

POLICY BRIEF

Can trade foster develop- ment? Firm-level evidence for SMEs in Ghana

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The AfT (Aid for Trade) Initiative is based on the idea that free and fair trade can contribute significantly to economic development and poverty reduction in developing and emerging economies. This view, in turn, finds its basis in an extensive literature that has shown these benefits of trade. Research has established an empirical link between international trade and productivity increases in cross-country or individual country studies. There is also evidence that increased trade openness is associated with lower levels of absolute poverty and reduced wage discrimination by gender or race. However, the benefits from trading do not accrue to everyone equally but may entail substantial adjustment with implications for the demand for skills and different types of labour. This can affect wages and employment prospects for different types of workers in both developed and developing countries.

While the literature on trade and development could easily fill a number of volumes, two issues can be pointed out. Firstly, much of the research focuses on developed countries or emerging economies, specifically in South-East Asia and Latin America. Research on Africa, and here in particular on Sub-Saharan Africa, is comparatively small. Secondly, while much of the research establishes interesting and plausible correlations between trade and development related variables, causal relationships are hard to identify, in particular in cross-country studies.

Against this background, our study (Ackah, Görg and Hornok, 2019)¹ provides new evidence on the benefits of exporting and importing among small and medium sized enterprises (SMEs) in the Ghanaian manufacturing sector. SMEs are important players in the Ghanaian economy, for they provide about 85 percent of manufacturing employment and contribute about 70 percent of the country's GDP. We look at firms' export and import activities and estimate the effects of these on their productivity, employment, wages, skill structure, training activities and gender equality. This is done in two steps. In the first step, we analyse the impact of trade on the aforementioned firm level variables in the own firm (*direct effect*). To this end, we examine how these variables change for enterprises that start trading (or expand their trading activities) compared to other enterprises with otherwise similar characteristics. In the second step, we then investigate how trading activities of firms impact the same set of firm variables in neighbouring firms that are not active on international markets. These so-called *spillover effects* are captured by the changes in these variables in non-trading firms, followed by an increase in the presence of trading firms in the neighbourhood (i.e., in the same industry-location cluster).

¹ Ackah, C., H. Görg, and C. Hornok (2019) Can trade foster development? Firm-level evidence for SMEs in Ghana, A Study on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), supported by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

Survey Data

The analysis is based on a survey-based database of manufacturing SMEs in Ghana. The data collection was undertaken by the Institute of Statistical, Social and Economic Research (ISSER). The survey was conducted in August/September 2016 and collected data for 5 consecutive years between 2011 and 2015. The sample of the survey consists of the universe of manufacturing SMEs located in the cities of Accra, Tema, Kumasi and Sekondi-Takoradi, the main industrial clusters of Ghana. All manufacturing SMEs located in the four cities were selected, which means 1,244 firms altogether. Of these, 880 firms completed the questionnaire, which corresponds to a 70% response rate.

The sampled firms operate in 20 different 2-digit manufacturing industries including food and beverage products, textiles and wearing apparel, chemicals, metal, machinery and equipment, wood and wood products, and other manufacturing. Nevertheless, the overwhelming majority of these firms are active in a few industries, namely the manufacturing of wearing apparel, foodstuff, wood products and furniture, which reflects the Ghanaian industrial structure in the small and medium-sized segment. The firms are dominantly privately and domestically owned, with almost half of the firms having a female primary owner.

Number of firms by broad manufacturing industries and location

Industry	Location of enterprise				Total
	Accra	Tema	Kumasi	Sekondi-Takoradi	
Food and beverages	40	20	41	16	117
Textiles and wearing apparel	198	35	218	62	513
Wood processing	59	22	84	14	179
Other manufacturing	28	3	31	9	71
Total	325	80	374	101	880

Data collected from the firms include information on output, material inputs, capital, investment, employment, wages and firms' engagement in international trade. Firms report employment and wages in three categories: production workers, non-production workers and apprentices. We define the skill intensity of a firm's workforce as the share of non-production workers in the workforce. The higher skill of non-production workers is also reflected by the fact that, on average, non-production wages are higher than production wages. Training activity at the firm is proxied by the ratio of apprentices to regular workers. Firm productivity is total factor productivity (TFP), which we measure as the residual from an estimated production function, using standard estimation methodology. Gender equality at the workplace is captured by the share of female employees and the gender wage gap.

Importantly, the survey asks firms about their export and import activities in each year. Firms report the share of their annual output that was exported (export intensity) and the share of their production materials that were imported (import intensity). Hence, we see not only whether a firm is trading or not, but also how much it is trading and how its trading activity evolves over time. Foreign trade is not very common among Ghanaian manufacturing SMEs: only 3.5% of the firm-year observations in our sample are exporters and 2.5% are importers. Nevertheless, those firms that trade export or import with relatively large intensity. The average exporter sells a third of its output abroad, while the average importer imports almost half of its material inputs.

Summary of Results

1. Direct effects

- 1.1. Exporting is found to be contributing to development by increasing the average wage and creating more employment and more apprenticeship positions at the exporting firm. Exporting also leads to higher productivity, but only when established exporters increase their export intensity and not when firms start exporting. The wage gains from exporting benefit non-production (i.e. skilled) workers somewhat more than production (non-skilled) workers. However, we find no evidence that exporting would further increase the skill intensity of the firm, that is the share of non-production workers in the firm's workforce. This suggests that, as exporters expand their workforce, they hire both skilled and non-skilled workers, but give higher wage increases to skilled employees.
- 1.2. Our analysis finds no direct development effect from the imports of material inputs. Starting to import or increasing import intensity are not accompanied by rising productivity, wages, employment or demand for skilled workers among our sample firms. This lack of direct effects stands in great contrast to earlier literature studying other (non-African) developing countries, which find that importing impacts firm productivity and wages positively.

2. Spillover effects

- 2.1. Exporting activity in an industry-location cluster stimulates non-trading firms, which pay higher wages and move towards hiring more skilled workers as a result. These spillover effects are consistent with learning effects whereby non-traders learn from exporting firms and subsequently improve their performance.
 - 2.2. There are also spillover effects related to importing: non-trading firms in neighbourhoods where the presence of importing firms increases also start to pay higher wages and increase their skill structure. This result is at first sight unexpected, as there are no direct effects of importing. However, one possible explanation is that only firms that are more productive in the first place start to import. Even in the absence of any further learning effects, importers are, thus, "better" performing firms from which other local firms may learn. Our result is therefore consistent with learning effects from better performing firms.
3. An important finding relating to spillovers, be it from exporting or importing, is, that these only accrue to firms that already have a relatively high skill share (above the average). This is consistent with literature that shows that firms need a certain level of "absorptive capacity", i.e., ability to use the knowledge that is transferred to them by trading firms. Firms with high levels of skilled workers have the necessary ability to benefit from spillovers.
 4. We find that trading firms are considerably more productive than non-trading firms already before they start to trade. This confirms the so-called self-selection hypothesis of the literature that only the most productive firms start to trade because only they can afford to pay the costs of entering the foreign market. Beyond this initial productivity advantage, we do not find convincing evidence that starting to export or import would bring these firms additional productivity gains (see 1 above).

5. There are interesting gender differences regarding the direct effects from exporting. All the estimated positive effects under point 1.1 are fully attributable to firms with male primary owners. Female-owned firms do not only perform worse in general than their male-owned peers, but they also miss out on the beneficial effects of exporting. Otherwise, we find no evidence that exporting would lead to more or less gender discrimination against female workers.

Policy Implications

Based on the above findings, we can derive a number of important policy conclusions.

First, exporting has clear benefits on both exporting firms and non-trading firms in their vicinity (findings 1.1 and 2.1). Hence, **promoting exporting activity among manufacturing SMEs can be a route for fostering development** through providing additional employment opportunities and increased wages. Moreover, our results may have implications over and above what we estimated. Through the movement of workers, higher skills and wages may also transfer to firms in other sectors and/or locations seeking to hire new employees. It is worth pointing out that Ghana's exports are heavily concentrated in "traditional industries", in broad sectors of "stone and glass", "food products" as well as, more recently, "fuels". As this is the export structure on which our positive effects are based, it may make sense to focus on these in terms of policy as well. However, it may also be worthwhile trying to diversify the export portfolio in order to make the economy less dependent on world price movements of its traditional export products.

Second, apart from signs of spillover effects from better performing firms, the importing of material inputs is not found to benefit SMEs in any way (1.2 and 2.2), which is at odds with existing evidence on other developing countries. We think that **further investigations are necessary to find out why Ghanaian SMEs cannot benefit from importing**. One might consider two issues here. Firstly, Ghana's imports are concentrated in "machinery" and "transportation equipment", products which are used as physical capital in the production process. High-technology imported capital is potentially an important source of productivity improvement for Ghanaian businesses. This aspect, however, cannot be taken into account with our data, which only include information on imported materials. A second issue is related to the cost of importing. Our findings are consistent with the view that many SMEs in Ghana import "out of necessity rather than out of choice". It is possible that – despite the achievements of the trade liberalization Ghana has gone through – the costs of importing certain inputs are still high. This, in particular when no alternative inputs are available locally, is detrimental to firm development.

Third, skills play an important role. There seem to be stronger wage effects of exporting for skilled workers (1.1). Also, in order to benefit from spillovers, firms must have workforces with reasonably high skill levels (3). This suggests that **fostering skill development should be an important aspect for policy**. Not only because firms need skilled workers in order to enable them to enter into exporting or importing but also because reaping the benefits from these activities relies on skilled workers. Recognizing the importance of skill upgrading in economic development, numerous skills development programs and initiatives have recently been proposed or implemented in Ghana. These aim to develop management capabilities, modernize the apprenticeship system, and provide demand-driven training for employees and job-seekers. **We recommend that skills development initiatives also take into ac-**

count the role of skills in trade-driven development, which is demonstrated by our analysis, and design measures accordingly.

Fourth, female-owned SMEs do not only have a limited potential to grow and enter the export market than male-owned businesses, but they also fail to reap the gains of exporting when they happen to export (5). This suggests that gender inequality is present at various levels of economic activity. Literature suggests that several factors – regulatory, normative or cultural – may contribute to this phenomenon. Factors like females' limited access to finance and their dual responsibility to be breadwinners as well as mothers and wives at the same time limit the entrepreneurial time and financial resources that would be necessary to make a business grow and capitalize on eventual export opportunities. Policies pursuing gender equality should therefore also **consider giving targeted support to female entrepreneurs whose businesses have export potential**.

Fifth, our finding that trade does not contribute much to productivity growth either directly or via spillovers, when taken at face value, would be quite discouraging. However, productivity is notoriously difficult to measure and our results may just reflect mismeasurement. In particular, one data problem is that we cannot distinguish revenues into prices and quantities. If firms, e.g., were able to increase their output via exports but also charge lower prices on the export market, then this would not be measurable with our data. Moreover, the time span of our data may be too short for more complex learning effects to take place. To improve measurement, one may need data with a longer time dimension and more detail, especially on output and input prices and quantities, and / or information on productivity enhancing activities such as R&D or innovation. Our final recommendation to policy makers is therefore to **invest more in data collection in order to facilitate quality empirical research** on Ghana.

About the report: The report is authored by Charles Ackah (Institute of Statistical, Social and Economic Research, University of Ghana, Accra), Holger Görg and Cecília Hornok (both Kiel Centre for Globalization, Kiel Institute for the World Economy, Kiel, Germany). The research was conducted on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and supported by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

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