



CALL FOR EXPRESSIONS OF INTEREST TO DEVELOP COUNTRY CASE STUDY PAPERS

VALUE CHAIN DEVELOPMENT, TRADE AND ECONOMIC TRANSFORMATION IN AFRICA

PHASE II

Introduction

While sustained growth has contributed significantly to rapid economic transformation in Asia and Latin America, in Africa it has been observed that relatively high growth rates have contributed very little to job creation and in lifting the largest segment of the population out of poverty. Although there has been growth in exports and value over time, there has been a declining African export share in global value chains, pointing to Africa's reduced competitiveness in these sub-sectors. Despite decades of protectionism of Africa's manufacturing sector, its share of manufactured goods remains low. The service sector continues to be promising but is faced with stiff competition from the more developed world where tourism and hospitality industry is more robust. Africa's significant agricultural and natural resources are being exploited and exported mostly in their raw form, with little or no value added to commodity exports. Some of these natural resources represent irreplaceable, non-renewable assets, and their exploitation needs to be monitored while also recognizing that generally it has weak economic linkages to the rest of the economy.

Economic diversification based on value-addition to natural and agricultural resources and export-oriented production, therefore, has a major role to play in the transformation of African economies from the current low-income to middle-income levels. Economic diversification should have a significant impact on job creation and poverty reduction. The upsurge in GVCs/RVCs as a vehicle for economic diversification and the basis for resource-based industrial development is timely, given the increased demand for Africa's natural resources, together with increased urbanization and consumer demand for processed goods within the continent.

Against this backdrop, the AERC launched a collaborative research project on *Value Chain Development, Trade and Economic Transformation in Africa*. AERC invited expressions of interest from researchers to develop **framework papers** which evaluate performance of African economies in global and regional value chains. AERC Framework papers were to relate to **cross-national and/regional studies** largely relying on existing datasets. To that end, researchers interested in undertaking framework research were invited to submit proposal detailing methodology and data sources (see call [here](#)). A selection process led to the choice of 12 framework papers. These papers, now completed, are to guide and support country the case studies-- and more issue-specific cross-country studies --for phase II.

Phase I launched in June 2021, was completed in June 2022 with 12 framework papers now available on the AERC website (See below, the list and abstracts). A call for a phase II was launched in June 2022 that resulted in few expressions of interest that were inspired by the framework papers. This is an extension to that call to elicit proposals that take greater inspiration from the now available framework papers from phase I.

The call for Expressions of Interest for Phase II

Most phase I papers were cross-section, often relying on sector-level measures of GVC engagement (e.g. MRIO data bases) with comparisons of overall rates of participation in supply chain trade through measures of forward and backward linkages. These data bases have been extensively exploited in GVC studies (for Africa the UNCTAD EORA data base). Useful to detect broad patterns, studies relying on this data do not capture the fact that it is firms that engage in supply chain trade. Nor do they explore why certain countries/sectors have (or have not) developed supply chains and, if so, with which partners, and where they fit in the supply chain.

To take the example of services where Africa has lagged, countries like Mauritius and Tanzania displayed sustained growth in services especially in high-tech services, while countries like Nigeria concentrated on more traditional services and experienced a slowdown in recent years. A comparison of winners and losers of the service trade growth disaggregated across sub-sectors should help understand factors leading to success or to a slowdown. Such understanding should help design appropriate policy suggestions. The same remarks apply to merchandise value chains.

Tackling these questions (and digging further into some of the issues raised in the call for phase I) will require new (or little explored) data sets, like censuses or customs data that might only be available at the country level. Relying on such data sets will be most welcome but proposals should describe these data in sufficient detail for Such unexplored data eventually some obtained by the researchers through surveys. It is hoped that the investigations will be suitable for a compendium or edited volume.

Expression of Interest requirements

The Expression of Interest, including tables, figures, references, and annexes, should not exceed 5 pages with 1.5 spacing. It should contain the following.

- **A title** which reflects the main thrust of the proposed research project, preferably short, simple to understand and if possible inspiring.
- **An introduction** which shows the broad context of the study or motivation, research questions and their relevance, hypotheses or empirical approach including methods which, description of the data to be used and the expected contribution of the study to the literature.
- **A brief literature review** focusing on the seminal contributions that are the foundations to the issue and any work done in Africa including on the specific country concerned (if relevant). Organize the literature review thematically. Avoid splitting theoretical literature and empirical literature and focus on what previous literature accomplished, state the gaps, and indicate how your project intends to close that gap.
- **Empirical strategy or approach.** Motivate the specification of the empirical model and the econometric approach including the baseline model. Evoke how issues of endogeneity will be tackled and discuss likely robustness of results.
- **Data.** Present clearly and accurately the data relevant to answer the research question, its coverage and its source. If it is intended to carry out a survey (surveys are discouraged because of difficulties in design and obtaining positive answers), be specific about the selection of units to be surveyed (with a sample questionnaire, how it will be carried out. Present any stylized facts (trends, relationships, similarities, differences) on key variables/indicators to be used in the study.

Eligibility Requirements

Researchers meeting the criteria highlighted below are encouraged to submit an expression of interest. However, the lead investigator must demonstrate, in hers/his CV, that they have:

- a strong publication record, especially in the project theme; and
- proven expertise in GVCs/RVCs; and
- completed at least one AERC research project (either thematic or collaborative project); and/or
- participated in or finalised a research project on a relevant topic not necessarily funded by AERC.
- All applicants are required to attach their CVs in the submissions. Qualified women are especially encouraged to apply.

Submission Requirements and Key Dates

The submission **must** consist of an Expression of Interest and **the researcher's most recent Curriculum Vitae (CV)** (the CV should not exceed **5 pages**, should highlight education levels, research experience, publications, and other information **relevant** to this call). Additionally, the biographical section of the CV must include the researcher's nationality, gender, and full contact details. Where the proposed study will involve more than one researcher, the CVs of all researchers **must** be included as part of the submission.

The researcher or research teams should demonstrate expertise on the country/sector selected for the study, either through research/publications or team composition. All applicants are required to attach CVs in their submissions. Suitably qualified women are especially encouraged to apply.

The lead researcher is responsible for ensuring that a **complete application** is submitted to the AERC. Incomplete applications will not be accepted.

Most selected projects will be building on the phase I framework papers available on the AERC website. Projects showing a strong interest in the policy implications of the research will receive greatest attention.

Project Timelines

The total duration of the study will be 18 months, and first drafts papers should be submitted within 6 months of the inception workshop. This call for Expressions of Interest is the first stage in the application process. Researchers who submit applications that meet the necessary criteria in this first stage will be invited to present their proposed papers in a workshop. Projects with the most potential will be granted up to USD\$10,000 to develop the case studies (financing is available for up to 12 projects). The breakdown of the timeline is as follows:

1. **December 2 2022:** Close of extension period. All proposals must be submitted by that date .
2. **Selection: December 16:** Authors informed of selection process
3. **Inception workshop** Around early February 2023, in person
4. **Mid-term review** Around May-June by
5. **Final workshop : Late summer Around 2023:** In person.

Complete proposals should be submitted to:

- AERC Director of Research at cresearch@aercafrica.org with a copy to cmutanu@aercafrica.org
- The subject of your email should read "AERC-value chain development project-proposal submission: Phase II".

List of Framework Papers and Abstracts.

(papers available [here](#))

1. Christian Ebeke “Surges in Participation in Global Value Chains: Drivers and Macroeconomic Impacts in Sub-Saharan Africa”
2. Emmanuel Mensah and Johannes Van Biesebroeck “Integration of African Countries in Regional and Global Value Chains: Static and Dynamic Patterns”
3. Joël Cariolle and Camille da Piedade “Digital Connectedness and Exports Upgrading: Is Sub-Saharan Africa Catching up?”
4. Andrea Ariu and Laura Ogliari “Services GVC and Trade in Africa: Structure and Growth”
5. Ben Shepherd “Regional Integration, Multilateralism, and Services in African Value Chains: Retrospect and Prospect”
6. Bernard Hoekman and Marco Sanfilippo “Trade and Value Chain Participation: Domestic Firms and FDI Spillovers in Africa”
7. Afi Balaki and Essotanam Mamba “Deep regional trade agreement as a driver for global value chains in Africa: The case of ECOWAS region”
8. Akiko Suwa et al. “African firms in Global value chains: what can we learn from firm-level data in Cameroon and Côte d’Ivoire?”
9. Essossinam Ali et al. “Global Value Chains Participation and Environmental Pollution in Developing Countries: Does digitalization Matters?”
10. Angella Montfaucon et al. “ A Macro and Micro Analysis of Value Chain Trade in Africa”
11. Melo and Solleder “The landscape of CO2 emissions across African supply chains”
12. Avenyo, et al. “GVCs and Innovation: Firm-level evidence from Africa”

A. Abstracts Final versions

1. Christian Ebeke

This paper proposes a cross-country examination of the drivers and impacts of episodes of surges in countries' participation in international value chains. To our knowledge, this is the first study to bring forward this approach which follows prior studies on export surges or GDP growth accelerations. The paper offers three main results. First, the "surges" are not common, with only 11 episodes recorded in Sub-Saharan Africa over the past three decades. Second, strong FDI inflows and governance quality precede the occurrence of these "surges", while protracted real exchange rate under-valuations appear to nurture these surges. Third, once they occur, these "surges" are transformative: they are associated with higher real per capita GDP growth, rapid industrialization, stronger diversification and sophistication of exports, and faster poverty reduction.

2. Mensah and Van Biesbroeck

We study the geographic concentration of trade flows of African countries using information on the global input-output structure from the Eora database. Most countries show a similar concentration between close-by vs. long-distance trade in their foreign input sourcing as in their export sales. However, changes over the last two decades indicate that many countries increasingly focus their long-distance trade on only one of these two dimensions. This trend is most pronounced in manufacturing industries with stronger global value chains. In line with the learning-by-exporting hypothesis, export success on distant markets is a leading predictor (Granger causes) of regional export success. Only in light manufacturing do we find some evidence of a reverse pattern, i.e., regional exports preceding global exports.

JEL Codes: F14, R11

Keywords: GVC, upgrading, Granger causality.

3. Cariolle and Piedade

In this paper, we highlight a new dimension of the submarine cable infrastructure network, termed 'digital connectedness', reflecting a country's digital proximity to main world markets, and assess its impact on export upgrading. Adopting an instrumental variable approach conducted in a sample of 60 developing countries - including 23 sub-Saharan African countries - over 1995-2017, we find that digital connectedness positively and significantly contributes to the export basket complexity, but also point out spatial heterogeneity within our sample. In fact, estimations stress that, compared to the rest of the world, a 10 pp increase in the share of world GDP directly cabled to SSA countries leads to a supplementary increase ranging from 4.6 index points to 5.3 index points in the export complexity index. Moreover, whereas the positive effect of digital connectedness falloffs with distance from global markets everywhere else, in sub-Saharan Africa an increased benefit is recorded. This finding is supported by additional evidence on the positive contribution of increasing African shipping connectivity to the positive effect of connectedness on export complexity. Last but not least, consistent with the literature, improved digital connectedness also materializes into greater exports of differentiated goods and greater participation in the global value chain. Overall, our analysis gives credit to the belief that improved access to information and knowledge, through greater digital connectedness, spurs structural change and export basket upgrading in SSA at a higher pace than in any other developing area.

4. Ariu and Ogliari

This paper shows that trade in services is still at its infancy in Africa. Its growth started later than for other developed and developing economies and, so far, it involves mostly low-skilled services. Disentangling the different sources of trade growth, we find that demand and supply determinants have been relatively stable during the period 2002-2016, while service diversification and trade policy are the main propellants. In particular, trade in goods liberalization increased service trade as well due to the complementarities between the two. In

terms of geographical and industrial involvement, services produced in Africa are able to reach farther destinations than goods, but they are concentrated on industries close to final demand, thus missing high-skilled services which are more upstream, but represent higher value-added inputs. Therefore, there is still plenty of scope to consider trade in services as a potential source of growth and development for African countries.

5. Shepherd

This paper takes a first step towards understanding the quantitative evidence on the role of services in African value chains. The available data are largely based on assumptions and modeled estimates but can nonetheless provide some useful information at an aggregate level. In general, services play an important role in the African regional economy, including through their embodiment in the exports of other sectors through input-output relationships. However, services value chains in the region are mostly composed of domestic value added, and to a lesser extent inputs sourced from global suppliers. There is very little intra-regional sourcing of services inputs. Simulations using a new quantitative trade model show that intra-regional sourcing could be increased through a derived demand effect following goods market liberalization. In the stylized cases examined, increased use of regional services inputs is not at the expense of globally competitive suppliers. As such, it will be important to give a more prominent role to services in discussions of regional integration going forward.

6 Hoekman and Sanfilippo

Data on the location of foreign direct investment (FDI) projects within and across African nations are combined with firm-level survey data and information on sectoral input-output relationships to assess what types of FDI are more likely to influence participation in global value chains (GVCs) and to investigate the relationship between FDI and the performance of proximate domestic firms. Firm-level analysis finds evidence of vertical spillovers from exposure to FDI, mainly in the manufacturing sector: domestic firms located near FDI projects that offer potential supply or demand linkages are more likely to engage in trade through imports or exports. Proximity to FDI projects in the same sector (horizontal linkage) is less likely to affect trade or GVC performance of domestic firms. Both vertical and horizontal FDI linkages are associated with higher labor productivity and other dimensions of performance.

7. Balaki et al.

The paper investigates the effects of deep regional trade agreement, RTA, on global value chains (GVCs) for eleven countries from the Economic Community of West African States (ECOWAS) region over the period 1996-2018 by applying the fractional logit regression technique. GVCs are calculated as shares of foreign value added (FVA), domestic value added (DVA), DVA exports (DVX) in gross exports. Unlike previous works that often use the binary variable, the deepening of RTA is measured by, a new continuous indicator, the ratio between the cumulative number of protocols and conventions ratified and the cumulative number of protocols and conventions signed. Second, the paper analyzes control of corruption as a channel through which deep RTA influences GVCs. The findings reveal that deepening RTA significantly increases FVA while it reduces DVA, but only at the 10% level and the findings become insignificant with the inclusion of control variables. Furthermore, our findings indicate the existence of a complementarity relationship between deep RTA and control of corruption in DVX model. ECOWAS governments should pursue the ratification of protocols and conventions and the fight against corruption to take advantage of deep integration in terms of the participation in GVC.

8. Suwa et al.

This scoping paper exploits information from a unique dataset constructed by merging firm census and custom datasets from Cameroon and Côte d'Ivoire to analyze the characteristics of firms that participate in global value chains (GVC) in Sub-Saharan Africa. These "GVC firms" are defined as firms that both export and import, with positive production and labor. The paper provides a detailed review of the state of firms' participation in GVCs in Africa and its consequences on trade, employment and growth. The evidence in Cameroon and Côte d'Ivoire suggests that, in line with literature on firm heterogeneity and trade, firms engaged in GVCs are larger, more productive and live longer than one-way-traders or domestic firms. Surprisingly however, there are more GVC firms than pure exporters, a sign of the challenges faced by firms in those countries if they want to sell abroad. The probability of moving into

a GVC is higher for exporters than for importers, showing that exporting is a stepping stone for firms to join a GVC.

9. Ali et al.

This study analyzes the effect of Global Value Chains participation (GVCPs) on environmental pollution. It also assesses whether the use of digitalization can mitigate the effect of GVCPs on environmental pollution. We employed the second-generation panel analysis on data from 112 developing countries over the period from 1990 to 2018. Using Driscoll and Kraay estimation technique, we find that the GVCPs increase environmental pollution while digitalization reduces CO2 emissions in developing countries. Furthermore, the study shows that, unlike renewable energy consumption, the FDI inflows, industrial value-added increase, and electricity consumption are positively correlated to environmental pollution in developing countries. The study shows that reducing CO2 emissions from digitalization is more pronounced in other developing countries than in Sub-Saharan Africa. Moreover, the findings show that digitalization can be used as an effective channel in reducing the effects of GVCPs on environmental pollution and helping developing countries to go green. These findings have important policy implications in exploring the GVCPs development dynamics in terms of upgrading opportunities in using digital technologies to reduce environmental pollution and promote green technologies' adoption for structural transformation of developing countries.

10. Montfaucon et al.

Africa's participation in global value chains (GVCs) is not well documented compared to the developed world. Clearly understanding GVC participation levels is critical to enable evidence-based policy. This paper assesses Africa's GVC participation from both macro and micro perspectives using three sources of data, and empirically estimating determinants of GVC participation across the data. The analysis relies on databases based on global input-output tables, customs-level data and survey data from which measures of GVCs are constructed. We find that aggregate GVC data masks disparities, as Africa's proportion of firms that participate in GVCs is comparable to other regions, but the level of Africa's GVC trade is much lower. A common theme in the multi-country empirical results across two sets of data, is the positive relationship between political stability and backward GVC participation of African countries. Comparatively, improvement in political stability and proximity to major regional hubs are more relevant for Africa than other regions. For single country analyses, the consistent result is that FDI is positively associated with backward GVC participation both at the firm-level and country-level of analysis. This highlights how much institutions and the need to attract FDI are relevant in promoting Africa's future engagements in global values chains. The inconsistencies in the data however, suggest the need to consider establishing protocols and database that help understand Africa's GVC participation more coherently to enable policymakers to make informed decisions.

11. Melo and Solleder

Expansion of Global Value Chains (GVCs) is a mixed blessing for the environment. Effects of growth and emissions from transport associated with international trade have negative effects, but greater flows of knowledge and associated spillovers, and adoption of environmentally innovative products have positive effects. This paper gives evidence on CO2 emissions for 51 African countries and 132 other countries for 163 products over 1995-2015. The resulting landscape is summarized in six patterns. Patterns identified for the Africa region differ from those identified for other regions but are closely related to a synthetic aggregate comparator constructed on the basis of three characteristics (per capita income, share of manufacturing in GDP, and distance to trading partners).

1: All regions have reduced emission intensities over 1995-2015. Africa's share of global CO2 emissions has remained constant over the period 1995-2015. Asia, already, the region with the largest share of global emission in 2000 has strengthened its leading position. Europe and the Americas have reduced their share of emissions by 9 and 8 percentage points respectively. Asia is decarbonizing, Africa not yet.

2: Carbon intensity of production has increased in Africa in both decades, though much less so over 2005-2015 when, on average, emissions grew less rapidly than population. Over half of the 20 African top emission growth emitters shifted towards more carbon-intensive techniques.

3. Source of regional total emissions. Over 1995-2015, intra-regional shares of emissions fell by (7) [10] {2} percentage points to (84) [75] {88} percent for (Africa) [Europe] {Asia}. Africa's share of emissions originating from Asia rose from 4% to 11%. Europe's share of emissions originating from (Africa) [Asia] rose from (2%) [8%] to (4%) [16%].

4: The Spearman rank correlation of emissions across regions over 163 sectors is high, around 0.7. Almost half of top 5 cleanest and top 5 dirtiest sectors are the same across regions but there are some sharp differences in rankings for some of the highest emitter sectors. In general, dirtiest sectors are more upstream.

5: Downstreamness is increasing over time. Output upstreamness (OU) from final consumption and input downstreamness (ID) from primary factors are needed jointly to indicate a sector's position in a supply chain. At a 7-sector aggregation level, mining is the most upstream sector for all regions followed by Agriculture, Electricity and Utilities, Services, and Transports are the upstream broad sectors in all regions. Manufactures, and Construction, are downstream for all regions.

6: The export basket of Africa is skewed towards high CO₂e intensity products. CO₂ emission intensities are positively correlated with both upstreamness (OU) and downstreamness (ID). The OU/ID indicator of position in a supply chain is negatively correlated with CO₂ emission intensities within regions. A stronger fit is obtained within sectors in each region. For manufactures, being more upstream by 1% is associated with a higher emissions intensity of 0.61%. For the other sectors, the relation is negative and larger for agriculture and construction.

12. Avenyo et al.

Integration into global production networks has been recognized as an important way for developing countries to acquire new technologies and foreign knowledge. This paper examines the relationship between GVC participation and firm innovative capabilities, utilizing data from the World Bank's Enterprise Survey (WBES) combined with the Innovation Follow-up Survey (IFS) for ten African countries between 2013 and 2019. The study estimates a model that controls for selection and endogeneity. The results show that African firms that simultaneously export, import, and have quality certification or foreign ownership have a higher likelihood of introducing innovative products onto markets. The degree of novelty of the products African firms introduce in global markets also depends on foreign ownership and international quality certification. We discuss the policy implications for trade, regional integration, and innovation in Africa.