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QUALITY OF GOVERNANCE AND BILATERAL TRADE BETWEEN WAEMU COUNTRIES: AN ANALYSIS BY THE GRAVITY MODEL

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ABSTRACT

This article studies the effects of the quality of governance on bilateral trade flows in the WAEMU. For this purpose, we used a gravity model inspired by that of Anderson and van Wincoop (2003), but estimated in a panel according to the methodology proposed by Santos Silva and Tenreyro (2006, 2011). Our results show on the one hand that the low quality of global governance doubly handicaps bilateral trade in WAEMU countries. On the other hand, the similarity of governance increases bilateral trade between WAEMU countries. These results suggest an improvement in the quality of governance for an intensification of bilateral trade between WAEMU countries.

Keywords: Quality of governance, bilateral trade, gravity model, panel data, WAEMU.

JEL Codes: F13,F17, C23, G38.

1. Introduction

Sub-Saharan Africa currently includes several regional economic blocs including the West African Economic and Monetary Union (WAEMU). Despite integration efforts, intra-WAEMU trade performance is rather unsatisfactory. It appears that fifteen years after the entry into force of the customs union measures and the multiplication of measures to facilitate intra-WAEMU trade, intra-Zone trade has not particularly increased. Indeed, the level of intra-zone trade remains low with less than 15% of the total volume United Nations Conference on Trade and Development (UNCTAD, 2018). Indeed, throughout the period 2002 to 2016 for example, intra-WAEMU exports barely increased, going from 12.07% to 14.39% and imports, from 10.6% to 8.3%. Which is very low compared to the estimated objective[1] and compared to the commercial

[1]Objectives of 25% of intra-UEMOA trade by 2005 set by the Union during the implementation of the common external tariff (UEMOA, 2015).

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integration coefficients of other economic unions[2]. Thus, several authors have been interested in the determinants of trade in WAEMU countries. By the way, Gbetnkom and Avom (2005) demonstrate that there are significant commercial potentials still unexploited between the WAEMU[3] countries. Agbodji (2007) found that membership in WAEMU and the implementation of economic reforms had significant effects on bilateral trade within the zone. These effects are mainly perceptible in terms of diversion of imports and exports, with trade creation effects not having manifested themselves. However, this work has not taken into account the role of the quality of governance in these exchanges. However, recent literature on the determinants of international trade has in fact established a link between governance and the level of trade. International. Indeed, given the importance of transaction costs in the configuration of exchanges developed by recent theories of international trade with heterogeneity of firms Melitz (2003); Helpman (2008) and the role of the quality of governance on transaction costs mentioned by the economists of the New Institutional Economics (NIE), several works focus on the institutional determinants of trade between countries. Thus, these authors argue that good governance or better quality of institutions promote international trade by reducing transaction costs Coase (1937, 1975); Williamson (1979) and consequently, they structure incentives in human exchanges, in the political, economic and social domains, and aim to reduce uncertainty in everyday life. North (1990). However, other authors have argued that this link is complex and ambiguous (Leff, 1964; Huntington (1968) and Leys (1965)). In view of all these disputes, what can we understand by "quality of governance"? It is striking to note the absence of a common definition given the large number of studies and the often divergent opinions concerning this area. This study focuses on state governance, as opposed to global governance or corporate governance. In this sense, governance refers to the expression "good governance" supported by the World Bank since the beginning of the 1990s. For this international organization, governance corresponds to the capacity of the State to provide institutions supporting markets. By "good governance" she means the effective provision of such institutions. Furthermore, it appears after several years that the WAEMU countries are characterized by a low quality of governance. Indeed, in terms of ease of doing business, out of 183 countries in 2009 and 190 in 2017, Benin ranked 172nd and 155th respectively, Burkina Faso ranked 155th and 146th, and Ivory Coast ranked 163rd. World Bank (2018). As a result, the 8 economies of the sub-region are ranked in the bottom quarter of economies. The sub-region faces challenges with regard to the execution of contracts, business creation, and the protection of investors' rights (IMF, 2014). Furthermore, most WAEMU countries have

[2] As an illustration, the EU integration coefficient is estimated at 73.8%; 56% for NAFTA, 50.3%. (UNCTAD, 2018) see these statistics carefully

[3] WAEMU is a monetary union made up of eight countries: Benin, Burkina Faso, Ivory Coast, Guinea Bissau, Mali, Niger, Senegal, Togo.

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experienced political instability[4]. Examination of these data shows that WAEMU countries have a low quality and unsuitable institutional framework. This situation would affect the behavior of economic agents and would not be without consequences for communications exchanges.

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[4] Let us remember the political crises in 2010 and 2013 respectively in Ivory Coast, Mali and Niger.

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2. Virtuous effects versus perverse effects of poor quality of governance

Reading theoretical and empirical work addressing the effects of quality of governance on international trade reveals contradictions. Indeed, two theses oppose each other on this subject: The older but optimistic theory considers that the poor quality of governance "lubricates the economic mechanism" or "greases the economic wheel" and makes economies more efficient (2-1). In contrast to such an argument, the pessimistic thesis incriminates the poor quality of governance and sees it as a factor in slowing down economic activity and international trade. Almost all governance reforms have been built on this theory which, in turn, has considerably influenced theoretical and empirical studies (2-2).

2.1. The heterodox or optimistic thesis of the poor quality of governance.

The defenders of this thesis believe that the Low quality of institutions exerts a positive influence on economic growth through a number of mechanisms. Thus, the most cited justification for the beneficial effects of the low quality of institutions can be summed up in the popular expression "grease the paw" which would mean that a bribe makes it possible to facilitate economic transactions. This imagery wasTaken up by several economists under the hypothesis: "corruption greases the wheels of commerce" or even "corruption greases the wheels of growth". First highlighted by Leff (1964), Huntington (1968) and Leys (1965), this hypothesis would be that in the presence of bureaucratic red tape, corruption makes it possible to streamline transactions, thus contributing to increasing investments and efficiency in the markets and hence growth. These theoretical predictions broadly support the popular argument that good deals are made during war. In other words, the poor quality of institutions favors certain lobbies or commercial deals. These theoretical predictions will be confirmed by several authors including, for example, De Jong and Bogmans (2011), Dutt and Traca (2010), Gil-Pareja et al (2017); Ahsany (2017), Gani and Scrimgeour (2017), and support the "greasing the wheels" hypothesis. For these authors, these results can be explained by the fact that agents who only find the motivation to perform their functions on the basis of additional gains linked to corruption, relax their work productivity when they lose these gains. However, it is important to note that this work does not completely refute the existence of negative effects of low quality of governance, because the beneficial effects only occur in the presence of inefficiency.

2.2. The pessimistic thesis of poor governance quality of governance

The thesis defending the hypothesis of the perversity of the poor quality of governance was developed in the 1960s by the authors of the New Institutional Economics (NIE) and motivated institutional reforms in different countries. Thus, Coase (1937; 1975), Williamson (1979) and North (1990) place particular emphasis on the importance of transaction costs in economic

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activity. Indeed, Coase (1937) was the first to talk about the notion of transaction costs. It was a way of criticizing the idea of a perfectly rational economic agent known as homo-economicus, by creating the concept of imperfect rationality that could lead to opportunistic actions and therefore the emergence of transaction costs. . According to Williamson (1979), this imperfect rationality leads to higher prices due to imperfect information, market imperfections, incomplete contracts… or all the possible consequences of imperfect rationality and opportunistic behavior. If these two authors based their analysis more on the company, North (1990) uses the concept of transaction costs within the framework of a dynamic analysis and shows that a reduction in transaction costs promotes economic activity. Institutions are therefore implemented by economic agents as an alternative means of regulating markets, creating binding constraints to deal with the consequences of imperfect rationality and opportunistic behavior. Thus, "good" institutions promote the protection of property rights, respect for contracts, reduce the risks linked to uncertainty (Coase (1937, 1975); Williamson (1979); North (1990)) and. The rule of law helps strengthen trade by improving predictability, reducing insecurity in transactions and investments, and resolving problems of incomplete contracts and opportunistic behavior (Rodrik, 2000). Contracting institutions are important for trade, creating comparative advantages for well-governed countries in "contract-intensive" goods Nunn and Trefler (2014). Belloc (2006) subscribes to this idea and argues that it is important that the institutions[5] responsible for enforcing contracts are effective in limiting the effect of insecurity on prices as much as possible. For these authors, high-income countries trade disproportionately with each other mainly because of the good quality of their institutions (Anderson and Marcouiller (2002) which increases security in transactions and the institutional proximity which facilitates adaptation to the institutional framework and. These theoretical predictions will be confirmed by several empirical studies. As an example, we can cite several empirical works confirm the negative impact of the low quality of institutions on trade and economic growth through of the increase in transaction costs. As an indication, we can cite those of Anderson and Marcouiller (2002), De Groot et al (2006) Nagheli et al (2018), Martinez-Zarzoso and Marquez-Ramos (2019) Khorana and Martinez -Zarzoso (2018), Yushi et al (2019), Hasiner et al (2019), Pavel et al (2019), Lanz (2019).

Considering the empirical results of the link between quality of governance and trade reviewed, we note that the literature is relatively recent and therefore ambiguous results. Regardless of its quality, good or bad, business performance depends on it. These are very different depending on the institutional indicators chosen, the sample of countries used, the period of study and the

[5] such as courts and police

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estimation technique. This ambiguity of the results makes the subject fruitful and perpetuates the interest.

3. Research methodology

3.1. Brief presentation of the gravity model

Traditionally, the gravity model is the most used tool par excellence for commercial phenomena bilaterally or multilaterally in any region or in a unified economic space. This modeling tool allows us to predict and explain bilateral trade flows, from an econometric point of view, thus becoming the favorite subject of international trade theories. Currently, its applications to trade volumes are undoubtedly among the most stable and robust empirical relationships in economics (Deardorff, 1995 and S.J. Venett and W. Keller, 1998). The advantage of gravity models for empirically explaining a trade relationship between two countries is that they are quite flexible, in the sense that variables can be added or eliminated. Already, at the very beginning of its formulation, J. Tinbergen (1963) suggested introducing, in addition to traditional variables, additional factors to take into account the contingent effects and historical and cultural similarity of countries. In addition to its simplicity and efficiency in predicting the determinants of bilateral trade, the gravity model finds a certain appeal in an international context made up of commercial and monetary integration movements at different geographical levels (Mucchielli and Mayer (2005). According to Larch and Yotov (2016, page 3)), the gravity model is a very intuitive structural model, with solid theoretical foundations. It offers a realistic general equilibrium framework that accommodates multiple countries and multiple sectors simultaneously, and makes it particularly suitable for counterfactual analyses. It also makes it possible to grasp the ripple effects that a change in trade policy (on one market) will trigger on the rest of the world. Empirical results on gravity equations provide reliable predictions between 60% and 90% with data Aggregated as well as with sectoral data concerning both goods and services and make it possible to indirectly capture empirical regularities which escape other models (Larch M. and Yotov Y. V. (2016, page 3).

3.2. Model theoretical and specification retained

Using a gravity model with solid theoretical foundations (that of Anderson and van Wincoop (2003)) we provide a quantitative assessment of the effect of the quality of governance on bilateral trade of WAEMU. We use the now standard gravity equation formulation of Anderson and Van Wincoop (2003).

It is written as follows:

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$$X_{ij,t} = \frac{Y_{it}Y_{jt}}{Y_{w,t}}\left(\frac{T_{it,t}}{P_{it}P_{jt}}\right)^{1-\sigma} \quad (1)$$

In this expression, the overall value of exports from country i to country j in year t depends on the product of the respective size of economies i and j in relation to the size of the world economy at date t but also on the transaction costs between the two partner countries in the exchange compared to the product of their resistance multilateral to exchange respectively and (With) denotes the constant elasticity of substitution of the consumers' utility function.

The previous form of the gravity model has never been applied as is. Depending on the authors and depending on the objectives pursued and theoretical sensitivities, certain variables are generally added. They are quantitative (populations, arable areas, GDP per capita, etc.) and/or qualitative (sociological and historical links, geographical position, integration variables, etc.). So, following the changes Rated by recent work on the specification by Anderson and van Wincoop (2003), the basic theoretical formulation can be restructured. It is important to ensure that the model we define is as consistent as possible with the commercial, socio-economic and political reality of the region. So, We substitute GDP per capita (Y/N) and population (N) for the GDP variable (Y) to approximate the economic size of countries. Then, we assume that trade costs are a function of observable factors such as geographic distance, sharing a language or a common border. Furthermore, to evaluate the influence of the quality of the institutional framework on international trade of the WAEMU, we model, drawing inspiration from Anderson and Marcouiller (2002), Lavallée (2006), De Sousa and Disdier (2006), Avom et. Fankem (2014), a trade cost function in which the low quality of institutions is assumed to increase transaction costs:

$$T_{ij,t} = Dist_{ij}^{\alpha} e^{\beta_k D_{ij}^{k}} Inst_{jt}^{\gamma l} A_{i(j),t}^{\lambda m} \qquad (2)$$

With: $Dist_{ij}$: is the distance between country i and country j; D_{ij} **:** represents all binary variables in the model; $G_{i(j),t}$:the quality of governance of country i (respectively of country j) at date t,: $A_{i(j),t}$The other explanatory variables ofthemodel.γlAnd λm are parameters. In this formulation, transaction costs increase with distance and reduce with good quality governance.

In this formulation, transaction costs increase with distance and reduce with good quality governance.

3.3. Empirical model

Either We are particularly interested in the coefficients associated with governance variables.

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$$(X_{ij,t}) = \beta_0 + \beta_1 ln(Y_{it}) + \beta_2 ln(Y_{jt}) + \beta_3 \ln(N_{it}) + \beta_4 \ln(N_{jt}) + \beta_5 lnG_{i,t} + \beta_6 lnG_{j,t} + \beta_6 \ln Simil\, G_{ij,t} + \xi_{ij,t} \quad (3)$$

We are particularly interested in the coefficients associated with governance variables.

- ✓ ***Definition and sources of variables***

- **Dependent variable** Exports ***(Xij)***[6] The explanatory variables In the variable selection process, we start from the so-called traditional variables of the gravity equation and then complete them with additional variables.

- ✓ **The traditional variables.**

- **The economic weight (GDP)**

In the basic equation it is possible to take population and GDP separately just like GDP and GDP per capita. However, demand and supply will be better understood by GDP per capita. Indeed, the higher the per capita income, the more the propensity to trade increases in a situation of monopolistic competition (Wang and Winters, 1991). GDP per capita is considered a proxy for the level of development of countries as suggested (Avom and Fankem, 2014).

- **Demographic weight**

Population is a significant vector of trade integration. It constitutes a determining element of trade flows in terms of demand and labor capacity. Following Avom and Fankem (2014, we use the number of the population.

- **The "distwces" distance**

The trajectory of the goods is not rectilinear. Thus, the relative geographical distance seems more relevant than the so-called absolute one to represent the notion of proximity, which goes beyond transport costs. Indeed, Head and Mayer (2002) justify this approach by specifying that a "good" measurement of distance must explicitly take into account the different surface areas of countries and the fact that economic activity within countries is distributed very unevenly. For the authors, this method aims to translate as faithfully as possible the reality of the average distance travelled by goods. This assessment of distance seems relevant for African countries, particularly those of the WAEMU where bilateral trade is not always concentrated from one

[6]Note that these figures reflect officially recorded trade. They therefore do not include informal cross-border trade between African countries, which for some of these countries could be substantial. There is no reliable estimate that allows these movements to be taken into account (UNCTAD (2008b).

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capital to another on the one hand and on the other hand, several roads serve the countries[7]. It measures the sum of the distances between the main cities of each country weighted by their relative size. We thus retain the index called "distwces" representing the weighted distance between countries i and j provided by the database of the Center for Prospective Studies and International Information (CEPII) following De Souza and Disdier (2006) and Avom and Fankem (2014).Contiguity We introduce a dummy variable that captures the influence of contiguity on trade. Following Avom and Fankem (2014).

- **The border effect**

Called contigij, represents a dummy variable equal to 1 for trade between the two countries sharing the same border, and 0 otherwise. For this study, the introduction of the effects of contiguity goes beyond friction. These effects can also have other virtues such as informing us about the permeability of borders and the importance of informal border exchanges. Language Trade is all the easier when trading partners speak the same language. is therefore a dummy variable which takes the value 1 when the couple speak the same language, and 0 otherwise.

- ✓ **Common language**

By common language we mean Lij, the ethnic language common to the couple of countries. According to Trotignon (2009), the sharing of a common language acts as a proxy for cultural rapprochement andLeads to a reduction in business transaction costs. As part of this study, we use ethnic language from the CEPII database.

- **Quality of governance variables**

The quality of governance variables was chosen because they influence the uncertainty linked to economic activity in general and trade. commercial in particular. Consequently, they would lead to an increase in transaction costs when they are of poor quality (Anderson and Marcouiller (2002)). Global governance (G) captured by the arithmetic average of the six different Kaufman components of the base (WGI, 2019)

- **Similarity of the quality of governance.**

The similarity of the quality of governance probably limits the cost of adaptation to national institutions by improving the ability of the exporter and importer to use its partner's institutions.

[7]For example, from Abidjan to Burkina Faso, you have the choice between a completely road route from Abidjan to Ouagadougou via Bouaké and BoboDioulasso of 1,195 km, or an entirely rail route from Abidjan to Ouagadougou of 1 145km (NDJAMBOU, 2004).

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The costs associated with this adaptation could dissuade international trade. Turrini and Van Ypersele (2002; 2010). The literature is interested in the effect of similarity in institutional quality. We use an institutional distance index adopted by Chepta, (2007), De Groot (2004; 2005); Fiankor et al (2019). It is obtained by the absolute value of the difference between the quality of institutions between countries i and j.). These indicators come to us from the World Bank database and are defined in our work on a basis ranging from 1 (low quality) to 11 (high quality).

3.4. Presentation of data and anticipated sign Data available

- ***Data available***

The study covers a period of fifteen years from 2002 to 2016. The choice of this period is mainly conditioned by the availability of data for WAEMU countries and the intensification of trade policies[8]. The analysis focuses on aggregate flows of annual bilateral exports, traditional determinants of co Trade and institutional indicators. We have created a database of unilateral trade flows from WAEMU[9] countries at the intra-regional level as well as with thirty main extra-regional trade partners[10]. We thus have a total of 630 = [15 x (7x6)] observations. Statistics on bilateral exports, in current dollars, are extracted from the UN-Com trade database. GDP per capita and population are taken from the World Development Indicators (WDI, 2018) of the World Bank. Distance, contiguity, language come from the Center for Prospective Studies and International Information (CEPII). Data relating to the quality of institutions: Voice and accountability, political stability, regulatory quality, government effectiveness, corruption control, rule and law are obtained from the World Government Indicators database (WGI, 2018). The global governance index (Gi) is obtained by the arithmetic average of the six components mentioned above. Institutional similarity (Simij) corresponds to the overall governance distance between countries i and j.

- **Expected data signs**

The gravity model in the analysis of international trade maintains in its basic formulation that the volume of trade depends on the potential of each to trade and from mutual attraction to

[8] As an example, we can cite the adoption of the Common External Tariff (TEC-UEMOA) implemented in 2002.

[9] Guinea Bissau was excluded due to a significant absence of data for the dependent variable

[10] These are the 30 main trading partners of the WAEMU. The latter are made up of 4 African countries (Nigeria, Ghana, Gabon, Gambia), 10 European countries (France, Switzerland, United Kingdom, Netherlands, Belgium, Germany, Denmark, Poland, Spain, Italy) 9 countries Asia (Singapore, Malaysia, Viet Nam, Bangladesh, Indonesia, Pakistan, Saudi Arabia, Japan, Republic of Korea, United Arab Emirates) the United States, Canada and the BRICS (Brazil, Russia, India, China and South Africa). These are the main export markets for goodsfrom WAEMU

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exchange. In absolute terms, it is accepted that the potential of each country is a function of their level of wealth measured here by GDP per capita. Thus, a country with significant wealth is willing to trade more. The coefficient associated with this variable should be significant and positive. Likewise, the size of the population and the sharing of a common language could increase supply and facilitate transactions and therefore have a positive impact on trade. Distance is a proxy for transaction costs. Trade volume changes negatively with transaction costs. Then, the coefficient associated with this variable should be significant and negative. Regarding institutional variables, low scores should penalize commercial transactions. Having a good institution would potentially be a comparative advantage for the development of trade between co-trading countries through the reduction of transaction costs. Hence their improvement would encourage trade. The coefficients associated with these variables should each be significant and positive to corroborate the logic of a first-order equilibrium.

The similarity of governance should allow partners to adapt more easily to the institutional framework of their partner by reducing adaptation costs. Thus, the higher the institutional distance, the lower the level of exchange. The coefficient of this variable Simij representing the distance from the quality of institutions should be negative.

4. Presentation and Interpretation of results.

4.1. Presentation of resultats

Tableau 1 : Presentation des resultats

Variables	***Modèle 1***: Effet de la qualité de la gouvernance		***Modèle*** 2: Effet de la similarité de la qualité de la gouvernance	
	coefficients	T statistics	coefficients	T statistics
Variables d'intérêt				
Log Gi	-0.217***	(-2749.49)		
Log Gj	-0.159***	(-1984.93)		
Log SimGiGj			-0.111***	(-5114.64)
Variables traditionnelles				
logYitNit	0.262***	(3575.74)	0.0594***	(766.41)

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logNit	2.332***	(7264.09)	2.543***	(8936.93)
logYjtNjt	0.961***	(12918.00)	1.135***	(16913.25)
logNjt	-1.483***	(-4342.86)	-1.823***	(-6745.20)
Dist	-1.051	(-1.55)	-1.144	(-1.51)
Contiguité	0.147	(0.27)	0.0755	(0.13)
Constant	-0.00816	(-0.02)	0.0861	(0.15)
lnalpha	3.931	(0.79)	6.539	(1.19)
Constant	3.931	(0.79)	0.808***	(4.53)
Observations	630	-	630	
chi2	3.22153e+09	-	3.28552e+09	

Applied variable: volume of translations between countries i and j (Xijt)

Méthode d'estimation utilisée : Poisson pseudo maximum de vraisemblance sur les données de panel (commande xtpoisson au niveau de STATA)

t statistics in parentheses + p < .1, * p < .05, ** p < .01, *** p < .001

Source : Résultats obtenus par l'auteur à partir du logiciel STATA version 1

4.2. Interpretation of the results

✓ Overall governance index

The overall governance index of the importing country and the exporting country has a negative effect of 0.1% on intra-WAEMU trade. Indeed, a 1% improvement in the quality of overall governance in the exporting country induces a 0.217% decrease in its intra-WAEMU exports. Likewise, an identical improvement in this index for the importer depresses intra-community imports by 0.159 percentage points.

✓ Similarity in the quality of governance

The estimation results show that the similarity in the quality of overall governance contributes significantly to the intensification of intra-WAEMU trade. Indeed, the parameter associated with this variable is significantly negative at the 0.1% threshold. Thus, an increase of one point in the percentage difference in governance between country i and country j significantly reduces trade between these two countries by 0.111%. Our results are consistent with those of De Sousa and

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Disdier (2006) and Anderson Marcouiller (2002), who suggest that despite the difference in risks incurred, the importer and the exporter attach the same importance to the quality of their partner's institutions. Indeed, these authors show that the poor quality of institutions in Southern countries doubly handicaps South-South exchanges. In the same logic and more recently, recent theories of international trade with heterogeneous firms (see for example, Melitz (2003); Helpman et al (2008) maintain that exporters pay the fixed cost of trade. They should therefore be sensitive to the quality of the partner's institutions. According to these theories, for example, a reduction in transaction costs (for exports and imports) allows a greater number of companies to reach the productivity threshold favoring greater diversification of trade. On the other hand, our results are opposed to those of Berkowitz et al. (2006); Lavallée (2006). Indeed, for Berkowitz et al. (2006), the fact that the institutions of the exporting country are the last recourse of the importer when its partner does not execute its contract explains why only the quality of governance of the exporting country has an impact on bilateral trade. Our results also contrast with those of Lavallée (2006) who shows that the quality of a country's institutions appear to have an impact on its imports only when the exporting country is a Northern country. For this author, the complementarity between FDI and international trade contributes to the explanation of this result. Indeed, the low quality of institutions in the countries of the South deters FDI from developed countries which are very sensitive to the quality of institutions in the host country also reduces its imports from developed countries. This difference can be explained by the fact that the countries which make up the South sample of Lavallée (2006) are particularly heterogeneous. Indeed, this sample includes countries from Eastern Europe, the Middle East and sub-Saharan Africa.

- ✓ **Traditional variables**

Regarding the block of traditional variables, the results present the expected signs in accordance with the theory.

- **– GDP per capita**

The GDP per capita of country i It contributes positively and significantly at the threshold of 0.1% to its bilateral trade. An increase of 1% in the per capita income of WAEMU countries increases intra-community exports between 0.2 and 0.6%. Indeed, the increase in income leads to additional purchasing power. This additional purchasing power encourages imports, increases the means of production with a multiplier effect on production and the volume of exports and, consequently, on the country's total trade. A similar analysis can be carried out for country j. Furthermore, these results show that the GDP elasticity of the importer is greater than that of the exporter. These results are consistent with the arguments of Gbetnkom and Avom (2005) which show that the income of both partners has positive effects on their bilateral trade.

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– **The population**

The size of the population of the exporting country has a positive effect on the volume of bilateral transactions. Which thus confirms the weakness of its domestic market, and therefore forces it to sell its surplus production abroad. A positive sign is justified and explains the fact that the population of country i constitutes an approximation of the labor force and acts as a fundamental determinant of production and therefore of exports from said country. On the other hand, the population of the importer, in the case of exports, would tend to limit transactions due to its significantly negative coefficient. In fact, the size of the country's population acts as an indicator of the supply of labor factors that can increase local production of imported goods. Thus, its increase leads to a decrease in imports. This depressing effect of the population size has a direct implication: the sharing of the same factor endowments and the low diversification of exports from WAEMU countries constitute an obstacle to intra-community trade AVOM (2005).

– **At a distance**

It plays its role of gravity for bilateral trade although its coefficient is not significant and weak compared to those previously obtained. Bilateral trade therefore decreases with distance. This implies that countries that are very geographically distant will have to bear higher costs. These results are consistent with those obtained in certain previous works (Gbetnkom and Avom, 2005; Agbodji, 2007). The insignificant effect could be linked to the facilities offered by the global digital environment which could absorb most of the expected effect.

– **Sharing a language**

Sharing a common language has an insignificant effect on intra-WAEMU trade. Thus, the results of these estimations reveal that cultural proximities captured by ethnic language do not influence the trajectory of commercial exchanges. However, the negative sign could be linked to the role of ethnic language in the development of informal transactions which replace other institutions Farzanegan (2009), Dixit (2015); Yu et al (2015). Thus, we can hypothesize a substitutability between official transaction flows and unofficial transaction flows.

– **Contiguity**

Contiguity has a positive effect but remains insignificant. Thus, these results could be explained by the great permeability of WAEMU countries through unrecorded trade flows. In fact, the latter are characterized by a strong informal sector. These results are consistent with those relating to ethnic language sharing Farzanegan (2009).

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Conclusion

The purpose of this paper was to evaluate the effects of the quality of governance on bilateral trade of WAEMU countries. More precisely, it was a question of analyzing the effect of the quality of governance on bilateral trade of WAEMU countries and on the other hand, if the similarity of the quality of overall governance between the countries of the WAEMU promotes bilateral trade. To do this, we estimated an equation using a gravity model augmented with the quality and similarity of governance variables over the period 2002-2016. The model is specified in panel data and estimated with the Poisson Pseudo Maximum Likelihood (PPML) technique. The results show that the coefficients of the quality of governance variables are particularly interesting. These variables are all significant at the 0.1% level. Indeed, global governance doubly handicaps bilateral trade between WAEMU countries. Furthermore, these results show that a reduction of one point in the governance gap between two WAEMU countries significantly promotes an increase of 0.111% in bilateral trade between WAEMU countries. In addition, our results also demonstrate the evidence of the lack of complementarity between the supply of WAEMU countries and a low marginal propensity to consume locally produced goods.

The results we have achieved thus highlight, on the one hand, the need to improve the quality of governance by defining criteria for convergence of quality of governance in the WAEMU area for an intensification of intra-community trade and, on the other hand, that of industrializing and diversifying trade in the WAEMU sub-region and improving the quality of infrastructure for an increase in trade.

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