2010). Chinese aid flows are notoriously difficult to compute, as Chinese statistics do not use the OECD Development Assistance Committee (DAC) criteria that define ODA.[11] It is therefore difficult to disentangle Chinese aid (in the sense of ODA) from other flows, notably commercial flows. The OECD, however, computes 'ODA-like' flows, i.e. concessional financing for development, for 'non-traditional' donors such as China, and Chinese flows are still limited as compared to 'traditional' major donors (OECD, 2014).[12] China's 'ODA-like' flows remain well below those of major DAC bilateral donors: 3 billion US dollars in 2013 (2.6 billion in 2010),[13] as compared to United States'

11 See also Brautigam's very relevant blog: http://www.chinaafricarealstory.com

12 The OECD does not provide data on the recipient countries of these 'ODA-like' flows.

13 Source: OECD-DAC, aid statistics, statistics on resource flows to developing countries, table 33a. http://www.oecd.org/dac/stats/statisticsonresourceflowstodevelopingcountries.htm (September 2015).

net ODA of 30.8 billion US dollars (current), or United Kingdom's net ODA of 17.9 billion US dollars.[14] According to the Government of China's White Paper on aid (People's Republic of China State Council, 2014), China's financial resources provided for aid fall into three types: grants (aid gratis), interest-free loans and concessional loans (although levels of concessionality between China and other donors are difficult to compare, Christensen, 2010), and between 2010 and 2012, China provided 14.4 billion US dollars in grants, interest-free loans and concessional loans. The contrast with the OECD-DAC figures underscores the difficulty in assessing China's aid flows. The first two types come from China's state finances, while concessional loans are provided by the EximBank. This distribution through several channels demonstrates the close links between trade, investment and aid. For Brautigam (2009), China's aid to Africa is much less important than EximBank export credits, but it nevertheless exhibits a clear increase (Brautigam, 2009; Mlachila and Takebe, 2011). The White Paper on aid (2014) mentions that from 2010 to 2012, Africa (not SSA) received 51.8% of these 'Foreign Assistance Funds'.[15]

Chinese aid flows display variations across countries. Despite the difficulty of comparisons due to the heterogeneity of flows and lack of data, in some countries China's aid may be substantial. In Ghana for example, during the period 2006-2010, US grant commitments exceeded China's, but the US government committed smaller amounts of loans than China, China's loans being primarily for infrastructure and the repayment of some loans being tied to commodities (oil, cocoa) (GAO, 2013). In Kenya, China has become one of the top donors since 2009, primarily providing concessional loans (GAO, 2013).

China's cooperation exhibits many characteristics that contrast with Western developed countries' aid. Chinese aid includes direct finance to Chinese firms and resource-backed infrastructure loans (Davies, 2008), i.e. the financing of infrastructure through the 'infrastructure for commodities' abovementioned 'packages' associating aid, trade and investment. Such financing is less concessional than aid from Western donors and resembles exports credits. China's aid also differs from 'traditional' donors by its links with the state banks and enterprises, often involved in the implementation of China's foreign policy vis-à-vis SSA (Christensen, 2010). Yet, some practices of OECD-DAC donors may be

14 Source: OECD-DAC, aid statistics, table 1. http://www.oecd.org/dac/stats/statisticsonresourceflowstodevelopingcountries.htm (September 2015)

15 The White Paper does not provide data that are specific to SSA. This figure therefore only shows that 'Africa' is the part of the world to which China allocates the greatest share of its aid. As significant amounts of China's aid flows go to North Africa, China's aid flows to SSA represent a lower percentage.

comparable: their state-backed export-import banks may cover the risk taken by their private firms in recipient countries, and the bilateral aid of many OECD-DAC donors was 'tied' until recently, i.e. the procurement of goods and services is limited to the donor country. However, aid tying differs from the concept of policy conditionality, and in 2013, OECD-DAC bilateral aid was mostly untied (83.2% on average).[16] China's model of cooperation has in fact followed the one practised by Japan in Asia, linking aid, investment and trade, despite important operational differences (Nissanke and Söderberg, 2011). Equally, Chinese aid has not suffered from volatility in amounts and paradigms that has characterised Western aid (e.g., since the 1960s, focusing on infrastructure, then poverty reduction, then public expenditure reform, etc.) (Brautigam, 2009).

(b) Chinese aid: avoiding the detrimental effects of conditionalities?

A key point is that this mode of development cooperation - made of a nexus of aid, trade and investment - does not include economic conditionalities on particular public policies (i.e., the 'exchange of finance for reform'). This is a major difference with Western aid. Whether it is made of loans or grants, the development assistance of OECD-DAC countries, of IFIs or of a major donor such as the European Commission is conditional on economic, and often, political reforms (e.g. 'good governance').[17]

In contrast, China's aid is more a development cooperation driven by diplomatic and political economy relationships, which go back to the period of independence of SSA countries in the late 1950s-early 1960s and Cold War context, and its motives are broader than strictly economic ones, as they explicitly include the support of Chinese firms (Brautigam, 2009). China's claims non-interference with recipient countries domestic affairs and its cooperation therefore deals with all regimes, be they illiberal democracies or even 'pariah' regimes (Alden, 2007). Chinese aid is therefore often criticised for supporting dictatorships and corrupt political regimes (Samy, 2010; on Zimbabwe, Hodzi et al., 2012).

This lack of conditionality is in sharp contrast with the conditionalities attached by major Western donors. Cooperation between SSA governments and the Chinese government – with its various agencies (e.g., the EximBank, the MOFCOM, the China-Africa Development Fund) – involves conditions, e.g. on the contracts established between the African and the Chinese contractor. Such conditions, however, radically differ, e.g., from IFI conditionalities that involve

16 Source: http://www.oecd.org/dac/stats/statisticsonresourceflowstodevelopingcountries.htm, table 23.

17 However, while China does not impose economy-wide or 'good governance' conditionalities, it does impose a political condition on the recipients of its aid, i.e. the non-recognition of Taiwan.

for recipient countries extended policy reforms that encompass the entire economy (as World Bank's structural adjustment programmes). These conditionalities may even be supplemented by political conditionalities, as in the case of the EU, which conditions its aid flows on 'good governance' or norms related to labour and environment (as the EU Generalised System of Preferences). Such extensive and deep conditionalities are also found in bilateral aid mechanisms such as the US AGOA, which conditions its trade preferences on market-based economies with effective rule of law,[18] or the Millennium Challenge Corporation, which conditions its financial flows to recipient countries on their 'democratic governance' and 'economic freedom'.[19]

The absence of wide and deep conditionalities, as is the case of China, may have positive effects on SSA economies. It has been argued that with this 'non-interference' stance, China has been able to import more from SSA countries that exhibit a lower governance standing: thus filling a gap left open by the other major world economies, China contributes positively to SSA development (De Grauwe et al., 2012). Moreover, as has been shown by a large literature, Western agencies' 'exchange' of finance for deep policy reform has had many detrimental effects on recipient economies. Conditionalities, be they fiscal, monetary, or political, can be very intrusive and prescribe drastic changes in recipient countries economic and political equilibria.

The absence of conditionality on financing may induce many problems, e.g., the support of certain types of political regimes, opaque deals, corruption and the like. It may be argued, however, that conditional aid as practiced by developed countries also includes these problems: for developed countries and China, cooperation is driven by political and commercial interests – and China's aid here converges with developed countries (Dreher and Fuchs, 2011). Aid has always been a dimension of the foreign policy of developed economies regardless of the needs of developing countries (Alesina and Dollar, 2000; Deaton, 2013). Aid has also allowed for the maintenance in power of autocratic and corrupt regimes, which use aid as a rent and for redistribution to clienteles. They also manipulate donors' conditions as instruments for the implementation of their own domestic politics or use donors as 'scapegoats' (Vreeland, 1999). Developed countries have delivered aid to corrupt governments as much as to less corrupt (Alesina and Weder, 2002). The share of OECD-DAC countries' aid going to corrupt countries has actually increased since the early 1990s, despite conditionalities and the rhetoric of 'good governance' (Easterly and Pfutze, 2008), and aid to autocracies has not diminished (Easterly, 2013).

18 Source: http://trade.gov/agoa/eligibility/index.asp

19 Source: http://www.mcc.gov/pages/selection

Equally, key detrimental aspects are inherent to the mechanism of conditionality itself (i.e., making *ex ante* committed aid conditional on reform). They have long been demonstrated since the first IFI programmes. When SSA governments were obliged to call the IFIs for financial rescue from the 1980s onwards, due to the fall in commodity prices, the IFIs implemented policy-based lending. As SSA countries' performance did not improve in the 1980s and 1990s (the 'lost decades'), the IFIs reacted by augmenting their conditionalities in the 1990s, and adding 'selectivity' to conditionality, where donors lend to governments that already have good policies and institutions. As a result conditionalities are effective mostly in countries that wish to reform. Conditionalities became increasingly structural and extended to non-economic issues, e.g., 'governance'. Conditionality inherently implies a limitation of sovereignty, triggers resistance (stemming from the 'buying of reform'), and paves the way for the 'aid game'. A reaction of the IFIs in the 2000s was to promote the 'ownership' of reforms by recipient countries: yet reforms that are prescribed in exchange for finance cannot be 'owned'. The persistent failure of conditional IMF stabilisation programmes has led, on the donors side, to a repetition of lending since the 1980s onwards, and on the recipients side, to the continuation of dependence on donor lending, which has been acknowledged by the IMF (the 'prolonged users', IMF-IEO, 2002).

Attempts by the IFIs to reform conditionality have met with mixed success, e.g. budget support. The devising of *ex post* and *ex ante* conditionalities or incentives do not change the intrinsic asymmetry of conditionality, i.e. the relationships between the one who has the power to give money and therefore impose conditions, and the one who needs it. Conditionality indeed demonstrates the inherent divergence of interests and asymmetry between the aid-providing donor and an aid-receiving government (including domestic interest groups). These divergences entail negative effects. Donors may impose conditions on unwilling recipients, while recipients may be willing but unable to implement conditions. Aid is typically affected by the 'Samaritan dilemma' (Gibson et al., 2005). For example, if the recipient government knows that donors condition their aid on a reduction of poverty, it has little incentive to exert high effort toward this objective, as in doing so it will receive less aid in the future; and the 'Samaritan's dilemma' is aggravated by moral hazard: the donor can never know if a poor outcome is the result of low effort ('bad policies') or 'bad luck' (Svensson, 2005). Conditional aid indeed inherently exhibits important coordination failures. On their side, donors cannot enforce the conditions due to their own institutional incentives to lend. The device of conditionality has therefore contributed to the erosion of the credibility of the IFIs vis-à-vis borrowing countries (Marchesi and Sabani, 2007).

In being non-conditional, China's aid avoids these pitfalls, and may therefore be more effective. China's organisation of cooperation, not in the position of prescribing economy-wide policy reforms, thus displays a significant contrast with developed countries' development assistance. This difference, however, may diminish over time and a certain convergence with 'traditional' developed countries' donors may emerge. As Grimm has shown (2014), the discourse attached by the Chinese government to its cooperation with SSA, which underscores 'mutual benefits' and 'non interference', may indeed be challenged by the mixed success of this cooperation over time in terms of development of SSA. The Chinese government may also be confronted with the necessity for SSA countries to implement policy reform.

3.2. China's contribution of industrialisation in sub-Saharan Africa: a driver of structural transformation?

(a) China's investment in sub-Saharan Africa's manufacturing sectors

China also invests in industrial sectors of SSA. Besides oil and mining, Chinese firms invest in the manufacturing, construction, finance, agriculture and services sectors (IMF, 2011b). Large state-backed firms tend to focus on resources and infrastructure, whereas private firms concentrate more on manufacturing and service industries. Although investment in the commodity sectors and infrastructure may be the largest in value, the number of private projects in other sectors is growing and driven by private small and medium enterprises (and even large firms[20]), which target local and regional markets. In addition, large Chinese state-owned enterprises that invest in SSA are associated with a great number of smaller firms (especially in the construction sector, e.g., sub-contractors) (Xu, 2014). This may create positive spillover effects and Hirschmanian backward and forward linkages within SSA economies (Hirschman, 1958).

According to China's White Paper (The People's Republic of China, 2013), Chinese FDI has also been oriented towards resource-poor countries: Chinese enterprises have invested in sugar refineries in Mali, set up glass, fur, medical capsule and automobile factories in Ethiopia, and invested in textile and steel pipe manufacturing projects in Uganda. Moreover, in some SSA countries Chinese FDI is more concentrated in the manufacturing sector than in primary commodities. An example is Ethiopia (IMF, 2011b), and its shoe sector, where one of the largest shoe exporters in China has started an important investment in 2013; within one year this factory had more than doubled Ethiopia's footwear exports (Lin and Wang, 2014a). Chinese manufacturers increasingly invest in

20 As mentioned above, a major non-resource-related Chinese investment in SSA is the purchase of a 20% stake in South Africa's Standard Bank by the Industrial and Commercial Bank of China.

SSA in order to benefit from preferential trade tariffs and lower labour costs (Dinh et al., 2012). China established several Special Economic Zones in SSA with the aim of promoting manufacturing (Brautigam and Tang, 2011; 2014). An increasing number of private medium and small enterprises from China operate in SSA in the sectors of manufacturing, infrastructure, agriculture, and services (Shen, 2015; Gu, 2009).

(b) The contribution of China to sub-Saharan Africa's structural transformation

China's growth is expected to stay high in the medium term (Felipe et al., 2013), despite a deceleration in 2015 and the uncertainties associated with the reorientation of its growth towards domestic consumption. China's contribution to growth rates in SSA, via its demand for SSA exports, and via its contribution to international commodity prices, is therefore likely to continue. This contribution to SSA growth gives these countries additional fiscal room for manoeuvre, in particular for their policy choices, i.e. public policies focusing on structural transformation, such as industrial policies. This route was chosen by the Asian 'developmental states' at the time of their 'catch-up' in the 1960s and 1970s (Johnson, 1982; Amsden, 1989; Wade, 1990).

The diffusion of the benefits of growth, however, is not automatic. It may even be more difficult for commodity-dependent countries (Macmillan et al., 2014), notably due to the 'lock in' effects and trapping mechanisms that are generated by the incentives provided by commodities prices (Sindzingre, 2012). It depends on the domestic characteristics of SSA countries, notably on whether these countries have the appropriate economic institutions that are able to channel the benefits stemming from growth. Indeed, SSA countries may be plagued by 'extractive' institutions that prevent the diffusion of knowledge throughout the society (Acemoglu and Robinson, 2012). SSA countries may also lack the capabilities and knowhow that are necessary to transform the benefits of growth into foundations for long-term growth via the diffusion of technology and higher total factor productivity (Arthur, 2009; Hausmann, 2014).

Yet it may be argued that even the specialisation in the export of commodities may contribute to the industrialisation of SSA countries via spillover effects and linkages with other sectors that exhibit higher productivity and diffusion of knowledge and technology. Trade and investment in the sector of primary commodities are not necessarily obstacles to industrialisation. Investments in commodity sectors may induce positive effects in other sectors, including the manufacturing or the service sectors, via forward and backward linkages in Hirschman's sense (Morris et al., 2012). SSA countries, however, differ among

themselves: for example, as shown by Corkin (2011a), China's investment in Angola's oil sector generated few spillovers. Such impacts and possible linkage effects are subject to wide variations across SSA.[21]

In addition, emerging countries entering into trade and investment relationships means more players and more capital inflows towards SSA, which is positive. Also, China's growth implies increasing wages and costs, hence windows of opportunities for certain SSA countries that can serve as substitutes, where Chinese FDI can outsource activities of the low-end segments of production networks. China's industrial upgrading and FDI may thus foster light manufacturing in SSA, with the associated job creation (Lin and Wang, 2014b). Likewise, if China's growth rates continue, its demand for SSA products will not only be directed towards primary commodities but also towards low-tech manufactured products that will no longer be made in China due to increasing local factor costs. China also contributes to SSA structural transformation in improving its infrastructure.

The sector of manufactured products with little sophistication– which is usually labour-intensive – is often viewed as a first step towards industrialisation and diversification. China's investment in SSA industrial sectors is an opportunity for structural change for SSA economies, since industrialisation is a key determinant of long-term growth.

4. Conclusion

This paper has underscored two points. Firstly, it has shown the complexity and ambivalent effects of China on SSA, because these effects depend on the channels – trade, investment, aid – and the time horizons that are considered. While China's cooperation may have the advantage of being less affected by the detrimental effects of Western conditional aid, China's strong demand for primary commodities may perpetuate the negative effects of the current commodity-based export structure of most SSA countries. Equally, while the contribution of China to the structural transformation of SSA faces important constraints in the short–term, China may have the potential of fostering this transformation via multiple channels: higher commodity prices and the fiscal space they represent for SSA budgets, demand for SSA products, investment and infrastructure.

21 The argument that commodities can generate upstream and downstream linkages that may be positive for the manufacturing and services sectors has been analysed in the 'Making the Most of Commodities Programme' (Morris et al., 2012): yet several of its case studies (e.g., Corkin, 2011a) find limited linkages. See http://www.commodities.open.ac.uk/discussionpapers

Secondly, the paper has shown that the economic relationships of China with SSA increasingly converge with those of Western countries, and that its trade and investment patterns are in most aspects similar to those of industrialised countries with SSA – e.g., trading primary commodities and volume of investments that are more important in the commodity sectors (oil, metals). An important difference, i.e. a development cooperation that for China is not based on economy-wide policy conditionality, may also converge with time with that of other donors.

Regarding China as well as industrialised countries, SSA governments and societies have a capacity for agency. Outcomes also always result from combinations of elements. External forces are always transformed by internal features and there is room for manoeuvre for domestic policies. Domestic political economy creates the difference between countries that will be able to harness the Chinese investors' demand for lower cost when China's production costs will become too high, e.g. in the textile sector, and countries that will remain in the production of primary commodities with the associated vulnerabilities. In some countries path dependence may prevail, while, as shown by Arthur (1994), small bifurcations may occur in others and produce unexpected effects.

Biographical note

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Acknowledgements

The author is grateful to Yoon Jung Park for her very relevant remarks, as well as Ben Lampert and Winslow Robertson. She also thanks two anonymous reviewers for their pertinent comments, though the usual caveat applies.

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