**Foreign Direct Investment and Poverty Reduction**

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**ABSTRACT**

*See main paper*

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**Abstract**

Dave, I think we can develop the paper in multiple stages. I’m putting it into this format to give a bit of a boost to actually writing the paper, although everything included below will need to be updated from an earlier project that I’m going to have to discard.

1. **Introduction on FDI and Poverty**

A number of sources suggests that the relationship between investments in FDI and poverty reduction is not straightforward. This research posits that if FDI is to reduce poverty, efforts are needed to protect and include vulnerable groups while increasing their productivity, competitiveness and capacity to capture the gains of trade. Ravallion (2006) argues that while growth is necessary for poverty reduction, it is insufficient.[[2]](#footnote-2)

Resilient market systems must have the capacity to effectively draw upon and allocate resources in the face of shocks and stresses in ways that maintain or improve the functioning of the market system and the wellbeing of its actors. Private sector led trade and investment approaches that contribute to market systems resilience might include those that support: connectivity among actors based on merit, performance, and equity, not just loyalty; business strategies that add rather than extract value to the system; decision making that considers various courses of action based on evidence; competition that promotes innovation and delivers value to customers; cooperation that benefits the overall systems in contrast to collusion that extracts value at the expense of others; or diversification characterized by variation and balance in different types of products, firm sizes and structure, and marketing channels. Building on the past achievements of USAID East Africa on gender and trade, addressing systemic gender biases (through cross border women trader associations, joint border committees that address sexual violence and theft issues, and one stop border posts that reduce the time women and men take at border points) can further strengthen the resilience of market systems.

1. **Literature Review**

Recognizing persistent statistical support for the gravity relationship, economists have extended extensive efforts seeking to develop a theoretical underpinning for the approach, following seminal pieces by Anderson (1979), Bergstrand (1985), Deardorff (1998), and Anderson and Van Wincoop (2003). The literature may read as a classic case of “it works in practice, but does it work in theory” to the extent that Anderson (2010) refers to the gravity model as “an intellectual orphan” from textbook economic theory. Head and Mayer (2013)[[3]](#footnote-3) outline the modern research literature on the subject following Daniel Trefler’s path-breaking 1995 analysis[[4]](#footnote-4) that introduced the concept of “missing trade.”

1. **Overview of East Africa Trade Patterns**

Snapshot overviews of East Africa economic data reveal inefficient patterns in its international trade. Consider first Table 1, which compares East Africa to the United States. *Despite having the 24th and 28th largest population in the world, Kenya and Tanzania …*

Table : Kenya’s top trading partners

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Partner | TotTrade | TotRank | Share | Export | ExpRank | Import | ImpRank |
| China | $3,875,209,864 | 1 | 17.3% | $96,712,916 | 14 | $3,778,496,948 | 1 |
| India | $1,706,246,340 | 2 | 7.6% | $57,864,947 | 24 | $1,648,381,393 | 2 |
| United Arab Emirates | $1,593,448,265 | 3 | 7.1% | $255,096,052 | 7 | $1,338,352,213 | 3 |
| Saudi Arabia | $1,184,491,469 | 4 | 5.3% | $75,896,744 | 17 | $1,108,594,725 | 4 |
| USA | $1,013,991,294 | 5 | 4.5% | $457,276,291 | 3 | $556,715,003 | 7 |
| Uganda | $1,004,636,568 | 6 | 4.5% | $597,969,780 | 2 | $406,666,788 | 10 |
| Pakistan | $866,304,757 | 7 | 3.9% | $619,675,289 | 1 | $246,629,468 | 16 |
| Japan | $833,505,015 | 8 | 3.7% | $43,578,035 | 26 | $789,926,980 | 5 |
| United Kingdom | $661,838,451 | 9 | 2.9% | $372,946,537 | 5 | $288,891,914 | 13 |
| South Africa | $625,248,759 | 10 | 2.8% | $26,686,046 | 39 | $598,562,713 | 6 |
| World Total | **$22,437,611,865** |  | **59.6%** | **$5,747,414,819** | **45.3%** | **$16,690,197,046** | **64.5%** |

Table 2 shows general trade patterns between Kenya and its top twenty trading partners. Like most countries, Kenya tends to trade with large, wealthy countries, such as China, USA, Japan, and Germany. Kenya imports from oil-producing countries, particularly UAE, Saudi Arabia, and Kuwait, while exporting to large consumer markets such as China and the United States.[[5]](#footnote-5)

Table 2: Kenya 2017 bilateral trade

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Partner | TotTrade | TotRank | Share | Export | ExpRank | Import | ImpRank |
| Uganda | $1,004,636,568 | 6 | 4.48% | $597,969,780 | 2 | $406,666,788 | 10 |
| Tanzania | $442,082,124 | 15 | 1.97% | $275,903,935 | 6 | $166,178,189 | 23 |
| Somalia | $191,110,039 | 24 | 0.85% | $190,199,146 | 8 | $910,893 | 92 |
| Rwanda | $181,937,995 | 27 | 0.81% | $165,652,541 | 11 | $16,285,454 | 58 |
| South Sudan | $162,297,943 | 29 | 0.72% | $162,054,144 | 12 | $243,799 | 104 |
| Ethiopia | $87,918,727 | 43 | 0.39% | $67,543,931 | 19 | $20,374,796 | 56 |
| Burundi | $71,986,487 | 46 | 0.32% | $71,411,123 | 18 | $575,364 | 96 |
| World Total |  |  | 9.5% |  | 26.6% |  | 3.7% |

Moreover, as shown in Figure 1, Kenya’s export-to-GDP ratio of 14.0 percent is one of the smallest in the world, and less than half the global average of 29.9 percent.

Figure : Exports/GDP chart for all countries (2016)[[6]](#footnote-6)

**Kenya: 14.0%**

**World: 29.9%**

2017 Kenya trade at the Harmonized Coding System (HS) 2-digit level [[7]](#footnote-7)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sector | Sector Description | Rank | Total Trade | Total% | Imports | Exports |
| 27 | Mineral fuels; bituminous substances | 1 | $3,095,198,674 | 17.9% | $2,741,477,117 | $353,721,557 |
| 84 | Nuclear reactors, boilers, machinery | 2 | $1,896,172,642 | 11.0% | $1,828,048,738 | $68,123,904 |
| 9 | Coffee, tea, spices | 3 | $1,688,993,473 | 9.8% | $21,317,868 | $1,667,675,605 |
| 85 | Electrical machinery and equipment | 4 | $1,180,583,144 | 6.8% | $1,121,464,808 | $59,118,336 |
| 87 | Vehicles | 5 | $1,168,664,079 | 6.8% | $1,114,117,106 | $54,546,973 |
| 10 | Cereals | 6 | $1,145,510,452 | 6.6% | $1,111,374,186 | $34,136,266 |
| 72 | Iron and steel | 7 | $841,641,549 | 4.9% | $734,515,367 | $107,126,182 |
| 39 | Plastics | 8 | $803,480,394 | 4.7% | $673,931,861 | $129,548,533 |
| 15 | Animal or vegetable fats and oils | 9 | $752,721,975 | 4.4% | $656,944,118 | $95,777,857 |
| 17 | Sugars and sugar confectionery | 10 | $647,143,700 | 3.8% | $594,853,810 | $52,289,890 |
| 30 | Pharmaceutical products | 11 | $642,607,184 | 3.7% | $518,406,641 | $124,200,543 |
| 6 | Trees and other plants; cut flowers | 12 | $601,811,762 | 3.5% | $6,153,479 | $595,658,283 |
| 86 | Railway, tramway locomotives | 13 | $500,957,092 | 2.9% | $500,542,241 | $414,851 |
| 48 | Paper and paperboard | 14 | $384,357,672 | 2.2% | $328,224,483 | $56,133,189 |
| 73 | Iron or steel articles | 15 | $362,497,687 | 2.1% | $317,968,499 | $44,529,188 |
| 38 | Chemical products n.e.c. | 16 | $350,881,193 | 2.0% | $317,218,361 | $33,662,832 |
| 7 | Vegetables and certain roots and tubers | 17 | $329,896,378 | 1.9% | $120,716,894 | $209,179,484 |
| 31 | Fertilizers | 18 | $306,571,376 | 1.8% | $283,445,731 | $23,125,645 |
| 90 | Optical, photographic, cinematographic | 19 | $274,470,452 | 1.6% | $262,011,184 | $12,459,268 |
| 62 | Apparel and clothing accessories | 20 | $273,275,647 | 1.6% | $82,934,447 | $190,341,200 |

Table 4: Ranking Kenya’s Imports by Sector (2017)

|  |  |  |  |
| --- | --- | --- | --- |
| Sector Description and Number |  | Imports | Percentage |
| Mineral fuels; bituminous substances | 27 | $2,741,477,117 | 23.0% |
| Nuclear reactors, boilers, machinery | 84 | $1,828,048,738 | 15.3% |
| Electrical machinery and equipment | 85 | $1,121,464,808 | 9.4% |
| Vehicles | 87 | $1,114,117,106 | 9.3% |
| Cereals | 10 | $1,111,374,186 | 9.3% |
| Iron and steel | 72 | $734,515,367 | 6.2% |
| Plastics | 39 | $673,931,861 | 5.7% |
| Animal or vegetable fats and oils | 15 | $656,944,118 | 5.5% |
| Sugars and sugar confectionery | 17 | $594,853,810 | 5.0% |
| Pharmaceutical products | 30 | $518,406,641 | 4.3% |
| Railway, tramway locomotives | 86 | $500,542,241 | 4.2% |
| Paper and paperboard | 48 | $328,224,483 | 2.8% |

Table 5: Ranking Kenya’s Exports by Sector (2017)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sector Description and Number |  | ExpRank | Exports | Percentage |
| Coffee, tea, spices | 9 | 1 | $1,667,675,605 | 40.6% |
| Trees and other plants; cut flowers | 6 | 2 | $595,658,283 | 14.5% |
| Mineral fuels | 27 | 3 | $353,721,557 | 8.6% |
| Vegetables, roots, tubers | 7 | 4 | $209,179,484 | 5.1% |
| Apparel and clothing accessories | 62 | 5 | $190,341,200 | 4.6% |
| Fruit and nuts, edible; | 8 | 6 | $180,799,270 | 4.4% |
| Ores, slag and ash | 26 | 7 | $177,308,494 | 4.3% |
| Tobacco and tobacco substitutes | 24 | 8 | $134,217,309 | 3.3% |
| Plastics | 39 | 9 | $129,548,533 | 3.2% |
| Pharmaceutical products | 30 | 10 | $124,200,543 | 3.0% |
| Apparel and clothing accessories | 61 | 11 | $123,285,024 | 3.0% |
| Preparations of vegetables, fruit, nuts | 20 | 12 | $110,417,844 | 2.7% |
| Iron and steel | 72 | 13 | $107,126,182 | 2.6% |

1. **“Missing Trade”**

Calibrating the gravity counterfactual employs minimalist version of the gravity model of international trade provides an accessible counterfactual analysis of East Africa trade patterns using this basic empirical structure:

1. Gravity Model:

which, expressed in logs, becomes:

(2)

where TRADEi,j is the trade volume (exports, imports, or both) between country i and country j, k is a parameter and εi,j is a residual.

Figure : Kenya's Exports (2017)

Figure : Kenya's Imports (2017)

Repository of great data: <http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=8>  
 New citation: https://arxiv.org/ftp/arxiv/papers/1503/1503.05283.pdf

1. **Poverty Framework**

Kenya & East Africa’s trade and resilience work is increasingly a target for foreign and domestic investment, particularly as the Government of Kenya (GOK) seeks to expand the country’s growth to improve rural standards of living. Inadequate business management and technical skills among enterprise personnel, as well as high input costs, further constrain enterprise growth and sector competitiveness. A lack of modern value-adding technologies restricts high-value market opportunities that could drive improved production and quality among producers. This, perhaps, represents an opportunity to facilitate additional linkages with U.S. businesses for equipment purchases.

Kenya & East Africa’s fragmented production base of smallholder farmers creates its own supply chain challenges for agribusinesses seeking to deliver a steady stream of quality product to domestic or export markets. Enterprises struggle to secure reliable deliveries of fresh produce from farmers and must deal with irregular quality and varieties, leading to high transaction costs and reduced competitiveness of finished products. Producers typically sell their produce at harvest, at the farm gate, putting them in the role of “price takers” and perpetuating a lack of trust in value chain relationships. Low prices and lack of advisory services in turn discourage farmer investment in quality inputs and provide little incentive to adopt improved production practices. Accessing the neighboring markets presents additional challenges to deliver high quality fresh product. Delays at the border impede products being delivered to markets across East Africa in a steady and timely way which leads to great losses among entrepreneurs.

Regional trade plays a role in increasing the availability of diverse and nutritious foods for vulnerable households, including staples, horticulture, fruits and animal-based products, but the impact on malnutrition has been difficult to quantify. Strengthening regional linkages between producers and the growing numbers of urban consumers by addressing the market, infrastructure and policy constraints to the access and price volatility of agricultural products stabilizes incomes and generates money for rural producers that they can use to buy additional food and non-food items. Additionally reducing the time and cost for the cross-border trade of agricultural products addresses regional food security by allowing food to easily move from areas of surplus to deficit. The challenge in the East Africa is to find ways of leveraging the positive links between producers, processors, markets and consumers awareness to improve diet diversity, quality and food safety strengthening food security and addressing both acute and chronic malnutrition in the region.

In 2011 and 2017, extreme weather events led to drought conditions in Kenya and East Africa. The 2011 drought led a humanitarian crisis requiring $427.4m emergency funds, but the 2017 drought only required $Y. Some of the averted assistance can be attributed to mitigated risk through intraregional trade, as resilient market systems have the capacity to effectively draw upon and allocate resources in the face of shocks and stresses in ways that maintain or improve the functioning of the market system and the wellbeing of its actors. The extent to which such impacts of trade can be quantified are yet to be determined.

Private sector led trade and investment approaches that contribute to market systems resilience might include those that support: connectivity among actors based on merit, performance, and equity, not just loyalty; business strategies that add rather than extract value to the system; decision making that considers various courses of action based on evidence; competition that promotes innovation and delivers value to customers; cooperation that benefits the overall systems in contrast to collusion that extracts value at the expense of others; or diversification characterized by variation and balance in different types of products, firm sizes and structure, and marketing channels. Building on the past achievements of USAID East Africa on gender and trade, addressing systemic gender biases through trans-border women trader associations, joint border committees that address sexual violence and theft issues, and one-stop border posts that reduce the time women and men take at border points can further strengthen the resilience of market systems.

Regional trade could impact responses to shocks in ***grains*** because the deficits that would otherwise need to be filled by international purchase can be filled instead regionally. Moreover, grains can be procured and delivered more quickly within the region, resulting in increased food security and relevant effects. Enhanced price stability allows households to purchase grains at anticipated prices to thus maintain balanced food consumption. In addition, farmers supported by regional grains purchases have an incentive to increase production. Regional production can have multiplier effects throughout the local economy, and increased income yields secondary effects such as better health and improved education.

The ***livestock*** sector, however, proves more complex due to substantial informal trade within the region. Critical measures include disease control and access to water and food are essential to livestock market conditions. Further, much of the work that improves the value of animals seems to primarily benefit export markets, and thus is relevant to actors higher up the value chain but not necessarily those most likely to be food insecure. Data quality and availability remain very limited for livestock.

1. **Conclusion**

The earlier paper cites only official trade data as reported by the United Nations’ Comtrade data-base and the World Bank’s World Development Indicators. However, un-reported shadow trade between the two neighbors could explain the extreme values of “missing” trade. Extending the gravity metaphor, the sheer mass of economic production and population straddling the borders between the two countries suggests that fundamental forces should be pulling such trade; under this expectation, the man-made non-economic barriers to trade counter what Paul Krugman (1997) refers to as “social physics.”[[8]](#footnote-8)

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