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Cultural Distance

An Assessment of Cultural Effects on Trade Flows

Master Thesis within Economics

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Abstract

This thesis will investigate trade patterns among 77 selected countries and how these patterns may be affected by cultural attributes such as similarities in culture, institutions, common border, language, and such cultural characteristics. A cultural- and institutional distance measure will be calculated using the Pythagorean Theorem to assess the various cultural and institutional differences among countries. In more economic terms, a Euclidian space between the countries' scores on each cultural and institutional index is calculated into one measure.

By the use of the gravity model an econometric analysis will be performed with 12 included variables in order to come to a conclusion if, and to what extent, various cultural distance measures affect trade flows. Due to scarce data availability in some of the variables the analysis is bound to the selected 77 partner countries and one time period ranging from 2003-2005. The dependent variable, and the trade flow considered in this thesis, is exports among the included countries.

The results from the performed regressions show excellent results where all variables are significant and are shown to have an effect on trade flows. Moreover, the result indicates that being similar when it comes to cultural attributes is indeed preferential for the trade partners. That is, trade increase when countries cultural affinities are large.

Table of Contents

1	Introduction	1
1.1	Purpose	1
1.2	Problem Formulation	1
1.3	Previous Research	2
1.4	Outline of the Paper.....	2
2	Theoretical Framework.....	3
2.1	Gravity Model	3
2.2	Cultural Implications on Trade	4
2.2.1	Cultural Distance	4
2.2.2	Institutional Effects on Trade	6
3	Model Formulation	7
3.1	Variable Formulation	7
3.1.1	Dependent Variable.....	7
3.1.2	Independent Variables.....	7
3.1.3	Dummy Variables	9
3.2	Regression Equation	10
4	Regression Results.....	11
4.1	Presentation of the Regression Results	11
4.2	Basic Gravity Model Equation	12
5	Analysis of the Regression Results.....	13
	Conclusion	15
	References	16
	Appendix A.....	17
	Appendix B.....	18
	Tables	
Table 4.1	Regression Results	11
Table 4.2	Regression Results from the Basic Gravity Model	12

1 Introduction

An essential insight within economics is that there are gains from trade. Countries trade because of its possible benefits and to acquire goods they might not be able to produce themselves. Absolute profits from trade may not be accomplished within every traded good but the possible benefits from trade in the aggregate sense encourage countries to trade. Another interesting part of international trade is how trade patterns are influenced by certain attributes, in this thesis the attribute considered will be how cultural differences affects trade flows from one country to another. Culture is important for trade since trade is influenced by transaction costs for which it is high – trade is less likely to occur. Cultural similarities among countries are expected to decrease transaction costs and thus enhance trade.

This is a very current subject with the continuous integration and globalisation process around the world that increases in speed every day. Fifty years ago a journey to China was a troublesome ordeal while today you can take a last minute flight that takes you directly from Stockholm to Beijing. It seems like the world is getting smaller along with the integration and globalisation process and it is interesting to see what effects if any these have on trade flows.

The cultural differences among countries' will be measured by several variables which will be tested for their effects on trade. One of the variables considered in this paper is a cultural distance measure which will capture countries' dissimilarities when it comes to norms, values, and beliefs and thus how that influences trade flows between countries. Another variable included is an institutional distance measure which measures the quality of countries governance, the law, the government effectiveness, and the people's beliefs in their institutions and their right to affect their government. Other variables included are common language, common border and colony/colonizer which capture similarities between countries and the history they might share.

1.1 Purpose

The purpose of this thesis is to determine if, and to what extent, various cultural distance measures affect trade flows.

1.2 Problem Formulation

To be able to assess the effect cultural differences have on trade flows the export patterns between 77 carefully selected countries will be looked upon. A complete list of the countries included in the analysis can be found in Appendix A. The selected countries have been chosen based upon the data availability on the variables included in this thesis. The analysis will cover a time period ranging from 2003-2005 and is also limited to one period due to scarce data on some variables.

With these presumptions this thesis will investigate if cultural differences affect trade or not. By the use of several variables representing cultural distance between countries a conclusion will be drawn upon the extent to which cultural dissimilarities might affect trade flows among the countries included in the analysis.

1.3 Previous Research

Many researchers within various fields have had an interest in culture and its effect on trade. Difficulties arise when trade occurs between trade partners that do not share a border or might not even be placed on the same continent because of different language, norms, beliefs, values, and such. All of these are assumed to increase transaction costs which will decrease the amount of trade according to Mark Casson (1991). Casson (1991) also suggest that the overall economic performance of a country depends on transaction costs. Therefore, it is in every country's interest to decrease transaction costs in order to enhance trade and thus its economic performance. To this, Guiso, Sapienza, and Zingales (2006) add that economic outcomes are affected by the level of trust that arises from cultural values such as religion and ethnicity. They argue that every transaction which occur when trading always involve some amount of trust and through their research they found that countries who have trust in one another trade more than otherwise.

Another subject within economics that have received much attention lately is whether or not countries' institutions play a role when it comes to who trades with whom. Groot, Linders, Rietveld and Subramanian (2004) find that institutional quality is yet another resource that can explain trade flows. They find that institutions are another basis for trade and those countries with a high-quality government performs economically better than other countries. This is also a result from transactions costs for which it increases if the institutional quality in a country is poor. Countries with similar qualities of institutions may be familiar with one another's business practices which reduces transaction costs and thus simplifies trade.

1.4 Outline of the Paper

The second section of this paper will deepen the readers' understanding about the research problem of this thesis. Here, the reader can be familiarised with the theory which will be used to test the research problem as well as with some background of trade presumptions which will act as a basis for the thesis.

In the third section the model formulation will be presented which will entail the equation used to test the research question in the regression. Also, all variables included in the analysis will be introduced and provided a detailed description about their significance.

The fourth section presents the results obtained from the regression and also the variables implications of the regression will be interpreted and discussed.

In the fifth and final section the regression result will be analysed and examined to be able to determine if the purpose have been fulfilled. Furthermore, a conclusion will be drawn upon the question if cultural differences affect trade as well as provide some suggestions for further research.

2 Theoretical Framework

Countries trade because of the possible benefits that arise from trading with others. When countries can specialize in some production areas in which it does relatively well and let other countries produce and export other goods that they might be able to produce more effectively the market becomes more effective and economies of scale can be achieved. These economies of scale result in a more efficient production which will lead to larger production and thus creating a comparative advantage in production. The comparative advantage will lead to a lower cost of production and hence lower prices. The relative price of a product, the price of one good in terms of another good, is one of the main factors that influence demand. Among other factors that affect demand are income, preferences, and price of related goods (Krugman & Obstfeld, 2003).

The main focus in this thesis will be to investigate to what extent cultural differences matters when it comes to international trade. The following sections will provide some theoretical background about the problem at hand which will assist in deepening the understanding about cultural differences within economics.

2.1 Gravity Model

The gravity model was constructed by Jan Tinbergen in 1962 when he applied its early specification of the determinants of trade flows. The gravity model predicts that the biggest economies will trade with each other the most and thus size matters when it comes to analysing who trades with whom. The size of countries is measured by their respective gross domestic products (GDPs) which measure the total value of all goods and services produced in an economy. The following function explains Tinbergen's theory;

$$T_{ij} = f(Y_i, Y_j, D_{ij}) \quad (2.1)$$

where T_{ij} is a function of Y_i , Y_j , and D_{ij} . T_{ij} is the value of trade between country i and country j , Y_i represents GDP for country i and Y_j represents country j 's GDP and D_{ij} shows the distance between the two countries. Basically, the gravity model states that trade flows can be estimated by looking at countries' GDP and the distance between them. The higher amounts of GDP of both trading partners will result in a higher volume of trade and the distance between the two will have a negative effect on trade (Krugman & Obstfeld, 2006).

Even though countries GDPs and the distance among them explain much of countries trade patterns there are still variables which can add some further information as to who trades with whom and why. In this thesis the basic gravity model will be modified and extended with several variables to be able to observe further determinants of trade.

2.2 Cultural Implications on Trade

The word culture can be interpreted in many ways and therefore it is important to state what one refers to when talking about culture. When discussing culture in this thesis its interpretation will be based on its affect on trade flows and will be represented by variables in the regression. Culture will therefore represent shared beliefs, norms, and values that two trading partners possess. Institutional quality will also be represented which stands for citizen's rights and their belief in their government, as well as the governmental quality and such, which symbolize countries traditional structure when it comes to institutions. Historical ties between countries such as a common language, common border, or colonial links between countries will be included in the analysis in order to come to a conclusion about if culture matters when it comes to trade. All these variables will be included to be able to see if and how cultural differences affect trade flows between countries.

2.2.1 Cultural Distance

A cultural distance measure will be used to differentiate norms, values, and beliefs from one country to another. The general view of cultural distance is that as it increases the costs associated with international trade increases as well (Hofstede, 2001). The most widely cited author in the field of cross-cultural research is Geert Hofstede (Evans & Mavondo, 2001).

Hofstede (2001) have created four cultural measures which identify countries' dissimilarities when it comes to values and norms in society. He supports his empirical framework on a survey of 117 000 IBM employees around the world given twice, both in 1968 and in 1972. The staffs of IBM were asked work-related questions to measure the importance of various goals at work. From the questionnaires Hofstede (2001) identified four different cultural dimensions;

- *Power Distance*: the degree to which members of society think that power and status are distributed unevenly and the extent to which this is accepted among society as the proper way of organizing social systems.
- *Uncertainty/Avoidance*: the extent to which members of society are apprehensive with unknown, uncertain, or unstructured situations.
- *Individualism vs. Collectivism*: the extent to which a society emphasizes the role of the individual as opposed to team- and group efforts.
- *Masculinity vs. Femininity*: the degree to which a society accentuate traditional masculine values such as competitiveness, assertiveness, accomplishments, ambition, and the acquisition of money and material possessions. As opposed to feminine values such as nurturing, helping others, putting relationships with people before money, not showing off, and minding the quality of life.

From the answers on the questionnaires, Hofstede (2001) assigned each country a score on the cultural dimension which together created an index for each.

Based on these cultural dimensions a cultural distance measure will be calculated, or in economical terms also known as a Euclidian space between the countries. Using the Pythagorean Theorem the cultural distance between each country will be measured based on the scores of the dimensions discussed earlier which will be further developed below.

The Pythagorean Theorem states that: “The Square of the hypotenuse is equal to the sum of the squares on the other two sides in the triangle”. That is if c is the length of the hypotenuse and a and b is the lengths of the other two sides, the theorem can be expressed as follows;

$$a^2 + b^2 = c^2 \quad (2.2)$$

or, solved for c :

$$c = \sqrt{a^2 + b^2}. \quad (2.3)$$

This equation provides a simple relation among the three sides of a right triangle so that if the lengths of any two sides are known, the length of the third side can be found.

In this case, to find the distance between the countries based on the four cultural indices, one can use the Pythagorean Theorem to find the coordinates between these points;

$$\sqrt{(a_1 - b_1)^2 + (a_2 - b_2)^2 + \dots + (a_n - b_n)^2} = \sqrt{\sum_{i=1}^n (a_i - b_i)^2}. \quad (2.4)$$

That is the distance of one country to every other country has been calculated with this formula and the aggregated sum represents the distance between the two countries and the resulting cultural distance variable that will be used in the coming regression (MathWorld, 2008).

Other cultural variables that will be tested in this thesis are the importance of common languages, historical linkages such as colonies, but also institutional distance which represents differences among others in legislature and the quality of countries legal systems and such. In the following section the importance of countries institutions when it comes to trade will be explored.

2.2.2 Institutional Effects on Trade

An important issue when it comes to international trade is dissimilarities in countries' institutions and governance. A high quality within legal systems accompanied by a low degree of corruption, and a stable political environment definitely improves countries' accountability. It also strengthens the country's position as a trading partner and the attractiveness of its location. When it comes to trade it is very important to establish good business connections which can be further developed over time and therefore the better institutional quality will reduce the uncertainty about contract enforcements and such. This reduces transaction costs by enhancing the security of assets as well as increasing the level of trust in economic transactions (Groot, Linders, Rietveld & Subramanian, 2004).

The institutional variables considered to control for these differences have been constructed by Kaufmann, Kraay, and Mastruzzi (2007) who developed governance indicators for the World Bank. The indicators cover six dimensions of governance for 212 countries, the following indicators have been created;

- *Voice and Accountability* – reveals countries behaviour in a democratic matter. For example to what extent citizens can participate in selecting their own government, as well as freedom of expression, freedom of association, and free media.
- *Political Stability* – captures the stability of a country's political environment. Measures the different political views within a country and the extent to which terrorist groups or other groups with radical political views can affect the stability of a country.
- *Government Effectiveness* – reflects the quality of the government as well as its capability to formulate and implement policies and deliver public goods.
- *Regulatory Quality* – measures the quality of government policies, the degree of regulation and its responsiveness to market-unfriendly policies.
- *Rule of Law* – reflects citizens' assurance and faith in the law and societal rules. But also the quality of the legal system and the enforceability of contracts.
- *Control of Corruption* – reveals the degree to which public power is exploited for private gains.

These indices will be included in the analysis in order to see to what extent they might affect trade. All 212 countries have been judged and given a score ranging between -2.5 and 2.5 on all these indicators where a high score signify a good institutional quality. These scores have been altered and then the distance between countries institutional quality have been calculated using the Pythagorean Theorem mentioned previously. In order to see the implications institutional quality have on both the exporting and the importing country an index for the exporter and importer will be included in the regression as well.

3 Model Formulation

This part of the thesis will introduce the chosen variables included in the analysis and present the regression equation which will test the problem at hand. The included variables will be used to be able to determine if, and to what extent these variables affect trade flows between the chosen countries included in this investigation.

Due to limitations of data on certain variables, the selected countries examined in this thesis are limited. A total of 77 countries will be analysed in the following time period; 2003-2005. Averages through this time period will be used in order to get more precise results following that for example a high value of GDP one year might be followed by a low value the next. So in order to reinforce the precision of the data averages will be used.

3.1 Variable Formulation

In this section the variables included in the regression will be presented and estimations according to their significance will also be introduced.

3.1.1 Dependent Variable

Variable	Description
Export, Y	Export is the chosen dependent variable which signifies all sold goods and services in the economy. Export is chosen, not imports, due to the fact that export values are FOB, Free On Board, and thus do not include CIF, Cost Insurance and Freight, that imports do (Krugman & Obstfeld, 2006). Since distance is a variable also included in the regression this is important, if imports would have been chosen instead, the distance variable would have been less significant since imports are naturally influenced by imports costs. The export data has been collected from UN Comtrade (2008).

3.1.2 Independent Variables

Variable	Description	Expected sign
Gross Domestic Product	The Gross Domestic Product, GDP, measures the total value of all final goods and services produced in a country in a certain time period and are a measure of national economic activity. Through GDP, countries' welfare is measured and thereby their purchasing power. GDP is expected to have a positive effect on trade since countries with a higher purchasing power is able to trade more (Bade & Parkin, 2004). The data is collected from World Development Indicators (2007).	+

<p>GDP per Capita</p>	<p>GDP per capita is simply the GDP divided by the population in each country and thereby provide a measure for the average wealth of the population. GDP per capita is expected to have a positive effect on trade since if trade increases, the income of the country increases, which will increase GDP per capita as well (Bade & Parkin, 2004). The data is collected from World Development Indicators (2007).</p>	<p>+</p>
<p>Distance</p>	<p>Measures the distance in thousands of kilometres between the trading countries. Distance is influenced both by the physical distance but also transaction cost. Transaction costs refers to the cost of writing and enforcing contracts and such which can be difficult if cultural differences are high. Therefore, higher distance is expected to have a negative effect on trade flows, since cultures often differ more with the physical distance (Brakman, Garretsen, & Marrewijk, 2006). The data for this variable is collected from CEPII (2008).</p>	<p>-</p>
<p>Cultural Distance</p>	<p>Refers to differences in norms, beliefs, and values between countries. The data for this variable is collected from Hofstede (2001) but have been altered from four measures into one by using the Pythagorean Theorem. Increasing cultural distance between nations is expected to have a negative effect on trade flows between them since it complicates trade and leads to increased transaction costs. The data for this variable is collected from Hofstede (2001).</p>	<p>-</p>
<p>Institutional Distance</p>	<p>Refers to differences in countries' institutional qualities. This variable measures government effectiveness as well as the quality of its implemented policies. It also reflects the extent citizens believe they can influence governance and in their trust in the law and other societal rules. Institutional Distance is expected to have a negative effect on trade since transaction costs increases as countries institutional quality complicates trade. The data for this variable is collected from Kaufmann, Kraay, & Mastruzzi (2007).</p>	<p>-</p>

Institutional Quality Index	This is an index created for both the exporting and the importing country in order to be able to see the effects countries' institutional qualities have on the exporter and the importer respectively. This variable is included to be able to see if the importance of institutions might matter more for either the exporting or the importing country. The institutional quality indices are expected to have a positive effect on trade for both partners. The data for this variable is collected from Kaufmann, Kraay, & Mastruzzi (2007).	+
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3.1.3 Dummy Variables

Common Language	Explains how a common language between two trading partners affects their trade flow. A common language is expected to have a positive effect on trade since transaction costs decreases which simplifies the trade process in retrieving information, establishing business contacts, and sign contracts (Lazear, 1999). If two trading partners share a common language the dummy will equal 1, and if they do not, the dummy will equal 0. The data for this dummy is collected from CEPII (2008).	+
Common Border	Shows whether two trading partners share the same border or not. A common border is believed to decrease the costs of trade since a closer proximity often implies cheaper transportation costs. Transaction costs are also believed to decrease since neighboring countries have certain cultural and historical similarities which simplify trade (Hacker & Johansson, 2001). If the two trading partners share a common border the dummy will be equal to 1, if it does not it will equal 0. The data for this dummy is collected from CEPII (2008).	+
Colony/Colonizer	Reveals whether or not two trading partners share historical links as a colony/colonizer to one another. This cultural bond is expected to have a positive effect on trade since the two countries share history (Eichengreen & Irwin, 1998). If the two trading partners have a colonial link the dummy will be equal to 1, if they do not it will equal 0. The data for this dummy is collected from CEPII (2008).	+

3.2 Regression Equation

In this section the regression equation will be stated which will test the stated problem to be able to answer the purpose of this paper. To be able to estimate how cultural differences affect trade, the following hypothesis is stated,

$H_0: \sum \beta_i = 0$, where the null hypothesis state that all slope coefficients are simultaneously zero, thus none of the independent variables influences exports.

$H_1: \sum \beta_i \neq 0$, where all slope coefficients are *not* simultaneously zero, thus the independent variables influences exports.

The following log-log equation illustrates all variables included in the regression and further explanations are provided below.

$$\ln Y_{ij} = \ln \alpha + \beta_1 \ln GDP_i + \beta_2 \ln GDP_j + \beta_3 \ln GDPC_i + \beta_4 \ln GDPC_j + \beta_5 \ln D_{ij} + \beta_6 CD_{ij} + \beta_7 IQ_i + \beta_8 IQ_j + \beta_9 L_{ij} + \beta_{10} C_{ij} + \beta_{11} B_{ij} + \epsilon_{ij} \quad (3.1)$$

where,

Y_{ij} is the export value of goods from the exporter i to the importer j .

α is a constant.

β is a measure of the elasticity of the dependent with respect to the independent variables.

GDP_i and GDP_j is the level of gross domestic product in exporter i and importer j .

$GDPC_i$ and $GDPC_j$ is the level of GDP per capita in exporter i and importer j .

D_{ij} is the distance between the economic centers of countries i and j .

CD_{ij} is the cultural distance between the exporting country i to the importing country j .

ID_{ij} is the institutional distance between the exporting country i to the importing country j .

IQ_i and IQ_j is the institutional quality between the exporter i to the importing country j .

L_{ij} is a dummy variable which equal 1 if i and j share a common language and 0 otherwise.

C_{ij} is a dummy variable which will equal 1 if the two trading partners i and j share an economic link as a colony/colonizer and 0 otherwise.

B_{ij} is a dummy variable which will be equal to 1 if i and j share a border and 0 otherwise.

ϵ_{ij} is an error term.

4 Regression Results

In this section the regression result will be presented which will provide the reader with some further insights about cultural implications on trade. Note that all data presented in this section have been carefully worked with and also been tested and corrected for the main problems that one experiences when working with statistics like heteroscedasticity, multicollinearity, and normalisation. One can see appendix B for further information.

4.1 Presentation of the Regression Results

Table 4.1 below shows the regression results on the total value of exports for all goods between the trading partners included in the analysis. R^2 is equal to 73.8 per cent which indicates that the variables included in the regression explains 73.8 per cent of the variations in the dependent variable; exports.

Table 4.1 Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-36.094	0.671	-53.818	0.00
lnGDP _i	1.149	0.019	60.025	0.00
lnGDP _j	0.909	0.019	46.653	0.00
lnGDPC _i	0.129	0.031	4.248	0.00
lnGDPC _j	0.056	0.025	2.211	0.03
Distance	-0.178	0.006	-29.101	0.00
lnCultural Distance	-0.134	0.068	-1.973	0.04
lnInstitutional Distance	0.132	0.044	2.991	0.00
Institutional Q _i	0.078	0.023	3.409	0.00
Institutional Q _j	0.064	0.021	3.025	0.00
Common Language	0.537	0.084	6.374	0.00
Colony/Colonizer	0.376	0.165	2.284	0.02
Border	1.407	0.142	9.903	0.00

As seen in table 4.1, all of the chosen independent variables and dummies are significant at a 5 per cent significance level, and most of them even at the 1 per cent level, as can be seen in the probability columns. This is indicated by the fact that all variables have probabilities lower than 0.05 or 0.01. This follows that they have a significant effect on the dependent variable, exports, namely trade flows from exporting country i to the importing country j .

The presented results have been regressed based on the log-log equation 3.1 accessible in section 3. All variables show a positive effect on exports except for distance and cultural distance which show a negative effect on trade as expected.

The dependent variable lnGDP_i, representing the logged GDP for the exporting countries, is found to have the strongest effect on exports among the independent variables. It indicates that if lnGDP_i were to increase by 1 per cent then lnY_{ij} will increase by 1.149 per cent, ceteris paribus. The same holds for the rest of the independent variables with the exception of distance which if it increases by 1 unit, export will decrease 17.8 per cent.

The institutional distance variable was expected to give a negative result on trade but when estimating the regression one observed the opposite results. The institutional quality results on the other hand are significant and found to have a small but positive effect on trade.

Also, the three dummies, common language, colony, and border show a significant and positive effect on trade. This implies that the sharing of certain history, language or countries location has a positive effect on export flows from one country to another.

Based on the results from the regression I have to reject the null hypothesis stated in section 3.2 that none of the independent or the dummy variables affect the dependent variable, exports.

4.2 Basic Gravity Model Equation

In order to establish what the included cultural variables bring to the task of determining trade flows between countries the basic gravity model have been regressed as well from equation 2.1.

Table 4.2 Regression Results from the Basic Gravity Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-35.419	0.658	-53.868	0.00
lnGDP _i	1.213	0.017	71.768	0.00
lnGDP _j	0.942	0.017	54.449	0.00
Distance	-0.206	0.006	-33.111	0.00

R² is about 71 per cent in this regression which result one can see in table 4.2. The results illustrate the greatness of the gravity model in its simple way of determining trade flows. In this regression, the countries' GDPs and the distance between them explain 71 per cent of the variation in the dependent variable exports.

5 Analysis of the Regression Results

In this section of the thesis the regression results will be discussed and analysed in order to be able to come to a conclusion whether cultural similarities enhances trade or not.

By looking at table 4.1, one find that the cultural variables add some further insights about export flows. One can clearly see that countries that are dissimilar when it comes to norms, values, and beliefs and such, trade less with each other than those with similar cultural characteristics. Since the cultural distance dummy reflect a negative effect, trade is stimulated when countries are similar to each other. This is very intuitively appealing since countries who share these attributes have a much less problematic time of understanding each other and can relate to one another more easily which in turn reduces transaction costs and thus simplifies trade.

These results are consistent with the study performed by Guiso, Sapienza, and Zingales (2006) who find that it is very important to have information about one another in order to establish trust which is necessary when it comes to trade. When companies establish business connections abroad they can be very dependent of the services that the partner company provides. In order to secure assets in the way of always knowing that the products it might order will be delivered on time demands trust. Without them receiving the products they need they might loose thousands of dollars each day. All in all, trust is another important issue which enhances trade and is much more easily established when the two partners have similar cultures which in the end simplify and reduces transaction costs.

It is also positive for countries to share a border or language. Both of these dummies in the regression showed a positive effect on trade and it is therefore beneficial for countries that they speak the same language or are neighboring countries. This is expected because neighboring countries tend to share history together and tend to be familiarized when it comes to their respective traditions and values. Countries who share a language as well tend to trade more and this is also very intuitive since the sharing of a language simplifies transactions. It is much easier for firms to write, sign, and to set up contracts and to establish good and secure business relations and such if they speak the same language.

Also the colony/colonizer dummy shows a positive and significant effect on trade. This also reflects countries historical links where if countries do share this bond they tend to trade more than otherwise. This is insightful as well; colony/colonizer's who did share this bond are well familiarized with each others cultures, values, norms, but also business practices and such. Due to colonization, countries integrated through immigration which created a bond that has led to a positive trade relationship among them. This is consistent with the research performed by Edward P. Lazear (1999) who finds that countries who share the same language tend to trade more because of the simplified transaction process which facilitate trade. All else equal, if a country can choose between trading with a country that it is very well familiar with because of their historical bonds as a colony/colonizer, or a completely unfamiliar country, it will certainly choose the country whom it share this bond with. This is all due to the fact that the sharing of this attribute simplifies trade and results in lower transaction costs as well.

The institutional distance variable on the other hand was expected to have a negative effect on trade which turned out to be positive instead. This could be because of the possibility that it may not be that important for *both* trading partners to have good institutions when it comes to trade. It might be enough for only one of the partners to have good institutions to enhance and simplify transactions.

When looking at the institutional quality variables one can see that institutional quality is indeed positive and significant for both the exporting and the importing country. This is coherent with the research performed by Groot, Linders, Rietvald, and Subramanian (2004). These gentlemen find that countries with similar institutional quality may be familiar with each other's business practices which reduce transaction costs and simplify trade. They also find that countries with high-quality institutions often perform economically better than others.

Countries with similar institutions have an advantage when it comes to understanding and learning other countries' business practices, formalities and such that is necessary to know when it comes to trade. This indeed simplifies trade and thus reduces transaction costs between the two partners. When countries have very dissimilar ways of doing business and large differences when it comes to their institutional quality the trading partners must invest a lot of money in trying to get the information needed that will close the deal for them to start trading. This certainly increases transaction costs and might make these countries look at other options when choosing an appropriate trading partner. Institutional quality definitely improves a country's successfulness when it comes to trade.

By looking at the results from the basic gravity model in table 4.2 one can conclude that countries' wealth and the physical distance between them are the most important explanatory variables when it comes to who trades with whom. By comparing table 4.1 and 4.2 one definitely adds to the task of determining trade flows by adding more variables as explanatory variables. The task of disentangling the forces behind trade patterns definitely improves by adding more possibly important variables that affect trade flows.

One can conclude that the research performed by Mark Casson (1991) speaks in favor of the achieved results who finds that the overall economic performance of a country depends on transaction costs. Therefore, it is in every country's interest to decrease transaction costs in order to enhance and simplify trade.

Conclusion

The purpose of this thesis is to determine if, and to what extent, various cultural distance measures affect trade flows. From the regression where various cultural variables have been estimated upon their effect on trade one can observe that it is indeed positive for countries to share cultural attributes with one another.

Cultural and institutional similarities enhance trade because it simplifies transactions and reduces transaction costs. When countries are culturally and institutionally similar they have an advantage because they might be well aware of one another's business practices, values, formalities, norms, and such, which is important today. One cannot implement Swedish business practices in China or even in another European country like Russia or Greece. Today, it is expected that one has the resources and the knowledge of its trading partner to be well prepared to apply other's business practices in order to create long-term business connections. In the task of facilitate and promote trade there are indeed a lot of benefits from being culturally similar.

As the world is getting smaller along with the globalisation process one can believe that we are all becoming more similar to each other every day. The globalisation process will continue to decrease transaction costs and simplify trade which in turn will increase trading among the countries in the world today.

I conclude that it is absolutely beneficial of being similar to one another because of lower transaction costs and simplified business transactions. Therefore, it is in every country's interest to be similar to be successful economically when it comes to trade.

Suggestions for Further Research

For further research a suggestion must be made to look at other alternatives when it comes to measuring cultural as well as institutional similarities so that maybe one could compare different time periods and see the changes over time in these variables.

One can also look at even further determinants of trade in other fields such as a measure of trust, genetic distance and such. A lot of new ways of measuring culture arises from many different fields other than economics which possibly could add even more in the task of determining trade and who trades with whom.

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Appendix A

Selected Countries

Argentina	Luxembourg
Australia	Malaysia
Austria	Malta
Bangladesh	Mexico
Belgium	Morocco
Brazil	Netherlands
Bulgaria	New Zealand
Canada	Nigeria
Chile	Norway
China	Pakistan
Colombia	Panama
Costa Rica	Peru
Czech Rep.	Philippines
Denmark	Poland
Ecuador	Portugal
Egypt	Romania
El Salvador	Russia
Estonia	Saudi Arabia
Ethiopia	Sierra Leone
Finland	Singapore
France	Slovakia
Germany	South Africa
Ghana	South Korea
Greece	Spain
Guatemala	Suriname
Hong Kong	Sweden
Hungary	Switzerland
India	Tanzania
Indonesia	Thailand
Iran	Trinidad & Tobago
Ireland	Turkey
Israel	United Arab Emirates
Italy	United Kingdom
Jamaica	United States of America
Japan	Uruguay
Kenya	Venezuela
Kuwait	Vietnam
Lebanon	Zambia
Libya	

Appendix B

Data Specifications

Heteroscedasticity

White's Test for Heteroscedasticity	
F-statistic	7.026
Obs*R-squared	394.858
No. of Observations	3611

Since $394.858 > 124.342$ for degrees of freedom of 100 or more when using the Chi-Square table in Gujarati (2003), with a probability of 95 per cent, one have to accept the fact that the data is heteroscedastic. Therefore, one has to reject the hypothesis that there is an equal spread in the disturbance terms in the data set.

White's Heteroscedasticity - Consistent Standard Errors & Covariance remedial measure have been used to correct for this problem so that one receives the correct significance values of the standard errors and the right probabilities for the variables (Gujarati, 2003).

Multicollinearity

Collinearity Statistics	
Variable	VIF
lnGDP _i	1.420
lnGDP _j	1.317
lnGDPC _i	2.379
lnGDPC _j	1.995
Distance	1.108
lnCultural Distance	1.261
lnInstitutional Variable	1.065
Institutional Q _i	1.719
Institutional Q _j	1.567
Common Language	1.103
Colony	1.063
Border	1.139

As illustrated by the table above, one can conclude that the data does not have multicollinearity problems. The VIF (Variance-Inflating Factor) test measures how a variance of a variable is inflated by the presence of multicollinearity. As $VIF = 1$ there is no problem with multicollinearity. Values equal to 10 and higher are considered affected by this problem (Gujarati, 2003).

Normalisation

All disturbance terms in a regression should be normally distributed as $u_i \sim N(0, \sigma^2)$ with zero mean and constant variance and thus the variance of the disturbance terms should be equal for all observations. To solve for this problem Cook's Distance was calculated and then the standardized residuals were estimated and raised to the power of two. An estimate of this higher than nine is assumed to be an outlier in the regression meaning that the results will be better if these observations are excluded (Gujarati, 2003). By excluding the outliers in the data set the disturbance terms have adjusted to be normally distributed.