

Linguistic Distance, English language and International Trade

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Abstract

In this paper we are going to discuss about the relationship between trade and language. We emphasize on the use of English as common language to reduce linguistic distance and thereby boost trade.

KEYWORDS: Linguistic Distance, English Language, Gravity Model, International Trade

INTRODUCTION

Trade costs play an important role in determining the extent of the market and the potential gains from international trade. The notion that an international lingua franca is necessary to allow worldwide communication has emerged in correspondence with the ongoing process of globalization. Although the spread of the English language is often portrayed as an inevitable consequence of global forces, it can also be conceived as a subtle and insidious form of western imperialism. The proliferation of English Language Teaching (ELT) programs can be viewed as an instrumental part of this. The inequality produced from the global spread of English, through the threat it poses to indigenous languages and cultures, raises questions about the common representation of ELT as universally beneficial¹. The spread of English can be seen as the consequence of its penetration into economic and political institutions worldwide, which in turn arose from the growth in the global economic market controlled by the English-speaking countries.² Language planning has been used for centuries in the engineering of social change; it can be argued that the increase in English language usage is the result of a directly orchestrated systematic strategy, particularly through education policies, to facilitate the development of Anglo-American political and economic power. The international spread of English has primarily occurred through the medium of education, which has always been a major part of language planning. English is the main medium of teaching in higher education in many nations, including countries where it has not achieved official status. ELT is one of the world's largest expanding industries; it is estimated that 1,000 million people may currently be learning English.³ ELT is presented as a service industry, a response to the increasing global demand for English, but it can be argued that this demand has been manufactured by those countries that are responsible for the provision of foreign teaching programs. The retention of control over the teaching of English facilitates its use as a form of linguistic imperialism.⁴

¹ P. Trudgill (1974) *Sociolinguistics: An Introduction* (Harmondsworth: Penguin Books).

² J. W. Tollefson (1991) *Planning Language: Planning Inequality* (London: Longman Group Limited).

³ D. Crystal (2003) *English as a Global Language* (Cambridge: Cambridge University Press), p.358.

⁴ R. Phillipson (1992) *Linguistic Imperialism* (Oxford: Oxford University Press), p.1.

Languages facilitate communication and ease transactions. Two individuals who speak the same language can communicate and trade with each other directly whereas those without a sufficient knowledge of a common language must often rely on an intermediary or hire an interpreter. The additional complexity inherent in such a mediated relationship, the potential for costly errors⁵ and their increased cost may be large enough to prevent otherwise mutually beneficial transactions from occurring. Consequently, ability to speak foreign languages should have a positive economic payoff embodied in better employment opportunities and higher wages in addition to other, non-pecuniary benefits such as ability to travel, study and live abroad, to meet new people, to read foreign books or newspapers, and the like.

The last few decades have seen a growth in the role of the English language around the world as the lingua franca for economic, scientific, and political exchange. The term lingua franca means ‘any language used for communication between groups who have no other language in common’⁶. According to Crystal (1997)⁷, 85% of the world’s international organizations use English as their official language in transnational communication. About 85% of the world’s important film productions and markets use English as well, and 90% of the published academic articles in several academic fields, such as linguistics, are written in English. In many cases, the increased growth in the use of the English language can be attributed to educational, economic, or cultural globalization.

Trade costs play an important role in determining the extent of the market and the potential gains from international trade. The language barrier – the fact that different countries have different native languages – has been documented in numerous studies as adversely affecting international trade.⁸ The approach that is most often used to estimate the effect of the language barrier on international trade is the well known gravity model. The language barrier is typically represented in this model either by an indicator variable (the two countries either share or do not share the same main native language) or by the probability that two randomly chosen individuals from the two countries would share a common native language. Almost all of the studies find robust evidence that the language barrier reduces trade. We claim that the existing view of the language barrier suffers from a major deficiency: it does not take into account the possibility that potential trading partners would communicate via a non-native language, a lingua franca.⁹ Alternatively, this compromise language could be viewed as a vehicle language. We use the term vehicle language in reference to the role the U.S. dollar plays in international finance: the dollar is considered a vehicle currency since it is used by many countries to conduct

⁵ A well-known, while tongue-in-cheek, example is a commercial by Berlitz, a language school, in which a German coastguard receives a distress call ‘We are sinking!’, to which he responds ‘What are you sinking about?’ See http://www.youtube.com/watch?v=8vBn2_ia8zM.

⁶ P.H. Matthews. (2000). Oxford Concise Dictionary of Linguistics. Shanghai: Shanghai Foreign Language Education Press, 209.

⁷ Crystal, D. (1997). English as a global language. Cambridge: Cambridge University Press.

⁸ Mélitz, J., 2008. Language and foreign trade. *European Economic Review* 52, 667–699, and Guiso, L., Sapienza, P., Zingales, L., 2009. Cultural biases in economic exchange. *Quarterly Journal of Economics* 124, 1095–1131.

⁹ The origin of the term lingua franca is Latin (“Frankish language”); it was first applied to a mix of French, Italian, and other languages during the middle Ages.

international transactions. A second deficiency of the conventional view of the language barrier is that it is essentially static since native languages tend to change very slowly.¹⁰ The ability to communicate using the lingua franca, in contrast, may change much more rapidly through learning. This implies that our study may have direct bearing on important policy questions. Gravity models provide ample evidence that a common language has a significant impact on bilateral trade. In the typical tests, the flow of bilateral trade between two countries is the dependent variable, and the explanatory variables include the respective output levels of the two countries.

Linguistic distance

Linguistic distance means the dissimilarity between languages, is an important factor influencing international economic transactions such as migration or international trade flows by imposing hurdles for second language acquisition and increasing transaction costs. First, the effect of linguistic distance in the language acquisition of immigrants is analyzed using data from the 2000 U.S. Census, the German Socio-Economic Panel, and the National Immigrant Survey of Spain. Across countries, linguistic distance is negatively correlated with reported language skills of immigrants. Second, applying a gravity model to data on international trade flows covering 178 countries and 52 years, it is shown that linguistic distance has a strong negative influence on bilateral trade volumes¹¹.

Linguistic distance can be measured by measuring the mutual intelligibility of the language to the speakers. Mutual intelligibility determines how easy or difficult it will be for the speakers to grasp the fundamentals of the new language. This may be facilitated by the sharing of some common words or the similarity in the arrangement of grammatical and lexical forms. For instance, different territories or countries may speak the same basic language with only some minor or major differences in intonation, meaning of words, and the application of the language in general.

Distance Measures

So, the workhorse model in consideration of bilateral trade assumes that “mass” can be represented by respective national GDP levels (perhaps adjusted for population), and “distance” can be represented by separation (in miles or kilometers) between nearest national borders, respective capital cities, or some similar geographic measure. In the case of the United States, for example, geographic distance may determine whether goods can be driven into Canada or Mexico or must be shipped overseas – with corresponding different cost structures and convenience. By contrast, Japan cannot load a truck to drive goods to any bilateral partner, and almost all its trading

¹⁰ The most detailed cross country linguistic data that is currently available is provided in Ethnologue (Gordon, 2005). Researchers use data from this source to construct measures of linguistic diversity within countries and language commonality between counties. However, as Mélitz (2008, p. 693) notes, Ethnologue furnishes unique figures for linguistic variables “despite wide discrepancies in dating when dates even appear.” This implies that the existing literature regards measures of linguistic diversity and language commonality as constant.

¹¹ Ingo E. Isphording and Sebastian Otten. (2012). The Costs of Babylon – Linguistic Distance in Applied Economics.p.2

targets are sufficiently far from Japan to make variability in geographic distance less dominant a consideration. A more powerful predictor of trade as a function of distance could emerge from considering non-geographic measures¹².

“Cultural distance” has been the subject of intense scrutiny in the social sciences. Following decades of study, measurement, and adjustment, Hofstede¹³ presents six constructs to culture, with estimates of average scores within each country:

Construct 1: Power Distance Degree of acceptance of social inequality

Construct 2: Uncertainty Avoidance Degree of tolerance for ambiguity

Construct 3: Individualism Degree of integration into groups or collectivity

Construct 4: Masculinity Degree of acceptance of traditional gender roles

Construct 5: Long-Term Orientation Degree of respect for past and focus on tradition

Construct 6: Restraint Degree of indulgence and seeking gratification

Not surprisingly, there are various criticisms and recognized shortcomings to this data, ranging from biases in sample selection to the presumption of a single score to represent any construct of any population of millions of individuals.

Gravity model of trade

The gravity model of trade in international economics, similar to other gravity models in social science, predicts bilateral trade based on the economic sizes and distance between two units. The model was first used by Jan Tinbergen in 1962. The basic model for trade between two countries (i and j) takes the form of:

$$F_{ij} = G(M_i^{\beta_1} M_j^{\beta_2} / D_{ij}^{\beta_3})$$

Where F is the trade flow, M is the economic mass of each country, D is the distance and G is a constant. The model has also been used in international relations to evaluate the impact of treaties and alliances on trade, and it has been used to test the effectiveness of trade agreements and organizations such as the North American Free Trade Agreement (NAFTA) and the World Trade Organization (WTO). The Gravity Model of Trade has been a success from the empirical point of view. However, there have been some reservations regarding the theoretical justifications that have been put forward in favor of the model. This model is normally used in order to assess the trends in the world of global trade.

¹² Jerry Platt, Marjo Mitsutomi(2012) Akita International University, Akita, JAPAN. ,Bryce(2012) Platt Gustavus Adolphus College, Saint Peter, USA. CULTURAL AND LINGUISTIC DISTANCE AS FORCES IN GRAVITY MODEL SOF BILATERAL TRADE AND INVESTMENT: THE CASE OF JAPAN. ISSN: 2186-8492, ISSN: 2186-8484 Print Vol. 1.

¹³ Hofstede, Geert (1984). Culture's Consequences: International Differences in Work-Related Values (2nd Ed.). Beverly Hills CA: SAGE Publications. ISBN 080391444X

Languages and Trade

The gravity model¹⁴ relates bilateral trade to the aggregate supply and aggregate demand of, respectively, the exporting and importing country, to transport and transaction costs, and to specific trade factors (e.g. free trade agreements). It has proved an extremely popular tool for applied trade analysis. In particular, models based on the gravity relation have been used to assess the impact of trade liberalization and economic integration, to discuss the so-called 'home bias'¹⁵ and to estimate the effects of currency unions on trade. Further research applies gravity models to trade in services¹⁶ and FDI¹⁷.

Accounting for common official languages has become a standard feature of gravity models. The gravity equation is augmented to include a common-language dummy, alongside other potential determinants of bilateral trade such as common border, landlocked dummy and indicators of shared colonial heritage.⁴ Most studies, however, pay little attention to the effect of languages that they estimate. Rather, they account for common languages primarily to help disentangle their effect from the effect of preferential trade liberalization. Several languages, for example, have the status of the official language in two or more European countries: German (Austria, Germany and Luxembourg), French (France and Belgium), Dutch (Belgium and Netherlands), Swedish (Sweden and Finland), and Greek (Greece and Cyprus). It is natural to expect that having the same official language fosters bilateral trade. Therefore, failure to account for the common-language effect would likely result in an upward-biased estimate of the effect of economic integration in the EU.

Conclusion

Finally, English instruction should not be the sole responsibility of the education sector. Government efforts should also include harmonizing the English language programs and giving tools like translations, software etc. not only for the local constituents but also to prospective foreign traders, tourists and teachers in order to facilitate trade and flow of information through technology. The movement of natural people's especially English teachers is also another potential industry in itself and must be supported so as to promote not only trade but exchanges of culture and learning experiences. Our results suggest that English plays a particularly important role, both because it is the most widely spoken foreign language and because, unlike the other languages, its effect appears robust to alternative regression specifications. Our findings also suggest that the effect of English and other languages on trade flows may be non-linear, displaying diminishing returns.

¹⁴ Linder S (1961). An essay on trade and transformation, Uppsala: Almqvist and Wiksells. Linnemann H (1966). An econometric study of international trade flows, Amsterdam: North Holland. Anderson JE, van Wincoop E (2003) Gravity with gravitas: A solution to the border puzzle. *American Economic Review* 93: 170-192.

¹⁵ McCallum J (1995) National borders matter: Canada-U.S. regional trade patterns, *American Economic Review* 85: 615-623.

¹⁶ Kimura F, Lee H-H (2006) the gravity equation in international trade in services. *Review of World Economics* 142: 92-121.

¹⁷ Egger P, Pfaffermayr M (2004) Distance, trade and FDI: A Hausman-Taylor SUR approach. *Journal of Applied Econometrics* 19: 227-246.

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