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Abstract

Economic development in Africa is among the most important global challenges today. Meanwhile, the G7 is under pressure due to system competition and the question of legitimacy and effectiveness. The recent PGII initiative uses investment to improve economic development in Africa. But what about other tools, like trade? While the literature suggests positive effects of trade on economic development, the trade efforts by the G7 have been underwhelming. Moreover, the trade share between Africa and the G7 has decreased over the last two decades. The question if both sides have incentives to reinforce trade links remains and leads to another question, namely if trading with the G7 countries offers specific benefits to African countries. This paper answers this question by using a system-GMM estimator and G7-specific trade data between 1997 and 2020. Using the relative G7 trade share as the explanatory variable and GDP and the HDI as indicators for economic development, the results suggest that both economic growth and human development have been positively affected by G7 trade shares. Moreover, this paper identifies potential channels and concludes that reinforcing the trade relations between the G7 countries and Africa is beneficial for both sides.

JEL classification codes: I31, O19, O24, O55

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This is a preliminary version (March 27, 2024) and the paper is still in the working process.

I. INTRODUCTION

IN 2021, the Group of Seven (G7) announced the Build Back Better World (B3W) initiative, which was repackaged at the Elmau summit the following year under the name Partnership for Global Infrastructure and Investment (PGII). The G7 aims to invest \$600 billion within the next five years in low-income countries, especially in Africa. These infrastructure investment initiatives show that the G7 wants to play an important role in supporting economic development in Africa. During its almost 50 years of existence, the G7 has always been at the center of international policy coordination. At the G7 summits, they frequently discussed topics directly related to African development. Africa is important from a geopolitical perspective, and topics like migration, security, trade, and investment make African countries crucial partners for the G7. But the world is changing, and over the last decades, the role of the G7 concerning Africa has changed. With the rise of other countries and organizations, like the G20 or BRICS, the legitimacy of the G7 is under pressure. China is expanding its influence in Africa and taking a leading role

in supporting economic development. Whether the PGII alone will be enough to change this trend is questionable. But what else could the G7 do to regain leadership in supporting economic development in Africa? Looking at what has been done so far is necessary to answer this question appropriately.

This paper investigates the impact of G7 policies on African economic development. The paper aims to learn from the past and provide recommendations for the future. A look at the last few decades shows that the four main topics referring to African economic development have been Foreign Direct Investment (FDI), Official Development Assistance (ODA), debt relief, and trade. FDI in Africa has been among the topics of the G7 for a long time. The recent PGII is an ambitious approach to address the need for infrastructure investment in Africa. The literature highlights the positive effects of FDI on economic development in Africa (Fauzel et al. 2015; Fowowe and Shuaibu, 2014; Gohou and Soumaré, 2012). The recent engagement in the PGII shows that the G7 aims to increase investment in the continent. International organizations like the G7 have used ODA as a tool to promote development ever since. International organizations like the G7 have used ODA as a tool to promote development ever since. Nevertheless, ODA needs better targeting and a focus on the Sustainable Development Goals (SDGs). Moreover, the empirical evidence is mixed (Asongu and Nwachukwu, 2017; Doucouliagos and Paldam, 2009; Loxley and Sackey, 2008). Debt relief was an important topic in the first years of the 21st century, and many African countries got a large part of their debts canceled. Its relevance has increased over the last 15 years, but debt relief will become important again as the pandemic puts many countries under financial pressure. The empirical evidence on the effectiveness of debt relief for economic development is mixed (Cassimon et al. 2015; Djimeu, 2018; Easterly, 2002). The G7 countries are aware of the importance of FDI in Africa and promote it heavily with the PGII. While the effects of ODA and debt relief are less obvious from the literature, they are still necessary to address the most important financial needs of the continent. A puzzling divergence exists between the positive effects of trade highlighted in the literature and the underwhelming efforts in terms of trade by the G7. Therefore, this study investigates this contradiction and considers trade efforts by the G7 in Africa.

This paper aims to answer the question of how effective G7 trade policies have been regarding economic development in Africa. Dividing this question into three parts simplifies the understanding: How is economic development defined? What is effectiveness? And what are G7 trade policies? Economic development refers to improved living standards and progress achieved in economic terms. The most prominent indicator is the Gross Domestic Product (GDP). This paper uses GDP as an indicator of development because the data is easily available for the biggest part of Africa, and most of the literature uses GDP, which makes the results of this paper comparable. Nevertheless, without any other indicators, growth alone would be insufficient to capture economic development. Thus, this paper uses the Human Development Index (HDI) as an additional indicator. The HDI is the most prominent index for human development and combines the Gross National Income (GNI), life expectancy, mean years of schooling, and expected years of schooling. This controls for deeper development and improved living standards. This paper controls for other indicators like inequality in the robustness section but relies on GDP and the HDI in the main regressions. Effectiveness aims at exposing the impact of trade on economic development. Therefore, this paper offers an empirical analysis with G7-specific trade data to capture the impact of trading with G7 countries in Africa. The most difficult part is to clarify what this paper defines as G7 trade policies. The G7 as a group has no binding rules and therefore, no own trade policy like the European Union (EU). Nevertheless, they commit themselves to specific actions and initiate concrete initiatives. Thus, this paper considers G7 member-country trade data and the actions and initiatives of the G7 as a group to proxy for trade efforts by the G7.

This paper proceeds in two steps. First, it introduces the initiatives and actions of the G7 regarding trade with Africa and discusses their implementation and progress, coming up with a first picture regarding the effectiveness of trade efforts by the G7. In the second step, the paper uses a system-GMM estimator to empirically investigate the impact of G7 trade policy on economic development in Africa between 1997 and 2020. The G7-specific data does not directly account for the effectiveness of the G7 as a group but reflects the trade flows between every member country and Africa.

The structure of the paper is as follows: The next section will introduce literature regarding trade in Africa and the G7. Section III presents initiatives and commitments by the G7 dealing with trade and Africa. The empirical analysis will be done in Section V before Section VI discusses the results. The last section concludes and derives policy implications for the future.

II. LITERATURE

One of the early studies to consider trade and long-term growth in Africa is Rodrik (1998). He concludes that trade policies in Africa are similar to those in other parts of the world, and a reduction in trade restrictions would lead to high improvements in terms of trade. Nevertheless, he suggests there is only a small effect of trade on economic growth in Africa, and other variables are much more important for long-term growth.

Opposed to this early study, other papers find a stronger positive impact of trade on growth in Africa. Brueckner and Lederman (2015) used an IV approach to find a positive relationship between trade openness and economic growth in Sub-Saharan Africa (SSA) between 1981 and 2009. Increasing the ratio of trade over GDP is associated with a short-run increase in growth and an even larger effect in the long run. Sakyi et al. (2017) consider trade facilitation, measured by trade-related costs, and its effect on economic growth in 35 African countries between 2010 and 2014. The effect of trade on growth increased with the extent of trade facilitation. This implies that trade facilitation is an important channel through which trade boosts economic growth, and African countries should prioritize reforms that reduce the costs of trading to boost economic growth. Calderón et al. (2020) examine the growth effects of trade integration in SSA using a system-GMM estimator. Their findings suggest that trade integration, in general, boosts growth. Manufacturing trade fosters growth, and trading primary products hinders growth. Furthermore, they identify different channels while differentiating between intra- and inter-regional trade. Inter-regional trade positively affects growth through capital accumulation, and intra-regional trade operates through total factor productivity.

There are several case studies dealing with trade and economic development in Africa. Keho (2017) investigates the impact of trade openness on economic growth in the Ivory Coast between 1965 and 2014. His results suggest a positive impact of trade openness both in the short and long run, mainly through the channel of capital formation. Udeagha and Ngepah (2021) consider South Africa over the period between 1960 and 2016 and show that trade openness increases economic growth in the short run. Most of the literature highlights the positive effects of trade on economic growth in Africa. The general literature on the relationship between trade and growth is in line with these findings and suggests positive effects of trade on income and growth as well (Busse and Königer, 2012; Frankel and Romer, 1999; Waugh, 2010).

Nevertheless, recent research focuses strongly on social welfare and poverty reduction instead of economic growth. Winters et al. (2004) consider the effectiveness of trade liberalization for poverty reduction and find no clear overall conclusion. Theoretical approaches suggest that trade will mitigate poverty in the long run, which is broadly confirmed by the empirical evidence. Nevertheless, trade policy is neither always the most important tool for poverty reduction, nor

always beneficial for the poor. It implies distributional changes, and, therefore, the outcome depends on many other factors. Winters and Martuscelli (2014) confirm the original conclusion from 2004 but highlight some new findings. While trade liberalization generally raises average incomes, it also changes prices and thus induces welfare losses for some people.

There is literature on social welfare and poverty reduction in Africa. Sakyi et al. (2018) consider trade facilitation, which includes mostly harmonization of international trade procedures and relates to improvements in transportation, judiciary, and customs regulations, among others, to reduce transaction costs for trade. They use three indicators of trade facilitation, including infrastructure, institutions, and market efficiency, and investigate the impact on social welfare for 40 African countries between 2010 and 2015. Social welfare is constructed and includes education, child health, population health, and human development. The results of Sakyi et al. (2018) suggest that better trade facilitation improves social welfare. Possible transmission channels are lower consumer prices, positive effects on FDI, and higher employment, although the effects on employment might be ambiguous (see e.g. Hoekman and Winters, 2005). Anetor et al. (2020) highlight similar results, additionally including FDI and foreign aid. They consider poverty reduction, which is closely related to social welfare (Fauzel et al. 2015), and regress it on FDI, trade, and foreign aid for a panel of 29 Sub-Saharan African countries between 1990 and 2017. They find out that trade has a positive impact on poverty reduction, especially in low-income countries.

Kadri et al. (2023) highlight the importance of the G7 for global poverty reduction programs. These would be more effective in Africa when establishing a comprehensive framework and inclusive engagement similar to the G20's Compact with Africa, which is suggested by Spanaus et al. (2022). Further papers deal with the future of G7 trade. Mildner et al. (2022) suggest a new vision of multilateral trade. The G7 should take over a leading role and align this future trading system to the current challenges, especially through dialogues with developing countries. Jeong and Yoon (2022) highlight that the G7 countries could be the engine for trade market growth by implementing new Free Trade Agreements (FTA) and stabilizing Global Value Chains (GVC). Janardhanan et al. (2023) stress the same two things, focusing on countries that deal with critical minerals. Changing trade policies is necessary in the future, especially as the global landscape and the role of the G7 have changed. Kastrop et al. (2022) claim that the last decades saw deep structural changes, like the smaller relative power of the G7 countries and a more complex and fragmented policy terrain, that put further pressure on the role of the G7. The G7 should take over leadership in promoting the SDGs and mobilize additional resources for global sustainable development. The legitimacy of the G7 has recently also been under pressure, and two things that are important for the legitimacy of the group are its compliance and internal and external accountability. There are papers considering these issues (Fischer, 2020; Keachie et al. 2010; Kirton, 2006). The next section discusses G7 compliance in more detail, and the accountability of the group will be discussed in Section VI.

The general literature suggests that trade is beneficial for economic development in Africa. The G7 related literature highlights the importance of the G7 as global leaders and engine for enhanced trade and cooperation. Moreover, an inclusive engagement with Africa and a stronger focus on the SDGs are needed to regain leadership in promoting economic development in Africa. This paper adds to both groups of literature. It offers reasons why the G7 should deepen trade relations with Africa if they want to regain leadership in supporting economic development. The empirical part follows the empirical literature but relies on G7-specific trade data. It further relates to the G7 literature, as the commitments and initiatives of the G7 will be considered in the next section. Thus, this paper offers a junction between the empirical literature on trade and economic development in Africa and the more political and argumentative literature considering the G7.

The next section focuses on the G7 trade policy with Africa over the last two decades.

III. THE PAST – G7 TRADE POLICY IN AFRICA

Trade, in general, was mentioned since the beginning of the G7 meetings in 1975, but with the foundation of the Uruguay Round in 1986, trading with developing countries and Africa became more important. The G7 countries fully committed to the Uruguay round¹ and referred to it at multiple summits. Even after the completion of the Uruguay round in the early 1990s, trade and the international trading system remain central aspects for the G7. The G7 highlights the importance of trade for developing countries, and the general focus shifted towards poverty reduction. Nevertheless, only minor parts of the summits were dedicated to Africa. In 1997, the New Global Partnership for Development was addressed to Africa, which was the first main G7 initiative relating trade to African economic development. Unfortunately, the subsequent summits could not follow up on trade and economic development in Africa. The summits before 2000 included a lot of different topics related to Africa, but no central strategy for the continent was announced by the G7. This changed with the African Action Plan (AAP) in 2002.

The AAP was launched at the Kananaskis Summit in 2002 as a response to the New Partnership for Africa's Development (NEPAD). NEPAD comprises several commitments by African leaders to overcome obstacles to development in Africa, and the Action Plan aims to encourage this partnership by increasing cooperation with African countries that follow the NEPAD commitments. The AAP highlights three trade-related issues: greater market access for African products; higher funding, technical assistance, and capacity-building in Africa; and regional integration and intra-African trade. The foundation of the African Continental Free Trade Area (AfCFTA) in 2019 refers to the last commitment but was initiated mainly by the African countries themselves. Apart from this, the progress regarding the commitments of the AAP has been underwhelming in the last two decades.

Since then, concrete actions and encompassing initiatives on trading with Africa have been missing. An exception to this was the 2013 summit in Lough Erne. The G7 recommits themselves to the implementation of the Trade Facilitation Agreement (TFA) and Aid for Trade². Aid for Trade is best when it comes to trade facilitation, but was also very important to mitigate the devastating impact of the COVID-19 pandemic. During the pandemic, the Aid for Trade disbursements increased to an all-time high. In 2020 Africa received the largest share (38%) of the total disbursement of \$556 billion (OECD/WTO, 2022). Aid for Trade is an additional tool for the G7 to support LDCs, but it is no panacea. Instead, further interactions between trade, aid, and policy reforms are important (Stiglitz and Charlton, 2006). Following 2013, the G7 mostly referred to the 2030 Agenda for Sustainable Development, and more recently, to handling the pandemic and preparing Africa for the future, which further refers to the Agenda 2063 by the African Union (AU)³. Trade topics were not directly related to Africa. The period following the AAP was generally underwhelming, referring to trade with Africa. Nevertheless, the G7 still made promising pledges, but it is a different story to what extent the G7 countries fulfill the commitments they made.

Although the G7 initiatives and commitments are not mandatory, there were concrete reactions from G7 member countries. But to what extent were these actions enough to fulfill the commit-

¹The Uruguay Round is the largest trade negotiation round, resulting in the foundation of the World Trade Organization (WTO).

²The Aid for Trade initiative was launched by the WTO in 2005, aiming to support developing countries with trade-related constraints and financial support, such that they can realize welfare gains through trade liberalization (G7 Accountability Working Group, 2022).

³The Agenda 2063 is a master plan for the transformation of Africa with the goal of inclusive and sustainable development (<https://au.int/en/agenda2063/overview>).

ments? The Toronto Research Group, which does a lot of compliance research, states that the G7 summits often gave the impulse for new free trade agreements, and trade is one of the top three issues discussed regularly at every summit. Unfortunately, compliance for trade-related issues were only 64% in 2019, which is below the overall average of 75%. The author offers suggestions on how to improve compliance concerning trade. First, the G7 should produce more commitments on trade in general. Second, they should include a timetable, but at the same time avoid multi-year timelines. Finally, a reference to the WTO and its mechanisms should be helpful for better compliance (G7 Research Group, 2019).

The compliance regarding development before 2010 equals 72% which was lower than the overall compliance (Keachie et al. 2010). The G7 responded to this problem and published the Progress on Development report⁴ annually. The report in 2022 includes six commitments regarding development in general, and two directly related to trade. Regarding trade and development in general, the G7 is "Below expectations". The amount of bilateral ODA for trade facilitation decreased since 2012 from \$300 million to \$245 in 2022, after peaking in 2018 with \$420 million. The commitment directly related to trade and infrastructure in Africa scores "Satisfactory" with improvements at key border crossings, intra-African trade, and regional project preparation. This commitment primarily includes financial support for initiatives to promote trade (G7 Accountability Working Group, 2022). The scores evaluated by the G7 itself indicate that the progress regarding trade with Africa is lower than the average and generally unsatisfying. Fischer (2020) highlights the hidden potentials of the G7 Progress Report on Development for higher internal and external accountability and thus, better legitimacy of the G7. The author offers a detailed discussion of accountability, which is closely related to legitimacy. Section VI further discusses legitimacy and accountability.

The G7's efforts to intensify trade with Africa have been disappointing over the last decades. Since the AAP, only minor parts of the summits were dedicated towards trade with Africa and the compliance regarding trade commitments is low. This is a clear contradiction to the results obtained from the literature in part II of this paper. The next section recalls this twist and presents the research question.

IV. RESEARCH QUESTION AND HYPOTHESIS

The literature implies two things. First, trade in general promotes economic development in Africa. Second, the G7 countries are necessary for the success of global efforts aiming to promote economic development. These findings are contradictory to the underwhelming efforts and the below-average compliance by the G7 for trade and economic development in Africa. The data supports the declining efforts of the G7 regarding trade with Africa. Figure 1 shows the declining relevance of exports and imports from G7 countries in Africa. In 1997 more than 60% of African trade was with the G7 countries. This share decreased to less than 30% in 2020. This implies that the importance of the G7 countries decreased for both African imports and exports over the last 25 years. Parallel to this development, economic growth and the HDI increased in Africa (see Figure 2 in the appendix). This questions if there is a problem with the declining share of G7 countries in African trade. Maybe trading with each other is not particularly beneficial for both groups, and thus, declining trade flows are not a problem after all. This paper aims to evaluate this thesis. The G7 wants to regain leadership in supporting African economic development. Therefore, they need to improve relations with African countries in a way that helps to promote economic development. This paper investigates whether G7 trade is helpful to support economic development in Africa.

⁴The "Progress in Development report" is published annually by the G7 and evaluates the progress of commitments and assigns a score on a 5-level scale (excellent, good, satisfactory, below expectation, off-track) based on the self-assessment by the G7 members.

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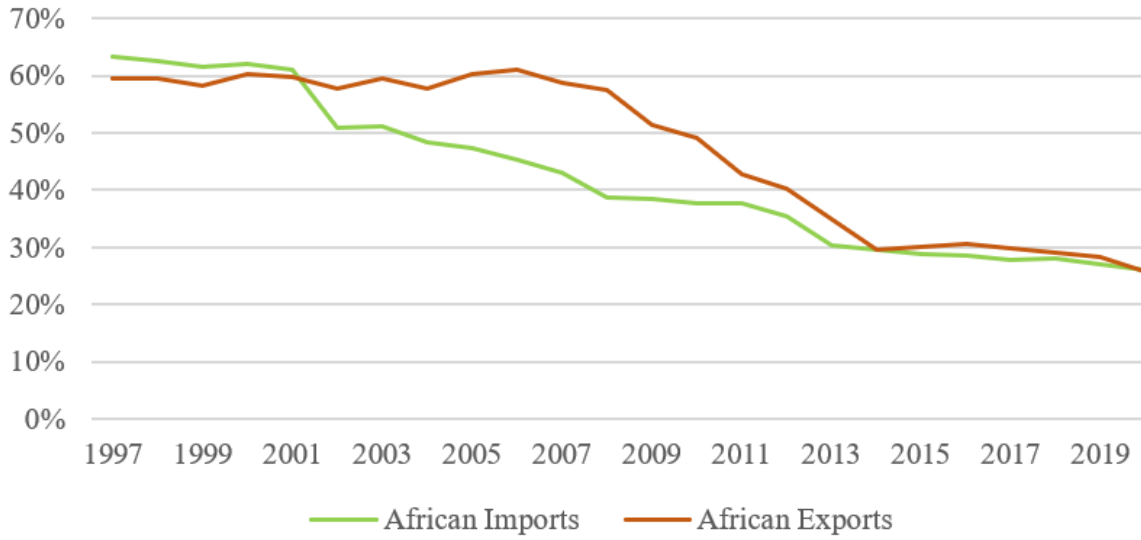


Figure 1: Shares of African imports and exports from G7 countries, relative to total African imports/exports. Source: Authors' calculations based on data from the IMF

The literature suggests that the participation and commitment of the G7 are essential for the success of global initiatives. Moreover, the PGII shows that the G7 is pushing a value-driven approach to promote development, which is different from other African partners. The G7 has specific tools and unique possibilities to use trade to promote economic development. Therefore, this paper claims that trade with the G7 is expected to be beneficial for African countries and offer some leverage compared to other trading partners. The next section introduces the empirical analysis to evaluate this hypothesis and the impact of G7 trade policies in Africa.

V. EMPIRICAL ANALYSIS

i. Empirical Strategy

The empirical model is specified based on the literature highlighted before:

$$ED_{it} = \beta_1 ED_{it-1} + \beta_2 G7trade_{it} + \beta_3 CV_{it} + \beta_4 D_{it} + \epsilon_{it}$$

ED_{it} is an indicator of economic development. This indicator is included with a lag (ED_{it-1}) among the regressors to account for the initial level of the respective variable. This paper uses two variables to capture economic development in Africa. First, the effect on GDP p.c. will be estimated. Estimating growth effects is common in the literature. Nevertheless, as mentioned before, the focus on a single dimension like growth would not reflect the complexity of economic development. Therefore, this paper uses the HDI as the dependent variable to account for further effects of G7 trade on African economic development.

$G7trade_{it}$ equals the trade volume of the African country i in the year t with all G7 countries. This includes exports and imports, which will further be included separately in a different model variation to expose potential channels. This paper aims to identify the specific benefits of G7 trade for Africa relative to trading with other countries. As the effects of absolute G7 trade and absolute worldwide trade are quite similar (see Table 7 in the appendix), it is necessary to transform the

trade variable such that it captures the benefits of trading with the G7 countries, relative to other countries. Therefore, $G7trade_{it}$ will be transformed and equal the amount of African trade flows with the G7 countries relative to worldwide trade flows of the respective African country. This G7 trade share captures the true leverage of G7 trade in Africa and the gains for African countries from trading with the G7 over other countries. The same is done for G7 exports and imports.

CV_{it} is the set of control variables, following the empirical literature (Adams, 2009; Anetor et al. 2020; Anyanwu, 2012; Sakyi et al. 2018). All variables account for structural changes in African countries. Inflation controls for effects of the price level on GDP. Infrastructure is included because it likely affects growth and human development. Institutional variables like the rule of law, political stability, or control for corruption are included to account for the huge impact of institutions suggested by the literature (Acemoglu et al. 2001).

D_{it} is the set of dummy variables. This paper includes time dummies to account for specific G7 summits and to follow Roodman (2009b), who suggests that this makes the assumption of no autocorrelation across the idiosyncratic disturbance of the individuals more likely. The AAP dummy equals 1 for the years 2002 and 2003 accounting for effects occurring around the establishment of the AAP⁵. A dummy for the Lough Erne summit in 2013 is included as well, referring to the years 2013 and 2014. Both are the most important summits referring to Africa in the period considered. Additionally, this paper includes dummies related to country-specific characteristics. The Heavily Indebted Poor Countries (HIPC) dummy equals 1 for every country that passed the completion point of the enhanced HIPC initiative, starting with the year the completion point was reached⁶. The HIPC initiative was heavily supported by the G7 and this dummy controls for the effect of debt relief⁷, which is an important determinant of economic development following the literature (Cassimon et al. 2015; Ferry and Raffinot, 2019). The Colonial dummy controls for the possibility that the G7 countries treat their former colonies differently. It equals 1 for the whole period for every country that was colonized by a G7 member country.

ϵ_{it} is the error term, capturing anything relevant that is not featured in the modeling framework. If the error term is related to economic development, the estimates will be biased, which is called the problem of endogeneity. Obtaining unbiased results is usually challenging, and there are various sources for problems with endogeneity. Reversed causality could be a problem if economic growth is associated with better quality of products and not just higher quantity. Higher quality of products implies that exporting firms are more competitive. This is a potential channel between economic growth and exports. Moreover, there are likely omitted variables that affect economic development and trade, but cannot be captured by the model. These variables will enter the error term and distort the estimator.

Due to these potential sources of endogeneity common estimators are inappropriate. An alternative approach would be to rely on external instruments for the endogenous variables. Unfortunately, and following the literature, external instruments are not available in this case. Therefore, this paper applies a system Generalized Method of Moments (GMM) approach to account for endogeneity and get unbiased results. This follows most of the literature mentioned before (Asongu and Nwachukwu, 2017; Calderón et al. 2020; Fowowe and Shuaibu, 2014; Sakyi et al. 2018, 2017).

System-GMM was brought up by Arellano and Bover (1995) and Blundell and Bond (1998). It eliminates country-specific fixed effects by first differencing. Afterwards, the system-GMM

⁵The summit was held at the end of June 2002. Thus, both years are directly related to the outcomes of the summit.

⁶This information was taken from Djimeu (2018).

⁷The G7's debt relief initiative, the Multilateral Debt Relief Initiative (MDRI), could be included as a dummy variable as well. Nevertheless, the periods are similar to the HIPC and the initiative is generally not as comprehensive. Thus, the HIPC dummy should be appropriate to address everything regarding debt relief from Western and G7 donors.

estimator combines difference and level equations to obtain a system of two equations. It uses suitable lagged levels of the instrumented variable as instruments for the difference equations of the respective variable and vice versa, suitable difference equations as instruments for the level equations.

The instruments are valid when the first differences of the instruments are uncorrelated with the fixed-effects component of the error term (Roodman, 2009b). If all variables are jointly mean stationary it is likely that this assumption holds. This is tested following the approach of Magazzini and Calzolari (2023), who use a Lagrange Multiplier test. The test confirms that all variables are mean stationary, making it likely that the basic assumption is fulfilled. The validity of the instruments is further tested with the Arellano-Bond test for second-order autocorrelation between the errors and the Hansen test of overidentifying restrictions. The results will report the p-values of both tests, which are fulfilled for all frameworks of the empirical model.

For further validation, this paper refers to Roodman (2009b), who highlights that GMM is the optimal choice when the dependent variable is included with a lag among the regressors and the panel data is characterized by many observations and a relatively small time horizon. Both characteristics apply in this empirical analysis. This paper uses system-GMM over difference-GMM because the time series of GDP is close to a unit root, which is sensible. Blundell and Bond (1998) show that if the dependent variable is close to a Unit Root difference-GMM is expected to perform poorly. Roodman (2009b) further highlights that system-GMM outperforms difference-GMM for missing data, which is the case in this paper. This analysis uses two-step GMM because Windmeijer (2005) and Roodman (2009b) suggest it is more robust and accurate than one-step GMM. As two-step estimations tend to be downward biased, this paper uses the Windmeijer correction of the errors (see Windmeijer, 2005).

ii. Data

The data fulfills the most important requirements, following Roodman (2009b). The data follows a dynamic process, and the error term has an individual-specific pattern but is uncorrelated across individuals. This paper uses data starting in 1997, when the first major initiative relating trade and development was addressed towards Africa, and ends 2020, due to availability reasons. Table 1 shows the definition and data source of all variables⁸ except the dummies.

Table 2 shows the summary statistics for all variables. The average G7 trade share is marginally less than one-third and lies exactly between the export- and import share. The shares are all roughly one-third, which implies that the G7 only accounts for one-third of African trade. The minimum and maximum values indicate that some countries traded only with the G7 for one year and others had no interaction with the G7 countries at all. Countries that witnessed the lowest share of G7 trade are Guinea-Bissau, Sao Tome & Principe, Eswatini, and Zambia⁹. All in the last couple of years. The countries with the highest share are Botswana in the early years of the 21st century, Chad between 2004 and 2012, and Gabon around 2000. The fact that the highest values occurred more than 10 years ago, while the lowest values are all more recent, indicates that trade share of the G7 with Africa is declining. The average value of the HDI equals 0.51, which is labeled "low human development" by the United Nations (UN). The average of GDP per

⁸The country-specific infrastructure mentioned before is proxied by the population share having access to the internet. The more accurate Africa Infrastructure Development Index (AIDI) is only available from 2005 onward. Nevertheless, the internet share shows a strong and significant correlation with the AIDI, therefore, it seems feasible to use this variable as a proxy for infrastructure. Additionally, a different variable is used in the robustness section.

⁹Guinea-Bissau and Sao Tome & Principe trade due to their colonial history and other reasons, mostly with non-G7 European countries like Portugal, the Netherlands, or Belgium. Eswatini and Zambia are among the countries that have China as their main trading partner.

Table 1: Definition of variables and data sources

Variables	Definition	Source
<i>Explanatory Variable</i>		
G7 Tradeshare	Trade flows (exports & imports) between African countries and G7 countries relative to trade flows between African countries and all countries of the world (in \$millions)	IMF
<i>Dependent Variables</i>		
GDP p.c.	GDP per capita (constant 2015 \$)	WB WDI
HDI	HDI ranging between 0 and 1	UN DP
<i>Control Variables</i>		
Inflation	Change in annual consumer price index	WB WDI
Infrastructure	Share of the population having access to the internet	WB WDI
Corruption	Control of Corruption (estimates), ranging from -2.5 to 2.5	WB WGI
Political stability	Political stability and absence of violence (estimates), ranging from -2.5 to 2.5	WB WGI
Rule of law	Rule of law (estimates), ranging from -2.5 to 2.5	WB WGI

WB WDI is World Bank World Development Indicators.

UN DP is United Nations Human Development Reports.

Table 2: Summary statistics

	Mean	SD	Min	Max	Obs
HDI	0.51	0.12	0.25	0.82	1,214
GDP p.c.	2320	2907	248	16989	1,230
G7 Tradeshare	0.29	0.18	0.01	1.00	1,282
G7 Trade	4828	11022	0.00	76415	1,296
Worldwide Trade	14769	31607	49	2.7e+05	1,282
G7 Importshare (Africa Imports)	0.26	0.16	0.01	0.83	1,282
G7 Exportshare (Africa Exports)	0.32	0.23	0.00	1.00	1,282
Inflation	10.44	34.63	-9.80	557.20	1,148
Infrastructure	10.85	15.94	0.00	84.12	1,243
Corruption	-0.63	0.62	-1.92	1.42	1,124
Political Stability	-0.58	0.92	-3.31	1.28	1,123
Rule of Law	-0.71	0.65	-2.59	1.02	1,123

capita (\$2320) is below the worldwide average for low and middle-income countries over the same period (\$3385). Both indicate that economic development is not in a satisfying situation in Africa. Countries like the Seychelles, Mauritius, or countries from North Africa have the highest GDP and HDI values, while countries from the Sahel, Burundi, Malawi, and Ethiopia have the lowest values. The number of observations indicates that missing data is a problem for some indicators. Nevertheless, system-GMM deals with this properly (Roodman, 2009b).

This paper transforms all variables into their natural logs before the empirical estimation. This is done following most of the literature to reduce the skewness and ensure better comparability of the variables. It is not possible to transform negative values into logs; thus, we need to take care of the variables with negative values. The institutional indicators range, on average, from -2.5 to 2.5. Thus, this paper adds 2.5 to every variable to make them transformable. The observations that remain negative are all from countries that were eliminated due to missing data. South Sudan and Sudan are eliminated because South Sudan doesn't exist over half of the period considered, and instead, the data was included in Sudan's statistics, which makes it nearly impossible to consider both separately. Eritrea, Djibouti, and Somalia are eliminated because GDP data is missing. The transformation of the institutional indicators is appropriate because the indicators are all constructed and the distance between the levels remains the same. A transformation like this is not appropriate with real variables like inflation, which is also negative (deflation). Therefore, inflation is the only variable that is not transformed into logs.

iii. Results

Table 3 shows the main results and the impact of the G7 trade share on economic development in Africa. Model 1 uses GDP per capita as the dependent variable and indicator of economic development, while Model 2 relies on the HDI. The coefficients indicate that the G7 trade share has a positive and highly significant impact on both indicators for economic development. This significance is robust to variations in the system-GMM setup¹⁰. The results confirm the positive impact of the G7 trade share in general on economic development in Africa. The results for the export and import shares are less obvious. African exports seem to trigger rather growth than human development, but they will be neglected when it comes to the interpretation because the significance of the export share varies a lot across different model variations¹⁰. Imports are insignificant for growth but are highly significant across different model variations¹⁰ for the HDI. This indicates that a higher share of products imported from the G7 induces positive effects on human development in Africa.

In all models, the lagged dependent variables (GDP_{t-1} and HDI_{t-1}) are highly significant, which is sensible. This indicates that the data follows a dynamic process and fulfills the assumption mentioned in Section V.ii. Most of the control variables are insignificant, but there are a few remarkable results. It is counterintuitive that the rule of law affects growth negatively. However, as the model is not designed to investigate the effects of institutions on growth, these coefficients should not be over-interpreted. Infrastructure is not even negatively related to growth but shows a strong positive relationship with human development. Political stability is also positively and significantly related to the HDI. Both coefficients are plausible and make the results for G7 trade even stronger because they exceed the influence of these two variables. A puzzling result is, that the AAP dummy variable is negative for all models, but most significantly with the HDI as an indicator. The reason therefore is that the HDI increased after the AAP (see Figure 2 in the appendix), while the period before is too small to be considered relevant.

The number of countries equals 49, which are all officially recognized African countries without

¹⁰All regressions performed can be made available upon request.

Table 3: Main results: Trade on Economic Development (GDP & HDI)

	(1)	(2)	(3)	(4)
L.GDP p.c.	1.079*** (0.030)		1.059*** (0.020)	
G7 Tradeshare	0.150*** (0.051)	0.064*** (0.019)		
AAP Dummy	-0.081** (0.032)	-0.029*** (0.009)	-0.059** (0.027)	-0.027*** (0.009)
2013 Summit Dummy	-0.027 (0.019)	-0.004 (0.003)	-0.011 (0.012)	-0.002 (0.002)
HIPC Dummy	0.071* (0.042)	-0.024 (0.019)	0.050 (0.035)	-0.026* (0.015)
Colonial Dummy	-0.145 (0.100)	-0.025 (0.019)	-0.165* (0.091)	-0.025 (0.016)
Inflation	-0.001 (0.000)		-0.001** (0.000)	
Infrastructure	-0.009 (0.007)	0.021*** (0.008)	-0.012** (0.006)	0.020*** (0.007)
Corruption	-0.235 (0.184)	-0.070* (0.041)	-0.156 (0.152)	-0.052 (0.037)
Rule of Law	-0.247** (0.118)	-0.041 (0.035)	-0.209* (0.114)	-0.047 (0.030)
Political Stability	0.043 (0.039)	0.028** (0.012)	0.028 (0.036)	0.028*** (0.010)
L.HDI		0.770*** (0.065)		0.781*** (0.057)
G7 Importshare (African Imports)			0.042 (0.047)	0.048*** (0.018)
G7 Exportshare (African Exports)			0.048** (0.019)	0.012** (0.005)
Observations	953	983	953	983
Countries	49	49	49	49
Number of Instruments	12	11	15	14
Hansen p-value	0.847	0.366	0.166	0.209
AR(2) p-value	0.440	0.490	0.430	0.747
AR(3) p-value	0.151	0.106	0.198	0.428

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Average G7 share (1997-2020) of African exports and imports by product category: Authors own calculations based on UNCTAD data

	Primary commodities (w/o fuels)	Fuels	Manufactured goods
African Exports	37%	48%	37%
African Imports	26%	12%	39%

the 5 that were eliminated due to data availability reasons as mentioned before. The number of observations varies due to the difference in missing data for GDP and HDI. Both the Hansen and the Arellano-Bond test indicates that the instruments are valid, and the model is appropriately designed. The number of instruments is reported in the table. A large number of instruments can overfit the endogenous variables and cause major problems (Roodman, 2009a). Thus, this paper uses the collapse option to restrict the number of instruments¹¹. This paper uses the 2nd and 3rd lag of the respective variables as instruments. These are as many as necessary to ensure that the IVs are exogenous, but at the same time, not too many to lose more observations than necessary¹². The results confirm the hypothesis that G7 trade offers leverage for African economic development. The empirical analysis suggests positive and highly significant effects of the G7 trade share on economic growth and human development. This indicates that trading with the G7 is beneficial for African countries. The G7 wants to help promote economic development in Africa and regain leadership in supporting African countries. Therefore, they should aim to deepen trade relations with Africa again, because this offers positive effects for economic development in Africa. One question that ties directly into this is why trade with the G7 is beneficial to African development. What could be potential channels that transmit the positive impact? The decomposition into exports and imports highlights that the positive effect on human development is driven by African imports from the G7. The next section disentangles the trade flows between Africa and the G7 to get a clear picture of what they trade and how this could promote economic development in Africa.

iv. Channels

This section divides trade flows into different product categories to expose the underlying mechanisms by which G7 trade promotes economic development in Africa. Table 4 shows the decomposition into primary commodities (without fuels), fuels, and manufacturing goods. Export and import channels are considered separately. The table highlights the average G7 share for product categories¹³. The shares for fuels and manufactured goods are particularly interesting. Half of Africa's fuel exports go to the G7. This is even more striking, as half of the overall African exports are fuels. Manufactured goods are roughly 70% of African imports. 39% of them are from the G7, which makes the G7 countries important trading partners for manufacturing goods. Nevertheless, the importance of the G7 as a trading partner for manufacturing trade has declined over the last two decades, from more than 50 % in 1997 to less than half of that in 2020 (see Figure 3 in the appendix). This is mostly due to the rise of China in Africa, which will be discussed in Section VI.

The empirical results suggest that African imports from the G7 promote human development on the continent. Therefore, this section considers the imports of manufacturing goods more in detail.

¹¹Table 8 in the appendix controls for a higher number of instruments and confirms the main results.

¹²Because all observations that are used as instruments cannot be used for the empirical analysis later on.

¹³The full table for every year between 1997 and 2020 is shown in Appendix Table 3.

Table 5: Average G7 share (1997-2020) of African imports (by technology level required for the production process):
Authors own calculations based on UNCTAD data

	G7 Share
All manufactured goods	39%
Labor-intensive and resource-intensive manufactures	22%
Low-skill and technology-intensive manufacturers	28%
Medium-skill and technology-intensive manufactures	49%
High-skill and technology-intensive manufactures	38%
All products	33%
Medium technology manufactures: automotive	51%
Medium technology manufactures: process	32%
Medium technology manufactures: engineering	48%
High technology manufactures: electronic and electrical	35%
High technology manufactures: other	56%

Table 5 highlights the average G7 share in African imports from chosen categories of manufactures based on the technology level required for the production process¹⁴. The G7 accounts for half of African imports of medium-skill and technology-intensive manufactures. The G7 countries export mainly automotive and engineering manufacturing goods. It is interesting to note that engineering products are among the generally most imported goods in Africa (16% of all imports over the period between 1997 and 2020). For African countries, the G7 countries are the most important exporters of these products and other medium- and high-technology manufacturers. Other products and manufactures that require a lower level of technology are imported from other parts of the world.

How could this be related to the promoting effect on human development of African imports from the G7? First, it should be mentioned that the HDI is associated with GNI instead of GDP. This could be another potential channel through which manufacturing goods from the G7 could promote the HDI. African citizens could work in the respective sectors and thus increase the GNI of their countries of origin. A second interpretation of these results could be that both groups of countries specialize in their comparative advantage. Most African countries have a large stock of resources and commodities. The G7 countries are instead among the largest producers of manufactured goods with a higher level of technology, especially engineering and automotive. These specializations offer benefits for economic development in Africa. This is in line with the classical trade literature. The most plausible explanation is that imported goods improve human development because they help fulfill basic needs and improve general living conditions. Higher-technology goods normally have the purpose of making people's lives easier, and better products ensure a better life. While they are not directly related to the dimensions of the HDI, they make it easier for citizens to access them. One example is cars, which are not measured by the HDI but allow the drivers to get better access to health services and education. This further stresses that imports are particularly beneficial for consumers, which are more related to human welfare than firms.

The decomposition of exports and imports offers valuable explanations of the underlying mechanisms that could drive the positive effects of G7 trade on economic development. Over the whole sample, the G7 were the most important exporters of high- and medium-skill technology-intensive manufacturing products in Africa. The empirical analysis suggests that this improves human

¹⁴Table 4 shows the whole period and all goods.

development on the continent. Problematically, the G7 share in these categories has been decreasing over the last decades (see Appendix Figure 4). Thus, the G7 should increase these exports and deepen trade relations with Africa in general to support African economic development and regain leadership in this field. The next section controls for further potential channels, through which G7 trade could affect economic development.

v. Robustness Checks

To rule out further channels and ensure the robustness of the main results, this chapter conducts a sensitivity analysis¹⁵. If trade and institutions are related, they are a likely channel through which trade could affect economic development. This part shows that the G7 trade share has no significant effect on the institutional indicators or the year of schooling as a proxy for education (see Table 6). The quality of institutions is an important determinant of economic development (see Acemoglu et al. 2001). The insignificant results suggest that the positive impact of trade doesn't work through the channels of institutions. The same accounts for education as a potential channel. These results indicate that there is leverage within trade policies, and the positive impact doesn't work through institutions or education.

As mentioned before, the trade variable needs to be transformed to actually account for the impact of trading with the G7 relative to other countries. Nevertheless, trade remains significant if the analysis includes absolute values (see Table 7). This paper includes absolute G7 trade and absolute worldwide trade. In line with the literature, worldwide trade should be significant, and to confirm the main message of this paper, G7 trade should be significant as well. Both are the case, although the significance is smaller, as with the relative trade share. This is the first indication that relying on the relative share is important. Moreover, the regression shows that absolute worldwide trade and absolute G7 trade are acting similarly. This is controlled with different model variations¹⁰ and all confirm that the coefficients of worldwide and G7 trade are moving in the same directions. Therefore, it is necessary to rely on the G7 trade share to answer the question of the impact of G7 trade on African economic development.

The impact of G7 trade on economic development remains positive and significant if more lags are allowed for the GMM-style instruments (see Table 8); dummy variables are excluded (see Table 9); and the G7 trade share is included with a lag (see Table 10), to control for potential time-delayed effects. In the literature, Africa is often referred to as SSA only. The G7 is focusing on this part of the continent as well but refers to Africa in total with their initiatives. Therefore, this paper investigates all of Africa but controls for the sample of SSA and confirms the positive effects (see Table 11).

The sensitivity analysis confirms the main results and highlights further important aspects. Absolute trade is positively related to African economic development. However, the results are very similar for G7 and worldwide trade; thus, it is necessary to consider the G7 trade share to disentangle the effects of trading with the G7. Moreover, it is ruled out that the effect of trade works through institutions or education. This supports the empirical result that the G7 trade share has a positive impact on economic development in Africa. The next section discusses the potential shortcomings of the study and looks at the implications of this result for the future.

VI. THE FUTURE – DISCUSSION

Before discussing the future, it is helpful to summarize the results obtained from the past. Despite the positive effects of trade on economic development found in the literature, the trade efforts of

¹⁵All tables are given in the appendix.

the G7 regarding Africa were underwhelming over the last two decades, which led to a decline in trade relations. This is all the more surprising, as the empirical analysis suggests that a higher share of trade with the G7 countries is associated with positive effects on economic growth and human development in Africa. The results imply that trading with the G7 has a leverage effect on Africa's economic development and is thus beneficial for African countries. The G7 should strive to deepen trade relations with Africa to support economic development and regain a leadership role. The empirical analysis further suggests that imports from the G7, predominantly comprising medium- and high-skill technology-intensive manufacturing products, improve human development in Africa.

Trade offers many opportunities, but at the same time raises some concerns. What might be critical is the result that imports from the G7 improve living conditions, which indicates some sort of dependency. Trade dependencies are most obvious on the export side. As mentioned previously, African countries mainly export raw materials. They are therefore dependent on world market prices, which are often extremely volatile. This is one of the main reasons for the emergence of the so-called resource curse. To prevent this, African countries need to diversify their economies, especially by increasing the value-added within Africa and moving up the value chain. To what extent trade with the G7 could help to ensure this, is an interesting research question for the future. While the case and the possible solution for export dependencies are straightforward, the issue of import dependencies is slightly more complex. Importing higher technology manufactures might be necessary in the short run and could impose technology spillovers in the long run. Luwedde et al. (2023) highlight that the G7 should use trade-related aspects to encourage technologies in low- and middle-income countries. Investigating the potential of technology spillovers through G7 imports is another promising area for future research. This indicates that unequal trade relations might not be a bad thing after all. The theory of comparative advantage shows that it is beneficial for trading partners to specialize and trade on an unequal basis. The analysis in this paper suggests that African countries are benefiting from trade relations with the G7. Nevertheless, the concerns regarding dependencies should be taken seriously and the sustainability of the trade effects is something that needs further evaluation in the future. Furthermore, there are concerns about the extent to which this paper relates to the actual G7 trade policies. The empirical data only allows the investigation of the impact of trading efforts by the G7 member countries on economic development in Africa. The data accounts for actions by the G7 countries, while initiatives as a group cannot be addressed with data. This paper connects the economic rationality of the G7 initiatives to the results from the literature and the member country-specific trade data. Thus, it argues that the combination of all three offers an overarching approach to the actions of the G7 related to trade and their impact in Africa.

The evaluation of G7 trade policy as a group would be much easier if there was a general trade initiative comparable to the PGII. The G7 addresses various trade- and development-related issues at their summits and supports initiatives of other organizations, like the WTO, that deal with trade. But there is no overarching G7 initiative dealing with trade. The future will show if the PGII is to regain leadership in terms of infrastructure investment in Africa. Establishing a second pillar in trade would be helpful for both sides, promoting economic development in Africa and increasing the legitimacy of the G7. Furthermore, it would show that the G7 is willing to take a leading role in supporting Africa. As G7 trade pushes economic development on the continent, a quick reversal of the current trend of declining trade relations is necessary. An overarching trade initiative would help to deepen trade relations faster. Moreover, it could accompany PGII and higher investments as investments and trade are related (see e.g. Baltagi et al. 2008). However, such an initiative is not yet on the horizon, but the G7 is aware of this, as international trade as an engine for poverty reduction is mentioned in one of the recent development reports (G7

Accountability Working Group, 2022). Even within the current circumstances there is enough room to deepen trade links and use them for economic development. Aid for Trade was mentioned as one initiative highlighting trade as a tool to promote economic development. Moreover, the G7 relies on capacity building, trade facilitation measures, and increasing market access for African products. They further engage bilaterally or within other organizations to increase trade relations with the continent. Nevertheless, the overall commitment to these tools should be higher. The trade links between the G7 and Africa are deteriorating, and with these tools available, the unsatisfying engagement by the G7 is even more disappointing. This leads to the question, why are trade efforts by the G7 so underwhelming? The reasons for this are complex. The colonial legacies complicate trade relations as they can engender mistrust regarding the G7 engagement. Moreover, African markets are small and fragmented, which makes them less attractive for the G7 and could be an explanation for the lower engagement in the last decades. This should change in the future with the establishment of the AfCFTA solving this problem. The free trade area makes it easier for foreign countries to trade with Africa and offers even more reasons for the G7 to increase trade relations with the continent. The establishment of the AfCFTA was a huge milestone regarding trading with Africa, and the impact of the AfCFTA on the trade relationship between the G7 and Africa is something to consider in the future. Finally, competing priorities and different interests within and between the seven member countries of the G7 make it difficult to achieve huge progress in terms of trade. The political rationality of trade is complex. While trade overall is a positive sum game, there will be specific groups or sectors suffering welfare losses. Especially in the field of agriculture, where the Doha round¹⁶ has been trying to make progress for more than 20 years, most of the Western firms stand against the preferential treatment of developing countries. Nevertheless, this is a question of political will by a coalition of the willing. Trade mostly implies positive welfare effects for consumers and specific sectors in the industry. Compensating the potential losers should help to get political majorities and finally achieve a big breakthrough regarding trade and economic development in Africa.

This would further be helpful for the G7 to increase its legitimacy. The question of whether the G7 as a group is necessary for promoting economic development, has already been raised. There are concerns that the group only operates in its own interest and that other opinions are overlooked. The G7 wants to make sure that other countries follow their ideas, and thus they need some sort of power and acceptance, which means legitimacy. The legitimacy of the G7 is at stake due to the rise of rival organizations, as seen recently with the extension of the BRICS countries. Moreover, legitimacy is difficult to achieve for such an informal group. One way could be through external accountability. The G7 is not accountable to any stakeholders, but civil society is highly engaged in the summits, although they have no direct power. Accountability further means that external actors test if the G7 deserves the power they possess. This paper already mentioned that reinforcing trade relations with Africa will help the G7 increase its legitimacy and regain leadership promoting economic development and prosperity. Recent years show the opposite trend. Other countries seem to deepen trade relations with Africa and especially China intensifies its relations with Africa. The rising importance of China is also visible in the import and export channels. China overtakes the G7 as the most important supplier of manufacturing goods and is currently in the leading position supporting African economic development in general. The Chinese approach is different from the G7's. China engages through bilateral agreements, which makes it easier to meet local needs. Because it has no colonial history in Africa, it has a better chance of being perceived as a partner. Moreover, the Chinese government does not

¹⁶The Doha Development Agenda, launched in 2001 by the WTO, wants to ensure that Least Developed Countries (LDCs) participate in the global trading system by lowering trade barriers. Unfortunately, it never really concluded (World Trade Organization, 2022).

interfere in domestic affairs or use trade policy to promote good governance, human rights, or democracy. This is more attractive from the perspective of many African countries, compared to the value-driven approaches offered by the G7. Nevertheless, it is important to highlight that the G7 should not follow the Chinese approach. Instead, it is important to offer something different and stress out the advantages of their approach. This system competition will likely persist in the future. There is evidence that system competition plays an important role in the allocation of development aid (see Kilama, 2016). If similar patterns occur for trade could be a promising research question for the future. The impact of Chinese trade policy on economic development in Africa and the comparison to the results of this paper might be another interesting topic for future research. Busse et al. (2016) show that African imports from China harm economic growth in Africa. This is in line with the results of this paper, but further considerations are necessary. Future research could focus strongly on the role of China in the relationship between the G7 and Africa. There is a lot of literature dealing with the impact of China in developing countries, especially Africa (Dreher et al. 2019; Freytag et al. 2024; Gehring et al. 2022; Humphrey and Michaelowa, 2019). Most of them consider Aid, so adding the trade dimension and linking it to system competition with the G7 offers new research opportunities. This would also be consistent with focusing more on the G7 in general. This paper considers the effects of G7 trade in Africa. To what extent these trade relations benefit the G7 countries beyond the political dimension of higher legitimacy, would further be interesting. Another potential research question in the future might be the consideration of the opposite direction of influence. This paper looks at the effect of trade in Africa, but what drives trade flows? Answering this question might clarify why the relative trade flows between the G7 and Africa decreased. Within the relationship between the G7 and Africa is a lot of potential for future research. So this paper should just be the starting point.

VII. CONCLUSION

This paper aims to answer whether the G7 trade policy has been effective in improving economic development in Africa. The literature suggests a positive effect of trade on economic development, but the actions of the G7 are underwhelming, which has led to a declining share of G7 trade in Africa over the last two decades. This paper investigates this puzzling contradiction and examines the impact of G7 trade policies on economic development in Africa. This paper uses a system-GMM estimator to analyze the effect of the G7 trade share on GDP per capita and the HDI in Africa. The results suggest that African countries benefit from G7 trade. A higher share of trade with the G7 is associated with positive effects on economic growth and human development. Imports of higher-technology manufacturing goods seem to drive improvements in human development. The G7 wants to regain leadership in supporting economic development in Africa. Therefore, they need to deepen trade relations because this offers concrete benefits for African economic development.

This paper shows that both groups of countries, the G7 and Africa, have incentives to deepen their trade relations. To do so, the G7 should aim for more commitments on trade with higher compliance. A comprehensive trade initiative similar to the PGII would be helpful to deepen trade links faster. Generally, and most importantly, the G7 should aim for an equal partnership with Africa. Both sides have something to offer, and both sides have something to gain. Negotiating on an equal basis is the most promising way to have a stable and long-lasting relationship, to the benefit of both the G7 and Africa.

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AAP African Action Plan
AfDB African Development Bank
ADF African Development Fund
AfCFTA African Continental Free Trade Area
AIDI Africa Infrastructure Development Index
B3W Build Back Better World
BRI Belt and Road Initiative
DAC Development Assistance Committee
DSSI Debt Service Suspension Initiative
EU European Union
EU European Union
FDI Foreign Direct Investment
FTA Free Trade Agreements
G7 Group of Seven
GDP Gross Domestic Product
GMM Generalized Method of Moments
GNI Gross National Income
GVC Global Value Chains
HDI Human Development Index
HIPC Heavily Indebted Poor Countries
IDA International Development Association
IMF International Monetary Fund
LDCs Least Developed Countries
LDC's Least Developed Countries
MDG Millennium Development Goals
MDI Multidimensional Inclusiveness Index
MDRI Multilateral Debt Relief Initiative
NEPAD New Partnership for Africa's Development
ODA Official Development Assistance
OECD Organization for Economic Co-operation and Development

OLS Ordinary Least Squares

PGII Partnership for Global Infrastructure and Investment

PPPs Public-private partnerships

SDGs Sustainable Development Goals

SSA Sub-Saharan Africa

T7 Think 7 Research Group

TFA Trade Facilitation Agreement

TOSSD Total Official Support for Sustainable Development

UN United Nations

UNCTAD United Nations Conference on Trade and Development

WB World Bank Group

WTO World Trade Organization

A. FIGURES

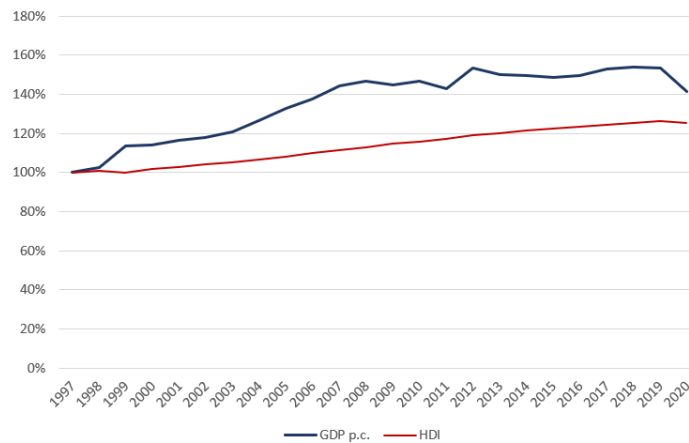


Figure 2: Average GDP p.c. in Africa, Source: Authors own calculations based on data from the WB Development Indicators

		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
African Exports	Primary commodities, excl. fuels	46%	46%	45%	42%	42%	39%	39%	37%	38%	37%	37%	33%	28%	29%	29%	26%	24%	24%	24%	35%	37%	38%	39%	42%
	Fuels	58%	57%	53%	55%	56%	54%	57%	56%	57%	56%	53%	49%	47%	47%	44%	42%	37%	30%	30%	42%	44%	43%	41%	39%
	Manufactured goods	48%	50%	51%	49%	49%	48%	48%	47%	43%	42%	40%	37%	34%	35%	34%	32%	31%	32%	31%	25%	24%	24%	25%	25%
African Imports	Primary commodities, excl. fuels	34%	35%	36%	34%	33%	30%	29%	27%	26%	26%	26%	24%	24%	23%	21%	22%	21%	20%	19%	17%	17%	18%	18%	18%
	Fuels	12%	13%	11%	11%	12%	12%	9%	11%	10%	10%	12%	11%	13%	14%	14%	13%	13%	12%	11%	14%	13%	11%	11%	11%
	Manufactured goods	55%	54%	53%	51%	50%	49%	48%	45%	43%	42%	40%	37%	36%	35%	33%	31%	30%	30%	28%	29%	28%	26%	26%	25%

Figure 3: Annually G7 share of African exports and imports by product category: Authors own calculations based on UNCTAD data

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
MANUFACTURED GOODS BY DEGREE OF MANUFACTURING	55%	54%	53%	51%	50%	49%	48%	45%	43%	42%	40%	37%	36%	35%	33%	31%	30%	30%	28%	29%	28%	26%	26%	25%
Labour-intensive and resource-intensive manufactures	34%	37%	36%	34%	34%	33%	30%	28%	25%	24%	23%	21%	19%	19%	17%	15%	14%	14%	12%	13%	13%	13%	11%	11%
Low-skill and technology-intensive manufactures	47%	45%	43%	40%	38%	37%	35%	33%	30%	31%	29%	27%	26%	25%	22%	22%	19%	20%	19%	21%	19%	17%	19%	18%
Medium-skill and technology-intensive manufactures	65%	64%	63%	60%	61%	60%	59%	58%	55%	53%	50%	49%	47%	46%	44%	42%	41%	40%	39%	39%	38%	36%	36%	35%
High-skill and technology-intensive manufactures	55%	55%	54%	52%	51%	49%	48%	44%	44%	42%	39%	35%	34%	33%	31%	30%	29%	29%	28%	29%	27%	25%	26%	24%
TOTAL ALL PRODUCTS	47%	47%	46%	43%	43%	42%	41%	38%	36%	35%	33%	32%	31%	30%	28%	27%	26%	26%	25%	25%	24%	23%	23%	22%
Primary products	26%	27%	28%	26%	26%	24%	24%	21%	19%	18%	21%	20%	18%	19%	21%	16%	17%	17%	18%	17%	17%	16%	17%	18%
Resource-based manufactures: agro-based	34%	35%	34%	31%	30%	29%	26%	25%	24%	23%	21%	21%	20%	21%	17%	19%	18%	18%	18%	17%	16%	16%	16%	15%
Resource-based manufactures: other	34%	34%	32%	27%	27%	29%	27%	22%	24%	21%	20%	21%	20%	22%	21%	21%	19%	18%	16%	15%	17%	15%	13%	13%
Low technology manufactures: textile, garment and footwear	32%	37%	36%	35%	36%	35%	31%	28%	25%	23%	22%	21%	19%	18%	17%	13%	12%	11%	10%	10%	10%	9%	9%	9%
Low technology manufactures: other products	42%	42%	41%	37%	37%	37%	34%	32%	31%	31%	28%	28%	25%	25%	23%	22%	22%	21%	20%	21%	20%	19%	17%	17%
Medium technology manufactures: automotive	67%	65%	61%	61%	62%	61%	60%	59%	55%	54%	51%	49%	45%	46%	46%	43%	42%	41%	41%	43%	42%	37%	41%	39%
Medium technology manufactures: process	47%	48%	46%	42%	42%	40%	38%	34%	32%	33%	33%	29%	30%	29%	26%	26%	24%	25%	24%	24%	23%	21%	22%	21%
Medium technology manufactures: engineering	65%	65%	64%	61%	60%	59%	59%	56%	53%	53%	49%	48%	46%	45%	41%	39%	38%	38%	36%	36%	36%	34%	36%	34%
High technology manufactures: electronic and electrical	55%	57%	56%	52%	53%	52%	49%	44%	42%	39%	37%	32%	31%	28%	25%	25%	24%	23%	21%	22%	20%	17%	17%	17%
High technology manufactures: other	70%	65%	65%	70%	66%	65%	64%	64%	65%	59%	57%	51%	50%	54%	52%	50%	49%	50%	49%	50%	46%	43%	44%	40%
Unclassified products	53%	56%	57%	55%	49%	49%	48%	53%	48%	46%	42%	39%	41%	42%	43%	36%	36%	35%	35%	34%	38%	33%	31%	25%

Figure 4: Annually G7 share of African imports (by technology level required for the production process): Authors own calculations based on UNCTAD data

B. ROBUSTNESS CHECKS

Table 6: *Trade on Institutional Indicators & Education*

	(1)	(2)	(3)	(4)
G7 Tradeshare	-0.040 (0.088)	0.095 (0.072)	0.173 (1.049)	-0.044 (0.033)
L.Corruption	1.296** (0.612)			
L.Rule of Law		0.784** (0.314)		
L.Political Stability			0.763 (2.663)	
L.Schooling				0.851*** (0.069)
dummy_AAP	0.016 (0.036)	0.024 (0.020)	-0.037 (0.071)	-0.014 (0.014)
dummy_HIPC	-0.004 (0.036)	0.048 (0.038)	0.076 (0.658)	-0.051* (0.029)
dummy_colnotG7	-0.017 (0.042)	0.013 (0.027)	0.083 (0.706)	-0.043 (0.035)
Inflation	0.007 (0.010)	-0.003 (0.006)	-0.010 (0.152)	
Schooling	-0.070 (0.139)	0.066 (0.074)	0.098 (0.776)	
Corruption				0.100* (0.060)
dummy_2013	0.017 (0.029)	0.030* (0.017)	-0.031 (0.089)	0.010 (0.007)
Rule of Law				-0.010 (0.053)
Political Stability				0.016 (0.015)
Population Density				0.009 (0.008)
Government Consumption				0.021** (0.009)
Observations	481	481	479	466
Countries	48	48	48	43
Number of Instruments	9	9	9	12
Hansen p-value	0.828	0.183	0.164	0.917
AR(2) p-value	0.933	0.469	0.181	0.115

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: *Absolute Trade on Economic Development*

	(1)	(2)	(3)	(4)
L.GDP p.c.	0.889*** (0.064)	0.785*** (0.118)		
Worldwide Trade	0.097** (0.046)		0.026** (0.012)	
AAP Dummy	0.017 (0.020)	0.100 (0.067)	0.009 (0.013)	0.015 (0.022)
2013 Summit Dummy	-0.009 (0.009)	0.021 (0.022)	-0.003 (0.004)	0.001 (0.006)
HIPC Dummy	-0.064 (0.048)	0.046 (0.037)	0.053* (0.031)	0.067 (0.055)
Colonial Dummy	-0.011 (0.091)	0.321 (0.287)	-0.017 (0.048)	0.018 (0.046)
Inflation	-0.000 (0.000)	0.001 (0.001)		
Infrastructure	-0.022*** (0.008)	0.015 (0.022)	-0.033** (0.013)	-0.023** (0.012)
Corruption	0.152 (0.136)	0.689 (0.423)	0.055 (0.072)	0.102 (0.123)
Rule of Law	-0.184** (0.089)	-0.024 (0.139)	-0.080 (0.058)	-0.044 (0.086)
Political Stability	0.099* (0.055)	0.091 (0.080)	0.004 (0.016)	-0.010 (0.028)
G7 Trade		0.131** (0.060)		0.017* (0.010)
L.HDI			1.253*** (0.137)	1.217*** (0.165)
Observations	953	953	983	983
Countries	49	49	49	49
Number of Instruments	19	19	13	13
Hansen p-value	0.134	0.539	0.356	0.488
AR(2) p-value	0.478	0.691	0.282	0.765

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: *Trade on Economic Development with more lags suitable as instruments*

	(1)	(2)	(3)	(4)
L.GDP p.c.	1.028*** (0.009)	1.021*** (0.006)		
G7 Tradeshare	0.058** (0.027)		0.014*** (0.005)	
AAP Dummy	-0.031** (0.012)	-0.029*** (0.009)	-0.008*** (0.003)	-0.008*** (0.002)
2013 Summit Dummy	-0.010 (0.010)	-0.006 (0.008)	0.000 (0.001)	0.001 (0.001)
HIPC Dummy	0.040* (0.024)	0.028* (0.016)	-0.003 (0.005)	-0.003 (0.003)
Colonial Dummy	-0.027 (0.036)	-0.026 (0.031)	-0.002 (0.006)	-0.001 (0.004)
Inflation	-0.000** (0.000)	-0.000* (0.000)		
Infrastructure	-0.005 (0.004)	-0.004 (0.003)	0.003** (0.002)	0.002** (0.001)
Corruption	-0.086 (0.070)	-0.055 (0.050)	-0.016 (0.012)	-0.007 (0.008)
Rule of Law	-0.066 (0.042)	-0.033 (0.039)	-0.005 (0.010)	-0.005 (0.007)
Political Stability	0.015 (0.015)	0.013 (0.012)	0.006 (0.004)	0.005** (0.003)
G7 Importshare (Africa Imports)		0.036 (0.025)		0.009** (0.004)
G7 Exportshare (Africa Exports)		0.013 (0.009)		0.003 (0.002)
L.HDI			0.938*** (0.014)	0.949*** (0.009)
Observations	953	953	983	983
Countries	49	49	49	49
Number of Instruments	32	55	31	54
Hansen p-value	0.0544	0.406	0.00590	0.306
AR(2) p-value	0.458	0.477	0.358	0.440

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9: *No Dummy variables*

	(1)	(2)	(3)	(4)
L.GDP p.c.	1.041*** (0.014)	1.035*** (0.012)		
G7 Tradeshare	0.074*** (0.021)		0.051*** (0.016)	
Inflation	-0.001* (0.000)	-0.001** (0.000)		
Infrastructure	-0.005 (0.004)	-0.009** (0.004)	0.017** (0.007)	0.015** (0.007)
Corruption	-0.145 (0.115)	-0.102 (0.108)	-0.071 (0.045)	-0.053 (0.044)
Rule of Law	-0.086* (0.050)	-0.097 (0.066)	-0.027 (0.028)	-0.027 (0.025)
Political Stability	0.012 (0.024)	-0.001 (0.028)	0.020* (0.011)	0.019* (0.011)
G7 Importshare (Africa Imports)		0.013 (0.032)		0.042*** (0.016)
G7 Exportshare (Africa Exports)		0.032** (0.015)		0.009* (0.005)
L.HDI			0.819*** (0.059)	0.833*** (0.056)
Observations	953	953	983	983
Countries	49	49	49	49
Number of Instruments	8	11	7	10
Hansen p-value	0.776	0.285	0.432	0.290
AR(2) p-value	0.410	0.419	0.347	0.685

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10: *Trade_{t-1} on Economic Development*

	(1)	(2)
L.GDP p.c.	1.077*** (0.032)	
L.G7 Tradeshare	0.116*** (0.043)	0.053*** (0.018)
AAP Dummy	-0.077** (0.035)	-0.034** (0.015)
2013 Summit Dummy	-0.029 (0.019)	-0.006 (0.005)
HIPC Dummy	0.044 (0.046)	-0.045 (0.032)
Colonial Dummy	-0.171 (0.133)	-0.045* (0.027)
Inflation	-0.001 (0.000)	
Infrastructure	-0.014* (0.008)	0.021** (0.010)
Corruption	-0.299 (0.207)	-0.123* (0.069)
Rule of Law	-0.203 (0.140)	-0.033 (0.048)
Political Stability	0.041 (0.052)	0.033* (0.019)
L.HDI		0.733*** (0.101)
Observations	953	983
Countries	49	49
Number of Instruments	12	11
Hansen p-value	0.403	0.329
AR(2) p-value	0.546	0.759

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11: *Sub-Saharan Africa Sample*

	(1)	(2)	(3)	(4)
L.GDP p.c.	1.045*** (0.016)	1.037*** (0.014)		
G7 Tradeshare	0.090*** (0.027)		0.058*** (0.021)	
Inflation	-0.001* (0.000)	-0.001** (0.000)		
Infrastructure	0.000 (0.005)	-0.006 (0.005)	0.020** (0.010)	0.018* (0.009)
Corruption	-0.127 (0.125)	-0.091 (0.117)	-0.077 (0.052)	-0.053 (0.051)
Rule of Law	-0.098* (0.051)	-0.097 (0.065)	-0.029 (0.033)	-0.028 (0.029)
Political Stability	0.008 (0.027)	-0.007 (0.028)	0.022 (0.013)	0.021 (0.013)
G7 Importshare (Africa Imports)		0.021 (0.035)		0.046** (0.021)
G7 Exportshare (Africa Exports)		0.035** (0.015)		0.010 (0.006)
L.HDI			0.802*** (0.072)	0.822*** (0.070)
Observations	856	856	885	885
Countries	44	44	44	44
Number of Instruments	8	11	7	10
Hansen p-value	0.617	0.446	0.420	0.322
AR(2) p-value	0.370	0.241	0.597	0.999

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

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