

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/sfds20

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To cite this article: Heidi Østbø Haugen & Mark Kwaku Mensah Obeng (22 Jan 2024): Supplychain Disruptions under COVID: A Window of Opportunity for Local Producers?, Forum for Development Studies, DOI: 10.1080/08039410.2024.2302999

To link to this article: https://doi.org/10.1080/08039410.2024.2302999

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Published online: 22 Jan 2024.

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Supply-chain Disruptions under COVID: A Window of Opportunity for Local Producers?

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Abstract Chinese imports replace locally manufactured products in developing countries. The import of consumer goods from China to West Africa is closely linked to commercial travel, and China's border restrictions during the Covid outbreak put a near-halt to such travelling. Furthermore, the pandemic caused a global logistics crisis that disrupted supply chains with production in China. This paper asks whether Ghanaian manufacturers and artisanal producers could take advantage of these disruptions to enhance their competitive position. Did China's border closure provide space for local Ghanaian producers to thrive? We address this question by drawing on data collected among Ghanaian plastic manufacturers and furniture makers, who have faced tough competition from Chinese imports. Our analysis shows that supply chain disruptions from China led to the substitution of certain products previously imported from China, and these effects were partially sustained after the Covid-induced barriers to imports from China were removed. However, the disruptions were also costly for many Ghanaian producers, as they depended on Chinese intermediary products, tools, and other inputs. This illustrates how economic lives in Ghana and China have become so profoundly intertwined that indiscriminate decoupling is neither possible nor desirable.

Keywords: import substitution; production; industrial regeneration; development policy; COVID-19; China; Ghana

Introduction

During the early months of the Covid-19 crisis, supply chain disruptions highlighted how many countries had become dependent on China to acquire vital manufactured goods. Shortages of personal protective equipment, in particular, spurred discussions about over-dependency on imports (Wilfert, 2020). A scenario emerged that underscored Karl Marx's prognosis, cautioning late developers that the Third World faced limited opportunities for progress in a capitalist system that thrives on polarisation to the detriment of the weak (Chachra et al., 2020). In this context, Samir Amin (1990) has proposed 'delinking' from global production systems as the only plausible

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path to development in the peripheries of the world economy. Sharper geopolitical fault lines and insecurity following Russia's invasion of Ukraine have further reinforced calls to improve domestic production capacity (Hutton, 2020). However, attempts to build new production capacities often prove difficult. Ghana is among the countries that have adopted an ambitious policy for indigenous production. With a long history of industrialisation efforts, the country was once expected to lead the progress of African nations in building manufacturing capacity (Ackah et al., 2016). However, stiff competition from imports remains a challenge. Ghanaian businesspeople are often attracted by the quick returns on trade rather than the drawn-out process of investing in manufacturing and other productive activities. Those committed to production find that inadequate infrastructure, limited access to finance, and high production costs threaten their competitiveness (Ackah et al., 2016, p. 9).

Two development discussions – concerning import substitution and 'the China threat' – were revived in the wake of the supply chain disruptions during the Covid outbreak. The polarisation of the global geopolitical landscape has intensified these debates, with calls to decouple from China in the United States and the derisking of value chains in Europe (Von der Leyen, 2023). Governments considered the need to reduce their countries' dependency on imported goods to ensure supply in times of crisis and to develop more balanced economic growth with robust domestic manufacturing. The 'China threat' discourse is about whether China's unprecedented growth at the end of the twentieth century is at the detriment of the interests of other countries. The image of China as a 'threat,' much like the benign opposite interpretation of China as an 'opportunity,' has mainly emerged independently of empirically informed knowledge about China (Pavlićević, 2018). They were reactivated in response to Covid-induced shortages that highlighted shortcomings in domestic production capacities.

Confidence in import substitution industrialisation as a development strategy has inspired countries to erect trade barriers to protect domestic markets from imports while they build up national industries. Calls to specifically sanction Chinese imports have become a typical response to a perceived economic threat from China (Hess and Aidoo, 2014; Thiel and Marfaing, 2013). Incidentally, the Covid pandemic produced similar effects as such trade policies. Challenges in container logistics from China functioned as a non-tariff barrier to trade, and Chinese manufacturing interruptions curtailed the supply of goods from China, potentially opening more space for local producers to thrive.

This article examines how domestic producers of goods that competed with Chinese imports were able to benefit from temporary interruptions in imports from China during the Covid outbreak. As case studies, we examine how Ghanaian producers in two fields – plastic wares and wooden furniture – responded to declines in Chinese imports. The value chains for China-made plastic wares and furniture were temporarily interrupted due to factory shutdowns in China to contain the pandemic, interrupted logistics between factories and ports in China, and spikes in freight rates

that made transporting products with low value-to-volume unviable. Supply chain disruptions created temporary breaks in the supply of imported goods from China. Through interviews with manufacturers and wholesalers of plastics, carpenters and furniture traders, we explore how local producers responded to the changing competition. Were local producers able to capture new market shares in the absence of competition from imports, and if so, were these gains sustainable? These experiences are both of academic interest and have implications for trade and economic development policies.

The first part of this article reviews Ghana's industrial policies and assesses trade's changing role in national development strategies. Next, we present the methodology we employed to evaluate the impact of the Covid-imposed barriers to imports and introduce the case studies that are subsequently discussed in the analysis. Although our discussion questions draw on theories related to industrial upgrading and import substitution industrialisation, the article unequivocally pursues empirical goals. The presented cases highlight the essential role of context and specifics in assessing the impact of import barriers on local producers. Moreover, the article emphasises that policy decisions should be informed by the tangible interdependencies that currently exist. The conclusion reiterates how supply chain disruptions during the Covid outbreak served as a reminder of the potency of import restrictions and a tool for industrial policy while underscoring the danger that such policies cause adverse effects for local producers.

Trade and industrial policies in Ghana

Following independence in 1957, Ghana pursued a strategy of import substitution industrialisation, aiming to promote domestic manufacturing and reduce dependence on imported goods. Ghana envisioned industrialisation as both a path to economic development and a marker of sovereignty. Leaders in Ghana observed that few countries have developed without industrialising, and rapidly growing economies tend to have an expanding manufacturing sector (Fenny 2017, p. 22). Towards the end of industrial development, policies were enacted to protect local industries, including high tariffs, restrictions to the trade in foreign exchange, and the introduction of import licensing (Ackah et al., 2016). The state established manufacturing firms in selected sectors, most notably textiles, food processing, and construction materials, which created an economic boom in the 1960s. However, the prosperity was short-lived: Ghana went through a period of economic decline in the late 1970s, and the manufacturing sector was hit particularly hard (Owoo and Page, 2017).

Manufacturing activities declined further as Ghana undertook structural adjustment programmes and liberalised trade to qualify for foreign economic assistance (Darkwah, 2002; Hutchful, 2002). Under structural adjustment, economic policies no longer focused on import substitution but on promoting agriculture, mining, and exports, seeking to inject critically needed foreign capital into the national economy (Ackah et al., 2016; Hutchful, 2002). To facilitate and attract foreign capital, the Ghana Investment Promotion Council Act 478, later amended to ACT 865, was established and mandated to position the country as a choice destination for investment and ensure the safety of investments in an evolving economic landscape (Government of Ghana, 2013). It also creates attractive incentive packages and a conducive environment and provides services, such as assistance in procuring permits required for establishing and operating enterprises for investments in Ghana (Williams et al., 2017, p. 2069). A year later, the Free Zone Act of 1995 was passed to promote exportdriven economic development and provide for the regulations of activities in the free zone and related matters. Both acts were intended to ease the burden of investors and to create an enabling business environment for Foreign Direct Investment (FDI). and the response has been notable (Akorsu and Okyere, 2023). To further boost the industrial drive, between 2001 and 2009, the state embarked on another project dubbed the Presidential Special Initiative on Selected Manufacturing Products (see Andoh, 2010; Tonah, 2006). The project coincided with the American-sponsored African Growth and Opportunity Act (AGOA), which aimed to improve developing countries' access to and participation in the world trading system (Collier and Venable, 2007). Under this initiative, Ghana and other sub-Saharan countries were offered preferential access to the United States market. Products of a range of categories, including forest, agricultural, and electrical, were eligible, and textiles and apparel became the flagship of the initiative in Ghana. Whilst this initiative led to the setting up of several companies, the outcome was mixed, and researchers have concluded that the inherent contradiction in the AGOA protocol eroded some of the gains made before adopting the protocol (Asafu-Adjaye, 2006, p. 35).

The discovery of commercially viable petroleum reserves in 2007 provided the Ghanaian government with a new opportunity to revive its manufacturing sector by emphasising new and energy-consuming industries, especially petrochemicals, fertiliser production, and the processing of agricultural outputs. Following this renewed interest in industrial policy, the Ghanaian government reinvigorated efforts to rehabilitate manufacturing industries such as textiles, plastics, and ceramics (Owoo and Page, 2017, p. 181, Fosu, 2017). Various initiatives were consolidated into an ambitious and country-wide industrialisation drive, the so-called 1D1F initiative, aiming to establish and sustain at least one factory in each of the over 160 districts in Ghana (Eshun, 2019). The strategy set out to aid communities in better using their local resources and reaping the benefits of industrialisation, including improved living conditions, increased agricultural and manufacturing inputs, and reduced import dependence (Otoo, 2023). Although many businesses responded to these policy initiatives, the overall outturn did not meet policymakers' expectations (Akorsu and Okyere, 2023; Williams et al., 2017). In fact, the manufacturing sector overall saw a negative growth rate in some years. The highest growth rate was reached in 2017, with a 9.5 per cent rise in output value, but the growth subsequently abated: In 2021, the manufacturing sector's contribution remained lower than in the 1970s (Akorsu and Okyere, 2023; Ofori-Atta, 2022; Owoo and Page, 2017, p. 176). Analysts have attributed the decline in the manufacturing sector to a lack of state commitment and unbridled competition from imports, and there have been calls for state intervention to shield the emerging manufacturing sector from collapse (Huq, 2023). Even though protectionist measures are known to be used to protect struggling domestic industries against foreign competition or unfair practices, such as dumping and foreign government subsidies, the challenges of implementation coupled with geopolitical implications have made such efforts a riskier endeavour (Akorsu and Okyere, 2023). Recently, foreign exchange restrictions have again been brought out of the policy toolbox by Ghana's government: On 30 October 2022, the Bank of Ghana suspended the supply of forex support to importers of commodities that were deemed non-critical, as well as those that could be sourced locally (Taylor, 2022). In the 2024 budget the government of Ghana proposed to restrict the import of 20 selected items estimated to cost about 10 billion dollars annually (Government of Ghana, 2023).

A regional perspective is required to assess the potency of Ghanaian import controls. Togo and Benin, which maintain low import barriers and well-functioning ports, have served as transit points for importing goods reexported to their larger neighbours Nigeria and Ghana. These 'entrepôt states' derive income from the duties paid when the goods arrive, which provides an incentive to tacitly condone that the goods are smuggled into their final markets (Golub, 2012). The purpose of the smuggling is either to avoid import taxes or to circumvent import bans. In West Africa, import bans have also provided opportunities for corruption through the trade of exemption licenses and bribes to allow goods to pass (Addo, 2021). A key argument against import barriers, put forward by the World Bank and other supporters of free trade, is that it mainly elevates prices and decreases the purchasing power of the poor (Treichel et al., 2012). This stands against trade protection proponents' emphasis on allowing local industry to mature by shielding it from unbridled competition. Unlike many other import barriers, Covid-related trade disruptions increase consumer prices for imported goods without being associated with the illegal activities commonly related to import bans.

Context and methods

The data collection among plastics and furniture producers was conducted in the Greater Accra region from April through December 2022. Covid restrictions in Ghana were ending then, whereas regular travel to China had yet to resume and Ghanaian small-scale importers were still waiting to go to China to source goods. For the first months of the pandemic, until August 2020, market shutdowns and general lockdowns meant that households did not experience goods shortages strongly. Many sellers still had stocks once Ghanaian markets opened again, though some had been spoiled in storage during the abrupt trade shutdown. However, the stored wares

started to run out after some time, and traders faced the challenge of a shortage of goods. From around January 2021 to the end of the travel restrictions to China in April 2023, the traders' inability to travel to China and source goods caused a significant supply problem. These disruptions were compounded by Ghana's fiscal instability, high inflation, depreciating exchange rates for the Ghanaian Cedi, and struggles to service foreign debts with ensuing pressures caused by debt restructuring (Acheampong, 2023). Ghana's inflation reached a two-decade high at 54.1 per cent in December 2022 (Akorlie and Inveen, 2023). Furthermore, the problems for importers were compounded by a spectacular rise in container freight rates after the Covid outbreak (UNCTAD, 2023).

Three related ethnographic methods were employed in collecting the data: individual semi-structured interviews, focus group discussions, and non-participant observation. The selection was thus not necessarily about the representativeness to the populations; instead, it was motivated by the unique and additional set of understanding that specific cases added to the story (Katz, 2023). The samples included artisans (specifically woodworkers and distributors and furniture homes of diverse sizes), plastics manufacturers (both Ghanaian-owned and foreign-owned, including those with Chinese investors), and distributors of plastic products (wholesalers and retailers). The number of carpenters and furniture distributors interviewed individually was 17, and we held one focus group with five carpenters participating. We interviewed 16 plastics retailers and wholesalers and conducted one focus group interview organised by a plastics wholesaler association in the Odawna market. Nine interviewees were women, and the rest were men, reflecting the skewed gender distribution in the industries, especially in furniture making.

The data collection aimed to generate analytical depth rather than statistical generalisations, and the interviewees were selected to capture various experiences and circumstances. The data collection in plastics manufacturing was concentrated in the North and South industrial enclaves in Spintex and North Kaneshie. As a condition of being interviewed, they asked not to be identified in the research, and we omitted details that can lead to indirect identification. We interviewed representatives of five manufacturers and visited four manufacturing sites. The furniture workshops in which we interviewed were spread across the Greater Accra Region: Along the Ring Road West towards Ayikai Street (aka Mortuary Road), J.J. Rawlings Avenue, Guggisberg and Aggrey Streets and the Dr Busia Highway. The plastics wholesalers were located at the Makola market, Agbogbloshie market, the Dome market, Haatso Atomic Highway, the Kaneshie Central market, and the Odawna plastics wholesale market.

Informed consent was sought from all interviewees after they were provided with written and oral information about the study. We asked to record the interviews. Some informants agreed to this request, whereas others were comfortable allowing us to take notes without recording. Eleven interviews were transcribed in full, while the rest were analysed based on notes. The interview transcriptions and summaries and observational notes were organised and analysed in Nvivo. The Ethics Committee of the College of Humanities of the University of Ghana assessed and approved the study.

The two industries were selected to capture sectors with different organisation and resource requirements. The plastic industry has a long history in Ghana and is highly organised, with associations for retailers, wholesalers, and manufacturers. By contrast, furniture production in Ghana is dispersed and dominated by artisanal producers, who sell their wares directly to consumers. In combination, the two cases capture a broad spectrum of manufacturing in Ghana, from one generally dependent on imported raw materials and huge capital investment (plastic manufacturing) to those requiring basic skills with little or no imported raw materials (furniture making). Imported goods in the furniture sector have traditionally been reserved for the upper end of the market, but affordable furniture from China now also competes with unsophisticated local furniture. In plastics, Chinese imports compete at both ends of the market, as we discuss next.

The manufacturing and distribution of plastics

Plastic basins are a crucial device in Ghanaian commercial life. They range in sizes from saucers holding a few tomatoes to large containers that the teenage girls working as porters can barely span with their arms. Basins allow market women to sort vegetables into heaps, pricing them according to size and quality, more readily making concessions to faithful customers by adding produce than by reducing the price (Clark, 1994). The imported plastic basins used in Ghanaian markets mainly originate from China (UN Comtrade, 2023). Plastic wash basins replaced enamel or galvanised steel tubs in China in the 1980s and 1990s and have the advantage of being lightweight, easy to wash, and protected from rust and corrosion. This coincided with the eve of large-scale emigration of Chinese traders to the Russian Far East via European Russia and into Eastern Europe, where they filled supply gaps for consumer goods with low-cost Chinese products (Nyíri, 2003). As the Chinese entrepreneurial diaspora expanded, cheap plastic goods became associated with Chinese migrants globally. In addition to everyday items made of plastics, China exports a range of products packaged in plastics, such as detergents, dishwashing liquid, and toys. These containers are often reused for locally made products, such as rice or millet beer, hibiscus drinks, and palm oil. China reported exports of 83.9 million USD worth of household articles made of plastic from China in 2021, equalling 20,1 thousand tonnes. Imports have increased steadily over the past five years, including during the Covid years of 2020 and 2021. However, plastic household articles exports from China to Ghana grew at a modest rate relative to other goods, with a growth measured in metric tonnes of 42 per cent from 2017 to 2021 (UN Comtrade, 2023).

Ghana has a sizable plastic manufacturing sector producing plastic products that compete with foreign goods. Plastic manufacturing in Ghana started with Lebanese and Indian companies in the 1950s and 60s. Producers are organised under the Ghana Plastic Manufacturers Association (GPMA), whose membership now counts around 110 manufacturers (Ewur, 2021). Chinese companies became part of the Ghanaian plastics industry relatively late, and a 2014 survey of Chinese plastics manufacturers in Ghana showed that most had invested in machines to make pellets from recycled material (Tang, 2018). Plastic recycling remained a niche in Ghana, with limited raw material competition. Discarded plastic sachets for water proved a particularly useful source of raw material because they were readily available and made of products that had not been recycled before, unlike plastic bags in China, which mostly have been recycled several times already (Tang, 2018).

In the late 2010s, the plastics recycling industry started flourishing in Ghana. The Ghanaian infrastructure and incentives for sorting garbage in businesses and households were still underdeveloped, and mechanical sorting by hand after disposal remained the norm. The first step in the value chain for recovering plastics is when waste pickers and household garbage collectors assemble and sort waste. The price of the plastics recovered from general waste has increased, aided by higher global petroleum prices that make both production and transport of plastics more expensive. Technological improvements have also accelerated plastic demand: Technology to recycle plastic by thermal methods and extrusion for pellet production has become more accessible, and mechanical recycling rates in Ghana have improved for several plastics types (Bassey et al., 2023). Pellets from recycled plastic tend to be dull in colour compared to luminous pellets from new material. Their humble appearance notwithstanding, they are now a highly sought-after commodity.

Restructured international trade in recycled plastics helped prepare the ground for Ghana's flourishing waste plastic industry. Before 2017, China was the world's largest importer of recycled plastics, accounting for 57 per cent of global waste plastics imports (Wahab and Lim, 2022). Some of this originated in Ghana and was acquired from collectors and prepared for export to China by Chinese enterprises. China's solid waste import was intrinsically connected with its net export of manufactured goods. This led containers and container ships to return to China virtually empty. The challenge of empty backhauls meant that solid waste from Europe, North America, and Africa could be exported to China cheaply. However, China increasingly found its role as the hub for solid waste recycling to be a liability, as the recycling activities were land-intensive, produced unrecoverable waste and air pollution and yielded materials of a lower standard than those made from virgin resources. China attempted to expand its recycling programmes, and abundantly available imported waste kept prices low and disincentivised the development of the domestic recycling industry. In response, the Chinese government implemented the so-called National Sword (国 门利剑) policy in 2017, which considerably tightened the standards for the import of recyclable solid waste such as plastics, paper, and metal. The policy practically stopped most export of solid waste material to China, leaving countries that had set up waste collection systems without corresponding recycling facilities to face a severe disposal problem (Brooks et al., 2018).

Unlike many other countries, Ghana boasted an existing manufacturing structure allowing domestic use of the plastic waste that China started turning down. Therefore, the effects of China's National Sword policy on Ghana's plastic waste export were instant. In 2017, Ghana exported 962 tons of plastic waste, of which 839 tons went to China (UN Comtrade, 2023). The following year, only 66 tons of plastic waste was reported exported from Ghana to any destination (ibid.). Ghanaian plastics waste exports later increased somewhat but did not recover the levels before China's National Sword policy (International Trade Centre, 2023). Without demand from China and low freight rates caused by empty backhauls, the price of recycled raw materials has declined to make domestic recycling in Ghana more financially viable.

Recycled plastics became even more attractive to Ghanaian manufacturers after the onset of Covid. Global lockdowns, especially in China, put freight rates at a record high level, making importing virgin plastic material to Ghana increasingly expensive and challenging. A depreciating Ghanaian Cedi further discouraged plastics manufacturers in Ghana from buying raw materials abroad. These problems were compounded by global polymer prices, which doubled between 2020 and 2022 (Plastic Portal, 2023). Many factories had already invested in industrial waste plastic pelletisers, which are relatively inexpensive before freight and duties, costing USD 30,000 and upwards. 'In 2019, everyone started to want to recycle value plastics. There were the Chinese, the Egyptians, the Indians ... Everyone can make money now in plastics!' a manager at one of Ghana's most prominent plastic manufacturers observed in our interview. Their factory started using recycled plastics in 2015, training collectors across Ghana in sorting the plastics and using their senses and ubiquitously available tools such as lighters to identify the different qualities of plastics. The competition for recyclable material, already described as formidable in 2014 (Tang 2018, p. 930), intensified during the Covid outbreak. Chinese buyers seeking to export the raw materials had a reputation among other plastics enterprises for being particularly aggressive in their attempts to outbid established factories in Ghana. An industry representative we interviewed claimed that Chinese plastics purchasers would bring cash to landfill sites in preparation for talking to drivers of plastics manufacturers and representatives of waste management companies to convince them to redirect the waste to them. The Chinese buyers did not export to China anymore but shipped material to Southeast Asian countries, where Chinese plastics recyclers had set up new facilities after China was shielded from importing recycled plastics (Schulz, 2019). The overall effect of the Covid outbreak on plastics manufacturers was to make imported input in production more expensive, speeding up their drive to replace virgin materials with locally sourced recyclable plastics - the competition between Chinese and other buyers of recycled plastics as raw materials intensified.

Supply breaks from China and disrupted circulation of plastics

The aggregate market position of China-made and Ghana-made products did not change much during the Covid period, yet the pandemic significantly impacted distributors of plastic products. 'Covid initially helped me,' Bernice, a wholesaler of plastic wares, declared in August 2022. She had spent a decade building up her position as the largest retailer of plastic goods in one of the sprawling markets outside Accra. She also supplied smaller retailers with goods at wholesale prices. In addition to stocking unior bi-coloured basins, buckets, jugs, dippers, and brooms, her shop displayed imported plastic products with prints and a shiny finish. The finishing on these products made them particularly attractive to consumers, who sometimes bought household items not only to replace broken old ones but also to improve the look of their homes. Bernice had entered the plastics business by selling local products but had soon started to seek out importers of more fashionable goods to improve sales. A Chinese business acquaintance helped her locate a Chinese company that imported decorated eating bowls. She stayed abreast of the latest fashions and regularly put new products out on display to attract retail and wholesale customers to her store. Meanwhile, unsold old products piled up in her back storage. After Covid disrupted new deliveries from China and stocks were depleted, Bernice went to her storage space, pulled the old products out, and put them back on the sale shelves, thereby maintaining a well-stocked business without new investments. Displaying a range of styles was crucial to her turnover. Bernice sold off the accumulated wares, some more than five years old, while also attracting customers for the locally produced household items. Her business thrived during this 'honeymoon period' of Covidrelated trade disruptions.

Bernice's experience illustrates that supply breaks could transform stocks from a liability to an asset. When these provisions ran out, however, restocking was difficult because the prices of container transport were high, and Covid disrupted production and logistics within China. Ghanaian wholesalers complained that the imported plastic goods they got hold of were less fashionable because traders could travel to China to identify the most attractive imported goods. Bernice, who could not envision her business without Chinese products, said she hoped that Chinese manufacturers set up production in Ghana using the same techniques as in China to remedy the problems of forex fluctuations and supply breaks. 'I think the Chinese coming here to produce can help us. Then the foreign exchange problem is not there, travel safety problems are not there,' she said. Two Chinese and one Italian plastics manufacturer had indeed started producing brooms in Ghana to replace disrupted imports from China. The wholesalers approved of the quality of the new products. 'Most customers don't even know it's a Ghana-made product,' one said. 'It looks and feels the same.'

Odawna Market in Accra is a national hub for plastics wholesale, with retailers arriving from across Ghana to buy from long market aisles filled with brightly coloured wares. The wholesalers in Odawna are organised in the Plastic Sellers Association of Ghana, an organisation headed by plastics wholesaler Reverend Adjay when we met with its board in August 2022. The association was set up after the wholesalers moved out of the industrial area around Spintex Road in Accra. The inconvenience of being forced to run their businesses far away from the plastics manufacturers compelled the wholesalers to organise and fight for their shared interests, which included bargaining for agreements with manufacturers to deliver the goods to them in Odawna and pressure the manufacturers to stop selling goods directly to retailers. Their organisational counterpart was the Ghana Plastic Manufacturers' Association, and Reverend Adjay readily admitted that the manufacturers were more powerful than the wholesalers. Notwithstanding the power difference, the two organisations successfully retained a dialogue about organising the Ghanaian plastics industry in a way that allowed both groups to profit.

The wholesalers viewed the increasing share of recycled plastics in Ghanaian products negatively. Recycling brings about physical degradation, and wholesalers experience more breakage and customer complaints than before. With recycled plastics mixed in, the items felt thicker and heavier than those made from virgin material. They also complained that recycled goods were dimmer than virgin products, filling their shops with dark shades of green, blue, or brown rather than more lustrous colours. The wholesalers in Odawna stressed the need to stock Chinese products alongside local ones, as some local items failed to move unless displayed alongside Chinese products. A wholesaler elaborated: 'For instance, when some customers come and ask of a Chinese product and it's sold out, they will prefer to come the following week to buy [instead]. Sometimes, they call to find out if we have restocked the Chinese products they usually buy. If you say no, they won't come,' a wholesaler explained. The time and expense of coming to the market would only be worth it if customers could get everything they needed at once. Thus, the circulation of *all* plastic products slowed after fewer goods arrived from China.

To the extent that Ghanaian wholesalers could buy Chinese goods during the 2020–2022 Covid disruptions, they noted that their circulation modes had changed. Those who used to buy from Ghanaian importers who travelled to China to buy goods turned to Chinese importers instead. The Ghanaian importers were rarely able to get goods as cheaply as their Chinese competitors, and the wholesalers wondered whether they would get back into the market once China opened up for travel again. 'The Chinese get the goods directly from the factories, whereas the Ghanaians use intermediaries. [...] When a Ghanaian supplies us with goods, it's usually at a higher price than the Chinese,' one wholesaler said. Another wholesaler added: 'The Chinese don't need to have money before starting a business. They get the goods on credit from the factories to come and sell and return the money. But a Ghanaian heavily depends on loans at four per cent.' Banks aggressively push loans to small businesses in Ghanaian markets; four per cent is the *monthly* interest rate. Wholesalers who aspired to go to China and source goods saw a lack of capital as a main obstacle. 'If I am given a visa and capital to go [to] China for goods, I will

leave tomorrow!' a woman exclaimed in a focus group where plastics wholesalers discussed their challenges in the post-Covid era. Her colleagues nodded vigorously in agreement. The wholesalers longed to escape from circuits where supplies were unstable and return unreliable. As much as a place to source goods, travelling to China represented an aspiration – a state where the wholesalers had ample capital and could operate autonomously.

Furniture production

Furniture serves several critical social functions in Ghana as a marker of economic status and identity. Sofa sets and dining tables with chairs became popular in urban Ghana already in the colonial era, and local carpenters soon started copying pieces imported from abroad. Foreign influences were fused with local artisanal cultures, weaving threads of tradition and modernity into the fabric of Ghanaian homes (Arnoldi et al., 1996; Inkum et al., 2021). After independence, furniture fashions spread from the country's metropoles to suburbs, smaller cities, and rural areas, whereas migrants to Europe and North America shipped items from these destinations back to Ghana, providing a window into life abroad (Rowlands, 1996). Yet, traditional wooden furniture such as the Akan Asante stool continues to convey prestige and authority in Ghana (Inkum et al., 2021). Creative craftspersons integrate symbols from traditional furniture when they produce Western-style furniture in Ghana.

Carpenters and importers of foreign furniture uphold that the external appearance of locally-made and imported Western-style furniture now look similar but that considerable differences in finishing and quality remain. The Ghanaian carpenters we interviewed attributed the quality gap to a lack of tools, machinery, and materials necessary for a more sophisticated finish. Moreover, many carpenters competed for orders based on price, which disincentivised them from buying expensive production materials. Furniture workshops in Ghana are simultaneously places of production and training sites, and techniques are commonly passed on through apprentice relationships rather than formal education (Darko and Lowe, 2016).

While imported furniture was coveted in Ghana long before China became a furniture exporter, Chinese imports made foreign-made furniture available to new groups of Ghanaians by substantially lowering prices. The largest retailer of Chinese furniture in Ghana is a group of shopping centres called *China Mall*. Here, customers can buy desks, dressing cabinets, bed frames, and more at a price that matches and sometimes is lower than what local carpenters charge. The cheapest imported furniture typically uses particleboard with veneer instead of plywood or wood board, which makes it less durable but better looking than locally produced items. The furniture imported from China turned into a symbol of poor national capacity in 2015, when the office complex of the Ghanaian members of parliament procured furniture from China rather than from local suppliers, citing a lack of expertise and finesse in local production as the reason (Vinokor, 2015). The president of the Woodworkers Association of Ghana (WAG) countered that local woodworkers had the capacity and the skills to fulfil high-end orders, pulling into question the parliament's commitment to creating jobs and developing industries nationally (ibid.).

The structure of the Ghanaian furniture economy

Trade in furniture from China to Ghana is now big business. In 2022, China's reported value of furniture exports to Ghana was 128.6 million USD. Turkey, Italy, and the United States were the second to fourth largest suppliers that year, totalling only 17.7 million USD worth of furniture exports to Ghana (the United Kingdom, another significant trade partner in the industry, had not yet reported its exports at the time of writing) (UN Comtrade, 2023). Furniture from Turkey, Europe, and the United States was generally marketed to wealthier people, while Chinese furniture competes at price levels similar to those of Ghana-made products.

Furniture production in Ghana has an increasing number of foreign players. It is no longer a solely indigenous business, but the small workshops located along the roadside are still run mainly by Ghanaians. They may be operated by a single carpenter with apprentices or a small group of employees, with administration, sales, and production in one unit. Their primary customer base is local community members, and they produce virtually all the basic wooden needs of the community. Many are operated out of temporary wooden structures. The businesses are not registered but may be paying quarterly income tax issued by the local government authorities. They rarely have titles to the space of operations and may lose ownership of the place to the highest bidder. Their work is mainly on orders from their clients, who pay a deposit before the work commences, then pay in stages as the work progresses, and finalise the payment on the collection day. The carpenters rely on basic operational tools such as the saw, hammer, plane, and sandpaper. Some of these shops, even in the urban areas, have no electricity supplies to power tools, and those with electricity often reported that they could not afford labour-saving devices. In recent times, however, they have started to employ the services of commercial machine shops that do the bulk of the rough wooden work while they do the assembly and finishing in the workshop. They select from prefabricated designs when cutting the wood at a fee. This saves time but removes the original creativity and innovations for which their work was known. Another recent evolution among the small furniture workshops is their use of imported accessories, such as handles and legs, on the furniture they make.

Medium-sized furniture manufacturers operate mainly as furniture shops. These businesses are registered, though their workers may not be pension-paying employees. Some combine sales of new furniture with serving as refurbishment centres for imported and used furniture. The business tends to be functionally divided into departments, one for production and one for administration, sales, and showroom management. They are mainly operated as sole proprietorships by owners or initiators who are craftsmen, headed by the owner or a close relative. Many of these businesses started as sole proprietorships, and as a result of increased client satisfaction and client base, showrooms, where finished goods are displayed for sale, were added. Like the small furniture workshops, medium-scale furniture businesses are owned and established primarily by Ghanaians and bear local names. However, these craftsmen always play the catch-up game with their large-scale counterparts. The general view is that these artisans are not innovative, and they are practically known to do the same kind of furniture and are struggling to survive (Nutsuego, 2023).

The mid-range producers struggled with what they saw as an unfair bias against local products, reflecting a longstanding preference for imports for their symbolic rather than material qualities that has roots back to colonial times (Obeng, 2022). They admitted that imported furniture was superior in finishing and aesthetics but stressed the need to consider durability. Even second-hand products imported from Europe and the United States can be perceived superior to locally manufactured new items (Amankwah-Amoah, 2015). Appiah, a furniture carpenter, expressed his frustration with the preference for foreign products and the downward pressure it put on the prices of local products in the following way:

Now, when you go to China Mall, there is a chair; maybe you see that they will say it is GHC 10,000 or 9,500. When you compare it to the local ones, it looks nicer. But this same chair will be made for you for not more than GHC 6,000. But you will not hear Ghanaians complaining. They will even explain to you why it is expensive! But they will not do the same for the local made. The worst is when they choose the second hand over a brand new Ghana-made. They will tell you it is because of the duty, freight cost and all. Why? Because they know that one is imported. But the local one, they will ask you to even reduce it [further].

Large-scale furniture makers in Greater Accra operate as registered companies with formal structures, including business registration, stock management system, social security/pension paying employees, and administrative separation of production, administration, and sales. The large furniture makers are primarily owned and established by non-Ghanaians and bear names that reflect their international leanings, such as Casa Trasacco, Orca Deco, and Furniture City. They played up any non-Chinese foreign origins of the furniture they sold, realising that most customers would be challenged to distinguish Turkish or Italian furniture from higher-quality furniture imported from China. They assembled the imported furniture in workshops and sometimes made some from scratch to sell alongside the imported pieces. While the furniture makers were predominately distributors who used their workshops as assembly points, they had to upgrade their workshops to make such furniture from scratch to meet client demand during the Covid-induced import problems. A recent innovation they described in our interviews was combining imported and locally manufactured furniture. Some of these were produced in-house or through subletting. The locally made pieces were in the minority in the showrooms and were lower priced; their

quality and finishing contrasted negatively with the imported pieces. Still, the furniture shop also emphasised that furniture made with more rudimentary techniques could be more easily repaired if broken.

Supply chain disruptions: Different effects in different market segments

The effects of the Covid pandemic on furniture production in Ghana depended on the size and type of operation. The *small, low-end workshops* were the least affected. They mainly relied on locally sourced materials and used essential tools. Though they depended on imported inputs such as hinges, nails, and ornamental details, their requirements were not restrictive since customers bought the furniture for its functionality rather than the prestige it confers. Therefore, small workshops could easily substitute inputs from China with items from elsewhere. Some community-based carpenters saw their orders increase when they were commissioned for repair jobs or fittings from consumers of higher-end furniture who had to defer new purchases because products were delayed, unavailable, or excessively expensive during Covid.

Producers who serve the *middle range* in the Ghanaian furniture market are more often directly competing with imports from China. China Mall was the largest single competitor for this group of furniture makers, which also received competition from second-hand dealers and foreign-owned outlets such as the Lebanese-owned super-market Melcolm. Moreover, they employed more China-made power tools, and their customers were more sensitive to the styles of the accessories they used. For these reasons, the Covid-induced obstacles to imports from China affected this group more directly than the low-end producers. The mid-range producers situated their products with direct references to Chinese imports, and some feared that the local sector would lose out entirely to Chinese imports unless the state intervened. Brew, an experienced furniture maker with over 20 years in the industry, asserted as follows when asked what his ultimate choice would be between imported and local furniture:

You must go for the local one because the imported ones will normally give you problems. After all, for me it's cheap. You can see it is very nice, but I mean it won't keep long, especially their wardrobes and cabinet.

This was echoed by Nyamekye, another well-established carpenter, when the same question was asked:

I will never advise you to get imported furniture. It looks good for the eye, but you will come back for the local ones in a few months. You have to go for the local one if you want your peace of mind. ... they always come back for us to either fix something about it for them or get a new one from us ... It's about the quality of the product.

Both carpenters knew that the finishing on the products from China might come off as more attractive and that purchases without delivery times offered greater convenience.

Still, quality was their main argument for countering suggestions that Chinese furniture could be a suitable alternative to their products. In particular, claims about the superiority of local furniture referenced the wood and craftsmanship. In wardrobes and cabinets, the local furniture makers use raw wood joined tightly with glue and nails. In contrast, the imported ones were commonly made from less durable materials joined together with screws for easy re-assembly. These were less firm and decayed more quickly than the local products. The carpenter Emmanuel explained how this gave his products an advantage:

The way I do it, my work. My wood and the other materials I use make the difference. If you compare it to the China-made ..., the difference is so clear! Mine is quality and superior lumber. That is why I can confidently tell you ours is better than the Chinese import.

Supply chain disruptions from China initially benefited medium-sized producers by removing their fiercest competition. For many of these artisans, the closure increased sales, re-establishing relationships with old clients, and in some cases, a sub-contract with some of the high-end furniture shops discussed below. Some were able to use the opportunity to clear their warehouses and showrooms of long-stored products. However, the benefits were short-lived if they ran into supply-chain problems of their own as accessories from China, such as the leg, leather, belts, and fibre, became less available. Akenteng recapitulated:

We benefitted from the closure initially. As you know in Ghana, we don't have factories producing these things. So, most of the things are imported from China. So when it happened like that [the border closure and travel restriction] what happened is that the little that is available was in massive demand so we cash in during that period. ... but that was short-lived because many of the accessories were also in short supply.

Some clients had to be turned down simply because the requested products could only be crafted with the right accessories. Carpenters, who initially had been relieved that the Ghanaian government no longer restricted their ability to work, saw their businesses hampered by a lack of input factors. As one carpenter and workshop owner said, 'There were times when we had the money but could not find these wares because they were just out of the system.' Furthermore, with accessories in short supply, prices rose, and they had to charge more for their products. This could lead to discord and arguments between themselves and their clients, especially when prices were raised after production had started. Hyperinflation, the worsening depreciation of the local currency, and its attendant economic hardship contributed to this problem. As Emmanuel put it:

Prices were being increased virtually daily and in some instances the increase was hourly but most of the time the people didn't understand why we were increasing our prices. So you end up losing. As a production person because they won't agree you have to incur certain losses just so you satisfy a client. So a client will tell you: 'You told me it was two cedis; why are you telling me now it's 3 cedis?'

Reliant on long-term relationships with their clients, the carpenters would sometimes have to accede and let the customer have the items at a price that left them with no payment for the artistry they put in.

As Brew's quote above described, covid-related disruptions allowed some midrange producers to upgrade and gain new skills. Customers who originally depended on imported products turned to him after supplies of foreign products dried up. He improved his sales margin and seized the financial space, allowing him to upgrade the rest of his production. Around the same time, he was contracted to change the leather of some used German imported furniture for which the owner could not find a replacement among imported, ready-made items due to import problems. He refurbished the furniture to the owner's satisfaction and subsequently gained a contract to supply the owner regularly. The refurbishing taught him more about the differences between locally made and imported sofas, and he tweaked his production by using fibre, shredded mattresses, and belts in new ways and made his sofas gain some of the qualities of the foreign ones:

When you put the fibre, too, that makes it feel like an imported one! It feels more comforting to sit on, although not everybody can afford it because it is very expensive. Not everybody can use it. Right? And so, when we use the fibre and the other things this is what we are trying to do, but the problem is we don't have the proper support. If we get the support, we can do even more than what I am showing to you.

Brew was one of many artisans and manufacturers who regretted the lack of support from the government. At all of the workshops we visited, from the simplest ones without electricity to those that came close to resembling manufacturing sites in Foshan, China, the carpenters had concrete ideas about how their production facilities could be upgraded with equipment and technology to become more competitive and turn out more desirable furniture.

The *high-end furniture shops* in Ghana faced the most significant sourcing difficulties during the Covid disruptions. Their customers have largely turned their backs on locally-made furniture after developing tastes local producers are unable to meet. The sellers of high-end furniture have encouraged this as it has helped them carve out greater markets for themselves. Furniture is naturally bulky, and freight constitutes much of the total costs. They were, therefore, susceptible to the hikes in shipping rates during Covid. The closures of factories, especially in the furniture hub of Foshan in Guangdong Province, made goods unavailable during some periods. Large furniture importers send their people to China to scout for goods, and proprietors often do this themselves because finding products that match fashion is critical for success. Incoming bans on travel to China made such trips virtually impossible between the spring of 2020 and the spring of 2023.

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While the high-end shops were hit hard by supply chain disruptions, they also had means of adapting to the pandemic trade disruptions. At first, their coping strategies were similar to those of the plastics sellers discussed above: They took the opportunity the supply breaks generated to sell previously slowmoving products, such as sets of furniture that were incomplete due to damage and less fashionable items. Ouickly, however, they needed to replenish their stocks with local products to keep their showrooms full. Another opportunistic response to supply breaks was to expand workshops associated with high-end stores to include more furniture production in addition to the assemblage of pre-made furniture. Alternatively, stores could source from local mid-range producers, as discussed above. The high-end imported furniture served as models for locally produced pieces. Inadequate machinery, skills, and raw materials still imposed some limitations on how closely these replicas would resemble the imports. Store managers were happy to show us the differences between the products they made in-house and the imported goods but highlighted the former's advantage regarding their selling price. The investments in in-house production that were made during the Covid crisis upgraded the workshops. High-end stores that had invested in their own production or relationships with local artisans continued to reap benefits after China's border opened fully because exchange rates remained unfavourable.

Conclusion: A window of opportunity?

The deck of global trade policies is being reshuffled in the aftermath of Covid and response to new geopolitical threats. Commercial relationships with China are at the centre of this restructuring. Disruptions have harnessed a productive potential as local producers have stepped up to meet local demand in the absence of imports. The capacity to do so is a testimony to the resourcefulness of Ghanaian artisanal and industrialised producers and their potential for development if conditions become more conducive. In the face of increasing reliance on imports, especially from China, the responses to the Covid situation remind policymakers that reshoring remains a possibility and a viable objective. As Europe discusses how to 'better use our existing toolbox of trade instruments' as part of the continent's de-risking strategy for relations with China (Von der Leyen, 2023), countries in other parts of the world may take the opportunity to discuss how trade policies can be used to reach their policy objectives.

However, if Covid presented a window of opportunity for local producers, it also opened the door to new challenges. The same forces that deter plastics and furniture products from arriving from China also encumber other forms of circulation. As competing products from China became more expensive, the costs of Chinese machinery, tools, and materials used for production in Ghana became more expensive. Blockages put in place before Covid to curb the inflow of recyclable plastics to China affected the costs of bringing new plastic items to Ghana as well as the content of plastic products made locally. The flows of new products and recyclable materials were interconnected for basins and everyday articles made from plastics. Wholesalers of plastics in Ghana found that their locally sourced goods were in less demand when China-made plastics failed to enter the country, highlighting how the circulation of local and Chinese goods intersect. In the case of furniture, the breaks in the inflow of Chinese products gave local producers, especially those operating in the mid-range of the market, the space to attract new business and learn new skills. It also incentivised high-end furniture shops to expand their production locally to reduce their reliance on imported goods somewhat. However, furniture makers depended on accessories from China to produce the furniture to their customers' liking, and the machinery required for upgrading local workshops was often imported from China. In short, both plastics and furniture are part of more comprehensive global circulation arrangements, and the circulation of different resources must be studied together to determine the net effect of trade disruptions.

This paper has described some of the effects of the supply chain disruptions from China during Covid. We have not attempted to quantify these effects, nor do we weigh their positive and adverse consequences against each other. These limitations notwithstanding, our study has shown that even a relatively limited period with import restrictions can have a noticeable impact on sectors where domestic and Chinese producers operate in the same market. This suggests that policy restricting imports can be a potent tool for helping domestic producers evolve. However, our study has also reinforced that the positive effects of import restrictions likely are accompanied by undesirable consequences and that it would be difficult to design policies that achieve the desired results without introducing new problems. Once circulation is halted, producers and markets change, and new trade barriers cannot revert the situation to that of a foregone state. By retrospectively reviewing the effects of Covid-induced trade disruptions in different sectors and niches, policymakers gain insight into the consequences of policyinduced trade constrictions and evaluate the viability of trade policy as an instrument for industrial development.

Acknowledgements

We carried out this project with research assistance from Rebecca Gyami. We also wish to thank the participants at the ECAS 2023 conference 'African Futures' and two anonymous reviewers for valuable feedback.

Funding

This project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement No 802070).

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Disclosure statement

No potential conflict of interest was reported by the author(s).

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