

**Next Great Industrial Transmigration:
Relocating China's Factories to
Sub-Saharan Africa, Flying-Geese Style?**

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ABSTRACT

China has emerged as the most proactive partner for Africa's growth by providing economic aid, investing in infrastructure and resource development, expanding trade--and most recently stepping up local manufacturing. China's growing industrial base in sub-Saharan Africa (which the World Bank likes to see further expanded so as to ignite local industrialization) is now a subject of international attention. China has begun to graduate from, and relocate both inside and outside the country, low-wage manufacturing as it strives to move up the ladder of economic development. Will Chinese manufacturing investments in Africa rise on such massive a scale and in such expeditious a manner as East Asia has experienced, triggering a string of growth spurts from one catching-up economy to another, a phenomenon the World Bank called "East Asian Miracle"? The current debate on the issue often misses or does not sufficiently consider China-side factors. This study explores the potential of China's factory transplantation as a decisive kick-starter for sub-Saharan Africa's industrialization in terms of East Asian experiences and the "flying-geese" theory of comparative advantage relating as an overall analytical framework. It is concluded that although China's recently retooled strategy has started to make some impact on sub-Saharan Africa, the present scope of, and the future prospects for, China's industrial transplantation are still limited and constrained, owing to *both* China- and Africa-side factors. All in all, a hoped-for African Miracle appears still a long way off.

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1. Background

China has cultivated close economic relations with Africa's resource-rich countries in its quest for minerals, oil, and timber via FDI and economic and technical aid for infrastructure development and resource extraction—and increasingly captured markets for its own manufactures. At home, China has been modernizing heavy and chemical industries and building up physical infrastructure over the vast stretches of land. Its recent growth has thus been intensive in the use of not only capital but also, more importantly, raw materials and energy for industrial production. In addition, China's rapidly rising income is simultaneously burgeoning demands for energy and building materials, especially now that it has quickly entered the phase of motorization and high-mass consumption—and state-orchestrated urbanization and real estate development. True, China's growth has lately begun to downshift, moderating its demands for resources. Given the size of its huge population (1.3 billion) and of its still ascendant GDP (having overtaken Japan's as the world's second largest economy in 2010--and on its way to exceeding the U.S.'s in purchasing-power terms in 2015), however, the country understandably continues to scramble for natural and energy resources abroad.

Although even warned by some African countries not to practice neocolonialism (i.e., to subjugate Africa as both a supplier of natural resources and an outlet for manufactures), China is the most active player in helping build infrastructure and extract resources on the continent. In 2008 Robert Zoelick, then the World Bank president, called on China to invest in Africa's manufacturing base by going beyond infrastructure and resource-extractive projects in which China had already been extensively engaged.¹

No doubt, Africa, on the whole, is still stuck with the low level of industrialization. The African Union (2014) stresses this fact:

Africa's industries still remain the world's least competitive and productive. The Manufacturing Value Added (MVA) as a percentage of GDP, the measure of the contribution of the manufacturing sector to GDP, remains very low in Africa between 12-14%. As regards to the percentage of World Manufacturing Value Added, Africa stands at 1.5% compared to East Asia, 17.2%; Latin America, 5.8%; North America, 22.4%; Europe, 24.5%... [No] country or region in the world has achieved prosperity and decent socio-economic conditions for its citizens *without the development of a robust industrial sector* (pp. 2-3, emphasis added).

And this is the very reason why “Industrialization has been identified as one of the pillars that will drive social and economic structural transformation in the next 50 years” (Ibid., p. 2). Africa clearly sees a need for the further development of the manufacturing sector.

2. Another repeat of low-end manufacturing transmigration, East Asian style?

The critical question in this context is whether China's advance into sub-Saharan Africa's manufacturing will be another repeat of the cross-border industrial transmigration East Asia has experienced in the recent past as a structural booster. In other words, *will the “hoped-for” round*

¹ This was widely reported in the media. See, *inter alia*, “China and World Bank in talks to establish industrial zones in Africa,” *Financial Times*, December 4, 1009.

of industrial relocation be done on such sufficiently large a scale and in such expeditious a fashion as to ignite local industrialization in the host region as has previously happened across East Asia?

The transmigration of labor-intensive industries (e.g., traditionally, textiles and sundries, and more recently, assembly of consumer electronics goods) has entailed a sequential pattern of growth spurts across East Asia. Since the end of WWII, Japan and then the NIEs (Hong Kong, South Korea, Taiwan, and Singapore)—and more recently, though to a lesser extent, the ASEAN-4 (Thailand, Malaysia, the Philippines, and Indonesia)—have initiated rapid catch-up growth in a staggered fashion, each time by first mobilizing its relatively abundant labor for export industries and eventually ending up relocating offshore those industries that had soon lost comparative advantages. In other words, comparative advantages in labor-intensive goods have thus been relayed mainly via FDI and other outsourcing activities from higher-developed Asian economies to lower-developed ones down the East-Asian hierarchy of economies. Each round of this comparative advantage relaying resulted in the jump-starting of local industrialization—by way of stepped-up labor-intensive production for export that was followed by a sharp rise in labor costs and currency appreciation, which in turn induced factories to move abroad. At present, labor-intensive production is most highly concentrated in China, but has begun to relocate overseas as China’s comparative advantage in low-end manufacturing steadily wanes.

Although the topic of transmigrating low-end factories to Africa is relatively new, many pioneering studies have already been made by experts on China’s investment activities in sub-Saharan Africa mostly through pains-taking field research, telling mainly African-side stories—that is, looking at the continent as a host region.² This study, in contrast, also takes into consideration and evaluates China-side (home) factors that affects the speed and nature of factory transplantation onto Africa, particularly some deterring institutional (inclusive of socio-political) ones in this new phase of Sino-Africa economic relations. China-side factors are often not adequately addressed in the current debate on the topic.

In what follows, this study (i) discusses why China *alone* is singled out and considered the most promising investor in low-cost manufacturing in sub-Saharan Africa, (ii) briefly reviews the current status and major characteristics of China’s emerging manufacturing FDI in the region, (iii) the idiosyncratic features of China’s FDI in manufacturing on the continent, (iv) assesses China’s home environment for outward factory migration, and (v) examines the prospects for Africa’s industrial takeoff that is hoped to be catapulted by Chinese manufacturing investments. We will analyze the relevant issues in terms of East Asia’s experiences and the theory of comparative advantage relaying (Ozawa, 2009; 2011), a reformulation of the FG theory originally set forth by Kaname Akamatsu (inter alia, 1935) back in the 1930s. Our assessment is that China will make a significant contribution in helping African host economies build badly needed infrastructure (mostly physical) and setting up some labor-intensive factories in a small number of select host countries, but that it will be a long way off to see the viable industrial shoots sprout for sustainable development on the continent.

² Just to name a few representative works by authorities among many others, Allen, et. al. (2008), Brautigam (2010a), Broadman (2007), and Goldstein, et. al. (2006).

3. China as the most promising investor in low-cost production

Labor-intensive manufacturing is associated with the early stages of economic development in which labor supply from the rural sector is abundant and wages are low. Ironically, however, an expansion of such manufacturing, if occurs on a substantial scale, is doomed to be self-destructive, once the rural reserve of labor is exhausted causing labor shortages and wage hikes (more on this phenomenon in Box 3). In this regard, although other BRICs, are more or less in the similar stage of industrialization, there are good reasons why China alone stands so special to be singled out as the most promising candidate for relocating factories onto sub-Saharan Africa.

For starters, China has amassed a huge build-up of low-wage factories the world has ever known—the very reason why it has come to be deservedly known as “the factory of the world.” Its secondary sector (manufacturing and construction) employs no less than 200 million workers, who are, in most part, migrants from the rural areas, numbering 245 million (at the end of 2013). This size of migrant labor force is 53.3% larger than Brazil’s *entire* population (193 million in 2012), 72.5% larger than Russia’s (142 million) and nearly double Japan’s (127 million), for example. Furthermore, “still 70 million [more] people in China’s rural villages who might be expected to leave in search of factory work”³ (Actually, the potential *additional* labor force of migrants *in the long run* can be estimated at as high as 275 million—hence, a potential total of 520 million migrants, as discussed in Box 3.) And all these migrant workers, existing and expected alike, are expected to remain engaged in relatively still low-end manufacturing and services.

This means that China has a far more extensive experience with low-cost production than *any* other country on earth. Thanks to its labor- and export-driven catch-up strategy, moreover, 500 million people have so far been lifted out of abject poverty since 1978.⁴ And, paradoxically enough, such a highly populated country as China has lately begun to face labor shortages and rising wages, motivating its firms to relocate some factories inland as well as to its neighboring countries, especially Vietnam and Cambodia, where low-wage labor still exists. Thus, China has demonstrated its remarkable capability to make efficient use of such an enormous labor force (initially mostly unskilled) for its industrialization effort, thereby swiftly elevating the standards of living for the masses in a short space of time, an unprecedented achievement in the history of economic development. Especially well known is its effective use of special economic zones (SEZs) as the free-market enclaves to attract foreign multinationals’ export-focused investments in order to jump-start its industrialization previously stalled under the communist central planning and control. (This is the essence of the China model of FDI-assisted, export-led industrial takeoff via mass-mobilization of rural labor.)

The hope is, therefore, that if even a fraction (say, 20 per cent) of China’s current 245 million low-end migrant jobs is transplanted onto a given sub-Saharan economy (instead of being scattered across the whole host region), still an enormous number (32.6 millions) of jobs would

³ This prediction is made in “The rising power of Chinese worker,” *Economist* July 31, 2010, p. 9.

⁴ “China Overview,” World Bank, Apr. 1, 2014. <http://www.worldbank.org/en/country/china/overview>. Downloaded 2/5/2015.

be instantly created, kicking off regional growth and alleviating the high rates of unemployment and dire poverty. Actually, Obiageli Ezekwesili, a vice-president of the World Bank, reportedly said that more than 80 million jobs might leave China owing to wage pressures.⁵ (Another populous, high-growth country, India, so far has failed to secure an effective use of its abundant labor in its industrialization drive and to trigger labor shortages at home as China has done. The same thing can be said about Brazil. Now, consequently, India's Modi government looks to the Chinese model in re-charting its development strategy⁶. India, as well as other non-African emerging economies, is equally interested in attracting jobs from China—in strong competition with Africa.)

Furthermore, China carries the momentum of Asia's regional dynamics of structural upgrading that *pushes out* comparatively disadvantaged industries abroad. Some Chinese factories have already been set up in sub-Saharan Africa on a relatively small scale and across scattered areas, as will be detailed below. Also, China has so far been involved more intensively than any other country in the host region through development projects for resource extraction and infrastructure, gaining knowledge about, and networking relations with, host economies and governments. All these things considered, then, no wonder that the World Bank is counting on China as the most promising investor to help build Africa's manufacturing base. If this new round of industrial transplantation materializes successfully, it will arguably be the *greatest* one ever in the history of the world economy because of the sheer size of China's low-end production that could be eventually shed off over the course of its structural upgrading. However, the key questions remain, since we are merely talking about the potential. Will China be really ready to shed and give low-end manufacturing jobs to Africa on a scale substantially large enough to let the region takeoff? More importantly, will Africa itself be prepared to seize the opportunity?

4. The sudden rise of China's renewed presence in Africa

Ever since China adopted the "go-out" policy in 1999, its outward FDI has been soaring dramatically, reaching the \$50 billion level in 2009 from the average of only \$450 million a year in 1982-89, an over 10-fold rise—and further doubling to \$101 billion in 2013 (UNCTAD, 2010, 2014). What drives this outward advance of Chinese businesses is due mainly to a huge accumulation of reserves, currency appreciation, and the ever-rising needs for industrial and technological resources and export markets. Most recently, rising labor costs at home have fueled the outward shift of labor-intensive production to low-wage countries.

Until only recently China's investment in Africa had been considerably small relative to *both* its total outward FDI and its Western counterparts, though it has accelerated in recent years. "Chinese FDI stock in Africa—40 per cent of it in South Africa—reached \$7.8 billion by the end of 2008, accounting for only 4 per cent of China's total outward FDI stock." (UNCTAD, 2010, p. 35). Yet, according to the Chinese government's *2013 White Paper on China-Africa Economic and Trade Cooperation*⁷, just over the three years from 2009 to 2012, China's FDI in

⁵ "Manufacturing in Africa: An awakening giant," *Economist*, Feb. 8, 2014. <http://www.economist.com/node/21595949/print>. Downloaded 12/11/2014.

⁶ "India Looks to Chinese Economic Model," *Wall Street Journal*, September 15, 2014, A2.

⁷ *White Paper on China-Africa Economic and Trade Cooperation (2013)*. http://www.china.org.cn/government/whitepaper/2013-08/29/content_29861253.htm. Downloaded 12/21/14.

Africa jumped from \$1.44 billion to 2.52 billion, with an annual growth rate of as much as 20.5%. And China’s FDI stock in the region rose from \$9.33 billion to \$21.23 billion, over the same period, recording a 2.3-fold increase. Nevertheless, China’s African involvement via FDI has been small in value compared to the FDI from the advanced world which accounts for as much as 90 per cent of the investment stock in Africa (Broadman, 2011). And “The U.S., the UK, and France held the biggest share of Africa investment [stock] in 2012—the latest available date—totaling \$178.2 billion. The so-called Brics countries—Brazil, Russia, India, China and South Africa—held investments valued at \$67.7 billion, of which \$27.7 billion were Chinese.”⁸ Thus, the three advanced countries’ FDI stock *alone* is yet *six times* larger than China’s.

So far as South-to-South FDI in Africa is concerned, however, China is clearly a newly emerged leader. Moreover, China is arguably the world’s top builder of local infrastructure in, as well as the top trader for, the region. Despite the renewed diplomatic overtures recently made by the U.S. (the 2014 “Power Africa” initiative), Europe, and Japan to ramp up their efforts to cement ties with the region as countervailing powers, China’s rise in Africa will no doubt continue.

INSERT BOX 2 HERE

5. The configuration of China’s FDI in Africa’s manufacturing

According to China’s official data, the sectoral breakdown of Chinese FDI stock in Africa as of the end of 2011 is shown in table 1. As expected, the largest portion, 31 percent, is in mining. Interestingly enough, finance, construction, and leasing and business services, when bundled into the service sector (41 percent), actually exceed the mining sector. And manufacturing accounts for 15 percent. Also, Chinese manufacturing FDI totaled \$1.33 billion over the years 2009-2012, and its stock amounted to \$3.43 billion by the end of 2012—a 33.5% jump just in three years.⁹ Thus, the rise of Chinese companies’ investment in manufacturing is only of the recent phenomenon.

Table 1 A distribution by sector of China’s FDI stock in Africa (end of 2011)

Mining	Finance	Construction	Manufacturing	Leasing & business services	Others
31%	20%	16%	15%	5%	13%

Source: 2013 White Paper on China-Africa Economic and Trade Cooperation, Information Office of the State Council, China.

It is not clear, however, whether finance’s 20% share includes those investments made by the

⁸ Reported in “Foreign Cash Gushes Into Africa,” *Wall Street Journal*, May 20, 2014, A14.

⁹ White Paper on China-Africa Economic and Trade Cooperation (2013). *Op.cit.*

China-Africa Development Fund, which is China's official agent of economic cooperation—but which also makes equity investments in Chinese firms' ventures in Africa. Indeed, the Chinese government touts its significant role as an investor:

The China-Africa Development Fund, established as one of the eight pledges China made at the FOCAC Beijing Summit, had by the end of 2012 agreed to invest US\$2.385 billion in 61 projects in 30 African countries, and had already invested US\$1.806 billion for 53 projects.¹⁰

In general, reliable statistics on FDI are hard to come by and those available need to be taken with a grain of salt. Some argue that Chinese statistics in particular cannot be taken on its face value. As one scholar (Dahman-Saidi, 2013) revealingly put it,

...assembling a reliable database on FDI in Africa is challenging, particularly for the FDI from China. There are large discrepancies between the different sources that are hard to explain as it is difficult to assess the complete methodology used by each country. For instance, according to the Central Bank of Egypt, in 2009, the Chinese investment is \$60 million, but according to Chinese ministry of foreign commerce (MOFCOM) data, the Chinese investment in 2009 is \$133.86 million. Similarly, in Nigeria in 2007 according to Nigeria the Chinese investment is \$43.4 million [whereas] according to MOFCOM it is \$390.35 million. In Uganda in 2009 according to Uganda it is \$265.9 million, [but] according to MOFCOM it is \$1.29 million. Differences also exist between national sources and UNCTAD (p. 2).

Moreover, in addition to the usual methodological differences used by countries, hence applicable to any country's data, the lacunae of statistics in both availability and reliability on China's FDI in Africa, notably on manufacturing, are significant. Relatively more informative and more reliable are, at the moment, mostly business case studies and firm-level data/information derived from field researchers' interviews with local and Chinese companies and individual entrepreneurial migrants and settlers involved—and news articles written on the field by journalists dispatched to various localities. Indeed, when it comes to manufacturing investments, official statistics are barely indicative of the reality. And there are good reasons.

6. Entrepreneurial settlers: the vanguard of China's manufacturing investment

As seen above, China's investment is by far much larger in value in extractive industries and infrastructure than in manufacturing. Large state-owned enterprises (SOEs), whose overseas investment activities are readily compiled into official statistics, are not much involved in manufacturing overseas. They are investing more heavily in infrastructure and resource extraction projects.

In contrast, individual entrepreneurs and private/family-owned, small-and medium-sized firms *have so far been the most active players for local trading and production in Africa*. They are setting up local service stores (such as restaurants, groceries, hoteliers, and retail shops) and small workshops to produce a motley array of labor-intensive low-end goods (such as apparel, footwear, travel goods, toys, furniture, kitchen/household appliances, utensils, and all sorts of

¹⁰ *Ibid.*, p. 5.

trinkets). And their investment numbers and values are not exactly known, because they autonomously go out overseas and operate on their own. According to Gu (2009),

Estimates regarding the number of Chinese enterprises in Africa vary considerably. In 2006, the Chinese EXIM Bank estimated that there were about 800 Chinese companies operating in Africa. According to these data, approximately 85 per cent were privately owned. However, evidence from interviews with Chinese Embassies and the Chinese business communities in Africa during 2007 and 2008 indicates that China now has more than 2000 enterprise in Africa. According to one senior Chinese official interviewed by the author: ‘To be honest, we don’t know how many firms, especially private firms, invest overseas. There are only about 2800 companies registered with us... In fact, I believe that there are more than 28000. Even 10 times is conservative figure’ (p.573).

These small-scale private investors’ overseas ventures that are statistically unaccountable are self-financed and family-owned in most cases. And their businesses are carried out through the help of personal business connections (known as “guanxi” in Chinese) among widely scattered overseas Chinese diasporas.

In this regard, *The Economist* (March 12, 2011)¹¹ incisively puts a finger on the dynamics of China’s economy by observing that it stems from “bamboo capitalism:” “Just as Germany has its mighty Mittelstand, the backbone of its economy, so China has a multitude of vigorous, (very) private entrepreneurs; *a fast-growing thicket of bamboo capitalism*” (p. 13, emphasis added)—and that China’s “family multinationals” are the front runners of overseas businesses, particularly in the Middle East (in Dubai alone, “There are more than 4,000 Chinese enterprises, selling through the Dubai Dragon Mart” [p. 81])—but also similarly across Africa and Latin America. And many of them come out of the Zhejiang province, and “often operate not only outside the powerful state-controlled companies, but *outside the country’s laws*” (p. 13, emphasis added).¹²

Also, another article in *The Economist* (Aug. 7, 2010), entitled “The Chinese are everywhere: Even in the farthest backwaters of Africa, the Chinese are moving in,” has the following to say:

...Mokhotlong is the remotest town in one of Africa’s poorer countries...On the main street, the petrol station is Chinese-owned. Next to it stands the Hui Hua supermarket. Then comes the Hua Tai ironmonger and the Ji Li Lai general store. Farther down the road is the Fu Zhong hardware and furniture wholesaler.

It is one of four enterprises owned by Chen Juo-feng, who is only 22. Business is good, he says, much better than in China...Mr Chen started off with just one shop when he came to Lesotho four years ago from Fujian, a coastal province that has provided

¹¹ “Bamboo capitalism: The rise of entrepreneurial China,” *Economist*, March 12-18, 2011.

¹² This province is largely considered the major cradle of bamboo capitalism: “Provincial politicians, whose career prospects are tied to growth, often let these outfits operate free not only of direct state management but also from many of the laws tied to land ownership, labour relations, taxation and licensing Bamboo capitalism lives in a laissez-faire bubble” (Ibid., p. 13).

many Chinese emigrants through the ages; 172 other members of Mr. Chen's family are scattered across Lesotho, too (p. 44).

Similarly, in his widely read book, *China's Second Continent: How a Million Migrants Are Building a New Empire in Africa*, French (2014) observes:

...China's export, in effect, of large numbers of its own people who are settling in as migrants and long-term residents in far-flung and hitherto unfamiliar parts of the continent. By common estimate, Africa has received a million or so of these Chinese new comers in the space of a mere decade, during which time they have rapidly penetrated *every* conceivable walk of life: farmers, entrepreneurs building small and medium-sized factories, and practitioners of the full range of trades, doctors, teachers, smugglers, prostitutes...

... history teaches us that very often reality is more meaningfully *shaped by the deeds of countless smaller actors, most of them for all intents and purposes anonymous*. In this vein, each of China's new immigrants to Africa is an architect helping to shape this momentous new relationship. They accomplish this, in part, by helping build networks that loop back to the home country, channeling goods and products and capital via *informal* circuits that very often escape official control or even accounting (p. 5, emphasis added).

No wonder, then, statistics on their investment activities are so hard to come. In fact, the World Bank's survey on Chinese investment in Ethiopia (2012) reveals: "Strikingly, potential investment opportunities seem to barely travel through formal channels, such as through the investment promotion agency or other government agencies (p. vi)." Otherwise, government agencies would be in a better position to collect the numbers about the exact nature and value of investments.

In sum, individual and family entrepreneurs of bamboo capitalism were the front runners of Chinese manufacturing investment in Africa. This clearly mirrors the fact that following the market reform of 1978, China's industrial modernization started with the privatization of business activities in which rural and urban entrepreneurs were allowed to set up their own profit-seeking businesses outside the state-owned system under the slogan of "making money is glorious." Private businesses grew like bamboo shoots all over the country, and recently came to be transplanted onto Africa by one million migrants and settlers. Most of them belong to the entrepreneurial category of the poor individuals who has experienced harsh life at home.¹³

INSERT BOX 1 HERE

7. Diaspora formation and networking: the unique source of competitiveness

¹³ In other categories, Ren, Au, and Shen (2014) include "former government officials with a stable and good life; the returnees and overseas Chinese who went abroad to study or to make a living and subsequently return to China for business" (p. 108).

As stressed above, the existing, as well as newly established, overseas Chinese diasporas play a crucial role in setting up small local workshops for light industry goods and shops for retailing and other services. And this type of local manufacturing and service investments is intrinsically of the *diasporas-forming* type. It represents an entirely different type of investments that is not envisaged in the dominant Western theories of FDI—such as Hymer’s seminal theory of international business (1960/1978) and Dunning’s eclectic model (1993), both in which substantial *firm-specific* advantages possessed by technologically advanced firms play a key role in FDI, advantages large enough to enable them to overcome the costs of “being alien” and compete in each other’s advanced host countries. Individual Chinese settlers possess no such company-specific, exclusive advantages. Their advantages are idiosyncratic in entrepreneurship and mostly of the *collective* nature arising from *diasporas-based* networks and business connections. (See Box 2).

In this regard, the advance by migrating entrepreneurs into Africa is basically no different from the traditional pattern of emigration of aspiring individuals and their extended families that left their hard lives at home behind for better living and business environments abroad and were, therefore, quite willing to take risks for settling in unfamiliar foreign lands. In fact, they find Africa’s business environment much more attractive than at home. In other words, *the benefits of making living/doing business in the continent are greater than the benefits of remaining in China*. Those individuals and small businesses that have recently moved to Africa come exactly from those Chinese provinces with the more-than-a-century-old tradition of emigration; Zhejiang, Guangdong, Fujian, Jiangsu and Shandong: Zhejiang in particular enjoys one advantage “that many other Chinese provinces do not have, namely, the overseas Zhejiang diasporas.”¹⁴ They are a free-spirited lot, escaping their oppressive home environment and finding Africa more business-friendly. Many emigrating entrepreneurs simply do not bother to register even with their provincial Chinese governments that supposedly have greater knowledge and authority on emigration than the central government.

8. China’s newly crafted approach: A wave of government-supported manufacturing FDI

It is noteworthy that some of China’s current local production in sub-Saharan Africa is designed to capitalize on the preferential trade programs that allow the region to export apparel, duty free, to the U.S. and the EU, the programs such as the U.S.’s African Growth and Opportunity Act (AGOA) and the EU’s “Everything But Arms (EBA)” initiative. The World Investment Report (UNCTAD, 2010) notes: “This [strategy] has been the case particularly in the textiles and clothing industries, with [multinationals] from China, Hong Kong (China), Singapore and Taiwan Province of China among the most active investors” (p. 34).¹⁵ Here, ethnicity-based business connections are clearly evident; all these Asian economies organize

¹⁴ It is estimated that “there are over a million Zhejiangese settlers abroad, and, with many based in Africa, ... a strong factor in facilitating their investments” (Gu, 2009, p.375).

¹⁵ UNCTAD (2010) calls this type of FDI motivation “the efficiency-seeking investment.” It also points out that some Indian investors are similarly taking advantage of the trade preferences given to African countries: “80 per cent of Indian investments in eight East African countries, for example, are market-seeking. While labour costs in Africa may not differ significantly from those in the firms’ home economies, the duty-free, quota-free access [programs] have generated some efficiency-seeking investment” (p. 34). Another survey (Gu, 2009) finds that “taking advantage of African regional or international trade agreements” is among the most important reasons for investing in Africa.

Chinese ethnicity-governed businesses in Africa. For instance, Mauritius, a tiny island east of Madagascar, was once the vibrant host economy that was invested heavily in textiles by ethnic Chinese businessmen from Hong Kong, Singapore, and Taiwan, who were attracted to export-targeted production in the host economy's successful export processing zone, notably during the period of 1983-88 (Alter, 1991). These ethnic Chinese investments had been prevalent and dominant *before* they were joined by mainland Chinese investments after the "go-out" policy was adopted in 1999. However, the latter actually overtook the former sometime in the years 2001-5, initially supported by the Chinese government (for example, Chairman Li Peng sent a business delegation of 125 people to Mauritius in 1999). And "In 2003, a mainland Chinese company (Shanxi Province's Tianli Group, Ltd) invested more than US\$10 million to open a cotton yarn spinning mill in Mauritius to supply export companies with locally made raw materials. When investment from Hong Kong, Singapore, and Taiwan fell, that from mainland China rose" (Brautigam, 2008, pp. 58-59).

Deborah Brautigam, one of the foremost authorities on China-Africa economic relations, also reminds us of the prevalence of China's manufacturing investments many years even before the current boom:

Between 1979 and 2001, before the current boom, Chinese firms had already established 230 manufacturing investments in Africa (including North Africa). South Africa received the main share, 83 investment projects, but there was already a significant mainland Chinese presence in Nigeria (33), Kenya (21), Mauritius (20), Ghana (17) and Zambia (17). The Chinese mainly invested in light industry, but there were also significant concentrations in electric appliances and spinning and weaving. Companies from Guangdong Province produced ethyl alcohol in Benin, sewing machines in South Africa, motors in Angola, and batteries in Mozambique. A Zhejiang Province firm, Hasan Shoes, has produced a quarter of its output in Nigeria since 2006, and a Chinese factory is producing paper in Tanzania. The pioneering Chinese white goods firm Haier (a worker-owned 'collective') produces household appliances in an Angolan factory with 700 employees. Since 2005, investors from Henan Province have filed the Guoji [International] Industrial Entry Zone in Sierra Leone, where factories produce mattresses, roofing tiles, and hair lotions in a factory zone jointly established by the local government and the Henan Gouji Industry and Development Corporation...(Brautigam, 2008, pp. 54-5).

The many illustrative examples Brautigam carefully compiled thus show how actively Chinese firms were already setting up factories across Africa over the 22 years 1979-2001, way before the recent surge. The question for our analysis is, however, not whether Chinese firms are making manufacturing investments or not. No doubt, they have already invested considerably. And in the most recent past Chinese firms' manufacturing investment did surge noticeably. In 2013, the China Council for the Promotion of International Trade (reported by *Xinhua*) claimed that Chinese companies manufacturing investment in sub-Saharan Africa "accounts for more than 30 percent of all Chinese investment" in the region, "nearly double the investment in the mining sector."¹⁶ Nevertheless, the crucial question is whether their manufacturing investments

¹⁶ "Chinese manufacturers feel their way in African market," Chinadaily, 2013-11-19. <http://africa.chinadaily.com.cn/world/2013-11/19/content...> Downloaded 12/11/2014.

have occurred substantially enough, and in such expeditious a manner, to trigger an industrial takeoff. Have they really begun to spark local industrialization in any African host country?

In this regard, true, Ethiopia is the brightest spot that has succeeded in attracting China's manufacturing FDI in labor-intensive shoe production for export. Lin (former chief economist at the World Bank) and Wang (2014) tout that this turn of event is a promising sign of industrial transmigration, since labor-intensive production is the *right* type of FDI Africa needs from China:

African countries can have the same growth miracle [as China's] if they can grab the low-hanging fruit by putting the 'right' government interventions into the right sectors and spaces. The quick success of the Huajian Shoe Factory in Ethiopia provides a convincing example for the approach. According to research at the World Bank in 2010, the wage rate of the footwear industry in Ethiopia is an eighth to a tenth of that in China, about one half of that in Vietnam, while its labor productivity is about 70 per cent of that in China (almost the same as Vietnam's), so Ethiopia is highly competitive in the footwear industry. But in 2010, employment in the footwear industry was respectively 19 million in China, 1.2 million in Vietnam and 8,000 in Ethiopia. Informed by the findings, late Prime Minister Meles Zenawi went to Shenzhen in August 2011 to invite Chinese footwear manufacturers to invest in Ethiopia. [A] Huajian designer visited Addis Ababa in October 2011, convinced by the opportunity and opened a shoe factory in the Oriental Industrial Park near Addis Ababa in January 2012, hiring 550 Ethiopians and expanding to 2,000 by December 2012. Within one year Huajian had more than doubled Ethiopia's footwear exports. Huajian's workforce reached 4,000 by December 2013, projecting to hire 30,000 by 2016.

And the 'right' government interventions they emphasize include the setting up of ECZs (economic cooperation zones) designed to provide adequate infrastructure in selective locations, a topic discussed below. More recently Huajian was planning to ramp up its investment by "as much as \$2 billion in Ethiopia over the next decade to make the country a base for exports to Europe and North America"¹⁷ by creating a 341-acre light manufacturing industrial zone (with a new shoe plant, apartments for workers, a "forest resort" district, and a technical school) that can provide jobs for around 100,000 Ethiopians with the company itself giving about 50,000 jobs in Addis Ababa by 2022.¹⁸ The China-Africa Development Fund is a co-investor in the zone.¹⁹ And what is most striking is that "Ethiopia is clearly in charge in this engagement. Chinese traders and shopkeepers, who are fixtures across many African cities, are absent on Ethiopia's streets. These positions are reserved for locals, and Ethiopians enforce their rules" (Brautigam, 2011/amended 2012, p. 3).

¹⁷ "China Inc. Moves the Factory Floor to Africa," *Wall Street Journal*, May 15, 2014, A1. This article also reports that China's higher end products are made in South Africa, while lower-end ones in less developed African countries such as Ethiopia and that "Chinese factories also produce steel pipes and textiles in Uganda."

¹⁸ "Ethiopia becomes China's China in global search for cheap labor," Bloomberg. <http://www.bloomberge.com/news/print/2014-07-22/Ethiopia-becomes-china-s-china...> Downloaded 12/8/2014.

¹⁹ "Chinese firm steps up investment in Ethiopia with 'shoe city,'" *Guardian*, 30 April, 2013, <http://www.guardian.com/global-development/2013/apr/30/Chinese-investment-ethiopia...> Downloaded 12/8/2014.

Chinese manufacturing ventures like Huajian are not really the type organized by individual migrating entrepreneurs or family multinationals independently. Instead, they are set up by large well-established Chinese companies and usually subsidized by the Chinese government (e.g., via tax credit at home) as the *new* genre of China's manufacturing FDI that is intended to improve its prevailing unfavorable image and to make itself acceptable for the African host countries. China's investment activities have entailed a litany of bad reputations such as neocolonialism with natural resource exploitation, excessive employment of Chinese workers (not only in infrastructure projects but also in services—and even in low-end manufacturing) and flooding of cheap Chinese imports that damages existing local manufacturing.

In 2014, China published a new white paper on foreign aid. Interpreting its contents, Sun (2013) observes about “China's new approach to and focus on Africa”:

[Aid projects] anchor China's aspiration to *change* the traditional perception that China is only in Africa for its natural resources. In fact, after the visits by President Xi Jinping in 2013 and by Premier Li Keqiang earlier this year, Beijing has been striving to craft *new* action plans and a *new* narrative about China in Africa. Most strikingly, China has been downplaying the role of natural resources and mining cooperation in Sino-Africa relations, and instead focuses on cooperation on development issues including infrastructure, transportation networks, *manufacturing* industries, medical services and health care in Africa (pp. 2-3, emphasis added).

Thus, there is a newly crafted strategy of promoting manufacturing investments, especially by China's state-owned or state-backed large companies that the Chinese government controls—hence, can mobilize for policy purposes.

It is against such backdrops that assembly operations for tech goods is promoted by the Chinese government, as is the case with the newly built factory of Hisense Co. a TV-motherboard assembly shop opened in Cape Town, South Africa, in which “[the] Chinese government backed China-Africa Development Fund took a minority equity stake...on the condition that Hisense hired its factory workers locally.”²⁰ Chinese business-side argument is that African workers' productivity is too low to do the job or no adequately capable labor is readily available locally. In fact, China “dispatched 214,534 workers to Africa [in 2013], about one-fourth of all workers the country sent abroad.”²¹ This means that Chinese companies must have sent out *about 800,000 workers worldwide in that single year alone*.

While investing in labor-intensive light industries (such as textiles and leather products) in low-wage countries like Ethiopia, China has simultaneously begun to invest in higher-tier industries of South Africa (the region's most developed and largest country)--in trucks and light commercial vehicles (by state-owned FAW Group) and steel (by state-owned Hebei Iron & Steel Group and China -Africa Development Fund)--in addition to the aforementioned TV assembly (by Hisense Co. with the help of China-Africa Development Fund). South Africa, where China's FDI jumped from 22% of a total stock of China's FDI in Africa resides) now hosts a increasingly large number of Chinese companies in a diverse range of industries, as China shifts from mining

²⁰ "China Inc. Moves the Factory Floor to Africa," *Wall Street Journal*, May 15, 2014, A1.

²¹ *Ibid.*

to manufacturing and property development—and even wine making.²² Also, Haier, a Chinese brand of home appliances, consumer electronics, and cell phones already well known across Africa, and its competitor from China, Hisense, have put up factories in South Africa.²³ However, the critical question again is: Will this lead to a decisive industrial takeoff in Ethiopia and/or a decisive industrial rejuvenation in South Africa?

9. A flying-geese formation led by China in Africa? Concluding assessment

As pointed out above, European countries have already made, albeit over the past long period of more than a century, a significant amount of FDI across Africa, the amount in stock still much larger than now rapidly catching-up China's--yet without triggering any decisive industrial takeoff on the continent. It may be due to the fact that traditional European investments on the continent are mostly of the colonial genre that is intended to extract natural resources and exploit local markets for European products and services—and deliberately to discourage industrialization for fears of fostering competitors overseas. At the same time, China's investment and trade activities have been equally criticized as no different from the past Western colonialism. Will, then, China's FDI, even if it reaches the European level in amount, be able to serve as a jump-starter for Africa's industrialization? Moreover, the additional liability (risk) of being Chinese in investment projects has arisen owing to their ethnocentric--and ethnicity-specific-- behaviors that are unwelcomed in the host economies (see Box 2). No wonder, then, the Chinese government had to embark on the new approach to its advance into sub-Saharan Africa, making a variety of new official pledges for economic cooperation.

As a consequence, there have lately—and suddenly--been stepped-up manufacturing investments, which are in fact promoted and subsidized one way or another by the Chinese government. However, the critical question is whether this new wave and focus of China's FDI in low-end manufacturing will truly be a harbinger of the start of a flying-geese formation in Africa that can relay a comparative advantage in labor-intensive light industry from one African economy to another, thereby fueling sequential catch-ups in industrialization across the region.

One may argue that a flying-geese formation is not required for Africa to kick off industrialization. Catch-up growth could occur independently and inner-motivated *without* cultivating FG-style leader-follower relations. However, the present age of globalization compels any emerging economy to adopt interactive/emulative growth unless it opts for a hermit existence in isolation from the outside world. Thus, interactions (via trade in goods, services, and knowledge, investment, and any other type of channels) are unavoidable. Yet luckily, they are growth-conducive in general and catch-up-facilitating in particular, if managed properly. The channels of interaction can create opportunities for synergistic growth. And there must be an optimal approach that can maximize the speed of, and gains from, such interactions. Here an FG formation presents one paradigm of catch-up industrialization, which has already been efficaciously played-out and well-tested for its effectiveness in East Asia, and which is therefore more catch-up conducive than other major paradigms, such as the “big-push” (Stalinist Soviet)

²² "From winery to factories, Chinese firms investing billions in South Africa," *South China Morning Post*, May 15, 2014, www.scmp.com/print/business/china-business/article. Downloaded on Dec. 7, 2014.

²³ “Chinese manufacturers feel their way in African market” (provided by Xinhua), *Chinadaily*, 2013-11-19. <http://africa.chinadaily.com.cn/world/2013-11/19/conent...> Downloaded 12/11/2014.

approach and the “import-substitution” (Latin American) paradigm, as pointed out by Radelet and Sachs (1997).

The *first* step for this strategy is to open up the home economy for the outside world and attract FDIs in labor-intensive low-skill industries. It must create an FDI-friendly well-governed environment. Sure, it is easier said than done. In order to circumvent numerous internal political and institutional constraints, special economic zones (SEZs, EPZs, ECZs, or whatever it is called) needs to be set up. Such zones are one of the key enabling conditions for an FG-style catch-up. And the host government must facilitate a mobilization of labor to industry from the rural areas where under- and un-employed labor exists in abundance. Political and social stability, either secured top-down under authoritarianism (not tyrannically but benignly) or more ideally bottom-up democratically, is doubtlessly *the* primary requisite. Other necessary conditions on the side of African host countries have already been amply prescribed in a large number of policy-oriented studies. (This first phase of catch-up is relatively an easy one, but the next transition toward knowledge-based industry from labor-driven one is a far more difficult task.)

9.1. Follower geese in sub-Saharan Africa

A successful FG formation of tandem growth requires not just a strong lead-geese country (which China is now counted on to become for Africa) but also equally strong follower-geese countries. Which country will take up the latter’s role? Africa is a vast continent (consisting of 54 countries, 49 of which in sub-Saharan Africa²⁴) with a huge and rapidly growing population (currently over one billion people). If China’s FDI is scattered across sub-Saharan Africa, its impact will be small and ineffective. Paradoxically, however, political instabilities in many African countries are forcing Chinese companies to choose factory locations in those host countries that are politically stable and friendly to them. In other words, China *automatically* concentrates its new manufacturing FDI in only a few host countries because the potentially promising locations are now limited. In this respect, South Africa and Ethiopia stand out as good candidates. South Africa already has the most developed infrastructure and diversified industrial structure in sub-Saharan Africa. Nevertheless, South Africa is currently plagued by socialist legacies, labor strife, and the bloated Zuma administration’s emphasis on the role of the state and the affirmative-action policies in disregard of the health of the private sector.²⁵ Most alarmingly, its recently faltering economy is causing social unrest, often xenophobic attacks on foreign-owned businesses.²⁶ And it also has a relatively (and unusually) high manufacturing wage level, \$1,200 per month, compared to China’s \$560 (3,469 yuans) and Ethiopia’s \$30 a month.²⁷ All in all, South Africa thus appears already caught in the middle-income trap. True, the country is the largest intra-continent investor, “accounting for as much as one third of all intra-African greenfield investment projects between January 2003 and January 2014” (Kruger and Strauss, 2015). Yet, its investments are concentrated in services (e.g., retailing) and consumer goods and

²⁴ “Sub-Saharan Africa,” Federal Ministry for Economic Cooperation and Development, German Government. www.bmz.de/en/what_we_do/countries_regions/subsahara/index.html?PHPSESSID... Downloaded 1/25/2015.

²⁵ “South Africa’s new government: The low-growth road,” *Economist*, May 31, 2014.

²⁶ ‘South Africans lash out at foreign businesses’, *Wall Street Journal*, Mar. 5. 2015.

²⁷ “Ethiopia becomes China’s China in global search for cheap labor,” *Bloomberg*, July 22, 2014.

<http://bloomberg.com/news/print/2014-07-22/ethiopia-becomes-china-s-china...> Downloaded 12/8/2014/

are not much of the type that focuses on low-end manufacturing for export, FG style, that can ignite a takeoff in a host economy.

In contrast, as seen above, Ethiopia is hosting the right type of manufacturing investments from China. Its host environment is certainly more attractive as a low-cost location than South Africa, even when its low local productivity (which is said to be about one third lower than China's) is factored in. Ethiopia has a much larger population (97 million) with a greater population density (94 people per square kilometer) than South Africa (53 million in population with a density of 44)--hence, a larger reservoir of low-wage rural labor for industry to tap into. And most of all, Ethiopia is politically stable (under benign authoritarianism) and has committed to the China model of catch-up.

When these two African countries are compared, the labor-driven phase of catch-up, FG style, is more likely achieved successfully in Ethiopia than in South Africa. Moreover, Ethiopia is home to Africa's largest livestock population with the promise of comparative advantage in leather goods (as clearly cultivated by the Huajian shoe factory). All these things considered, therefore, there are good reasons for optimism. In fact, Brautigam is quoted as saying in 2014 that "It could become the China of Africa."²⁸ Undoubtedly, Ethiopia shows an early sign of success in attracting China's FDI—and in this sense, its current FDI situation is akin to China's in the early 1980s immediately after China's open-door policy. However, a follower-goose must, in turn, be capable to invest in lower-wage neighbors as it graduates from low-cost production under the pressure of rising wages and currency appreciation, the way China is now doing—and most importantly, be able to climb the ladder of industrialization to the higher rungs (so as to relay the jumpstarting opportunity to its African neighbors in succession). This is the vital role assigned to the follower geese, if the region as a whole is to be industrialized. It remains to be seen whether Ethiopia can become such a vital follower goose.

In short, in order for the African hosts to attract multinationals from the advanced world and emerge as successful follower geese, institutional reforms, particularly political and social reforms, are badly needed—but for this to occur will take time. Many Africa-side factors that hamper western multinationals' advance (for ideological, historical, socio-cultural, and political reasons) have been already well studied and pointed out in an existing large volume of literature on the needs for institutional reforms—hence, no need for rehash here.

9.2. China-side factors

What needs to be also considered here is *China-side* factors, a dimension not sufficiently explored in the current debate on the issue of factory relocation to sub-Saharan Africa. Is China really prepared and ready to decisively discard low-wage manufacturing in light industries by promptly transplanting it outside the country? Labor shortages and rising wages, notably in the eastern coast regions, are certainly pushing manufacturers, domestic as well as foreign-owned, to search for low-cost locations. There are three locations where light industries can relocate: China's vast interior, its neighboring countries, and far away countries (such as Africa and Latin America). In this regard, the economic logic of business decision making ranks the companies'

²⁸ Ibid., p. 2.

preferences basically in that order, though some strategic decisions may cause deviations from the overall ranking.

Although the wage pressure is on the rise, there is still a huge reservoir of low-skill labor in China's inland. It will take a *long, long* time for China's migrant labor (currently estimated at 245 millions aside from *potential* additional migrants who may number as many as 275 million in the long run, as detailed in Box 3) from the rural areas to be fully employed in higher value-added industries. China will *not* be able to dismantle low-wage light industry as readily, and as speedily, as Japan and the NIEs, both with their relatively small rural sectors, have done earlier. China's rural labor reservoir will not dry up so quickly but rather remain to exist for quite a while. And the Chinese government has to keep providing jobs for the hundreds of millions migrant workers for political reasons. After all, *industrial migration* to Africa may no longer guarantee *labor migration*, now that Chinese investments have already accompanied more than one million settlers on the African continent, against which there are rising incidents of backlash, as will be detailed below. The World Bank says that there will be a potential outflow of 80 million jobs from China, but then, *80 million new jobs have to be created in turn at home*. Those 80 million workers who will lose their low-end jobs cannot be absorbed so readily into higher-skill, more capital-intensive industries at home. They require skill-training. And even if their skills are upgraded, capital-intensive industries are, *by nature*, necessarily *less jobs-creating* (per unit of production). Besides, China's heavy and chemical industries now face overcapacity and are in the doldrums. No doubt, China has to hold on to low-end manufacturing for a long while.

Furthermore, although China made a spectacular success in poverty reduction, as many as 98.99 million people (the size of more than three quarters of Japan's population and the size of far larger than Germany's entire population) still lived below the national poverty line of RMB 2,300 per year (or RMB 6.3 per day or about \$1 a day) at the end of 2012.²⁹ The existence of such extreme poverty remains primarily a rural phenomenon. In fact, the rural sector has been steadily falling behind the urban sector in income growth with a widening wealth gap. Rural dwellers need better education, healthcare, and job opportunities. More factories have to be set up in the interior regions rather than abroad.

Indeed, despite the simmering territorial issue between China and Japan, President Xi Jinping reportedly willy-nilly made up, if momentarily, with Japan's prime minister Shinzo Abe at the 2014 Asia-Pacific trade meeting in Beijing in order to prevent any further fallout in the two countries' economic relations. In 2013 alone, Japanese investment fell nearly one-third (from \$13.5 billion to \$9.1 billion) as they have shifted factories away from China to elsewhere in Asia.³⁰ Currently, Japan's multinationals employ about 11 million Chinese workers, many of whom are migrant laborers.³¹ (This implies that China missed the chance of creating about 5.5 million more new jobs in 2013.) Besides, China's growth has begun to downshift. Its GDP rose by 7.3 percent in 2014, short of the government's target of 7.5 percent and is forecast by the IMF

²⁹ Based on "China Overview," World Bank, Apr. 1, 2014. <http://www.worldbank.org/en/country/china/overview>. Downloaded 2/5/2015.

³⁰ "Economic integration: The flying factory," *Economist*, Nov 15, 2014.

³¹ "East Asian firms in China: A bridge over troubled waters," *Economist*, November 8, 2014. It also reports that companies from around the troubled East China Sea have close to 30 million Chinese on their payrolls (Taiwanese companies 15.6 million, Korean firms 2 million).

to grow by 6.8 percent in 2015, below 7.0 percent the minimum considered necessary to maintain full employment--and social stability.

This situation is also one of the very reasons why the pace of China's currency (RMB/yuan) appreciation has recently slowed down or even reversed its path under the managed currency system. Currency appreciation in value *taxes* exports and *subsidizes* both imports and outward FDI, which affect employment adversely at home. Now that China's days of double-digit growth rates are clearly over and behind, the government is seriously concerned about how to create jobs, particularly for low-skill migrant workers. According to a well-known theory of foreign exchange rates,³² underdeveloped countries' currencies are undervalued compared to advanced countries'. However, the currency of a successfully catching-up economy will inevitably appreciate in value over time. The faster the catch-up is, the greater the appreciation.

When China started out on its path to industrial modernization under the 1978 open-door policy, its currency was necessarily undervalued vis-a-vis those of advanced countries. And the initial undervaluation helped China export competitively and amass foreign exchange reserves. As expected, China's rapid growth has been naturally accompanied with upward pressure on its currency. Yet, China's FDI-driven growth strategy encouraged capital inflows, but restricted capital outflows, thereby further raising the upward pressure. Although such pressure was early on suppressed for a while via foreign exchange market interventions, the yuan eventually had to be allowed to rise -- in fact, for example, some 50 percent in real terms against a basket of currencies over the 20 years of 1993-2013.³³ Again, however, the Chinese government is moderating its rise in value and adopting a more gradual approach so that industry has more time to raise productivity and retain competitiveness. In this regard, it also should be noted that Japan experienced a sharp yen appreciation that drove out factories to the neighboring countries, leading to what the Japanese called the "hollowing-out (doughnut)" effect, a loss of manufacturing at home. Fortunately, however, Japan was capable of shifting labor to higher-value-added, higher-skill industries (such as automobiles, electronics, and other high-tech manufactures). Will China be able to replicate the same feat?

Despite the importance of China in Africa, furthermore, Chinese companies' investments alone obviously cannot organize a FG formation for Africa. Other countries' participations--especially advanced countries'--need to be secured. After all, China's *own* initial FDI-driven growth in low-skill manufacturing itself was made possible by the massive inflows of FDI and outsourcing operations from the advanced countries, notably the ethnic-Chinese Asian NIEs (concentrated in labor-intensive production), Japan, the U.S., and Europe (not just in low-end but also in high-tech sectors). Sure, some of these advanced countries' multinationals began to shift their business activities abroad from China—but not much yet to Africa. On the other hand, ethnic-Chinese Hong Kong, Singapore, and Taiwan's multinationals have been active in Africa, helping mainland China's companies set up and run factories in the course of building supply chains in textiles and apparel. Nevertheless, the world's largest contract manufacturer, Foxconn (a subsidiary of Taiwan's Hon Hai Precision Industry Co.), that employs as many as one million Chinese assembly workers for Apple, Sony, Microsoft (XBox), H.P., and other major consumer electronics companies has not yet shown any sign of shifting factories to Africa, even though the

³² See Balassa (1964), Samuelson (1964), Kravis and Lipsey (1983), and Bhagwati (1984).

³³ "Continued yuan appreciation is no longer such a sure thing," *South China Morning Post*, February 10, 2014.

type of jobs they provide (i.e., assembly works) is exactly what low-wage African hosts need and have a comparative advantage in.

True, there are sporadic press reports that the advanced countries' multinationals are increasingly setting up shop in Africa. Many major manufacturing brands like H&M, Coca-Cola, GE, Pepsi, Nestle, Toyota, Ford, Mercedes Benz, and Renault, along with major IT companies like Microsoft and Google, are already noticeable on the continent. These are eye-catching developments as they are reported in the media, but have hardly sparked local industrialization. They are mostly intended to capture local markets, not manufacturing for export. In other words, they promote consumerism, but not much industrialism, and are basically of the market-seeking type—and actually the *wrong* type for the initiation of an FG-formation in sub-Saharan Africa.

Also, emerging market multinationals, notably from BRICS (Brazil, India, China, and South Africa), have been attracted to business opportunities across sub-Saharan Africa. Frontier Strategy Group, a consultant firm on Africa, even warns: “Across industries, emerging markets-based companies are entering sub-Saharan Africa at a faster rate than Western companies, gaining critical market share and customer loyalty. Underestimating the threat emerging markets-based companies pose, Western multinationals are not yet concerned at their own peril.”³⁴ This rather hyped sales pitch for consulting service set aside, there is no doubt that advanced countries' manufacturing multinationals at large have been ginger and cautious in their advance into the region. For them, there must be some good reasons for not jumping on the African bandwagon in haste.

In sharp contrast to China's “no-string attached” policy of FDI, western multinationals have to shy away from the dictatorial regimes with the poor records of human and civil rights. Compared to emerging market multinationals, they are more restrained from local bribery practices lest being prosecuted at home for violating anti-corruption laws. They are more accustomed to higher standards of corporate responsibility practices. They are, on the whole, more concerned, and more law-abiding, about local environmental and labor standards, particularly for fears of bad publicity that is more readily generated toward them by the news media. In contrast, China's investors are said to be not concerned about, and not even deterred by, corruption and poor political governance: “Interestingly, unlike many western investors, corruption, crime and bureaucracy did not seem to disturb Chinese investors particularly,” an observation based on a survey on impediments to FDI in Africa (Gu, 2009, p. 578).

In sum, although there have lately come to the fore some encouraging signs of the first stage of an FG formation of tandem catch-up in sub-Saharan Africa, China's capability to serve as a lead goose is still constrained by China-side factors, which are most likely to *prolong* the process of discarding low-end production. Furthermore, Africa-side factors are overall even more unfavorable. The hoped-for “African Miracle” appears a long way off.

9.3. The backlash against China in Africa

³⁴ Anna Rosenberg, “The rise of emerging market competitors in sub-Saharan Africa,” 17 February, 2013. www.howwemadeitinafrica.com/the-rise-of-emerging-market-... Downloaded 12/29/2014.

Finally, a long-term prospect for Sino-African relations needs to be considered. Ironically, China's rise and its dominant presence as a major business partner across Africa under the "go out" policy of *both* investment and people, which is hoped to serve as the kick-starter of industrialization, is stirring local resentments. Some local anti-Chinese movement presents a serious obstacle to China's cooperation with Africa's efforts to develop. As recent as May 2014, local communities in Kenya protested the importation of 5,000 Chinese laborers for construction of a new railway that runs across Kenya, Uganda, South Sudan and Rwanda and would help expand regional trade by cutting freight costs by more than 60 percent. It was the protest taking place almost immediately after the deal was signed by Chinese Premier Li Keqiang (Shneidman, 2014).

In his book review of *China's Second Continent* (French, 2014), Ellis (2014) reminds us of Africa's xenophobic reaction to foreign settlers in the past and warns about China's new diasporas:

Chinese settlers will surely play a key role in the evolving Sino-African relationship... Nearly all of Algeria's million European settlers moved back to Europe at the time of independence in 1962. South Africa is a more complex case, as a fair proportion of its white population of 4.5 million—these days, distinctly nervous about their future—is descended from migrants who came as long as three and a half centuries ago, while the country is also home to a large community of Asian origin. Looking at the political use that can be made of the presence of just a few thousand white farmers in Zimbabwe, whose government finds it useful to represent them as so many agents of Western imperialism, it becomes clear just how explosive the settler issue can be. And let us not forget the summary expulsion of Asians by Uganda's Idi Amin in 1972, or the many examples of migrants from one African country to another who have suffered in various programs.

The greater the Chinese settler population, and the more it is entrenched, the greater the risk of political backlash. ... If times get bad, Chinese settlers in Africa will be looking to their government for help. Mr. French concludes that "there are growing signs that for some the honey moon" is already over... Indeed, the migration of Chinese people to Africa, as Mr. French notes, "the most striking parallels with imperial patterns of the past" (p. C5, emphasis added).

And more recently, as reported by Reuters, "In Ghana, tensions flared into violence last month [June, 2013] when police and residents attacked artisanal Chinese gold miners, claiming they were driving locals out the industry. Many Chinese were brutally beaten and some 200 were deported."³⁵ (This is certainly the serious additional cost of being Chinese in foreign countries.) Also, Schneidman (20014) cites another recent incidence: "The experience of China in Libya in the aftermath of the uprising against Moanmar Gadhafi was especially sobering as more than 35,000 Chinese workers from 75 companies had to be evacuated, and Chinese companies lost nearly \$20 million investment" (p. 3).

³⁵ Daniel Flynn, "Africa investment-China brings goods and roads, now Africa wants jobs," *Reuters*, July 21, 2013. <http://www.reuters.com/assets/print?aid=USL6N0F13TE20130721>. Downloaded 12/11/2014.

In an *Economist* article "China in Africa: One among many" (January 17, 2015), the reporter stresses that "China has become big in Africa. Now for the backlash." The article reminds us of the fact that the present China-African relations are basically of the state-to-state (often authoritarianism-to-authoritarianism) type that leaves out the welfare and interests of local communities and people:

... Africans are increasingly suspicious of Chinese firms, worrying about unfair deals and environmental damage. Opposition [particularly against Chinese investment in agriculture] is fuelled by Africa's thriving civil society, which demands more transparency and an accounting for human rights. This can be an unfamiliar challenge for authoritarian China, whose foreign policy is heavily based on state-to-state relations, with little appreciation of the gulf between African rulers and their people. In Senegal residents' organizations last year blocked a deal that would have handed a prime section of property in the centre of the capital, Dakar, to Chinese developers. In Tanzania labour unions criticized the government for letting in Chinese petty traders (p. 47).

As pointed out earlier, every year Chinese companies dispatch more or less 800,000 workers—and about 200,000 of them to Africa. China already has its infantry battalion of 700 soldiers stationed in South Sudan (albeit as part of a UN peacekeeping force) to protect China's investment in oil extraction—and its workers and installations.³⁶ What will China do if Ghana-type incidents flare up across Africa and threaten more than one million Chinese nationals? Will it follow Russia's footsteps by sending in soldiers for the sake of protecting them? Or will China leave Africa peacefully by assisting Chinese settlers to pack up, along with their businesses, and head for a new location like Latin America where its diplomacy is newly redirected with ramped-up economic aid and cooperation efforts? The latter means that China will no longer play the role of a lead goose for sub-Saharan Africa.

INSERT BOX 3. HERE

³⁶ "Beijing Deploys Battalion to South Sudan," *Wall Street Journal*, Aug. 10, 2014.

Box 7.1. The evolutionary of China's involvement in Africa's industrialization

Chinese family multinationals' phenomenal expansion abroad has occurred only recently since emigration restrictions were removed at the end of the 1990s. Kaplinsky and Morris (2010) outline a three-phase history of Chinese relations with sub-Saharan Africa (to which more observations are added by this study in greater detail):

- (i) Mid-1950s—mid-1990s. Subsequent to the Bandung Conference of Non-Aligned Nations in 1955, China provided official development assistance (as exemplified by railroad building in Tanzania) and political support to then-decolonized Africa. These projects were, on the whole, ideologically motivated to show solidarity with the poor continent.
- (ii) Mid-1990s—2000.³⁷ The Chinese government began more proactively to engage in extending economic cooperation via concessionary loans for, and state-backed FDI in, resource extraction and infrastructure as its need for natural resources rapidly rose over the course of modernization of its heavy and chemical industries at home. China's engagement in Africa thus became strongly motivated for its own economic interest.
- (iii) 2000 and onward: As soon as restrictions on emigration was lifted and the “go-out” policy adopted in 1999, individual entrepreneurs and small-scale firms started autonomously to invest in local services, manufacturing, and farming without any government supervision and support--and without any coordination with China's official Africa diplomacy.

Three observations are in order. First, the third phase of development is in many cases the outcome of the second phase in which China's infrastructure building (such as railroads, highways, port facilities, dams, and power plants) brought to Africa Chinese construction workers in hundreds (or even thousands) and a large number of related service providers (hotels and housing, restaurants, groceries, etc.³⁸). Many of them simply stayed on, setting up local businesses of their own in the host countries. (This is reminiscent of the Chinese migration to the United States in the mid-19th century when several thousand high-work-ethic Chinese laborers were recruited from China for the Central Pacific's railroad construction, who later settled in the new country.³⁹) In fact, nearly 2,000 Chinese construction companies at home are certified to provide labor export services in conjunction with their overseas construction projects, dispatching, for example, a total of 392,000 workers overseas in 2007 alone--with a contract value of US\$47.38 billion, and sending laborers abroad became “the most competitive export pattern for China's service sector” (Li, 2008, p.55).

Second, this newly emerged type of China's manufacturing FDI in the sub-Saharan region does not really match the contemporary notion of FDI by multinationals and is, therefore, of the “unconventional” genre—in the sense, as seen in Section 6, (a) that the majority of these small

³⁷ Gu (2009) presents a five-stage model of China's FDI evolutionary development. But here, a simpler three-stage model is taken up for our analysis.

³⁸ French (2014) even reports on brothels for Chinese workers.

³⁹ These Chinese workers were mostly poverty-stricken peasants who had a strong work ethic and were willing to take on hard physical jobs. “Several thousand Chinese men had signed on by the end of [1865]; the number rose to a high of 12,000 in 1868, comprising at least 80% of the Central Pacific workforce... The Chinese workers were punctual, willing, and well-behaved--sometimes referred to as 'Celestials' in reflection of their spiritual beliefs. They were quite unlike their Caucasian [mostly Irish] counterparts [who were better paid but often agitated and rebelled over wages]...” (Public Broadcasting Service, American Experience, “Workers of the Central Pacific Railroad”). www.pbs.org/wgbh/americanexperience/features/general-article. Downloaded 12/6/2014.

overseas workshops are opened by migrant/immigrant entrepreneurs and small/medium-sized businesses, (b) that these establishments are mostly self-(or family-)financed and/or *guanxi*-financed, and (c) that if “manufacturing” is involved, their operations are basically of the low-end processing type (like apparel making, fabrication of household appliances, furniture making, and food processing) with materials imported mostly from China or overseas Chinese diasporas or from Taiwan, Hong Kong, and Singapore (all ethnically related economies).

Third, the typical pattern of local business operations by China’s new business immigrants is an *evolutionary* progression from trading to local processing operations, and finally, to *guanxi*-driven formations of industrial clusters—or what Gu (2009) calls the “three-jump process” of business engagement abroad. In the beginning, trading helps Chinese settlers test the local market potential of their host country. If the location is found promising, they then move on to processing operations (e.g., sewing, stitching, and knitting in apparel making) locally by importing or procuring all the necessary raw materials and intermediate goods (e.g., fabrics and yarns) from their compatriot/expatriate suppliers. And eventually when a volume of local production and business at Chinese shops grows, they adopt a “clustering” strategy by establishing networks of production among themselves, which enable a division of labor and scale economies. China’s business engagement is presently at the third “step.” Consequently, several clusters are currently being organized by overseas Chinese business diasporas in Africa⁴⁰--often in connection with the economic cooperation zones (ECZs) set up by the Chinese government (inclusive of its agencies) or jointly with local governments.

Related to the three-jump process model is the fact that the trading (i.e., market-probing) phase, though crucial as a probe for Chinese settlers’ potential local production, *damages* local manufacturing, since imports replace locally manufactured goods. For example, a flood of cheap Chinese goods contributed to a loss of as many as 750,000 jobs in Africa’s textile industry *alone* over the last decade and the UN Economic Commission for Africa (UNECA) warned it would strangle the region’s attempts for industrialization.⁴¹ Such job losses may easily add up to millions in affected industries. In the short 4-year space of 2004-2008, for instance, Malawi’s exports of textiles and apparel dropped by 52.64% (from \$26.7 million to \$12.7 million), Mozambique’s by 99.98% (from \$2.3 million to \$500, hence practically wiped out), South Africa’s by 75.06% (from \$164 million to \$40 million), and Zimbabwe’s by 94.63% (from \$4.36 million to \$234 thousand)--according to U.S. Department of Commerce: Office of Textiles and Apparel, as cited in Tang (2014). It should be noted, however, that this type of adverse impact on local industry is not inherent only in China’s exports. Such an effect similarly inflicted on traditional local industries by Western exports in the 19th-early 20th centuries across Asia was well documented and conceptualized as the “backwash” effect of international trade in Gunnar Myrdal’s classic study, *Asian Drama* (1968).

⁴⁰ It is worth noting a similar pattern of the growth of Chinese overseas business elsewhere. For example, Prato, Italy’s fashion textile hub, has been transformed into a low-end garment manufacturing capital: “The city is now home to the largest concentration of Chinese in Europe—some legal, many more not. Here the heart of Tuscany, Chinese laborers work round the clock in some 3,200 businesses making low-end clothes, shoes and accessories, often with materials imported from China, for sale at midprice and low-end retailers worldwide... There are 11,500 legal Chinese immigrants, out of Prato’s total population of 187,000. But the [mayor’s] office estimates the city has an additional 25,000 illegal immigrants, a majority of them Chinese” (“*New York Times*, September 12, 2010).

⁴¹ “AFRICA INVESTMENT--China brings goods and roads, now Africa wants jobs,” *Reuters*, July 21, 2013. www.reuters.com/assets/print?aid. Downloaded 12/11/2014.

Be that as it may, these aforementioned stages-delineated approaches are surely appropriate as an analytical model, given the fact that China's 1999 "going out" policy suddenly opened a flood gate for *both* human emigration and outward investment, and that the structural configuration of its FDI has ever since been changing *pari passu* with China's rapid industrial structural metamorphoses—and the most recent tweaking of China's commercial strategy to Africa.

Box 2. The "additional liability of being Chinese" in overseas investment

Overall, China is still a novice home country for its own multinationals, many of which are active in the Third World where institutional inadequacies compound the problems caused by China's inexperience with outward FDI. For example, China is often criticized for its tendency toward ethnicity-bound groupism, as evidenced in the arrival and employment of Chinese construction workers in hundreds or even thousands for aid projects,⁴² the settlement of Chinese migrants and petty merchants/caterers in host countries, and the one-sided presence of Chinese consortia for overseas development projects without much participation of local and other countries' multinationals—and destruction of budding local manufacturing (see Box 1).

There may be good practical reasons why Chinese construction crews are usually dispatched from home to overseas infrastructure projects in Africa; there exists no sufficient number of civil engineers and skilled workers to complete the work within a contract period. More importantly, however, overseas infrastructure projects can provide job opportunities for Chinese laborers to work on construction projects who might otherwise be unemployed at home. Also, the market structures in the Third World are yet to be functionally well organized, causing the problems of coordination failure, which can be ameliorated only by the networking skills of compatriot firms and laborers brought from home. (Here, Japanese FDIs were, early on, similarly criticized for overstaffing their ventures with Japanese top-to-middle level managers without giving opportunities for locals to be promoted—and for their tightly knit *keiretsu*-based investment activities [Ozawa, 1979]). Be that as it may, China has a long historical tradition of emigrating and settling across Southeast Asia and elsewhere—and now more in faraway places like Africa. And their close networking culture provides a special competitive advantage. These "Chineseness" features that have good socio-cultural and economic rationales, therefore, may not fade away so quickly even as China gains more experience as overseas investors.

In this regard, Sauvant and Chen (2014) advises: "To *operate and prosper* successfully in a host country, Chinese firms need to overcome the liability of foreignness—and, in some countries, the *additional* liability of being Chinese" (p.1, emphasis added). This is in line with Stephen Hymer's well-known theory of FDI (1960/1976) that posits: in order to be successful in

⁴² According to Brautigam (2010b), it is a misconception that China's construction projects in Africa are not always carried out mostly by Chinese workers. She points out that in Angola Chinese workers accounted for 45%, while locals for 55% in Angola; in Tanzania Chinese workers 10%, while locals 90% in Tanzania. For the entire continent, the former is 20% of the construction workers employed. But the absolute numbers of Chinese workers sent from home are nonetheless still large by any standards. Besides, they are reportedly paid as much as three times the wages at home, a strong incentive to work overseas.

a foreign country, any outside investors/firms must possess some ownership-specific advantages that are greater than the cost of being alien. Although not explicitly spelled out in their short oped type of essay, “the additional liability” is clearly meant by the Chinese-specific features criticized in the host countries. Therefore, Sauvant and Chen urge the need “to integrate tightly into local communities, become insiders and build a positive [nationality] brand,” and propose:

This involves extra efforts in sourcing inputs from local firms (giving them a stake in the success of Chinese investors), hiring and training local employees, learning the local language (or at least English), respecting local customs, becoming members of local organizations, and employing corporate social responsibility (CSR) practices.

Thus, the additional liability of being Chinese does exist. However, it should be stressed here that the *added-up* cost (standard-plus-additional) of being Chinese in Africa is actually *smaller* than *the cost of staying at home* for many Chinese settlers there. In fact, the potential benefits/gains from settling in are considered by many migrants much greater than the expected benefits from staying at home—and greater than the added-up liabilities of being Chinese. French (2014) reports that a large number of entrepreneurial Chinese investor-settlers he encountered found it, on the whole, more attractive to do business in Africa than at home.

Box 3. The Paradox of Labor Shortages in a Labor-abundant Country

The first task of industrialization required of any populous latecomer is to employ its most abundant resource, unskilled or semi-skilled labor, in export-oriented light industries--and assembly operations of electronic goods. Nowadays this task can be accomplished by inviting more advanced economies’ multinationals that seek low-cost labor to produce labor-intensive goods and do assembly works, since they possess needed technology, capital, and critical access to export markets. Apparel is the primary example. In some developing countries such as Pakistan and Cambodia textiles and apparel accounts for over 70 per cent of their exports, earning much needed hard currencies.⁴³ Above all, such a labor-intensive industry can provide a large number of local jobs to otherwise unemployed workers, especially young female workers.

The most interesting outcome of this labor-driven strategy is labor shortages and rapid wage increases that can occur much sooner than anticipated in even a highly labor-abundant country like China once the country begins to mobilize labor for export-oriented production. This has happened in early postwar Japan, then in the NIEs, more recently in the ASEAN-4, and is now taking place in China. Although forgotten nowadays, Japanese textile firms started out in the early 1950s as low-cost subcontractors for America’s then Big Five apparel makers: Regal Accessories, republic Celini (Hy Katz), Marlene, Spartan Mayro, and CBS (Jack Clark), all southern U.S. textile makers who produced low-end apparel in Japan (Bonacich and Walter, 1994). And in those days, most of the apparel imported into the U.S. was from Japan (Ozawa,

⁴³ The significance of textiles for the Pakistan economy, in particular, cannot be exaggerated. “Today, textiles contribute 8.5 percent to GDP and provide employment to no less than 15 million people, a full 38 percent of the country’s manufacturing workforce...2007 exports valued at US\$10.62 billion, represented a staggering 46 percent of Pakistan’s total productive output” (Ebrahim and Baig, 2010).

2005).⁴⁴ The rapid pace of labor-driven growth in Japan was soon accompanied with the rising wages that quickly eroded export competitiveness. And the American companies had to shift their supply sources to the NIEs. But, soon afterwards they again encountered the same problem of fast-rising labor costs in the NIEs and had to relocate to the ASEAN-4 and other low-wage developing countries elsewhere.

Theoretically speaking, the phenomenon of fast wage increases (the way it is occurring in China) can be explained in terms of three economic theories; the “pro-trade FDI” theory (Kojima, 1975; Kojima and Ozawa, 1985), the “factor-price magnification” theorem (Stolper and Samuelson, 1941), and the “unlimited-labor-supply” growth model (Lewis, 1954). The “pro-trade FDI” theory emphasizes the situation in which inward FDI is of such a type that a host country’s comparative advantage is *awaken*, if not exists, or *augmented*, if exists, and that its exports are all the more expanded—that is, of the pro-trade type. For example, a labor-abundant country has a potential comparative advantage, say in apparel, but may lack the necessary modern technology and export-marketing skills and channels. Here, multinationals from the advanced world can provide the *missing inputs* to make the local industry viable and competitive in the world market. In other words, the developing host countries need to attract those multinationals to its comparatively advantaged industries (both *existing* and *potential*)—and not to comparatively disadvantaged (import-competing) ones—as a priority strategy for early catch-up growth. And this is exactly what China has sagaciously emulated by way of first inviting export-oriented multinationals to its SEZs. Immediately after the adoption of its open-door policy for trade and investment in 1978, China established the zones in the eastern coastal regions. In fact, they were modeled on the free-market export-processing zones (EPZs) set up earlier in the 1960s and the early 1970s by Singapore, South Korea, and Taiwan. Hong Kong itself was *entirely* a free-market zone in its own right unencumbered by government interferences in economic activity. In fact, Japan’s small- and medium-sized firm sector that focused on light-industry exports in the early postwar period itself was, in a way, practically a free-market zone in its entirety.

The Stolper-Samuelson theorem states that the price of a particular factor rises *more than* proportionately than that of an export good itself, for whose production the factor is most intensively used. That is, if labor is more intensively used in production than any other factors, wages increase more than proportionately than the price of a labor-intensive export good (e.g., apparel) itself. This is the very mechanism that can explain the paradox of “labor shortages in a labor-abundant economy” (Ozawa, 2005, p. 41-43), as has just begun to be witnessed in China. China’s open-door policy thus brought about opportunities for labor to earn wages in labor-intensive production higher than had ever been dreamed of when isolated from the global economy. And these employment opportunities have already lifted hundreds of million peoples out of dire poverty.⁴⁵

On the other hand, Arthur Lewis’s “unlimited-labor-supply” model explains *how* industrial labor is supplied when a developing country kick-starts economic development. It describes the process of early stage industrialization that transfers rural labor (migrants) to industry, raising productivity and profits (to be reinvested in further industrial expansion, abetting further

⁴⁴ Early postwar Japan also produced and exported whatever it was able to export, including shoddy and cheap toys and sundries that were once sold at discount stores in the U.S. and Europe. “Made-in-Japan” used to be associated with poor-quality goods.

⁴⁵ This poverty reduction effect of labor-driven growth is discussed in Ozawa (2009).

growth). A reserve army of labor in agriculture is converted into industrial labor at a constant low rate of wage so long as such labor continues to be in “unlimited supply.” This enables business owners and investors ample profits (known as “abnormal profits” in economics), promoting continuous investment and industrial expansion. And a turning point at which surplus labor is eventually exhausted means the start of industrial wage hikes, signaling the unavoidable stop to labor-driven industrialization as the profits are squeezed.

Here it is interesting to note Charles Kindleberger’s account (1967) of Europe’s early postwar recovery, which was framed in terms of the Lewis model. He found strong evidence that “the major factor shaping the remarkable economic growth which most of Europe has experienced since 1950 has been the availability of a large supply of labor” (Kindleberger, 1967, p. 3). Specifically for the German miracle, “the *sine qua non* was the elastic labor supply which held down wages and maintained profits and investment” (p. 30). Similarly, in early postwar Japan, a large reserve army of workers, either unemployed or underemployed in the aftermath of war destruction, defeat, and a return of overseas Japanese workers provided a basis for rapid growth, because it ensured low wages, thereby relieving any immediate profit squeeze in industry (Ozawa, 2005). This phenomenon may also be interpreted as akin to Paul Krugman’s notion of “input-driven” growth, in which available labor and capital were merely mobilized to raise output with the use of existing technologies (i.e., without any increase in total factor productivity) (Krugman, 1994).⁴⁶

It is said that China similarly has just entered the Lewisian “turning point.” More appropriately, however, it ought be called a “turning *period*” (Garnaut, 2010) instead simply because of an enormous size of rural labor force that can only *gradually* be shifted out of different remote areas to the industrial sector over a rather *prolonged* period of time without any clear-cut demarcation point in time. Moreover, a clear-cut distinction between the rural and the industrial sector, as used in the Lewis model, misses the unique feature of China’s geographical vastness. China’s rural sector is not monolithic; in fact, it is *multi-layered* in terms of different income levels: *the farther a region is located into the hinterlands away from the industrial coast, the lower the income*. Hence, any increase in rural wages occurs first in those regions that are close to the industrial coastal areas and then gradually spreads deep into the interior.

Moreover, it is not in one direction in which labor alone moves in search of industrial jobs, as envisaged in the Lewis model. Actually, labor mobility is often hindered for a variety of reasons, and instead, capital (or factories) moves to the rural areas in search of low-cost labor. (In fact, the hindrance is so great between national borders that the labor-seeking type of FDI occurs.) This results in *two-way* movements of labor and capital, each in an opposite direction. The recent development in China’s labor market for migrant workers illustrates the beginning of this phenomenon. Instead of the smooth uni-directional flows of rural labor into the industrial sector, many migrant workers decided, starting in the early 2000s but most dramatically in 2009, not to return to their industrial jobs after year-end holidays in their home provinces, causing a serious shortage of migrant labor in the coastal regions. Now that infrastructure development in the hinterlands has been promoted by China’s central government under its 2008 economic stimulus program in the wake of the global financial crisis, rural workers are finding jobs close to home more easily than ever before, though they may be less paid than on the industrial coast.

⁴⁶ These points on the Lewis model in the above paragraph are discussed in Ozawa (2005, pp. 31-37).

Furthermore, how fast wages rise depends in part on the size of rural labor reserves that would eventually be employed in industry. In this respect, *unlike* Japan and the NIEs that had a relatively limited reserve of rural labor simply because of their small geographical size, China has a massive rural labor force yet to be tapped and fully employed.

As already noted in the text, the current size of migrant workers is estimated at around 163 million, but additional 70 million rural people currently aspire to leave farms for industry but stay home at the moment. Yet, there are actually still *even more* potential farm leavers in the long-run. Timothy Beardson (2013) describes this potential:

[China's farming] is hugely labour intensive: American agriculture employs 1.5 people for every square mile of arable land; China employs 500. This is largely because China's farmland is often worked manually, without the use of animals [and equipment]. This will not change until farmers can earn enough or raise sufficient finance to buy animals or equipment. And that will depend on farmers being allowed to mortgage land rights to make these purchases.

If we apply the US agricultural labour intensity to Chinese agriculture, that would suggest there are up to 275 million farm workers who would be surplus to modern farming needs and theoretically freed to enter urban employment (p.70).

This estimate is obviously a long-term proposition, since it takes a long, long time for Chinese agriculture to reach the U.S. level of efficiency. And the potential 275 million exodus must include the aforementioned 70 million aspirers. Hence, *the existing 163 million migrant workers plus 275 potential farm leavers equal a total of as many as 508 million*. After all, 750 million people still live in China's countryside with the average rural income only one third (or even less) of its urban counterpart—and this regional income gap continues to widen. Of course, the above-cited number is a potential figure which may not materialize.

No wonder, then, that the Chinese government is serious about letting Chinese settle overseas as a way to reduce the size of the rural reservoir of job seekers:

In 2011,...delegates to the annual session of China's parliament debated a proposal to seek employment for as many as 100 million [rural] Chinese on the African continent. One champion of this idea, Zhao Zhihai, a delegate and researcher at the Zhangjiakou Academy of Agricultural Sciences in Hebei province, said: "In the current economic climate, with so many of our people unemployed, *China can benefit from finding jobs for them and Africa can benefit from our expertise in developing any type of land and crop*" (French, 2014, p. 172, emphasis added).

China's central government is implementing an income-doubling plan (by 2020) for its rural regions, and its repeated stimulus programs were crafted in part to this end. Therefore, the government is expected to facilitate and encourage relocation of industries inland. Hence, China's own vast interior regions are more earnestly tapped first as new production sites than any faraway places like Africa.

In any event, the present phase of labor-driven industrialization is expected to last another 10 to 15 years (Yao, 2011) before higher-tier, more capital-intensive industries become the engine of growth in China. Given the vast size of labor reserves in its huge interior and the potential rise in agricultural productivity, even in 15 years China may not likely dismantle low-end

manufacturing and service as swiftly and completely as Japan and the NIEs have done previously. Besides, still tens of millions of people live in abject poverty despite its recent success to reduce the impoverished. A dual industrial structure (a co-existence of capital-intensive high-tech industries in the coastal regions and labor-intensive industries in the hinterland) may persist for a considerable period of time over the course of its catch-up structural transformation.

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