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'Trade Openness and Economic Growth in Sub-Saharan Africa : Evidence from New Trade Openness Indicator

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Abstract

The aim of this paper is to assess the effect of trade openness on economic growth in Sub-Saharan African countries. To this end, we use the new trade openness indicator of Squalli and Wilson (2011). Our estimates are carried out by the Generalized Moment Method (GMM) in system. The main results show that : (i) trade openness promotes economic growth in SSA countries; (ii) when accompanied by insufficient policies to promote infrastructure, financial development, human capital, investment in physical capital and price stability, trade openness does not further stimulate economic growth in SSA countries. Therefore, these complementary policies need to be sufficiently implemented in tandem with trade opening policies.

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1. Introduction

Since the early 1980s, several international organizations have been urging developing countries to liberalize their trade (Manwa et al. 2019). For some of them, such as the International Monetary Fund (IMF) and the World Bank (WB), the liberalisation of trade policies is often a sine qua non condition for the granting of financial aid or economic assistance. These conditionalities are based on the experience of developed countries, which seems to show that the decline in unemployment and the increase in savings relative to the average age distribution are much more marked in countries that are more open to trade.

From this perspective, trade openness is an effective weapon used, for example, by South-East Asian countries to increase their economic growth (Trejos and Barboza, 2015). Indeed, after experiencing low gross domestic product (GDP) growth in the 1950s, the average annual GDP growth of the "Four Dragons"[1] was over 8%, almost three times the world average in the early 1960s (Ghazouani et al. 2020).

The impressive economic success of the South-East Asian countries has reinforced the view among international organizations that such a development strategy is both effective and desirable. As a result, several countries in sub-Saharan Africa subscribed to such policies in the 1980s, first under the impetus of the General Agreement on Tariffs and Trade (GATT), and then within the framework of structural adjustment programmes and regional agreements. The aim was to promote exports through incentives to producers in export sectors, readjustments in their overvalued exchange rates and a lowering of their tariff and non-tariff barriers.

Unfortunately, few studies have systematically assessed the impact of these trade opening policies on economic growth in Sub-Saharan African (SSA) countries. However, in the current context of globalization, which is still not very favourable to SSA countries, if a causal relationship between trade openness and economic growth can be unambiguously established, this would encourage the governments of these countries wishing to improve their economic situation to adopt appropriate trade policies. The purpose of this paper is to establish this causal relationship.

The theoretical literature on the link between trade openness and economic growth is substantial and generally indicates a positive effect of the former on the latter, while the number of empirical papers on the subject is limited and fails to establish a favourable or unfavourable effect (Ramzan et al. 2020 ; Kong et al. 2020). Indeed, at the theoretical level, the idea that trade openness can generate both static gains (higher quality or more varieties of goods) and dynamic gains (a faster rate of innovation) was first widely highlighted by Grossman and Helpman (1991a, 1991b) and Rivera-Batiz and Romer (1991), and then further developed by Eaton and Kortum (2001), Melitz (2003) and Aghion and Howitt (2010), among others. On the one hand, faster growth following trade openness is driven both by innovators who have access to higher rents as market size increases and by spillovers across borders. On the other hand, since trade openness can affect the functioning of markets, and thus access to advanced technology, the incentive to invest in research and capital formation, it can promote technical progress and induce a permanent increase in long-term economic growth rates.

Empirically, econometric studies have failed to establish a systematic relationship between trade openness and economic growth, and opinions differ on the causal relationship. Indeed, while most research finds a positive relationship between trade openness and economic growth (see, for example, Sachs and Warner (1995), Harrison (1996), Edwards (1998), Greenaway et al. (2002), Wacziarg and Welch (2008), Ahmad and Arif (2012), Amiri (2012), Akilou (2013),

[1] South Korea, Hong Kong, Singapore and Taiwan.

Idris et al. (2016) and Kong et al. (2020)), some studies on the contrary dispute this result (see for example, Sachs (1987), Taylor (1991), Sachs and Warner (1999) and Rodriguez and Rodrik (2001)). Sachs (1987), for example, argues that the success of East Asian countries is largely due to an active role of their governments in promoting exports in an environment where imports have not been fully liberalized. For his part, Taylor (1991) argues that the liberalization strategy is intellectually "moribund" and that there are no "big gains" on top of the losses when a country embarks on trade and capital market opening. Sachs and Warner (1999) also believe that under certain conditions, trade liberalization may not stimulate growth. This is the case, for example, when there are institutional or market imperfections that lead to underutilization of human or capital resources, or specialization in extractive industries or in sectors that do not benefit from increasing returns to scale. For Rodriguez and Rodrik (2001), even after controlling for these conditions, it is not clear that there is a positive relationship between liberalization and economic growth.

The indeterminacy of the empirical results stems mainly from the difficulty of finding a reliable proxy that accurately describes trade openness (Huchet‐Bourdon et al. 2018). Indeed, to approximate trade openness, some studies use binary measures. However, because of their binary nature, these measures do not account for differences in the intensity of protection. In an attempt to address these shortcomings, other studies use the openness coefficient - the share of the sum of merchandise exports and imports in gross domestic product. But this coefficient and related measures do not take into account a country's relative weight in world trade (Squalli and Wilson, 2011).

Conversely, in this paper, we help to remove this indeterminacy by using an appropriate indicator of trade openness to examine its influence on economic growth. Specifically, unlike most previous work, we use the new trade openness indicator proposed by Squalli and Wilson (2011). The latter develop an original measure that reflects the trade outcome reality by capturing two dimensions that accurately describe trade openness: " We define an open economy as one that exhibits a relatively high share of trade to overall economic activity and substantial interaction and interconnectedness with the rest of the world. In other words, an open economy must trade heavily and must be a substantial contributor to world trade " (Squalli and Wilson (2011), p. 1747).

In addition, most empirical work uses time-series or cross-sectional specifications for the estimates. Wacziarg and Welch (2008) have shown that the resulting estimates are subject to omitted variable bias, endogeneity and multicollinearity. For this reason, our study relies on a specification in dynamic panel data. The use of panel data allows us not only to trace the dynamics of behaviours and their possible heterogeneity, but above all to reduce the risk of collinearity between explanatory variables. We use the two-step system generalized method of moments for the estimates. This method effectively solves the problems of simultaneity bias, omitted variables and endogeneity (Blundell and Bond, 1998).

The rest of the paper is structured in three sections. Section 2 presents the construction of the new trade openness indicator and the databases used. Section 3 describes the econometric methodology before presenting the results. We conclude with policy recommendations in section 4.

2. Data and variable construction

Our sample is composed of 40 SSA countries (09 Central African countries, 14 West African countries, 06 East African countries and 11 Southern African countries)[2] and covers the period 1989-2012. This period is subdivided into six four-year sub-periods.

2.1. A new measure of trade openness

The difficulty in obtaining consensual and non-controversial trade openness policy measures tends to explain, at least in part, why the vast majority of empirical studies focus instead on measures of trade outcomes to test hypotheses (see Table 1).

Table 1: Measures of trade openness

Measure	Definition
M_i / GDP_i	Import trade share, measured as imports (M) divided by country i˘s nominal income (GDP)
X_i / GDP_i	Export trade share, measured as exports (X) divided by country i˘s GDP
$(M_i + X_i) / GDP_i$	Trade share (TS), measured as exports and imports divided by country i˘s GDP
$1 - [(M_i + X_i) / 2GDP_i] ¼ 100$	Adjusted trade share, an alternative method for handling outliers originally suggested by Frankel (2000)
$M / GDP_i - \left[1 - GDP_i / \left(\sum_{i=1}^{k} GDP_i\right)\right]$	Adjusted trade share, a modification to the Frankel (2000) approach, suggested by Li et al. (2004)
$(M_i + X_i) / rGDP_i$	Real trade share, where the denominator is purchasing power parity adjusted GDP (real GDP) following Alcalaúand Ciccone (2004)

Source : Squalli and Wilson (2011).

To this can be added two other reasons. First, data sources from trade outcome measures are more readily available. Second, trade outcomes would be the result of a combination of exogenous and endogenous economic forces that include a range of economic policy effects as well as economic fundamentals.

Although different, measures of trade performance share a common characteristic: they express, for a given country, trade in terms of its share in income. Table 1 provides a summary list of several of these measures of trade openness. But in almost all studies dealing with the link between trade openness and economic growth, trade openness is measured by the openness rate (sum of exports (X) and imports (M) divided by gross domestic product (GDP), ((M + X)/GDP) which is an absolute indicator of openness - commonly identified as Trade Share (TS). Openness rates measure the degree to which an economy is open to foreign trade.

[2] Central Africa (Angola, Burundi, CAR, DRC, Cameroon, Chad, Congo, Gabon, Equatorial Guinea); West Africa (Benin, Burkina Faso, C×te d'Ivoire, Ghana, Guinea, Guinea Bissau, Gambia, Liberia, Mali, Mauritania, Nigeria, Senegal, Togo); East Africa (Ethiopia, Seychelles, Djibouti, Uganda, Rwanda, Sudan, Kenya); Southern Africa (Botswana, Comoros, Madagascar, Mozambique, Mauritius, Namibia, Malawi, Swaziland, South Africa, Zambia, Zimbabwe).

For example, for a given country, the higher the TS, the more the economy benefits from the trade gains associated with openness.

Table 2: Ranking of countries according to trade openness indicators

Countries	$(M_i + X_i)/GDP_i$	Rank	CTS	Rank
Burundi	30.54	131	22.46	134
South Africa	55.15	107	5969.26	37
Benin	44.45	118	86.81	124
Burkina Faso	40.33	121	103.38	121
Comoros	57.52	99	19.24	135
C×te d'Ivoire	85.22	62	1348.69	69
Ethiopia	46.08	116	562.32	95
Gambia	108.92	38	117.54	120
Ghana	118.75	30	2142.40	60
Guinea	57.15	101	410.17	99
Guinae Bissau	89.69	55	40.69	133
Kenya	61.71	94	862.75	80
Madagascar	59.52	95	275.75	106
Mali	65.34	87	263.52	107
Malawi	64.48	89	198.06	113
Mauritius	130.55	20	1665.73	63
Mozambique	54.63	109	336.24	102
Nigeria	93.12	51	5202.25	40
Rwanda	32.33	130	49.65	131
Senegal	70.08	80	450.01	98
Seychelles	164.76	9	146.86	117
Swaziland	146.31	15	645.73	91
Togo	85.41	61	174.92	114
Zambia	70.45	78	240.86	111
Zimbabwe	62.61	91	738.10	88
Cameroon	57.44	100	645.90	89
Congo	132.5	18	767.59	86
Gabon	71.79	76	282.08	105
Equatorial Guinea	153.05	10	630.81	93
Sao Tome-and-Principe	115.32	34	14.82	136
Chad	48.60	112	99.72	122
Germany	67.07	86	50565.79	5
China	48.36	113	64724.01	4
India	30.45	132	14458.98	23
United States	26.2	133	38517.96	9
Japan	20.1	136	7603.43	35
United Kingdom	57.81	97	27798.85	13
Russia	70.68	77	41574.34	7

Source: Based on Squalli and Wilson (2011).

A surprising anomaly emerges, however, when comparing countries using TS-based measures of trade openness. As shown in Table 2, according to TS, Japan, the United States and India are among the five most closed economies in the world. Other hand, SSA countries, notably Equatorial Guinea and Congo are among the most open. In other words, the world's largest trading powers are relatively closed economies according to TS. They are closed in the sense that their trade share in global economic activity is very low by world standards. As a result, these economies do not benefit from the gains of trade. One obvious explanation is that TS or related indicators (adjusted trade share and actual trade share) are one-dimensional measures of trade openness. Focus only on the relative position of a country's trade performance relative to its domestic economy and in this way, they "penalize" the largest economies by classifying them as closed.

On the contrary, "we posit that trade openness is a two-dimensional concept. Both dimensions capture, in a different way, the extent to which a country˘s economy is linked to international economic activity. The first dimension involves measuring the proportion of a given country˘s total income that is linked to international trade and may be represented by TS and its related measures listed in Table 1. The second dimension reflects a country˘s interaction and interconnectedness with the rest of the world. In what follows, we suggest a way to correct the anomaly observed in the rankings by combining these two dimensions to form a new measure of trade openness, that we call, composite trade share (CTS) "(Squalli and Wilson (2011), p. 1752).

From a theoretical point of view, gains from trade are created regardless of whether a country shares a relatively large or small share of trade (Trade Share, TS), provided it trades with the rest of the world. As a result, when trade openness is measured only using TS or related measures, this second important dimension of trade openness that captures the benefits of relatively intense trade with the rest of the world is neglected. Squalli and Wilson (2011) suggest an alternative way to measure trade openness by combining the two dimensions: TS and World Trade Share (WTS). An outline of their method is reproduced below.

The first important dimension represents the share of trade in overall economic activity and which can be represented by TS. The share of the country's trade i can be measured in the interval :

$$0 \leq (M + X)_i / GDP_i \leq \infty .$$

This dimension captures the importance of trade for a particular country.

The second dimension of trade openness involves the relative contribution that a country makes to total world trade. Consider a set of countries, $j = \{1, 2, 3, ..., n\}$ where $i \neq j$, then the country's share of world trade i can be expressed as:

$$WTS_i = \frac{(M + X)_i}{\sum_{j=1}^{n} (M + X)_j}, \qquad (1)$$

representing the i country's total trade relative to total world trade. The WTS_i larger the country, the greater its weight in world trade. That is, the more open economy is the one that contributes the most to world trade relative to all other countries. The closer this measure is to zero, the less the country trades with the rest of the world and the more the country is closed to world trade. The value of a country's share of world trade indicates how much a country contributes to world trade. That is, this dimension captures the importance of a particular country in world trade.

Let the D_r distance ratio, measuring the deviation of WTS from the average of the WTS ratios of all countries and $\bar{x} = 1/n$ described as follows :

$$D_r = \frac{WTS_i}{\bar{x}} - 1, \qquad (2)$$

where $D_r > 0$ when $WTS_i > \bar{x}$ and $D_r < 0$ when $WTS_i < \bar{x}$.

Then CTS can be the simple product of D_r and TS:

$$CTS_i = (1 + D_r)TS_i. \qquad (3)$$

(2) in (3) gives :

$$CTS_i = \frac{(M+X)_i}{\frac{1}{n}\sum_{j=1}^{n}(M+X)_j}\frac{(M+X)_i}{GDP_i}. \qquad (4)$$

Intuitively, CTS represents TS adjusted by the proportion of a country's level of trade relative to average world trade. The export, import, and GDP data needed to construct the CTS indicator come from the World Development Indicators.

2.2. Economic growth and control variables

As in previous studies we use the growth rate of GDP per capita (gdp) as a proxy for economic growth. In addition to trade openness, a country's economic growth also depends on a multitude of other factors. We take the determinants of economic growth commonly used in the empirical literature (see He and Xu (2019), Bruns and Ioannidis (2020)).

By improving competitiveness, investment in physical capital is an important source of economic growth. We measure it through the ratio of gross fixed capital formation to GDP (gfic). Inflation can have an adverse effect on economic growth in open economies because real depreciation is more costly. However, there seems to be a consensus that low and stable inflation boosts economic growth. Since the consumer price index is not available for most of the countries in the sample, inflation is captured by the inflation rate obtained from annual changes in the GDP deflator (infl). By enabling workers to be more efficient and productive, increases in human capital also have a positive effect on economic growth. Human capital is approximated by the secondary school enrolment ratio (hca). The existence of good quality infrastructure is also conducive to economic growth. Indeed, good quality infrastructure stimulates growth by promoting the rapid flow of goods and services, labour and information. We use the number of telephone lines per 100 inhabitants (infr) to capture the level of infrastructure development. Finally, the lack of financial development can prevent firms from having the resources necessary for basic research and development activity for technological innovations. Financial development is captured by the ratio of domestic credit to the private sector to GDP (fd). Data for all these variables are from the World Bank's World Development Indicators.

As a result, the basic equation derived from Wacziarg and Welch (2008) and Huchet-Bourdon et al. (2018) for estimating the effect of trade openness on economic growth is

$$Log(gdp_{it}) = m + f\,Log(open_{it}) + X_{it}'b + e_{it}, \qquad (5)$$

where i is the country index, t the period index, e_{it} the error term, m, a constant, X_{it}' is the transpose of the vector of control variables, f the coefficient of the logarithm of the trade openness variable open and b the vector of coefficients of the control variables.

3. Econometric strategy

3.1. Dynamic panel specification of the equation to be estimated

We specify the dynamic panel model `(5)_ to overcome the specification problems encountered in the empirical literature as follows:

$$y_{it} = a\, y_{it-1} + f o_{it} + X_{it}' b + m_t + u_i + e_{it}, \qquad `(6)_$$

where y_{it} is the logarithm of the country's economic growth variable i at period t; y_{it-1}, the logarithm of the same variable lagged by one period; o_{it} is the logarithm of the country's degree of trade openness i at period t; X_{it}' is the transpose of the vector of control variables; m_t is the time effect, which measures the effect on the temporal variations of each country's economic growth of the evolution of unobservable variables assumed to be common to all countries (including macroeconomic, political and technological shocks); u_i is the country fixed effect which controls for unobservable characteristics that are invariant over time and specific to each country; and e_{it} is the error term.

3.2. GMM in system estimation

To solve the problems of omitted variables, endogeneity and simultaneity, we use the Generalized Moment Estimator (GMM) of Blundell and Bond (1998). Specifically, we prefer the GMM estimator in a two-stage system because it is asymptotically more efficient than single-stage estimation (Roodman, 2009). GMM in system consists of simultaneously estimating the level equation `(6)_ and the first-difference equation `(7)_ below using the generalized method of moments :

$$Dy_{it} = a Dy_{it-1} + f Do_{it} + DX_{it}' b + Dm_t + De_{it}, \qquad `(7)_$$

Where D indicates the delay operator.

3.3. Results

Table 3 presents the results of estimating the effect of trade openness on economic growth by GMM in a two-stage system. The probability associated with Hansen's overidentification test is greater than 5%, indicating that the instruments are valid. Similarly, at the 5% threshold, Arellano and Bond's second-order autocorrelation test cannot reject the hypothesis of the absence of second-order autocorrelation. Let us first look at column (2), where the CTS indicator is used as a proxy for trade openness. Not all of the estimated coefficients on the control variables are statistically significant. While, as expected, investment in physical capital and infrastructure promotes economic growth, financial development, human capital and inflation have no effect on economic growth.

Table 3: Effect of trade openness on economic growth

	Variable to explain : $Log(gdp_{it})$	
	(1)	(2)
$Log(open_{it})$	0.006	0.003***
	(1.57)	(1.73)
$Log(hca_{it})$	0.043	0.317
	(1.09)	(1.01)
$Log(gfic_{it})$	0.292*	0.278*
	(6.38)	(4.69)
$Log(Infr_{it})$	-0.188***	0.654**
	(1.82)	(1.80)
$Log(fd_{it})$	-0.008*	0.355
	(2.72)	(0.17)
$Log(Infl_{it})$	0.007**	-0.123
	(2.49)	(1.21)
Constante	-5.159*	-14.72**
	(4.55)	(2.22)
Number of instruments	33	33
Observations	200	200
Number of countries	40	40
Hansen's test (probability)	0.344	0.299
AR(2) (probability)	0.428	0.403

Note : *, ** and *** are significant at the 1%, 5% and 10% thresholds respectively. Student's t in absolute values are in parentheses. The estimated coefficient of the lagged endogenous variable ($Log(gdp_{it-1})$) is not reported.

For our variable of interest, the estimated elasticity of trade openness with respect to economic growth is positive and statistically different from zero. Therefore, the positive marginal effect indicates that more trade openness promotes economic growth in SSA countries. This result is consistent with the theoretical literature. Trade openness increases the size of markets that innovators can capture, or it increases the scale of production and thus the extent of learning-by-doing externalities. This market size effect is more important for small SSA countries since their market size increases more when they open up to trade (Alesina et al. 2005).

The first column of Table 3 presents the results of the estimates of the equation where trade openness is measured by the opening rate (TS). In contrast to column (2), the estimated elasticity of trade openness with respect to economic growth is positive but statistically insignificant. This result, which is no doubt related to the nature of the indicator, is also present in Baldwin (2004).

According to Chang et al. (2009), trade openness needs to be combined with other complementary policies if it is to further boost economic growth. We test this hypothesis by alternately interacting the trade openness variable (TOC) with human capital, physical capital, inflation, infrastructure and financial development. Table 4 summarizes the results of this exercise. They reveal that trade openness does not have a spillover effect on economic growth when accompanied by complementary policies. This can be explained by the fact that the latter have not been sufficiently implemented due to a lack of financial resources.

However, Squalli and Wilson's (2011) indicator is not perfect. Indeed, an "assembler" country that imports a lot of intermediate goods and exports final goods will have a high indicator, as will a highly specialized country. Nevertheless, the two countries cannot be said to be

identically open, since for one, exports are induced by imports and for the other, they are more disconnected. This structural aspect influences not only the indicator, but also trade policies.

Table 4: Consideration of complementary policies

	Variable to explain : $Log(gdp_{it})$				
	(1)	(2)	(3)	(4)	(5)
$Log(hca_{it})$	0.030 (0.87)	0.021 (1.20)	0.032 (0.98)	0.034 (0.88)	0.050 (1.29)
$Log(gfic_{it})$	0.276* (4.5)	0.249* (4.76)	0.275* (4.52)	0.301* (7.46)	0.258** (3.61)
$Log(open_{it})$	0.003 (0.562)	0.0153 (1.42)	0.003 (0.003)	0.119 (0.96)	-0.716 (1.10)
$Log(Infl_{it})$	-0.143 (1.19)	-0.033 (0.52)	-0.153 (1.04)	-0.161 (1.22)	-0.208 (1.52)
$Log(Infr_{it})$	0.659*** (1.77)	0.608** (2.31)	0.678*** (1.76)	0.965** (2.37)	0.5004*** (1.78)
$Log(fd_{it})$	0.342 (0.16)	0.370 (0.16)	0.194 (0.08)	-0.144 (0.06)	0.442 (0.26)
$Log(open_{it}) ¼ Log(hca_{it})$	0.00004 (0.21)				
$Log(open_{it}) ¼ Log(gfic_{it})$		-0.0007 (1.18)			
$Log(open_{it}) ¼ Log(Infl_{it})$			0.0001 (0.16)		
$Log(open_{it}) ¼ Log(Infr_{it})$				-0.007 (0.95)	
$Log(open_{it}) ¼ Log(fd_{it})$					0.033 (1.13)
Constante	-14.62** (2.11)	-13.51** (3.45)	-14.57** (2.16)	-18.82** (2.70)	-12.45** (2.29)
Number of instruments	33	33	33	33	33
Observations	200	200	200	200	200
Number of countries	40	40	40	40	40
Hansen's test (probability)	0.260	0.446	0.271	0.300	0.537
AR(2) (probability)	0.401	0.317	0.399	0.491	0.280

Note : *, ** and *** are significant at the 1%, 5% and 10% thresholds respectively. Student's t in absolute values are in parentheses. The estimated coefficient of the lagged endogenous variable ($Log(gdp_{it-1})$) is not reported.

4. Conclusion and policy recommendations

In this paper, we empirically assess the effect of trade openness on economic growth in Sub-Saharan African countries. We used the original indicator of trade openness constructed by Squalli and Wilson (2011), which reflects its two-dimensional nature. The econometric strategy is based on a dynamic panel specification and the Generalized Method of Moments (GMM) in a two-step system.

Our results show that trade openness promotes economic growth in sub-Saharan African countries. Moreover, they show that trade openness does not have an accelerating effect on economic growth when it is accompanied by insufficient policy measures to promote infrastructure, financial development, human capital, physical capital investment and price stability. Two main lessons can be drawn.

On the one hand, by increasing the size of the market, trade openness increases ex-post rents for innovators, which encourages investment in R&D. On the other Furthermore, by increasing competition in the product market, trade openness encourages innovations designed to protect against competition from the most advanced firms in the domestic economy. However, it can discourage innovation by the most backward firms. This disincentive effect then introduces the possibility that trade openness can sometimes harm economic growth, particularly in small countries, such as those in sub-Saharan Africa, located far below the global technological frontier (Aghion and Howitt, 2010). Therefore, it is desirable to first remove barriers to innovation before fully liberalizing trade in these countries. To this end, Sub-Saharan African countries should : (i) implement measures to rapidly increase the critical mass of researchers and externalities related to both basic and applied research; (ii) give priority to research and development by considerably increasing the budget devoted to it.

On the other hand, economic diversification stabilizes economic growth by mitigating shocks. However, the economies of sub-Saharan Africa are poorly diversified. They produce few tradable goods and import almost everything from the rest of the world. By stimulating technology transfer, trade openness promotes economic diversification by accelerating structural transformation and industrialization (Singh, 2010). However, the appropriation of innovative technologies requires a specific and highly skilled labour force that is too often lacking in SSA. Therefore, these countries should invest more in increasing the stock of human capital. Complementary policies (investment, human capital formation, financial development and macroeconomic stability) that are essential for trade liberalization to have a positive impact on growth must also be sufficiently implemented. To this should be added the improvement and/or adoption of good institutions that limit corruption, capital flight and guarantee property rights. Improving the quality of institutions should cover the area of the above-mentioned complementary policies.

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