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'FLYING GEESE' OR 'HIDDEN DRAGON'? CHINESE BUSINESS AND AFRICAN INDUSTRIAL DEVELOPMENT

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China's economic interest in Africa has generated considerable interest among analysts of development in those two world regions. Unease with China's expanded presence on the continent is reflected in comments such as that made in 2006 by Trevor Ncube, a Zimbabwean newspaper publisher living in South Africa: 'They are all over the place. If the British were our masters yesterday, the Chinese have come and taken their place.'[1] Newspaper headlines focus on the costs and benefits of China's investment in Africa's extractive industries—petroleum, copper, timber, platinum, and iron—or on China's contribution to the arms trade and the supply of inexpensive consumer goods that offer tough competition for African manufacturers.[2] Chinese leaders have tried to put these fears to rest. During

1 Craig Timberg, 'In Africa, China Trade Brings Growth, Unease,' *Washington Post,* 13 June 2006, p. A 14.

2 See, for example: Joseph J. Schatz, 'Zambian Hopeful Takes a Swing at China: Presidential Challenger Stirs Resentment at Asian Power's Growing Influence in Africa,' *Washington Post,* 25 September 2006; Frank Ching, 'China's African Empire,' *The Globe and Mail* (Canada), 4 January 2007;

his 2006 tour of Africa, Chinese President Hu Jintao told Nigerians that 'China's development will not bring a threat to anyone, but, instead, will only bring more opportunities and space for development to the world.'[3] Might the increased Chinese presence play a positive role by providing a model for low-tech industrial development, stimulating the spin-off of manufacturing, or acting to jump start local investment?

There is ample precedent for such a role. Japanese firms sparked an industrial boom in Southeast Asia in just this way, and Korean firms were central to the rapid expansion of manufacturing in Bangladesh.[4] The international product cycle operates in a manner whereby countries transit from the production of lower technology goods to higher technology goods, over time. Countries move from textiles and simple assembly to more complex products, as they move up the learning curve. As an illustration, after the Second World War Japan began producing textiles and auto parts at home and exporting them to Thailand where Chinese business networks distributed and sold the goods. By the 1960s, higher labour costs and trade quotas pushed the Japanese to move into direct production in Thailand, where they provided a stimulus for investment by example, and where they established joint ventures with their ethnic Chinese distributors. Finally, by the 1980s, few Japanese firms were producing textiles in Thailand: they had been bought out by their ethnic Chinese partners who by then dominated the industry.[5] Auto parts have been slower to make such a transition, but here too ethnic Chinese firms in Thailand have accelerated production. In Asia, Japan was the leader of this 'flying geese' model.[6]

'China Denies Charges of Milking Africa of its Rich Resources,' *The Press Trust of India*, 12 March 2007.

3 Quoted in Timberg, 'In Africa, China Trade'.

4 For discussions of these earlier Asian experiences, see Kunio Yoshihara, *The Rise of Ersatz Capitalism in South East Asia* (Oxford University Press, 1988) and Yung Whee Rhee, 'The Catalyst Model of Development: Lessons from Bangladesh's Success with Garment Exports', *World Development* 18, 2 (February 1990), pp. 333-46.

5 Yoshihara, *Rise of Ersatz Capitalism,* p. 19.

6 On the 'flying geese model', see Kiyoshi Kojima, 'The "Flying Geese" Model of Asian Economic Development: Origin, Theoretical Extensions, and Regional Policy Implications', *Journal of Asian Economics* 11, 4 (Winter

As the research reported below illustrates, the origins of some of sub-Saharan Africa's manufacturing success stories can be traced to the catalytic effect of investment by and the example of Chinese industrialists. Will Chinese firms in Africa be catalytic 'flying geese' or is China more likely to play the role of a 'hidden dragon', with Chinese exports helping through competition to complete the process of de-industrialization that some argue has been the result of the African continent's trade liberalization? This chapter sheds light on these questions.[7] It draws primarily on the author's research in Mauritius and in Nigeria, but adds examples gleaned from other research on this topic. In the first case, ethnic Chinese entrepreneurs living in Mauritius helped persuade the government to establish an export processing zone, and then travelled to Asia, inviting co-ethnics from Taiwan, Hong Kong, Malaysia, and (later) mainland China to join them in joint ventures. These investments exposed Mauritians (both Chinese and non-Chinese) to the intricacies of global production and export processes, which led to dynamic, export-oriented manufacturing growth. In the second case, Nigerian entrepreneurs in the eastern Nigerian town of Nnewi used their connections to ethnic Chinese trading networks (first in Taiwan, but later across Asia) to assist in the transition from importing auto spare parts to producing them, creating a small industrial boom. Both cases suggest that important, positive externalities can result from Chinese business linkages with Africa. However, while the Mauritius case can be seen as an extra-Asian example of the global reach of Chinese business networks and their stimulating impact, the Nigerian (and Lesotho) cases suggest that domestic factors may still present significant obstacles to any transfer of the Asian 'flying geese' model to African industry. Furthermore, both Mauritian and Nigerian firms have been hurt by competition from

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2000), pp. 375-401. For a critical perspective on the model, see Martin Hart-Landsberg and Paul Burkett, 'Contradictions of Capitalist Industrialization in East Asia: a Critique of "Flying Geese" Theories of Development', *Economic Geography*, 74, 2 (April 1998), pp. 87-110.

7 The cases in this chapter are drawn in part from on an earlier article of mine: Deborah Bräutigam, 'Close Encounters: Chinese Business Networks as Industrial Catalysts in Sub-Saharan Africa', *African Affairs* 102, 408 (July 2003), pp. 447-67.

China, which has led some to fear that Chinese business indeed poses more of a 'hidden dragon' threat than an opportunity.

The context: Chinese investment in Africa

In the 1970s and 1980s, Chinese firms from Taiwan and Hong Kong began to establish closer business ties in Africa, leading in some cases to investment. After 1985, when China relaxed its emigration policies, and particularly after 2001, when Beijing promoted the 'Going Global' policy, they were joined by firms from the Chinese mainland. By early 2007, the Chinese reported that there were more than 800 mainland Chinese companies operating in Africa; some 700 of these were run by private individuals and the rest were medium to large state-owned firms.[8] Although Chinese investments in natural resources have gained more media and scholarly attention, manufacturing firms are also important. Between 1979 and 2001, before the current boom, Chinese firms had already established 230 manufacturing investments in Africa (including North Africa).[9] 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.[10] 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.[11] The pioneering Chinese white

8 'Africa to be more attractive for Chinese investors', *Xinhua,* 2 February 2007.

9 The information in this and the next few sentences is from World Bank, 'Patterns of Africa-Asia Trade and Investment: Potential for Ownership and Partnership', Africa Region, Private Sector Unit, prepared for the Asia-Africa Trade and Investment Conference (AATIC), Tokyo, 1-2 November 2004, p. 63.

10 'Chinese Companies Encouraged to Invest in Africa', *People's Daily,* 31 October 2000.

11 'When 'Made in China' become [sic] 'Made in Africa', *Xinhua,* 22 December

goods firm Haier (a worker-owned 'collective') produces household appliances in an Angolan factory with 700 employees.[12] Since 2005, investors from Henan province have filled 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 Guoji Industry and Development Corporation.[13] The Hisense group from Qingdao Province began by exporting black and white televisions and electrical appliances to South Africa in 1993, moving into a joint venture to assemble televisions and DVD players in 1997. In 2007, Hisense announced that they would build Hisense Industrial Park in South Africa to expand their production of colour televisions, refrigerators and washing machines for the southern Africa market.[14]

These manufacturing investments are set to increase. The Chinese are convinced that Africa is ripe for opportunity, and 'the early bird catches the worm.'[15] At the Beijing Summit of the Forum of China-African Cooperation in November 2006, the Chinese announced the establishment of a $5 billion development fund to encourage Chinese firms to invest in Africa. The Chairman of the Sichuan Hongda Group commented that competition in China is now 'so fierce' that new businesses find it 'difficult to get a toehold, but Africa is a huge market and the investment environment there keeps improving.'[16] A 2005 World Bank survey of 150 Chinese firms in eight Chinese

2006.

12 Renato Eguilar and Andrea Goldstein, 'The Asian Drivers and Angola', unpublished paper, March 2007, p. 12.

13 Andrew Child and David White, 'Chinese Investors Target Virgin Markets', *Financial Times* 15 March 2005, p. 12; 'Sierra Leonean President expects more Chinese investment', *Xinhua News Agency* 7 November 2006.

14 'China's Hisense to Build Industrial Park in South Africa', *Xinhua News Agency*, 21 January 2007; China Facts and Figures, 'Chinese Enterprises in Africa', 10 December 2003, http://www.china.org.cn/english/features/China-Africa/82043.htm [accessed 10 January, 2007].

15 Zhao Zhongqui, China's Economic and Commercial Counsellor in Freetown, quoted in Child and White, 'Chinese Investors Target Virgin Markets'.

16 'China, Africa to encourage co-op in private sector,' *Xinhua,* 23 October 2006.

cities with plans to invest abroad found that 18 per cent of them were planning to invest in Africa, and of these, 45 per cent were interested in manufacturing.[17] Will this new wave of investment displace existing industries, or will these firms form forward and backward linkages and stimulate technology transfer in the 'flying geese' model? The case of Mauritius provides a positive example.

Ethnic Chinese business networks and industry in Mauritius

Chinese business networks are responsible for some of the information, ideas and capital that helped launch Mauritius, a small island nation in the Indian Ocean, as an important centre for export-oriented industry in Southern Africa. Chinese were among the earlier settlers in multi-ethnic Mauritius, a country that was uninhabited when it was first discovered and settled by Europeans. Some of the region's earliest factories were established by Chinese: tobacco processing (1874) and alcohol distillation (1897).[18] By 1925, Chinese manufacturers were producing shoes and boots, rum, and aloe bags for shipping sugar.

Chinese entrepreneurs in Mauritius maintained close ties with their homeland and unlike the bulk of the population (descendants of enslaved Africans and former indentured workers from the Indian subcontinent), they had the resources to make visits back to their ancestral places of origin, often to find spouses. The case of Sir Edouard Lim Fat demonstrates how helpful these ties were for the industrial transition in Mauritius. In 1970, Mauritius became one of the first developing countries to establish a duty-free, tax-free export processing zone (EPZ). An engineering professor at the University of Mauritius and also a businessman, Dr Lim Fat was one of the early visionaries pushing for the establishment of an EPZ.[19] The Lim Fat family was originally from the Canton area, and Dr Lim Fat's in-

17 Harry G. Broadman, *Africa's Silk Road: China and India's New Economic Frontier* (Washington, DC: World Bank, 2007), p. 99.

18 Lim Fat, 'Contribution of the Chinese'.

19 Interview, Professor Sir Edouard Lim Fat, Port Louis, Mauritius, 19 April 1999; see also Dick Chan, 'Mauritius wants to be Hong Kong', *South China Morning Post* (Hong Kong), 23 January 1995.

laws were mainland Chinese who fled to Taiwan after 1949; it was there that Dr Lim Fat became interested in the export processing zones through his diaspora connections and social networks.

Shortly after the Export Processing Zone Act was passed in 1970, Sino-Mauritians such as Dr Lim Fat travelled to Asia, 'taking advantage of [their] numerous personal contacts in these Far Eastern lands' to promote the EPZ 'with ceaseless missionary zeal.'[20] Other Mauritian Chinese moved to invest in the EPZ, often with joint ventures forged through their networks in Asia. The success of Sino-Mauritians business networks showed in the percentage of Hong Kong equity capital invested in the EPZ: more than 90 per cent in the early years.[21] By 1982 there were more than 115 EPZ firms, and 59 per cent of the capital invested in the EPZ was from Hong Kong Chinese.[22] The EPZ boomed again after 1983 when uncertainty gripped Hong Kong as Great Britain negotiated the return of Hong Kong to China. The appeal of the Chinese overseas network in making Mauritius a destination for Hong Kong capital was clear: 'The Hong Kong investor who comes here does not feel so much like a stranger as he would in Africa. He sees Chinese faces, he eats Chinese food, his wife has someone to talk to.'[23]

Early in the life of the EPZs, joint ventures between East Asian and local investors were common, although this was not a requirement for foreign investment. Joint ventures appealed both to local whites (Franco-Mauritians) who had amassed capital in the sugar

20 L.M. Lim, 'Hong Kong and the free zone', *L'Express* (Port Louis, Mauritius), 11 July 1997. See also Michael Young, 'Mauritian development strategy: Hong Kong is the model', *The Financial Times,* 5 May 1971.

21 Many of the Asian industrialists brought in used machinery from Asia, but valued it at the price of new equipment; thus the value of this Asian investment may have been inflated (personal communication, anonymous reviewer).

22 Roland Lamusse, 'The Breakthrough in Export-processing Industrialization in Mauritius', Boston, African-American Issues Center Discussion Paper No. 13, no date, c1985.

23 Comment by Philippe Chan Kin, former chairman of the Mauritius Export Processing Zone Association, in Blaine Harden, 'Mauritius breaks out of Africa's poverty: free export zone works wonders for tiny island', *Los Angeles Times,* 21 November 1988.

industry and Sino-Mauritians who had become wealthy through trade and local manufacturing. Because Mauritians had the desire to learn the business, while the Asian firms needed risk-sharing and the local knowledge and contacts, joint ventures were genuine, not 'paper' partnerships. The importance of the initial capital and information links with Chinese businesses clearly made the EPZ concept a success. Those links were critical for transferring information that would lower the risks and costs to Mauritians of embarking on export-oriented industry. A Sino-Mauritian analyst pointed this out in a 1997 article: 'Most of [the local investors] were ex-partners or employees of EPZ firms who over the years had acquired the necessary experience and know-how from the Hong Kong industrialists in such vital areas as international marketing, the latest technology and large scale industrial production and management, and felt confident enough to start their own EPZ enterprises.'[24]

This was the 'flying geese' model in action. In time, many local Mauritians invested in the EPZ. By the late 1980s, more than half of the equity in the EPZ was local (mainly Franco- and Sino-Mauritian, but with important Muslim and Hindu participation) and Mauritius had become the third largest exporter of 'Woolmark' knitwear in the world. Support industries producing boxes, thread, buttons, and packaging materials for export firms had also grown. By 1997, Mauritian owners accounted for about 60 per cent of the capital invested in export manufacturing in Mauritius.[25]

As mainland Chinese firms began to increase their investments in Africa, they explored possibilities in Mauritius, assisted in many cases by their government. In 1999, for example, Chairman Li Peng brought a delegation of 125 people to Mauritius, including a number of business owners. Table 1 shows that between 1990 and 1994, and in the years 2001-5, investments by Chinese mainland firms in Mauritius overtook those from Taiwan, Hong Kong, and Singapore. In 2003, a mainland Chinese company (Shanxi Province's Tianli Group, Ltd) invested more than US$10 million to open a cotton yarn spin-

24 Lim, 'Hong Kong and the free zone'".

25 'L'Apport Hongkongais Dans La ZF', *L'Express* (Port Louis, Mauritius), 1 July 1997.

ning 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 (Table 1).

(Rs million)	1990-95	2000-06
Hong Kong	185	50
Singapore	40	14
Taiwan	92	0
China	35	89
Total FDI in EPZ	981	513

Table 1: Foreign Direct Investment in Mauritius by China and Chinese Diaspora
Source: Bank of Mauritius, *Annual Report*, 2005-2006, p. 258.
Note: not all of the Asian FDI goes to the EPZ sector.

Overall, the nature of these ethnic Chinese ties was clearly one of close connections leading to a transfer of technology through investment and its accompanying training, and the diffusion of trained personnel and managers to other firms in the EPZ sector. Ethnic Chinese have served as 'flying geese' for Mauritians, often bringing as part of their investment in used factories from areas where labour had become more expensive or political conditions less certain. But has China also been a 'hidden dragon' in Mauritius, withering local industry under the competition from its low-cost products?

The Chinese competition that opened up with the December 2004 ending of the Multi-Fibre Arrangement has had a painful impact on the textile industry in Mauritius. Between 2000 and 2005, the sector contracted by about 30 per cent. Firms closed and up to twenty-five thousand workers lost their jobs.[26] By 2006, there were almost no Hong Kong Chinese investors left, although some of their factories

26 Government of Mauritius, Central Statistical Office. In December 2004, some 13,792 employees in the sector were expatriates, most being Chinese nationals.

had been bought out by Mauritian entrepreneurs. Mauritians were claiming that the restructuring had largely been completed by 2006, with the remaining Mauritian firms moving upmarket or, in the case of several, building factories in lower cost countries: Madagascar, India, and even China itself.[27] These firms had looked the dragon in the face and decided not just to fight it, but to join it. Several of the large, competitive and vertically integrated textile companies had made significant new investments in China itself: Star Knitwear and Compagnie Mauricienne de Textile. In March 2007, the Chinese and Mauritian governments announced that Mauritius (Riche-Terre) had been chosen as the site of the second of three to five Chinese industrial export zones to be constructed in Africa between 2007 and 2010 (the first was launched in Zambia).[28] In this case, the 2 km square zone will be constructed by the same Tianli Group, which will spend €350 million (with help from the Chinese government).

The early industrial investments by Chinese manufacturers in Mauritius fostered a local industry that grew rapidly and over thirty-five years was gradually transformed into a shared foreign/local affair. However, in another case of Chinese catalysts, industrialization relied more on indigenous Africans, who took steps to travel to Asia and brought the information and resources they needed to make their own moves into industry. The case of auto parts in Nnewi, Nigeria, illustrates how this happened without any foreign investment on the part of the Chinese.

Ethnic Chinese business and industry in Nnewi, Nigeria

Until the 1980s, generally motor spare parts sold in Nigeria either came from the 'original' manufacturer (Peugeot, Mercedes, etc.) or were counterfeit copies made in Taiwan. However, early in that decade, a number of factories sprang up in the eastern region of Nigeria,

27 Author's Interview, General Manager, Floreal Textile, July 2005; David White, 'In search of a new league', Mauritius Report, *Financial Times*, 14 March 2006. David White, 'Survival in a cut-throat world', Mauritius Report, *Financial Times*, 14 March 2006.

28 Sithanen, 'Le projet de Tianli realise à partir de cette année', *L'Express* (Port Louis, Mauritius), 12 March 2007.

particularly in the town of Nnewi, whose large Nkwo market for used and new motor spare parts had grown into one of the largest in the country, with offshoots in many other towns and cities across Nigeria. By 2004 there were more than 17 modern, large and medium-sized factories in Nnewi, using imported technology and producing a wide variety of spare parts for cars, lorries, and motorcycles.[29] Together with engineering firms and machine shops, a number of aluminium foundries, and 68 smaller, less formal factories also producing spare parts, these businesses employed some 8-9,000 persons.[30] Some of these factories exported to neighbouring countries in West Africa, to the Middle East, and even to Europe. One advertised in the Abidjan, Côte d'Ivoire phone directory. The manufacturing boom attracted attention both in and outside Nigeria.

Contacts between Nnewi traders and their Chinese counterparts in Taiwan proved the major catalyst to industrialization. Spare parts for the Nnewi market network were imported primarily from Europe at first, but by the 1960s Asian distributors began to frequent the Nkwo market, offering to produce copies of the European 'original' brand name parts. The first Asian firms were Japanese, but they were rapidly supplanted by Chinese traders from Taiwan. Over time, Nnewi motor parts traders arranged to have their own brand name products made in Taiwan. During the 1970s, many Nigerian traders travelled to Asia to meet their suppliers, and were thus exposed to the industrial dynamism of the Asian newly industrialised countries, as well as the many small and medium firms still operating in Taiwan. The contrast with Dr Lim Fat's travels to Taiwan from Mauritius is instructive, however. Dr Lim Fat noticed export processing zones, and eventually persuaded the government in Mauritius to pass legislation establishing such an institution in Mauritius. He and other Sino-Mauritians travelled to Asia in part to persuade Chinese

29 For an extensive discussion of the Nnewi industrialization experience, see Deborah Bräutigam, 'Substituting for the State: Institutions and Industrial Development in Eastern Nigeria', *World Development* 25, 7, (1997), pp. 1063-80 and Banyi Oyelaran-Oyeyinka, *Nnewi: An Emergent Industrial Cluster in Nigeria* (Ibadan: Technopol Publishers, 1997).

30 Ikenna Emewu, 'Nigerian Government is Anti-Industry, Say Manufacturers', *Daily Sun* (Nigeria), 4 December 2004 [www.sunnewsonline.com].

co-ethnics to invest in Mauritius. Many did, reassured in part by the extended family and professional connections made through the Chinese diaspora. On the other hand, the Nnewi traders used their contacts with the Chinese in Nigeria to locate distributors and producers in Asia, with whom they could trade and, later, from whom they could purchase machinery and technical assistance. Without those contacts, the transition to manufacturing might not have happened, but in contrast to Mauritius, there have been no joint ventures of Chinese and Nigerians and no Chinese investment in Nnewi, and the Nnewi traders made no effort to change an unfavourable national level policy regime.

The contacts between the Nnewi manufacturers and the Chinese traders and manufacturers in Taiwan and elsewhere primarily enabled the diffusion of information and example. As the CEO of Edison Auto Industries, a manufacturer of brake linings and brake fluid commented, 'For eight years I imported these things [from Asia] and saw how simple they were to make.' He moved into manufacturing after studying machinery and processes in use by his supplier firms in Asia. All of the traders who established factories between 1983 and 1996 continued to maintain their trading business and distribution networks in Nigeria, and simply added their new brands to existing lines that they continued to import from Taiwan and elsewhere in Asia.

The networks of contacts established during years of trade eased the Nnewi entrepreneurs' task of gathering information about production. One manufacturer who had imported many lines of spare parts made in Taiwan solicited bids for machinery from a number of Chinese firms in Taiwan with which he had grown familiar. In other cases, the Nnewi entrepreneurs asked for recommendations from their Chinese networks for technical advisers to install the factories and train local people. Some companies, such as a producer of melded plastic components, sent groups of workers to Shenzhen and elsewhere in Asia for on-the-job training in Chinese factories. Others used their contacts with trading companies to identify Chinese manufacturers who were ready to sell used equipment, such as the oil filter manufacturer who purchased the entire plant of his Singapore supplier.

The Nnewi case demonstrates that it is possible for ideas and information about industry to be transferred from Chinese firms in Asia to African entrepreneurs, facilitating the development of dynamic manufacturing sectors. The relationship between the network of Nnewi spare parts traders and the Taiwanese manufacturers in the 1960s and 1970s resembles closely the early 'flying geese' relationship between Japanese manufacturers and Chinese business networks in Southeast Asia described above. However, in the absence of significant Chinese investment in the region, there were limits to the transfer of knowledge and the building of the kind of multiple strands (family ties, social and cultural celebrations, exchanges of credit, etc.) that characterize business networks among people from the same cultural group, as in Mauritius. Because of this, the Nnewi trader-industrialists lacked the extra advantage of the kind of learning opportunities possible for Mauritians, who had many joint ventures with, and professional opportunities to work in, overseas Chinese firms set up in the Mauritian EPZ—although they have compensated for this in part by a widespread practice of using foreign technical assistance. In 2004, for example, Nnewi firms each hosted an average of four foreign technical staff.[31]

How have firms in Nnewi fared against the competition of Chinese imports? Auto spare parts do not receive much protection from the Nigerian government, unlike textile manufacturers, for example, who have operated under a nearly complete ban on imports. The average tariff on auto parts was reduced to approximately 5 per cent in the trade liberalization of the country's structural adjustment programme (SAP) in the early 1990s. Even with local manufacturing firms close by, the Nkwo market in Nnewi continued to host visits from Asian traders who offered to copy 'original' spare parts in their home factories, increasingly located in China's special economic zones. Branded counterfeit parts, or those that are close copies but made in China, sell at very competitive prices. For example, in 2006, spark plugs made in China, counterfeit copies of those made by Toyota

31 Boladale Abiola, 'Knowledge, Technology, and Growth: The Case Study of Nnewi Auto Parts Cluster in Nigeria', Knowledge for Development (K4D) Program, World Bank Institute, World Bank, Washington, DC, 2006, p. 14.

or the American firm Motorcraft, sold at N55 compared with N220 for the original. Chinese branded parts intended to compete with the original manufacturer were also sold at prices less than half the original: China's 'Super Filter' sold for N200, while the original 'Bolus' or 'Dorian' oil filter sold for N550.[32] Local manufacturers have accused these Asian exporters of 'dumping' when they are able to consistently offer products at prices lower than the Nigerians can match. A 2006 study of Nnewi manufacturers found that 75 per cent of the firms ranked the Asian challenge as 'very severe'.[33] By 2006 China was Nigeria's largest source of imports, and the competition looked set only to increase. At the same time, some sixty Chinese firms had invested in Nigeria, in textiles, agro-processing, and a number of other sectors in addition to resource extraction.[34] The governments of Anambra, Benue, and Taraba States in Nigeria have entered into joint ventures to produce cement, woven bags, sugar, purified water, and machine tools with the Gongji Cangxi Industry and Commerce Development Company (a Henan province township enterprise that produces machinery for juice and vegetable oil extraction, concrete, and nails).[35] These new investments may have more potential for 'flying geese' spin-offs, given the rich entrepreneurial culture and skills in Nigeria.

Discussion and conclusions

As of 2007, there has been very limited fieldwork on the impact of mainland Chinese investment in Africa, but we do have other studies of ethnic Chinese investment (mainly Taiwan). These suggest that the catalytic effect of industrial investment may be limited to

32 Olatunji Ololade, 'A Fake Way to Die', *Tellmagazine* (Nigeria) http://www.tellng.com/news/articles/060629-4 /news/Sprep_deathtyres.html [accessed 19 October 2006].

33 Abiola, 'Knowledge, Technology, and Growth', p. 21.

34 'Nigeria-China Business and Investment Forum 2006,' http://www.invest.net.cn/news/ni2006/interview/index-2.html

35 Gongji Cangxi Industry and Commerce Development Company website, http://chinacangxi.com/english/ [accessed 31 March 2007]. Among these, the foundry and machine tools project was considered 'foreign aid', and supported by China's Foreign Trade Economy Cooperation Department [sic] according to the company's website.

countries and regions where conditions are particularly conducive. Sanjaya Lall's study of Taiwanese investment in the apparel industry in Lesotho found that not a single local entrepreneur followed the Asian investors into manufacturing:

> …knowledge spillovers or backward linkages [are] almost wholly absent in Lesotho … even 15 years after the first garment factory was established, almost no local firms have emerged to compete with the foreign firms, subcontract from them, or supply them with inputs like packaging or accessories … Family owned and controlled East Asian firms have a culture that does not conduce to local skill creation or local participation at high levels. Work at these levels is conducted almost wholly in Chinese. The tendency to bring in textile workers from China reduces skill transfers and promotion at the shop-floor level … suspicion and hostility on the part of the local population to the Chinese … prevents the creation of greater trust and social capital.[36]

On the other hand, Gillian Hart's research on Taiwanese networks in South Africa provided an anecdote of a black South African entrepreneur, a technician who set up an informal company to subcontract to his former Taiwanese employer. [37]

The 'flying geese' model of dynamism that underpinned industrialization in Southeast Asia depended on several factors that are only unevenly observed across Africa. First, it required local investment by the 'lead goose' and joint ventures that spread knowledge to capable local entrepreneurs. We see some of this in Mauritius, none in the case of Nnewi, and while there is some evidence that joint ventures are on the rise, they seem to be primarily with governments, not indigenous entrepreneurs (this could be changing, however). Second, it required a 'push' from the home country: in the case of Japan, it was sharply rising labour costs that created an additional incentive to seek sites for offshore production. Chinese labour costs are similar to those prevailing in many African countries, and productivity is a good deal higher. However, there are some countries where com-

36 Sanjaya Lall, 'FDI, AGOA and Manufactured Exports by a Landlocked, Least Developed African Economy: Lesotho,' *Journal of Development Studies* 41, 6 (August 2005), pp. 998-1022.

37 Gillian Hart, *Disabling Globalization: Places of Power in Post-Apartheid South Africa* (Berkeley: University of California Press, 2002).

parisons indicate some potential for competitive advantage. In the spinning and weaving industry, for example, average 2004-5 costs per operator hour in coastal China were US$0.76, in Mauritius they were US$1.57, but in Kenya costs were only US$0.67.[38]

Another requirement for a 'flying geese' model to work is the policy environment in the host country. The rapidly growing Southeast Asian countries had a variety of policy frameworks, but all were investment- and export-friendly. Without supportive investment policies, relationships between Chinese entrepreneurs and those in Africa will generally be limited to trade, and when investment is shunned, the transfer of technology and learning is made much more difficult. Mauritius has implemented policies very similar to those in place in East and Southeast Asia's most dynamic countries. A well-working export processing zone is one aspect of this policy framework, but EPZs do not work in a vacuum. General economic policies also mattered. Mauritius and the Southeast Asian examples highlight the fact that although an economy with a high proportion of trade is often labelled 'open', these 'open' trading economies are not necessarily 'liberal' in the sense of 'free markets'. In both, exchange rate policies and other, more interventionist policies strongly encouraged exports, while at the same time many aspects of production for the domestic market were protected. Trade and capital account liberalization has happened in most of the Southeast Asian countries (and in Mauritius), but it has been for the most part quite gradual, and does not characterize the early years when export-oriented industry was first established. On the other hand, Nigeria and many other African countries have generally failed to establish an environment that would allow either domestic industry or export-oriented firms to thrive and grow. This may also be changing. The Chinese have repeatedly said that they believe conditions to be favourable for investment in much of Africa. In Sierra Leone, Chinese entrepreneurs commented favourably on the preferential tax policies adopted by the

38 Werner International, 'Spinning and Weaving Labor Cost Comparisons, Winter 2004/2005', Werner International Management Consultants, Herndon, Virginia, 2005.

local government.[39] At the same time, however, trade liberalization that exposes inefficient local industries to competition with Chinese imports may pose stark difficulties for infant industries. In one case, ironically, a Zambian textile factory established three decades ago with Chinese aid was forced out of production by a wave of Chinese textile imports.[40]

Over the past three decades, Chinese businesses from Hong Kong, Taiwan, the diaspora, and now mainland China have made increasingly visible forays into sub-Saharan Africa, forging links with African capitalists and stimulating industrial transitions in areas, such as eastern Nigeria and Mauritius, that had shown little industrial development before. A World Bank study published in 2007 found that most of the mainland Chinese investment has occurred since 2000; it is primarily 'greenfield' investment, which creates new jobs; investors are mainly branches of parent firms with headquarters in China's provinces, and many of the firms are more vertically integrated than other companies operating in Africa—a finding that may make skill and technology transfer more difficult.[41] In a reflection of the close business-government ties characteristic of Asian capitalism, the government in Beijing has fostered the growing interest in Africa, inviting private sector representatives to join high level government officials in delegations that have visited African countries (like Mauritius) and deepened the contacts between businesses in the two regions.

The case of Mauritius shows that Asian networks in a remote Indian Ocean island can have a powerful impact on a country's economic development, when the resources and information of networks are combined with supportive economic policies. Even though the early 'geese' have long since left Mauritius, the joint ventures they formed with local entrepreneurs persist and have expanded under sole Mauritian ownership. The establishment of a new enterprise

39 'Sierra Leone President expects more Chinese investment', *Xinhua* (Zhengzhou), 7 November 2006.

40 Chris McGreal, 'Thanks, China, now go home: buy-up of Zambia revives old colonial fears', *The Guardian,* 5 February 2007.

41 Broadman, *Africa's Silk Road,* p. 311.

zone in Mauritius will reinvigorate the networks, although the formation of an enclave will make technology transfer more difficult. The contrasting cases of Taiwanese investment in Lesotho and South Africa suggest that a supply of technically skilled local entrepreneurs will be a necessary prerequisite for the transfer of technology and the start-up of new firms. The Nnewi case shows that skilled indigenous African entrepreneurs can take advantage of contacts with Chinese firms to produce an industrial transition. However, these connections are unlikely to produce the kind of export dynamism found in Mauritius, until the policy environment becomes more conducive to exports.