Examining the effect of Colonial Links and Language on International Trade – A Gravity Analysis

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Abstract:

International Trade has close links with colonization of countries with rich natural resources, spices and human resources to carry out activities like weaving, industrial production, agriculture etc. This study aims at studying such colonial links through gravity analysis. The study analyses the case of France, which was one of the biggest colonizers in world. It studies the cultural effects of language which colonies left on the countries they traded with. It studies the impact of both Imports and Exports on France's International trade using gravity analysis.

Key Words: Gravity Model, Gravity Analysis, International Trade, Colonial links.

Introduction:

France was one of the leading colonizing countries in the 17th century. The French majorly colonised parts of North America, North Africa, parts of present day India, and parts of South East Asia.[1] They also colonised parts of South America such as Brazil.[2] They used these colonies to support France with natural resources and stimulus to run the country. This study aims at analysing those linkages in colonial rule to see if it impacts the present day International Trade, as the French left a huge impact on culture of the countries they colonised.

The main residue of colonisation is culture, countries adapt cultural factors such as language, religion, traditions, food etc., and French language is the official language of 29 countries across the world, because of its colonial links. [3] There are countries like Morocco where French is used as a language of Administration and is widely spoken. In India, former colonies of French such as Puducherry (Formerly known as Pondicherry) still have cultural effects of language and the architecture of the cities that resemble it deeply. Hence, this study analyses the effects of these factors on the trade of France.

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[3] Wolf, A. (2014). 1: Le dénombrement des francophones 2. TENDANCES DÉMOGRAPHIQUES COMPARÉES DE SIX ESPACES LINGUISTIQUES DÉFINIS À PARTIR DE LA LANGUE OFFICIELLE : 1965-2065. In *La langue française dans le monde, 2014* (p.37). Paris, France: Organisation internationale de la Francophonie.

France ruled countries like Algeria for nearly 132 years, in countries like Ivory Coast, the French from 1600s. According to Lori Long, French tried settling down in Algeria. In the 1880s, there were around 150,000 French living in Algeria, they tried to convert the Arabs into French by imposing their lifestyle, religion and culture onto these people and prove their hostility towards the Algerians. This paper tries to analyse the impacts that these issues could have had on international trade as they could leave long lasting impacts on the communities. If Algerians had got influenced by the French, they would have to import lot of commodities and services from France, to adapt to the lifestyle of France.[4]

Methodology:

Gravity Model of International Trade is used to study the effects of colonial links and language as the Gravity model traditionally studies the effect of distance on bilateral trade; gravity model over the years has become an important indicator to study the effects of stochastic variables, special variables and dummy variables to explain the effects with better precision.[5] Gravity model of trade was first used by economist Walter Island in the year 1954, where he defined the trade relationship between two countries. The model was inspired by the physics formula which talks about the gravitational force between two objects. The model is now extended to different bilateral flows such as the flow of FDI, Currency Remittance and Migration.[6]

The study collected data from various sources of the World Bank for GDP in Constant Prices (Real GDP) 2010 (US$ 2010)[7].United Nations Trade Data for bilateral trade flows between the two countries, former French colonies, European Union Members and countries that spoke French as an official language.[8] Distance data was obtained from CEPII The study used log linear estimation of gravity model using Ordinary Least Squared Estimation (OLS) to understand the effects of colonies and language patterns on International trade[9]. The membership of European Union was considered a dummy variable as the membership of European Union has major impacts on the trade policies of its members such as France.

The study utilises bilateral trade flows of both exports and imports to confirm the hypothesis that there are impacts of Colonial links and Common Language on International trade. The data was for the year 2019 as it is the nearest dated complete set of data that was available for the analysis. If the study

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confirms the hypothesis, that Colonial links and Common language still leaves a significant impact on international trade with these countries.

The Gravity Model

$$F_{ij} = G * \frac{M_i * M_j}{D_{ij}}$$

Where F is Bilateral Trade Flows
M is the product of GDP
i & j are the countries
D is the distance
The econometric specifications of the Gravity Model

$$F_{ij} = G \frac{(GDP_F * GDP_{TP})^{\beta_1}}{D_{ij}^{\beta_2}} \eta ij$$

Model for estimation

$$lnExp = \beta_0 + \beta_1 \ln(GDP_F * GDP_{TP}) + \beta_2 \ln(Dist) + \beta_3 x_{EU} + \beta_4 x_{ColLinks} + \beta_5 x_{CommLang}$$

ln Exp is the bilateral trade flow
β_0 is the intercept
Dist is Distance
β is the coefficient of variables
G is the constant
η is the error term
x_{EU} is Membership of European Union Dummy ,
$x_{ColLinks}$ is Colonial Links Dummy
$x_{CommLang}$ is the Common Language Dummy
F is France
TP is Trade partner

Results:

Table 1: Analysis of Gravity Model for the year 2019's Imports

Model 1: OLS, using observations 1-100 (n = 99)
Missing or incomplete observations dropped: 1
Dependent variable: l ValueofImports

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	−27.2447	3.77208	−7.223	<0.0001	***
l_Product of GDPs	0.967736	0.0633131	15.28	<0.0001	***
l_distancekm	−0.617625	0.148382	−4.162	<0.0001	***
EU countries	0.638898	0.333893	1.913	0.0588	*
Colonial Links	0.734485	0.302192	2.431	0.0170	**
Common Language	−0.600815	0.370204	−1.623	0.1080	
Mean dependent var	20.77004		S.D. dependent var		2.202897

Sum squared resid	102.9876	S.E. of regression	1.052328
R-squared	0.783444	Adjusted R-squared	0.771801
F(5, 93)	67.28996	P-value(F)	2.21e-29
Log-likelihood	−142.4296	Akaike criterion	296.8592
Schwarz criterion	312.4299	Hannan-Quinn	303.1591

Model 2: OLS, using observations 1-100 (n = 99)
Missing or incomplete observations dropped: 1
Dependent variable: l_Valueof Export

	Coefficient	Std. Error	t-ratio	p-value	
Const	−13.8595	2.52130	−5.497	<0.0001	***
l_Product of GDPs	0.714171	0.0423191	16.88	<0.0001	***
l_distancekm	−0.533152	0.0991801	−5.376	<0.0001	***
EU countries	0.505440	0.223178	2.265	0.0259	**
Colonial Links	0.612385	0.201988	3.032	0.0031	***
Common Language	0.232954	0.247448	0.9414	0.3489	

Mean dependent var	21.07642	S.D. dependent var	1.578289
Sum squared resid	46.01196	S.E. of regression	0.703386
R-squared	0.811517	Adjusted R-squared	0.801384
F(5, 93)	80.08273	P-value(F)	3.65e-32
Log-likelihood	−102.5471	Akaike criterion	217.0942
Schwarz criterion	232.6649	Hannan-Quinn	223.3941

Table 2: Gravity Analysis of Exports for the year 2019

The study showed that the effects of distance has a negative impact on trade flows which confirms the Gravity Model, as gravity model says that more the distance between countries, less the effect on trade flows. The study showed that there has been a significant impact of colonial links on international trade. As the countries that were former colonies of France, still hold a strong trade relationship with it. This can be interpreted as the long term effects of colonial linkages which would have developed into partners of trade as they would have established a necessity for different types of goods, natural resources and products available in the country.

The study showed that Common Language has no direct effect on the International Trade between the two countries as the common language does not have any significance on the International trade between the two countries. This can be evidenced by the trade volume of trade between countries like China, Germany and UK which do not share a common language. It is quite substantial volume of trade compared to its former colonies and Language as a factor fails to impact the present flow of trade between the countries.

Conclusion:

The study has shown the significant impacts of language and colonial links on International Trade, The paper has clearly demonstrated the variables and their behaviour, the scope of further research is to see the impacts at different times in history which gives clear knowledge about international economic and political relationships with colonising countries. The further study shall also be indicative of patterns in trade with global relations in International Political economy.

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