Culture as a Determinant of Competitive Advantage in Trade

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Abstract

Purpose: Culture plays a role in international trade much as it does in any other human activity. Attitudes and ways of life do matter even when a lucrative business opportunity exists, especially across national borders. This paper examines which aspects of culture give countries competitive edge in terms of bilateral trade performances. Specifically, do relatively higher scores in certain cultural dimensions have a deterministic effect on bilateral trade performance (terms of trade or bilateral trade balance)?

Methodology: We adopt empirical econometric estimation methods on trade data covering 59 countries and 29 years combined with the nine "Global Leadership and Organizational Behavior Effectiveness (GLOBE)" culture dimensions, Our estimations were based on Robust Regression Analysis and Ordinary Least Squares methods.

Findings: We find that indeed, certain aspects of culture enhance bilateral trade performance/competitiveness. Performance Orientation, Future Orientation, Institutional Collectivism, Gender Egalitarianism, Power Distance and Uncertainty Avoidance improve bilateral trade performance while Assertiveness, Humane Orientation and In-Group Collectivism impair it.

Research limitations: Direct measures of international competitiveness are not readily available. So we had to adopt proxies for measuring international competitiveness.

Implications: Many countries want to boost international competitiveness. However, in the current world order with multilateral trade agreements under the WTO and increased transferability of technology, governments are clipped in terms of available trade policy options. By understanding which aspects of culture promote bilateral competitiveness and performance, governments could take steps to maximize their competitiveness. For instance, when negotiating trade treaties, policy makers may benefit from the knowledge of culture's impact on competitive advantage when selecting partners.

Originality/value To the best of our knowledge, this is the first paper to empirically examine how differences in national culture using the GLOBE dimensions affect bilateral and national competitiveness in international business.

Key words: culture, bilateral, trade, competition, management.

JEL Classification: F13, M12.

1. Introduction

The role of culture in international business is undisputed. As noted by Mesoudi (2011), "Any explanation of human behavior that ignores culture or treats it in an unsatisfactory manner will almost certainly be incomplete."[1] Attitudes and ways of life definitely do matter even when a lucrative business opportunity exists. Robert House (2004) observes that the importance of economic and political barriers in international trade is declining and this trend leads to new challenges and opportunities in business.

In addition, explanations of international competitiveness or comparative advantage based on factor endowments and factor productivity is diminishing due to the increasing mobility of factors internationally thus leading to "fleeting advantages." For instance, technology, which is often the main source of comparative advantage, is now more easily leveraged or transferred internationally due in part to globalization, liberalization and the increased enforceability of the protection of intellectual property rights emanating from the WTO's Trade-Related Aspects of Intellectual Property Rights (TRIPS). Firms are actively seeking to commercially exploit their technological assets in international markets either by selling the use of the technology or outsourcing some of their production processes to countries with sustainably conducive environments and complementary factors. Given the economic, political and technological barriers to international business are in decline, the relative importance of culture as a factor in determining competitive advantage is likely on the rise.

In an analysis of how national culture is fundamental to determining competitive advantage, van den Bosch & van Prooijen (1992) reiterated the

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[1]Mesoudi (2011), p. 1.

importance of national culture in international competitiveness and underscored the need for empirical research in the area. Specifically, the authors noted:

'But we want to stress the importance of national culture in explaining the differences in national competitive advantage. ... There has not yet been thorough empirical research as to the impact of national culture on international competitive advantage. … To strengthen the understanding of national culture's consequences on the competitive advantage of nations, more research is needed.' P.

It should be noted that culture has been used to explain a variety of socio-economic outcomes. For instance, Cyrus (2012), Tadesse and White (2010) and Coyne and Williamson (2012) use the World Values Survey (WVS) to examine how culture affects Trade. Linders et al (2005) use Hofstede's four dimensions of culture to examine the same question. Other researchers investigate the effects of culture on other socio-economic outcomes. Tabellini (2010) investigates the relationship between culture and economic development; Tihanyi, Griffith and Russell (2005) investigates the relationship between cultural distance the choice of entry mode for firms in international business while Benito and Gripsrud (1992) examines the relationship between cultural distance and foreign direct investment. But none of these papers explicitly looked at how differences in national culture affect international competitiveness. It is somewhat surprising that a call put forth in 1992 to examine the effects of national culture on international competitiveness has yet to be answered. This study is an attempt to contribute to this void in the literature and hopefully kick-start further research into the area.

Specifically, this study utilizes new innovations in measuring culture to determine which aspects of culture affect bilateral trade performance or competitiveness. We examine whether certain aspects of culture as identified by the GLOBE team can be a source of competitive advantage as measured by bilateral trade performance (bilateral terms of trade or bilateral trade balances). Our results indicate that indeed, some aspects of culture do have significant effects on bilateral competitiveness. Of the nine GLOBE dimensions, we find that higher relative scores in Performance Orientation, Future Orientation, Institutional Collectivism, Gender Egalitarianism, Power Distance and Uncertainty Avoidance improve bilateral competitiveness/performance while Assertiveness, Humane Orientation and In-Group Collectivism hamper it.

Competitive advantage is defined as that which distinguishes you, your firm, or your country, from the competition. That is, why do they buy from you rather than your competitors? The appropriate follow up question is, what about you, your firm or your country makes you (it) more or less likely to be better at doing a given thing when compared to the competition?

Among other possible explanations, it can be argued that culture is central in determining country competitiveness. Technology can now be more easily transferred and economic or political barriers knocked down, while culture, defined as "the act of developing the intellectual and moral faculties especially by education expert care and training," is less amenable to change and transferability.[2] It is easy for an American to learn Chinese or use Chinese technology but it will be more difficult for the American to imbibe the values and beliefs that inform the choices the average Chinese make. For instance, Chinese societies are characterized as much more structured where the individual knows their place on the system and respects the rules that govern that system. In the U.S. on the other hand, there are less formal structures and it is commonplace to see people of different social statuses socializing and interacting quite informally.

Michael Porter, in his seminal book *The Competitive Advantage of Nations*, asks the question: "Why do firms based in particular nations achieve international success in distinct segments and industries?"[3] This question serves as the framework to analyze the role of the national environment (which includes national culture) on the competitiveness of firms in international markets. Porter theorizes four determinants of national advantage:

- <u>Factor conditions</u> such as human resources, physical resources, knowledge resources, capital resources, and infrastructure.
- <u>Demand conditions</u>, which shape the rate and character of improvement and innovation.
- The presence or absence of <u>related and supporting industries</u>.
- <u>Firm strategy, structure and rivalry</u> such as
    o management practices,
    o modes of organization,
    o attitudes toward authority,
    o norms of interpersonal interaction,
    o attitudes of workers toward management and vice versa,
    o social norms of individualistic or group behavior, and
    o professional standards.

While there are many suggestions to culture throughout these determinants, it is explicit in strategy/structure. In spite of the importance of culture in determining competitive advantage of countries, there has been little empirical work as to the effect of culture on competitive advantage. This is likely due to the apparent lack of empirical data on culture. The common approach to measuring culture has been to use a proxy such as common language or religion to demonstrate cultural similarity / difference. Apart from the limitation of these measures as crude approximations, in the context of determining competitive advantage, interpreting them will be controversial. Just imagine telling the French that America has competitive advantage over France

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[2] Def. 2. Merriam Webster Online, Merriam Webster, n.d. Web. 16 Sept. 2015.

[3] Porter (1992), p. 18.

because Americans speak English and the French speak French. Fortunately, this is not necessary, as ample work has been done to generate empirical data on culture that is comparable across nations.

In the next section, we present the empirical model and estimation methods adopted in our analysis. Section 3 presents the data and results. Section 4 is for robustness checks and section 5 concludes with policy implications.

2.Empirical Model and Estimation

We adopt gravity model estimation techniques to determine how different aspects of culture affect bilateral trade performance. We adapt Anderson and van Wincoop (2003) and specify the following gravity model

$$\ln X_{ijt} = a_0 + a_1 \ln Y_{it} + a_2 \ln Y_{jt} + a_3 \ln t_{ijt}$$
$$+ a_4 \ln P_i + a_5 \ln P_j + a_6 \ln Pop_{it} \quad (1)$$
$$+ a_7 \ln Pop_{jt} + a_8 D_{year} + e_{it}$$

where X_{ij}, is a measure of bilateral trade performance. Y_{it} and Y_{jt} are the exporter and importer specific fixed effects for countries i and j that determine the export supply and import demand functions (approximated by GDPs). P_i, and P_j are measures of Multilateral Trade Resistance (MTR) terms.[4] These approximate the relative cost of trade between trading partners and the rest of the world. We add population (origin and destination countries – Pop_{jt}, Pop_{it}) to mitigate against the "so-called" endowment effects which can either be technology endowment or resource endowments[5], and year fixed effects, D_{year} to control for common shocks.

The term t_{ij}, which is the inverse of bilateral trade costs, deserves further attention because it is in this term that our measures of culture are captured. Cultural factors could either increase or decrease bilateral trade costs among others such as membership of a common regional trade area, distance between the trading partners. We augment the bilateral trade-costs specification of Anderson & van Wincoop (2004) to include all the nine relative measures of culture constructed from the GLOBE dimensions such that

$$t_{ijt} = dist_{ij}^{d_1} . \exp(culdist_{ij} + d_3 gatt_{it} + d_4 gatt_{jt}$$
$$+ d_5 comcol_{ij} + d_6 contig_{ij} + d_7 rta_{ijt} \quad (2)$$
$$+ d_8 comlan_{ij} + d_9 comrel_{ij})$$

Culdist is a matrix of measures of relative cultural dimensions; *gatt,* is a dummy that indicates whether country *i* is a member of the General Agreement on

Tariffs and Trade (GATT) at time *t; comcol* takes the value of 1 if countries *i* and *j* share a common colonial master and zero otherwise. The same dichotomous coding applies if the countries are contiguous (*contig*) or share a common regional trade area *(rta)* at time *t* or share a common language (*comlan,*). All these variables have been found in previous studies to be significant determinants of bilateral economic relations. The inclusion of variables previously used to proxy for culture (such as common language, common religion) allow us to determine whether the direct measures of culture used in this study will maintain their relevance or have an independent effect on bilateral competitiveness. This is an additional layer of robustness as to the relevance of these cultural dimensions on bilateral trade performance.

To estimate our model, we employ panel estimation methods. This helps mitigate against heterogeneity biases across countries. The problem with estimating the above model is that the MTR terms are not directly observable. We approximate for these by calculating "remoteness" variables for the trading partners.[6] In terms of estimation methods, fixed effects estimation is popular in the literature in estimating gravity equations. However, the use of fixed effects is not appropriate in our model because the bilateral variable of interest – culture, is time-invariant. "… if the interest of the research focuses on estimating the co-efficient of a bilateral time invariant co-efficient, the fixed effects estimation is not a viable option."[7] We adopt robust regression methods to deal with potential problems of heteroscedasticity and outliers.

3. Data and results

We will briefly discuss the construction of the dependent variables and the independent culture variables in this section. The rest of the variables are presented in Table 1 (see Appendix) alongside their sources.
Data

Dependent Variable: Bilateral Trade Performance or Competitiveness:

Our measure of relative competiveness is the bilateral Terms of Trade (ToT) – the relative price of bilateral exports expressed in terms of bilateral imports. The bilateral ToT basically tells us how much import goods can be purchased from a trading partner per unit of exports sent to that that trading partner. It is an aggregate measure of bilateral competitiveness. It does not distinguish between competitiveness across industries. This obviously is a crude measure of competitiveness. However, after controlling for technology and resource endowments alongside other factors that potentially determine bilateral economic interactions, we will be able to determine how culture

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[4] Anderson and van Wincoop (2003), show that to have theoretically consistent gravity model estimates, one should take into account the "multilateral trade-resistance terms (MTR).

[5]Note that by including GDP and population in natural logs, it is equivalent to including GDP per capita which is an

approximate measure of labor productivity or technology endowment.

[6] We calculate remoteness based on the formula: $Remoteness_i = \sum_j \frac{dist_{ij}}{GDP_j/GDP_w}$.

[7]WTO (2012), p. 108.

can independently influence bilateral trade performance.

Culture Variables: GLOBE nine dimensions

We adopt the GLOBE dimensions of culture in our analysis. The GLOBE research program led by Robert House seeks to "increase available knowledge that is relevant to cross-cultural interactions."[8] The current iteration of the data come from some 17,000 questionnaires administered on managers from 951 organizations across three industries - telecommunications, food processing and finance for 62 cultures between 1994 and 1997. The nine GLOBE cultural dimensions are Performance Orientation, Future Orientation, Gender Egalitarianism, Assertiveness, In-Group Collectivism, Institutional Collectivism, Power Distance, Humane Orientation, and Uncertainty Avoidance. We construct bilateral measures of each of the nine dimensions by defining a relative score between countries *i* and *j* for each dimension as:

$$Relative\ Score: Dimension_{i,j}$$
$$= \frac{Reporting\_Dimension_i\ Score}{Partner\_Dimension_j\ Score}$$

When the relative dimension score approaches 1, it suggests that the countries are culturally similar. Higher values (greater than 1) imply that the source country's score is higher than the partner country's score for that dimension and vice versa. Now consider the relative score of each of these dimensions. We provide definitions and further details of these dimensions during the presentation of the results. For instance, in terms of Performance Orientation, Slovenia and Sweden have a relative score of about 1, which means that in terms of performance orientation, these two countries are not very different. Greece and Switzerland on the other hand have a relative score of 0.65, which suggests that Greece has a lower performance orientation relative to that of Switzerland. This would indicate that innovation and performance receive more attention and are more likely to be rewarded in Switzerland than in Greece.

Results

Table 2 reports the results of regressions with different model specifications. The first two columns are the results from the Bilateral ToT models. The dependent variable in this case is expressed in natural logs. The last two columns are results from the Bilateral Trade Balance models. Because bilateral trade has both negative and positive values, we run the model on the levels of bilateral trade balance without any transformation into natural logs. Generally, irrespective of model specification, all of the cultural dimension scores are significant at least at the 10 percent significance level. We presented results of the bilateral trade balance models as a robustness checks. However, in our discussions, we will concentrate on results from the bilateral ToT measures of bilateral trade performance.

Performance Orientation is found to be positive significant across all models. Performance orientation is defined as "the extent to which a community encourages and rewards innovation, high standards and performance improvement."[9] High performance orientation encourages competition, innovation and productivity. This means that for high performance oriented countries, international competiveness will increase both due to the sheer volume of output and due to the value of the goods produced given their inclination to innovation. As a result, it makes sense that performance orientation has a positive impact on bilateral performance.

Future Orientation is found to have a positive influence on bilateral trade performance across all models though the results are weaker in the Trade Balance models. This dimension represents the degree to which behaviors such as planning and delayed gratification are rewarded. One might imagine that these attributes are the cornerstone of competitive advantage and it is consistent for it to rise with relatively higher Future Orientation scores.

Gender Egalitarianism also has a positive and significant influence on bilateral trade performance though the results are insignificant in the Bilateral Trade Balance models. This dimension "reflects societies' beliefs about whether members' biological sex should determine the roles that they play in their homes, business organizations, and communities."[10] Because egalitarian societies are more likely to judge individuals for their talents and potential contribution rather than their gender, they would better utilize their human resources. This will translate into innovation and higher productivity, which would bolster their competitive advantage against countries that are less egalitarian.

Assertiveness "reflects beliefs as to whether people are or should be encouraged to be assertive, aggressive and tough, or nonassertive, nonaggressive, and tender in social relationships."[11] Because higher Assertiveness societies tend to value competition, success, and progress and reward performance we might expect this to increase bilateral competiveness or performance. However, the empirical results unequivocally reject this hypothesis in favor of the opposite. What alternative explanation could we hazard to explain this result? According to House (2004), assertiveness measures the toughness, aggressiveness and dominance exhibited by individuals in their social relationships. Individuals who value cooperation and equality characterize less assertive societies. This suggests that high assertive countries will be relatively less cooperative. However, it will appear that the very nature of international business requires a good amount of cooperation, understanding and compromise. It therefore appears that societies characterized by people who are assertive, that is they lack cooperation, will not be able to make the compromises necessary to succeed internationally. Even in the domestic environment, lack of cooperation

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[8] House, et al. (2004), p. 3.

[9] House, et al. (2004), p. 239.

[10] House, et al. (2004), p.347.

[11] House, et al. (2004), p. 395.

or compromise could have negative effects on productivity, initiative and innovation – ingredients necessary to compete in the international environment.

In-Group Collectivism assesses "the degree to which individuals express pride, loyalty, and cohesiveness in their organization."[12] This is found to have a negative effect on bilateral trade performance. This is consistent with results provided by the GLOBE team on the relationship between In-Group Collectivism and competitiveness.[13] Institutional Collectivism assesses "the degree to which institutions encourage and reward collective action and the collective distribution of resources."[14] This is found to have a positive influence on bilateral trade performance and again is consistent with the GLOBE study

Power Distance is the "degree to which members of an organization or society expect and agree that power should be shared unequally."[15] In low-Power Distance countries, the decision pyramid is relatively flat allowing for more collaboration and innovation. This, in turn, will bolster the nation's competitive advantage. In high-Power Distance countries, the pyramid is steep and the hierarchy clearly defined. This will likely discourage innovation, which will undermine the competitive advantage of a nation. However, our empirical results suggest that increasing Power Distance relative to that of a trading partner improves trade performance and competitiveness. Perhaps the clearly defined decision-making structure associated with high-Power Distance encourages innovation, order and efficiency, which tend to increase competitiveness.

Table 2: Robust Regression Results: Bilateral Terms of Trade and Bilateral Trade Balance

	Bilateral Terms of Trade		Bilateral Trade Balance	
Performance Orientation	1.1703***	1.1285***	16.5220***	14.5103***
	(0.0667)	(0.0667)	(3.2559)	(3.2677)
Future Orientation	0.6784***	0.5901***	9.7557***	12.3756***
	(0.0572)	(0.0575)	(2.8601)	(2.8776)
Gender Egalitarian	0.1798***	0.1322***	2.5000	-0.9885
	(0.0427)	(0.0429)	(2.1182)	(2.1381)
Assertive	-1.1315***	-1.1621***	-14.874***	-17.822***
	(0.0619)	(0.0617)	(3.0069)	(3.0098)
In-Group Collectivism	-0.7224***	-0.747***	-44.531***	-46.348***
	(0.0464)	(0.0464)	(2.3163)	(2.3224)
Institutional Collectivism	0.9897***	0.9318***	32.7251***	31.2738***
	(0.0553)	(0.0554)	(2.7814)	(2.7904)
Power Distance	1.6167***	1.6718***	57.1950***	60.5849***
	(0.0739)	(0.0739)	(3.6532)	(3.665)
Humane Orientation	-0.0655	-0.0593	-21.786***	-21.978***
	(0.0503)	(0.0502)	(2.5203)	(2.5227)
Uncertainty Avoidance	0.5628***	0.5767***	15.9867***	19.1224***
	(0.0531)	(0.0531)	(2.679)	(2.6914)
GDP: Origin	0.1252***	0.1397***	-2.2396***	-1.8485***
	(0.0056)	(0.0058)	(0.2698)	(0.2799)
GDP: Destination	-0.0756***	-0.0785***	-2.9138***	-3.2528***
	(0.0056)	(0.0058)	(0.2752)	(0.2842)
Population: Origin	-0.0692***	-0.0813***	-1.0682***	-1.2216***
	(0.0057)	(0.0058)	(0.2788)	(0.2838)
Population: Destination	0.0264***	0.0310***	-0.1741	-0.0654
	(0.0057)	(0.0058)	(0.2833)	(0.2879)
ln(distance)	-0.0755***	-0.0831***	1.8142***	1.8561***
	(0.0088)	(0.0104)	(0.4508)	(0.5307)
Contiguous	0.0253	0.0060	8.0378***	8.2428***
	(0.0342)	(0.0342)	(1.7962)	(1.8022)
Remoteness: Origin	-0.0000**	-0.0000***	0.0000	-0.0001
	(0.0000)	(0.0000)	(0.0002)	(0.0002)
Remoteness: Destination	0.0000**	0.0000	-0.0007***	-0.0008***
	(0.0000)	(0.0000)	(0.0002)	(0.0002)
Regional Trade Area		-0.0552**		-1.7421
		(0.0220)		(1.1352)
GATT: Origin		-0.1758***		-6.7597***
		(0.0199)		(0.9181)
GATT: Destination		0.1482***		7.7589***

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[12]House, et al. (2004), p. 465.

[13]Beyond the extensive work of collecting data on these cultural dimensions, the GLOBE team offers some analysis on the correlation of culture with a variety of social questions. In this case, the correlation between In-Group Collectivism and the World Economic Forum Global Competitiveness Index was found to be -0.45. For Institutional Collectivism, the correlation was +0.40.

[14]House, et al. (2004), p. 465.

[15]House, et al. (2004), p. 517.

		(0.0194)		(0.9226)
Common Colony		0.1080***		-2.9138
		(0.0395)		(1.8960)
Common Language		0.0802***		2.0435**
		(0.0186)		(0.9562)
Constant	-1.7762***	-1.6782***	-51.988***	-49.186***
	(0.1767)	(0.1797)	(8.6606)	(8.8465)
Year FE	Yes	Yes	Yes	Yes
N	67460	67460	75173	75173
Adjusted R²	0.0922	0.0939	0.0430	0.0454
F	153.3229	140.8378	75.9921	72.4878

Humane Oriented countries are characterized by "concern, sensitivity, friendship, tolerance, and support" while "low humane orientation involves promoting self-interest and lack of consideration."[16] Given this, we would expect the competitive advantage to rest with the low humane oriented country. Weak evidence of this is found in Table 2 where rising relative Humane Orientation scores decrease trade performance/competitiveness.

The final dimension is Uncertainty Avoidance. A society that scores high on uncertainty avoidance avoids ambiguity as much as possible. One would expect innovation to be a key component to competitive advantage. However, "[i]nnovation tends to introduce unanticipated changes for the employees and cause uncertainty that may lead to resistance to innovation."[17] Thus, as relative Uncertainty Avoidance rises, we would expect competitive advantage to diminish. This view is also held by van den Bosch & van Prooijen (1992) who say stronguncertainty avoidance does not promote the internationalization of home firm demand and thus reduces competitiveness. Our results suggest the opposite to be true. To explore possible explanations for this contradictory result, consider Robert House's characterization of Uncertainty Avoidance:[18] "the extent to which members of collectives seek orderliness, consistency, structure, formalized procedures, and laws to cover situations in their daily lives."[19] This suggests that in high Uncertainty Avoidance societies, business interactions are more formalized in an effort to minimize risks or uncertainty. MacDermott and Mornah (2015) argue that societies with relatively higher scores than their trading partners are better served by seeking foreign markets through the trade route rather than through the FDI route because there is less risk in trade than in FDI. If these countries trade more in lieu of FDI as predicted by MacDermott & Mornah, then it stands to reason that high Uncertainty Avoidance scores could actually lead to improved trade performance (competitiveness)

4. Robustness

Our first robustness check was in using bilateral trade balance as our measure of bilateral trade performance and the results have been found to be qualitatively similar. As further robustness checks, we estimate the bilateral terms of trade models using OLS with robust standard errors and random effects estimation procedures in Table 3. By and large, the results are largely consistent with those presented above.

Table 3: Regression results: OLS Random Effect Estimators: Bilateral Terms of Trade (ToT)

Independent variables	Pooled OLS (Robust Standard Errors)		Random Effects	
Performance Orientation	1.8482***	1.8007***	2.3483***	2.0793***
	(0.0861)	(0.0863)	(0.3723)	(0.3725)
Future Orientation	0.7418***	0.6862***	0.1882	0.3269*
	(0.0739)	(0.0744)	(0.3226)	(0.3227)
Gender Egalitarianism	1.0681***	1.0271***	1.3906***	1.2365***
	(0.0552)	(0.0555)	(0.2326)	(0.2327)
Assertiveness	-1.323***	-1.331***	-2.356***	-2.317***
	(0.0799)	(0.0799)	(0.3404)	(0.3404)
In-Group Collectivism	-1.245***	-1.267***	-2.707***	-2.799***
	(0.0599)	(0.0600)	(0.2378)	(0.2379)
Institutional Collectivism	0.8841***	0.8486***	0.9521***	0.8190***
	(0.0715)	(0.0718)	(0.3005)	(0.3006)
Power Distance	2.3385***	2.3826***	3.7062***	3.6512***
	(0.0954)	(0.0956)	(0.4052)	(0.4052)
Humane Orientation	-0.201***	-0.191***	-1.400***	-1.408***
	(0.0650)	(0.0650)	(0.2718)	(0.2718)
Uncertainty Avoidance	0.3715***	0.4061***	-0.4276	-0.2069
	(0.0686)	(0.0687)	(0.3017)	(0.302)
GDP: Origin	0.1677***	0.1774***	-0.0109	-0.0028
	(0.0072)	(0.0075)	(0.0165)	(0.0166)

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[16]House, et al. (2004), p. 595.

[17]House, et al. (2004), p. 607

[18] Note – uncertainty avoidance is not synonymous with risk avoidance. (Hofstede draws this distinction while GLOBE only makes reference to his work).

[19] House, et al. (2004), p. 603.

GDP: Destination	-0.108***	-0.111***	-0.081***	-0.077***
	(0.0073)	(0.0075)	(0.0164)	(0.0165)
Population: Origin	-0.067***	-0.074***	-0.0415*	-0.059**
	(0.0073)	(0.0075)	(0.0235)	(0.0235)
Population: Destination	0.0365***	0.0405***	-0.087***	-0.107***
	(0.0074)	(0.0075)	(0.0235)	(0.0235)
ln(distance)	-0.072***	-0.069***	-0.100**	-0.091*
	(0.0114)	(0.0135)	(0.0509)	(0.0525)
Contiguous	0.0539	0.0453	0.0200	0.0098
	(0.0442)	(0.0443)	(0.1986)	(0.1991)
Remoteness: Origin	0.0000	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Remoteness: Destination	-0.000**	-0.000***	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Regional Trade Area		-0.0180		0.0010
		(0.0284)		(0.0287)
GATT: Origin		-0.130***		-0.404***
		(0.0257)		(0.0261)
GATT: Destination		0.1089***		0.3354***
		(0.0251)		(0.0253)
Common Colony		0.0910*		0.1099
		(0.0511)		(0.2234)
Common Language		0.0611**		0.0635
		(0.0241)		(0.1128)
Constant	-2.812***	-2.817***	-1.5291*	-1.2363
Year FE	Yes	Yes	Yes	Yes
	(0.2283)	(0.2326)	(0.9113)	(0.9135)
N	67460	67460	67460	67460
Adjusted R²	0.0984	0.0991		
F	164.5174	149.341		

5. Conclusion and policy implications

Our main research interest in this paper was to find out whether various aspects of culture have significant deterministic effect on bilateral trade performance or competitiveness. We find that Performance Orientation, Future Orientation, Gender Egalitarianism, Institutional Collectivism, Power Distance and Uncertainty Avoidance have positive significant effect on bilateral trade performance while Assertiveness, In-Group Collectivism and Humane Orientation tend to decrease bilateral trade performance and competitiveness.

The findings of this study have relevant policy implications for trade and competitiveness. Many countries want to boost exports and reduce imports. However, in the current world order with multilateral trade agreements under the WTO and increased transferability of technology, governments are clipped in terms of available trade policy options. However, by understanding which aspects of culture promote bilateral competitiveness and performance, governments could take steps to maximize their competitiveness. For instance, when negotiating trade treaties, policy makers may benefit from the knowledge of culture's impact on competitive advantage when selecting partners. Secondly, policy makers can choose aspects of culture that promote competitiveness and actively seek to imbibe such "good culture" in its citizenry through education or concerted efforts to promote cultural interaction with such "good cultures." In so doing, countries will be able to recapture competitive advantage in trade without violating international trade rules.

It should be noted that Porter's study was of the competitiveness of nations at the industry level. While this current study is an interesting first step into empirical analysis, there is potential for further study as to the impact of culture on competitiveness at the industry level.

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Appendix

Table 1. Variables definitions and sources				
Variable		Mean		Source
Terms of Trade (bilateral)		5202970		Constructed from IFS trade stats
Trade Balance (Bilateral)		-4.425261		Constructed from IFS trade stats
Performance Orientation		1.010372		House (2004)
Assertiveness		1.007805		House (2004)
Future Orientation		1.014482		House (2004)
Humane Orientation		1.012909		House (2004)
Institutional Collectivism		1.010394		House (2004)
Gender Egalitarianism		1.013219		House (2004)
Power Distance		1.008646		House (2004)
Individual Collectivism		1.026968		House (2004)
Uncertainty Avoidance		4.125254		House (2004)
Bilateral Distance		8155.706		Cepii Gravity Data: http://www.cepii.fr/CEPII/
GDP (billions)		201.4589		World Development Indicators (WDI) (2014)
Population (Billions)		0.0317026		World Development Indicators(WDI) (2014)
Common Language (Ethnic)		0.1507064		Cepii Gravity Data: http://www.cepii.fr/CEPII/
Common Language (Official)		0.1620617		Cepii Gravity Data: http://www.cepii.fr/CEPII/
Common Colony		0.110675		Cepii Gravity Data: http://www.cepii.fr/CEPII/
Regional Trade Area		0.0394267		Cepii Gravity Data: http://www.cepii.fr/CEPII/
GATT		0.6106859		Cepii Gravity Data: http://www.cepii.fr/CEPII/
Contiguous		0.0145474		Cepii Gravity Data: http://www.cepii.fr/CEPII/
Remoteness (origin)		7064.988		Constructed from WDI (2014)
Remoteness (Partner)		7037.758		Constructed from WDI (2014)