Journal of Development Economics 127 (2017) 449–458

Contents lists available at ScienceDirect

Journal of Development Economics

journal homepage: www.elsevier.com/locate/jdeveco

Clash of civilizations and the impact of cultural differences on trade☆

Gunes Gokmen

New Economic School, Russian Federation

ARTICLE INFO

JEL:
F1
Z10

Keywords:
Cold War
Culture
Economic clash
Trade

ABSTRACT

This paper studies the *Clash of Civilizations* hypothesis from an economic perspective. Using data on bilateral trade and measures of culture, we evaluate how the impact of cultural differences on trade evolves over time during and after the Cold War. Evidence suggests that the negative influence of cultural differences on trade is more prominent in the post-Cold War era than during the Cold War. For instance, ethnic differences reduce trade by 24% during the Cold War, whereas this reduction is 52% in the post-Cold War period. We also suggest a channel for the differential impact of cultural differences over time. By studying the evolution of the effects of cultural difference and cold-war blocs on trade, we provide evidence consistent with the hypothesis that cold-war blocs have trumped cultural differences during the Cold War. Thus, cultural determinants of trade replace cold-war blocs as a major impediment to international trade only after the end of the Cold War.

1. Introduction

Cultural differences play an important role in economic exchange.[1] In this context, cultural barriers to trade are associated both with transaction costs, due to informal barriers, trust, business networks, informational costs and misunderstandings related to non-verbal communication, and with dissimilarity of preferences and tastes of culturally distant consumers. We add to this line of research by studying how the impact of cultural differences on trade evolves over time, and how this impact interacts with the Cold War.

In particular, this paper analyzes how the effect of cultural differences on trade changes during and after the Cold War. This relates to the *Clash of Civilizations* hypothesis by Huntington (1993a, 1993b). This hypothesis puts forward that in the post-Cold War period the dominating source of discord will be cultural, and dissimilarity in culture will lead to clashes over a range of issues including trade. While Huntington argues for an increase in both violent and non-violent competition among cultural groups, the *Clash of Civilizations* hypothesis has so far received attention from a military conflict angle only,[2] and it has not been empirically tested from an economic perspective. This is the aim of the present paper. To that end, using civilizations, religion, ethnicity and language as proxies of culture, we evaluate whether the negative effect of cultural differences on trade amplified in the post-Cold War era.[3]

Employing bilateral imports data over 1962–2012, we provide evidence that the negative influence of cultural differences on trade is larger in the post-Cold War era than during the Cold War. For instance, ethnic differences reduce trade by 24% during the Cold War, whereas this reduction is 52% in the post-Cold War period. Additionally, we quantify the tariff equivalent costs of cultural differences for standard levels of elasticities of substitution in the literature. For example, with an elasticity of substitution of eight, the tariff equivalent cost of cultural differences varies between 1.3% and 7.4% during the Cold War, while this additional cost is between 9.4% and 19.4% in the post-Cold War era.

Furthermore, we explore the mechanism for the differential impact of cultural difference over time. Huntington (1993a) argues that dissimilarity in culture gives rise to differences in how we perceive and carry out a multitude of issues, including economic exchange. Businessmen make deals with people they can understand and trust; states surrender sovereignty to international organizations composed of like-minded states they understand and trust. Thus, the roots of economic cooperation are in cultural commonality. However, such tendencies, he claims, were held in check by the Cold War. Cold War

☆ I am indebted to the editor Nathan Nunn, three anonymous referees, Alberto Alesina, Maristella Botticini, Klaus Desmet, Marc Dincecco, Simeon Djankov, Paolo Epifani, Alessandra Fogli, Selim Gulesci, Andreas Madestam, Kiminori Matsuyama, Matthias Messner, Annaig Morin, Tommaso Nannicini, Michele Pelizzari, Barbara Petrongolo, Giovanni Pica, Jean-Philippe Platteau, Massimiliano Onorato, Guido Tabellini, Silvana Tenreyro, Pierre-Louis Vezina, Romain Wacziarg, Shlomo Weber, and numerous seminar and conference participants for their help and support. I acknowledge the support of the Ministry of Education and Science of the Russian Federation, grant No. 14.U04.31.0002 administered through the NES CSDSI. The usual disclaimers apply.

E-mail address: ggokmen@nes.ru.

[1] See Felbermayr and Toubal (2010), Guiso et al. (2009), Melitz (2008), Melitz and Toubal (2014), and Rauch and Trindade (2002).

[2] See Chiozza (2002), Henderson and Tucker (2001), Russett et al. (2000).

[3] Throughout the paper, post-Cold War refers to post-1991.

http://dx.doi.org/10.1016/j.jdeveco.2016.12.008
Received 23 December 2015; Received in revised form 22 December 2016; Accepted 24 December 2016
Available online 28 December 2016
0304-3878/

institutions repressed these more fundamental channels of culture, and artificially promoted trade among countries of the same Cold War bloc. Therefore, only by the end of the Cold War, cultural cleavages resurface to increasingly prevail over ideological ones.[4]

To better understand this mechanism, we assign each country to a cold-war bloc and create an indicator of different blocs. Then, we track the evolution of the effects of cultural differences and different blocs on trade over time. The strong negative effect of different blocs on trade over the Cold War disappears by the end of the Cold War, and instead, cultural difference gains significance as a trade barrier. We also show that the differential impact of cultural difference in the post-Cold War era is largely driven by former same-bloc countries. The evidence we provide is consistent with the hypothesis that cold-war blocs have trumped cultural differences during the Cold War. Therefore, long-term cultural determinants of trade gain more significance and replace cold-war blocs as a major impediment to international trade only after the end of the Cold War.

Our main findings are robust to alternative specifications. We estimate a gravity model of international trade accounting for time-varying multilateral resistance terms[5] as well as country-pair fixed effects. We employ a set of cultural-difference measures that allow us to capture different aspects of culture. Unlike other existing studies (Felbermayr and Toubal, 2010; Giuliano et al., 2006; Guiso et al., 2009; Rauch and Trindade, 2002),[6] our data set contains most of the countries of the world. We control for an array of measures of geographic barriers as well as historical and policy-related determinants of trade. Results are also robust to taking into account time-varying effect of distance, genetic distance as an alternative measure of culture, political proximity, communication channel, zero trade flows, and a rich set of geographic controls.

This study contributes to the literature on the *Clash of Civilizations* thesis by adding an economic perspective. This strand of the literature has focused on the militarized disputes aspect of the thesis and its implications for economic interaction among cultural groups remained unexamined.[7] To our knowledge, we are the first to study this thesis from an economic perspective.

This paper also adds to the literature on trade and culture by bringing in the dynamics and showing the evolution of the effects of culture. In this strand of the literature, for instance, Felbermayr and Toubal (2010) establish a correlation between culture and trade using scores from the Eurovision Song Contest as a proxy for cultural proximity. Guiso et al. (2009) show that bilateral trust between pairs of European countries leads to higher trade between them. However, the dynamic aspect of the influence of culture is absent in these analyses. This could be important, for instance, to explain the recent regionalization phenomenon. Moreover, we know that trade affects conflict involvement (Martin et al., 2008), and our results suggest that, in the post-Cold War era, cultural differences might have an additional indirect effect on the probability of conflict by reducing bilateral trade.

Another strand of related literature looks at trade in the context of the Cold War. Importantly, Berger et al. (2013) show that during the Cold War imports from the US increased as a result of stronger political influence arising from CIA interventions. Alternatively, Djankov and Freund (2002) study trade between Russian regions and former Soviet republics, and find that there is an increasing bias toward domestic trade after the disintegration of the Soviet Union.

The paper proceeds as follows. Section 2 lays out the methodology and describes the data. Section 3 provides results. Section 4 proposes a potential channel. Section 5 concludes.

2. Econometric specification and data

2.1. Econometric specification

We estimate a standard gravity equation (Anderson and van Wincoop, 2003). The theoretical gravity equation is:

$$M_{ij} = G\frac{Y_i Y_j}{\tau_{ij}^{\sigma-1}}, \quad \text{where } G \equiv \frac{1}{\overline{Y}}\left(\frac{1}{\Omega_i P_j}\right)^{(1-\sigma)} \tag{1}$$

M_{ij} is the nominal value of imports from country i to country j; Y_i and Y_j are country i's and country j's economic sizes, respectively; τ_{ij} is bilateral trade costs; $\overline{Y}$ is world nominal income; $\sigma > 1$ is the elasticity of substitution between goods; Ω_i and P_j can be thought of as price indices.[8]

τ_{ij} reflects all trade costs, natural and man-made, between countries i and j. In addition to transportation costs, these trade costs might reflect legal costs, regulatory and institutional costs, and all the remaining costs that form bilateral trade barriers. This is where we see our measures of cultural difference come into play as a cultural barrier to trade. Cultural variables reflect, among other things, business norms, customs, beliefs, trust and information costs that might act as a source of informational cost and uncertainty, and thus, impede trade relations between countries.

Log-linearization of Eq. (1) gives the empirical gravity equation:

$$\log M_{ij} = -\log \overline{Y} + \log Y_i Y_j + (1-\sigma)\log \tau_{ij} + (\sigma-1)\log \Omega_i P_j \tag{2}$$

Moreover, Feenstra (2002) shows that an estimation strategy with exporting and importing country fixed effects produces consistent estimates, whereas Baldwin and Taglioni (2007) show that with panels importing and exporting country fixed effects should be time-varying. Thus, our empirical specification is a log-linearized version of Eq. (1) together with time-varying importing and exporting country fixed effects, and country-pair fixed effects where applicable:[9]

$$\log M_{ijt} = a + \gamma C_{ij} + \sum_k \alpha_k \tau_{kijt} + R_{it} + R_{jt} + \epsilon_{ijt} \tag{3}$$

where C_{ij} is our variable of interest, which is a binary variable that captures cultural differences across country pairs; τ_{kijt} represents k control variables; R_{it} is time-varying exporting country fixed effects; R_{jt} is time-varying importing country fixed effects; and ϵ_{ijt} is the unaccounted-for error term.

2.2. Data

Measure of Trade. Trade data between 1962 and 2012 are from the UNComtrade Trade Data Set.

Measures of Culture. As a first measure of culture 179 countries are classified as members of various civilizations. These civilizations

[4] This can be interpreted in more economic terms as follows. Although trade frictions tend to be larger for countries with different cultures, during the Cold War there were incentives to trade within the same ideological bloc ignoring the trade frictions associated with different cultures. However, after the end of the Cold War, such political mechanisms disappear, and cultural barriers to trade converge to their market equilibrium.

[5] Omission of which leads to biased estimates. See Anderson and van Wincoop (2003), and Baldwin and Taglioni (2007).

[6] Melitz and Toubal (2014) is an exception. They collect linguistic data on 195 countries and show that the influence of language on trade works not only through cultural components but also through ease of communication.

[7] For a discussion on the militarized conflict aspect of the thesis, see Chiozza (2002), Henderson and Tucker (2001), Russett et al. (2000).

[8] Notice that the G term bears the price indices of the two countries. Although Ω_i and P_j could be interpreted as price indices in the model, they cannot be interpreted as price levels in general. These unobservable variables should be better thought of as nonpecuniary trade costs a country has with all its trading partners. Hence, Ω_i and P_j represent average trade barriers of country i and country j, respectively, which are referred to as "multilateral resistance" terms. Omission of multilateral resistance terms leads to biased estimates (Anderson and van Wincoop, 2003). See Head and Mayer (2013) for more details and a discussion of the state-of-the-art.

[9] Guimarães and Portugal (2010) provide an algorithm to run estimations with high dimensional fixed effects.