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## Article

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## Trade and Tourism in Democratic Republic of Congo: Key Business for Sustainable Financing

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### ABSTRACT

**Purpose:** This study examines Democratic Republic of Congo's (DRC) trade and tourism as the country's key business for sustainable financing and growth.

**Design/methodology/approach:** This study uses a panel dataset of DRC's trade and tourism flows from 165 countries over two years (2014-2015). An empirical analysis based on the gravity model is conducted.

**Findings:** The empirical results are basically consistent with the general prediction of the gravity model that both size and distance matter, but, this stereotype result seems to fade away when the consumer price index (CPI) and region dummy are added.

**Research limitations/implications:** Based on the results, it is recommended that DRC to take appropriate measures and cooperate with its neighboring African countries to attract more tourists, strengthen existing trade agreements, and implement policies to minimize real exchange volatility and strengthen misalignment to create maximize economic benefits.

**Originality/value:** An empirical paper for DRC, particularly for both trade and tourism is rare. This study is expected to give a guideline for this country's sustainable growth.

*Keywords:* Democratic Republic of Congo, Trade, Tourism, Regional Integration, Gravity Model

## I. Introduction

The Democratic Republic of Congo (DRC) is located in Central Africa and is the largest French-speaking country in the continent (See Figure 1). The country is known for its size, being the second largest country in the continent after Algeria. DRC shares its borders with Angola, Burundi, Central

African Republic, Republic of Congo, Rwanda, South Sudan, Tanzania, Uganda, and Zambia (see Figure 1). It is also known for its abundance in natural resources. The outbreak of conflicts and wars in the 1990s, however, led to the widespread looting of resources. As a post-conflict country, DRC is still undergoing recovery and reconstruction efforts. Only recently has the country's vast deposits of natural resources been contributing in economic development and peace building within the Central African region.

DRC majorly exports refined copper, diamonds, crude petroleum, and cobalt ore, whereas it imports

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Source: Operation World

**Figure 1.** Map of DRC

packaged medicaments, glass bottled, refined petroleum, human or animal blood, and iron structures. In 2018, China and South Africa were DRC’s top two exporting and importing partner countries (See Table 1). Interestingly, the top five exporting and importing countries were identical, including China, South Africa, Zambia, United Arab Emirates, and India. In both of the lists, China and South Africa were the top 2 countries. Generally, DRC trades more with Asian and Western countries than with its neighboring countries.

Recently, international organizations have been recognizing tourism as a potential factor in driving inclusive growth and economic development in the African region. Tourism in Africa accounts for about 8.5% of the GDP, 7% of international trade, 30% of trade in services, and 7% of total exports of goods and services to developing countries (UN 2017). According to UNTWO (2017), the travel and tourism industry had a growth rate of approximately 4% for eight years and 393 million people travelled abroad between 2008 and 2017. With such development, the international community has recognized tourism as a solution to reduce poverty in developing countries by using it to structurally transform economies through creating new jobs and increasing exports (UNWTO 2017, World Bank 2017). Thus, tourism is a topic that is of utmost importance in a developing country like the DRC.

With the interest of international organizations in

**Table 1.** Ranking of Countries with Respective to Average Export and Import (2018)

Rank	Export	Import
1	China	China
2	South Africa	South Africa
3	Zambia	Zambia
4	United Arab Emirates	United Arab Emirates
5	India	India
6	Tanzania	Tanzania
7	Belgium	Belgium
8	Hong Kong	Hong Kong
9	France	France
10	Mauritius	Mauritius
11	Mozambique	United States
12	Kenya	Mozambique
13	Togo	Kenya
14	Netherlands	Togo
15	Malaysia	Netherlands
16	Singapore	Malaysia
17	Namibia	Singapore
18	Russian Federation	Namibia
19	Uganda	Russian Federation
20	United Kingdom	Uganda
21	Germany	United Kingdom
22	Nigeria	Germany
23	South Korea	Nigeria
24	Switzerland	South Korea
25	Canada	Switzerland

Source: Author’s organization based on data from DOTS Database (IMF).

DRC is involved as member in several international and regional organizations related to trade and tourism. Some includes the World Trade Organization (WTO), World Tourism Organization (UNWTO), Southern African Development Community (SADC) and Common Market for Eastern, and Southern Africa (COMESA). During the implementation of the 2063 Agenda of the African Union, the DRC also signed the African Free Trade Continental Agreement with 43 other African countries. This agreement aims to create a continental market for more than 1.2 billion people with a GDP estimated at \$3 trillion and to

eliminate tariff and non-tariff barriers so that African products can circulate freely within the zone without customs taxes. It is expected to increase domestic production and job creation, and reduce poverty (African Union 2018).

However, trade and tourism in DRC still face many challenges. The decades of instability and violence in the country led to poor economic management and infrastructure, arbitrary taxation, marginal enforcement of property rights, and the weak rule of law (Heritage 2018). Such are critical obstacles in developing a conducive business environment for trade. In terms of tourism, armed conflicts, inadequate infrastructure and management, and poor communication and financial services hinder tourists from traveling to the country (Drake-Brockman 2012). In order to better understand DRC's trade flows and tourism pattern, this study investigates a panel dataset, covering 165 countries over two years (2014-2015). This study makes the first attempt to empirically examine determinants of DRC's trade and tourism patterns, with consumer price index (CPI), region-specific analyses, socio-economic and political factors as additional variables influencing the country's trade and tourist flows, which should be recognized as a contribution to the existing literature.

The rest of the paper is organized as follows. Section 2 presents the literature review. Section 3 describes the methodology and data used in this study. Section 4 analyzes the empirical results. Section 5 concludes with policy implications.

## II. Literature and Model

The gravity model was first introduced by Tinbergen (1962) to explain cross-border trade. The model is based on Newton's universal law of gravitation, which states that bilateral flows between two countries are directly proportional to the countries' economic masses and inversely proportional to the distance between them. Gravity model has been used

extensively to explain the international trade of goods (Tinbergen, 1962; McCallum, 1995; Linnemann, 1966; Rose, 2000; Anderson and Van Wincoop, 2003), migration (Gil-Pareja et al., 2007; Mak and Moncur, 2003; Karemera et al., 2000), and foreign direct investment (Bénassy-Quéré et al., 2007; Bergstrand and Egger, 2007; Head and Ries, 2008). Tinbergen (1962) estimates the determinants of trade flows and provides initial specifications by applying the gross domestic product (GDP) to measure a country's economic size. Gil-Pareja *et al.* (2007) compare and contrast the studies that analyze the impact of the currency euro on trade by examining origin and destination countries. Lee and Oh (2020) applied the model to analyze multilateral trade settings in Southeast Asia to examine the benefit of regional integration with extended cooperation with neighboring countries, known as ASEAN+3 or ASEAN+6. The gravity model is also useful examining determinants of tourism patterns (See Oh and Zong (2016) for China, Bermeo and Oh (2013) for Peru, and Kosnan and Ismail (2012) for Malaysia's international tourism flows)

This study adopts two sets of regressions. The first equation is the typical model used by many studies to calculate trade patterns. The second equation, an adoption of Oh and Zhong (2016)'s model, measures tourism patterns. The equations are:

$$\ln TR_{cjt} = \alpha + \beta_1 \ln(GDP_{ct} * GDP_{jt}) + \beta_2 \ln(PGDP_{ct} * PGDP_{jt}) + \beta_3 \ln Dist_{cj} + \beta_4 \ln Region_j + \varepsilon_{cjt} \quad (1)$$

$$\ln TA_{cjt} = \alpha + \beta_1 \ln(GDP_{ct} * GDP_{jt}) + \beta_2 \ln(PGDP_{ct} * PGDP_{jt}) + \beta_3 \ln(CPI_{ct}/CPI_{jt}) + \beta_4 \ln Dist_{cj} + \beta_5 \ln Region_j + \varepsilon_{cjt} \quad (2)$$

In both of these equations, c represents DRC and j represents the countries where tourists are coming from.  $TA_{cjt}$  is the number of tourists' arrivals from countries j to country c (DRC) in year t and TR is the trade volume, which is the sum of imports and exports.  $GDP_{ct} * GDP_{jt}$  is the product of GDP of country c and the tourist's country j in year t;  $PGDP_{ct} * PGDP_{jt}$  is the product of per capita GDP of country c and the tourist's country j in year t;  $CPI_{ct}/CPI_{jt}$  is the relative price of tourism given

by ratio of the CPI of country *c* over the CPI of the tourist's country *j* in year *t*; *Dist<sub>cj</sub>* is the distance between country *c* and the tourist's country *j*; *Region*=1 if the tourist's country *j* is located in Africa, and 0 otherwise;  $\varepsilon_{cjt}$  indicates residuals.

Hypotheses for the basic variables are such that both GDP and per capita GDP affect positively while distance is a negative factor. CPI measures price level, which estimates that trade flows and tourist flows are less with the higher price level. Region dummy is expected to show a positive sign, supporting a higher level of intra-regional movement.

The data for GDP, per capita GDP, population, imports, exports, and CPI are all collected from the World Bank's World Development Indicators. For distance, the data is from [www.distancefromto.net](http://www.distancefromto.net) and for the numbers of tourists' arrivals, it is from the National Tourism Office of DRC's Ministry of Tourism.

### III. Analyses and Discussions

The empirical results are consistent with the general prediction of the gravity model. In the basic model,

shown in Table 2, the coefficients for GDP and distance are consistently positive and negative, respectively. This implies that DRC's export and import volume, as well as international tourist arrivals follow the prediction of the gravity model. For example, when GDP of a partner country rises by 1%, DRC's export to, import from, and tourist arrivals from the country rises by 0.842-0.844%, 0.783-0.785%, and 0.457-0.464%, respectively, while distance shows consistently negative coefficients in all models. In the extended models (see Table 3), however, 'distance' lacks statistical significance, although it is still negative. Instead, the region dummy (where African countries are denoted as 1, and other countries, as 0) is mostly positive, ranging from 2.03 to 2.06, implying that this dummy absorbs the most of the explanatory power of the distance coefficient. In addition, the coefficients for CPI are all negative, showing that tourists are taking the DRC's relatively lower price level into consideration when they decide to visit the country.

Following Montenegro and Soto (1996), Sohn (2005), and Oh and Tumurbaatar (2011), the following section presents the predicted trade volumes of the country's exports and imports with its trading partners, as well as the predicted tourist arrivals. Predicted volumes are derived from the estimation

**Table 2.** Basic Models

	Log of Export			Log of Import			Log of Tourist Arrivals		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Log of GDP	0.842*** (0.026)	0.844*** (0.026)	0.842*** (0.026)	0.783*** (0.020)	0.785*** (0.020)	0.783*** (0.020)	0.464*** (0.078)	0.458*** (0.078)	0.457*** (0.078)
Log of per capita GDP	0.636*** (0.036)	1.481*** (0.034)	0.636*** (0.036)	0.413*** (0.036)	1.199*** (0.030)	0.414*** (0.036)	-0.361*** (0.135)	0.104 (0.115)	-0.355*** (0.135)
Log of Distance	-0.141** (0.065)	-0.156** (0.066)	-0.141** (0.065)	-0.052 (0.048)	-0.066 (0.050)	-0.052 (0.048)	-0.665*** (0.215)	-0.671*** (0.216)	-0.664*** (0.215)
Constant	-2.298*** (0.538)	-2.228*** (0.544)	-2.299*** (0.539)	0.693 (0.504)	0.762 (0.509)	0.696 (0.505)	2.562 (2.174)	2.704 (2.174)	2.671 (2.176)
Number of Observations	277	277	277	277	277	277	312	312	312
R Square	0.930	0.928	0.930	0.926	0.923	0.923	0.131	0.128	0.131
Estimation Methods	OLS	OLS	OLS	OLS	OLS	OLS	IV	IV	IV

Note: \*\*\*, \*\*, \* at 1%, 5%, 10% significance, respectively. White robust corrected standard errors in parenthesis to tackle heterogeneity; (1) Basic model with GDP, per capita GDP, and distance (all log transformed) as explanatory variables; (2) Log-transformed population is used instead of GDP (3) Log-transformed population is used as an instrumental variable for GDP.

**Table 3.** Extended Models with CPI and Region Dummy

	Log of Export			Log of Import			Log of Tourist Arrivals		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Log of GDP	0.845*** (0.027)	0.849*** (0.027)	0.846*** (0.027)	0.783*** (0.020)	0.786*** (0.021)	0.783*** (0.020)	0.494*** (0.087)	0.494*** (0.088)	0.492*** (0.088)
Log of per capita GDP	0.670*** (0.041)	1.529*** (0.045)	0.670*** (0.041)	0.413*** (0.039)	1.208*** (0.036)	0.413*** (0.039)	-0.058 (0.155)	0.443*** (0.140)	-0.056 (0.155)
Log of Distance	-0.091 (0.062)	-0.093 (0.062)	-0.091 (0.062)	-0.053 (0.047)	-0.054 (0.048)	-0.053 (0.047)	-0.122 (0.237)	-0.124 (0.236)	-0.122 (0.237)
CPI							-0.004* (0.002)	-0.004* (0.002)	-0.004* (0.002)
Region	0.201* (0.103)	0.254** (0.110)	0.202* (0.103)	-0.003 (0.081)	0.046 (0.089)	-0.003 (0.081)	2.032*** (0.405)	2.061*** (0.408)	2.030*** (0.405)
Constant	-3.197*** (0.749)	-3.374*** (0.770)	-3.209*** (0.755)	0.705 (0.569)	0.557 (0.586)	0.710 (0.572)	-5.908** (2.950)	-5.947** (2.970)	-5.853** (2.959)
Number of Observations	277	277	277	277	277	277	279	279	279
R Square	0.931	0.929	0.931	0.926	0.923	0.926	0.204	0.203	0.205
Estimation Methods	OLS	OLS	OLS	OLS	OLS	OLS	IV	IV	IV

Note: \*\*\*, \*\*, \* at 1%, 5%, 10% significance, respectively. White robust corrected standard errors in parenthesis to tackle heterogeneity; (1) Basic model with GDP, per capita GDP, and distance (all log transformed) as explanatory variables; (2) Log-transformed population is used instead of GDP (3) Log-transformed population is used as an instrumental variable for GDP.

based on regression results. By comparing the predicted volumes with the actual ones, it can be identified whether there is any sort of trade barrier or distortion that blocks normal flows of trading goods and flows of tourist arrivals. The results in Tables 4 and 5 are derived from the results in the above-mentioned tables, as their average values.

As shown in Table 4, neighboring African countries show higher ratio in both export and import, implying that the regional economic bloc is not very active. Regarding exports, seven countries in the table are in Africa and the numbers increase up to 13 if nearby Middle East countries are included. Under the assumption that the missing values are zero, four more countries are added - Ethiopia, Seychelles, Tunisia, and Zambia. For imports, there are five African countries and 12 African Middle East countries. Despite the existence of the Southern African Development Community (SADC)<sup>1)</sup>, DRC

is not working closely with the other member state countries. As shown in Table 1, there are more countries from Asia, Europe, and America on DRC's top exporting and importing countries than countries from Southern Africa. Some of the reasons why this is so are the economic underdevelopment in Africa and insufficient transport infrastructure. Some of the most inefficient ports are in Africa, notably Ethiopia, Nigeria, and Malawi (Clark et al., 2004). According to Limão and Venab (2001), Africa's poor infrastructure is the major reason for Africa's poor performance in trade and transport costs. Although such pattern is not clearly shown among tourist arrivals (both in Table 4 and Table 5), but, as shown in Table 6, no African countries are on the list regarding the number of tourist arrivals. DRC is exhibiting better performance in tourism than in trade but it is only marginal, and the country should further try to attract more tourists from geographically proximate countries.

1) SADC is a Regional Economic Community established in 1992 to promote regional integration and poverty eradication within the Southern African region through economic development and pursuing peace and security. It has 16 members, including Angola, Botswana, Comoros, Democratic Republic of Congo, Eswatini,

Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia, and Zimbabwe.

**Table 4.** Actual vs. Estimated for Export, Import and Tourist Arrivals - Top 20 Countries Where “Estimated” Exceeds “Actual”

Country	EX_A	EX_E	EX_R	Country	IM_A	IM_E	IM_R	Country	TOUR_A	TOUR_E	TOUR_R
Kosovo	20.96511	22.02676	1.050639	Sudan	22.53297	23.97327	1.06392	Bahrain	0.846674	4.283628	5.059362
Afghanistan	21.04144	22.07883	1.049303	Iran	24.57501	26.12234	1.062963	Kyrgyzstan	0.990515	4.251113	4.291822
Burundi	19.12327	20.02296	1.047047	TimorLeste	20.60275	21.74616	1.055498	Bahamas	0.846674	3.541587	4.182942
Egypt	24.47273	25.61127	1.046523	Nigeria	24.42921	25.53349	1.045203	Lao PDR	1.193247	4.399547	3.687038
Pakistan	23.84101	24.9399	1.046092	Pakistan	24.23911	25.26048	1.042137	Guatemala	1.616896	4.833528	2.989387
Nepal	21.45148	22.26983	1.038149	Qatar	24.74979	25.77484	1.041417	Azerbaijan	2.253379	5.061115	2.246012
Iran	25.29345	26.13819	1.033397	Eq. Guinea	22.64693	23.51887	1.038501	Lithuania	2.045621	4.561237	2.229757
Qatar	25.3768	26.18989	1.032041	Azerbaijan	23.57778	24.47325	1.037979	Kuwait	2.318893	5.036477	2.171932
Yemen	21.97777	22.67673	1.031803	Kuwait	24.56947	25.48214	1.037147	Latvia	1.997966	4.306942	2.155663
Albania	22.02794	22.71444	1.031165	Gabon	22.48932	23.25129	1.033881	Cambodia	2.384561	5.09683	2.137429
Argentina	24.98433	25.75849	1.030986	GuineaBissau	19.55624	20.1768	1.031732	Uzbekistan	2.552797	5.26315	2.061719
Sudan	22.99228	23.70288	1.030906	Yemen	22.52654	23.21692	1.030647	Morocco	3.470186	6.489482	1.870068
Libya	23.39366	24.06471	1.028685	Armenia	22.0019	22.65563	1.029713	Belarus	2.669834	4.950002	1.854049
Algeria	24.73018	25.39794	1.027002	Argentina	25.03168	25.77378	1.029646	Ethiopia	3.678154	6.812366	1.852116
Saudi Arabia	26.40759	27.05516	1.024522	Egypt	24.97599	25.63832	1.026519	Costa Rica	2.552797	4.481225	1.755418
Dominican Rep.	23.52142	24.07289	1.023445	Uzbekistan	23.4718	24.05996	1.025058	SaudiArabia	3.611388	6.066262	1.679759
Rwanda	20.91932	21.39667	1.022819	Uruguay	23.28947	23.84871	1.024013	Romania	3.227761	5.407559	1.675329
Armenia	21.76649	22.24123	1.02181	Saudi Arabia	26.11799	26.7384	1.023754	Uganda	3.993075	6.630413	1.660478
Uruguay	23.20837	23.70195	1.021267	Albania	22.49121	23.01887	1.023461	Yemen	3.144233	5.198395	1.653311
Mauritius	22.48492	22.95149	1.02075	Oman	24.30072	24.86359	1.023163	Paraguay	2.738768	4.514645	1.648422

Note: EX\_A, EX\_E, EX\_R stand for actual estimated flows (log), estimated export flows (log), and their ratio (EX\_R=EX\_E/EX\_A), respectively. The same goes to import and tourist arrivals. Estimated was measured using “predict” command in STATA, with averages between basic and extended equations. The higher ratios represent larger stumbling blocks. Countries with missing values for actual flows (including both exports and imports) are excluded from the table. These countries are as follows: Barbados, Ethiopia, Fiji, Georgia, Grenada, Guyana, Iraq, Maldives, Myanmar, Sao Tome and Principe, Seychelles, Suriname, Tajikistan, Trinidad and Tobago, Tunisia, Turkmenistan, and Zambia. There are two missing values for tourist arrivals.

**Table 5.** Actual vs. Estimated for Export, Import and Tourist Arrivals - Top 20 Countries Where “Actual” Exceeds “Estimated”

Country	EX_A	EX_E	EX_R	Country	IM_A	IM_E	IM_R	Country	TOUR_A	TOUR_E	TOUR_R
Czech	25.88687	25.27023	0.976179	Angola	24.74031	24.22271	0.979079	Cote d'Ivoire	8.286017	6.033893	0.728202
Cote d'Ivoire	23.32906	22.76847	0.975971	Honduras	23.24656	22.74581	0.978459	Kosovo	5.721142	4.118972	0.719956
Slovakia	25.28352	24.64656	0.974807	Denmark	25.8277	25.25617	0.977872	Zimbabwe	8.545126	6.12546	0.716837
Chad	22.22415	21.6593	0.974584	Mali	22.85911	22.35025	0.977739	Angola	9.772583	6.969316	0.71315
Sierra Leone	21.20735	20.64603	0.973532	Hungary	25.5177	24.94082	0.977393	Nepal	6.923168	4.927356	0.71172
Hungary	25.61142	24.92965	0.97338	Malta	23.41743	22.88357	0.977202	Switzerland	7.647243	5.322027	0.695941
Switzerland	26.79463	26.07923	0.9733	Czech	25.81566	25.22256	0.977025	Mali	8.586665	5.93978	0.691745
Malta	23.4755	22.80598	0.97148	Lesotho	21.66215	21.1593	0.976787	United States	9.406958	6.474425	0.688259
Congo, Rep.	23.05826	22.33706	0.968723	Slovakia	25.22486	24.63659	0.976679	Gambia	6.921116	4.708995	0.680381
Honduras	22.91265	22.1834	0.968172	Germany	28.02592	27.30666	0.974336	Malta	5.654187	3.844047	0.679859
Singapore	27.07614	26.21114	0.968053	Switzerland	26.59377	25.82874	0.971233	Sweden	7.900152	5.263497	0.666253
Cambodia	23.10894	22.368	0.967937	Vietnam	25.74668	24.87265	0.966053	Benin	7.301388	4.82586	0.660951
Belgium	26.77979	25.85023	0.965288	Ireland	26.29446	25.32542	0.963147	Eq. Guinea	6.981056	4.601855	0.659192
Netherlands	27.2995	26.34918	0.965189	Netherlands	27.15181	26.12674	0.962247	New Zealand	6.838912	4.494528	0.657199
Ireland	26.53038	25.52441	0.962083	Singapore	26.92593	25.90874	0.962222	South Korea	8.862186	5.764299	0.650438
Mozambique	22.3306	21.39824	0.958247	Liberia	21.10051	20.25012	0.959698	Finland	7.978724	5.136058	0.643719
Vietnam	25.72524	24.52816	0.953467	Belgium	26.76334	25.68312	0.959638	Canada	8.836206	5.592736	0.632934
Togo	21.64169	20.54233	0.949202	Malawi	22.66744	21.73565	0.958893	Gabon	8.919964	5.538286	0.620887
Vanuatu	19.72445	18.54919	0.940416	Mozambique	23.3367	22.09756	0.946901	Congo	9.715345	5.708998	0.587627
Malawi	22.54387	21.02164	0.932477	Togo	22.54531	21.27751	0.943766	Belize	10.30555	3.574989	0.346899

Note: Used the same notations and calculations that have been used in Table 4. The lower ratios represent active interactions.

**Table 6.** Number of International Tourist Arrivals by Country (2015)

Rank	Country	Number of Arrivals
1	France	84,452,000
2	United States	77,465,000
3	Spain	68,175,000
4	China	56,886,000
5	Italy	50,732,000
6	Turkey	39,478,000
7	Germany	34,970,000
8	United Kingdom	34,436,000
9	Russia	33,729,000
10	Mexico	32,093,000
11	Thailand	29,923,000
12	Austria	26,728,000
13	Hong Kong	26,686,000
14	Malaysia	25,721,000
15	Greece	23,599,000
16	Japan	19,737,000
17	Saudi Arabia	17,994,000
18	Canada	17,971,000
19	Poland	16,728,000
20	Netherlands	15,007,000
21	Macao	14,308,000
22	India	13,284,000
23	South Korea	13,232,000
24	Croatia	12,683,000
25	Ukraine	12,428,000

Source: World Bank World Development Indicators

#### IV. Conclusion

This study investigates DRC's trade and tourism patterns by analyzing a panel dataset of 165 countries from 2014 to 2015. The results confirm the prediction of the gravity model with positive coefficients for economic size and negative coefficients for distance.

The findings of this research can be applied in both academic studies and practice. First, the study complements the existing literature on DRC's development by incorporating tourism in the analysis,

which has been rarely addressed. For instance, Wilkie and Carpenter (1999) is one of few studies that analyzed the role of tourism in DRC. The study also made academic contributions by utilizing the gravity model to examine the relationship between DRC's trade and tourism patterns and other countries' socioeconomic factors.

The results provide several policy implications. DRC needs to diversify its trading partners and cooperate more with its neighbors. It also needs to attract more tourists by investing generously in public infrastructure. Public infrastructure like roads will link DRC to major ports of other African countries. Also, there is a need to promote diversity. In order to add diversity to the country, DRC should promote its country and launch tourism initiatives, such as allowing tourists from other African countries to easily travel across the continent using air pass visa, form a currency union like the euro and broaden internet access for tourists.

It is recommended that policy makers consider strengthening the SADC trade agreements and agreements with its fellow COMESA member countries. Such endeavors will greatly reduce the number of non-tariff trade barriers, allowing DRC to engage in bilateral trade under more favorable conditions and broaden its trading network. There is also a need to implement policies to minimize real exchange volatility and strengthen misalignment to improve trade flows.

The main limitation of this study is that it limited its geographic concentration to Africa, treating only Africa as the dummy variable. However, Table 1 indicates that DRC's trade is not only with countries in Africa but also with those in Asia and the Middle East. An economic bloc that encompasses not only African countries but also neighboring Middle East countries is expected to bring economic benefit to the region. Thus, future studies could analyze in detail how DRC's trade and tourism patterns alter when regions other than Africa are considered.



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