

# Does Corruption Discourage Trade in Cultural Goods?

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## Abstract

Cultural trade is expected to be higher between countries with a greater cultural bond, and previous literature has found that trade in cultural goods is sensitive to a number of variables associated with cultural similarity such as common language and geographical distance. For example, there is evidence cultural goods travel shorter geographical distances than non-cultural goods and are traded more heavily between countries sharing a common language. The evidence to date on the links between corruption and trade presents a mixed picture, with studies that support corruption being good for trade (grease the wheels) and detrimental to trade (sand the wheels). Yet to the best of the authors' knowledge, there are no studies that examine the product-level effects of corruption on trade, let alone the effects of corruption on trade in cultural goods. Our research utilises a very large product-level dataset across 44 countries, allowing us to expand on a standard empirical gravity model of international trade to examine the impact of corruption on bilateral trade of cultural goods. Results indicate strong evidence in favour of corruption having a detrimental effect on cultural trade (sand the wheels). This suggests that explicit as well as more tacit boycotts of goods, including cultural goods, from countries identified as more corrupt, have a significant impact on the trade of cultural goods. As an aside, our analysis also contributes to the literature on the most appropriate measures of corruption to adopt.

*Keywords:* Corruption, international trade, cultural goods.

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# 1 Introduction

The evidence in the literature on the relationship between corruption and international trade presents a mixed picture, with studies supporting corruption being good for trade (grease the wheels) and detrimental to trade (sand the wheels). This is especially so if corruption is measured at customs. In a theoretical model, [Dutt and Traca \(2010\)](#) show that corruption works as a tax on trade as customs officials extract bribes from exporters, thus reducing trade. However, if trade barriers (such as tariffs) are high, paying bribes may enhance trade if it allows exporters to evade tariffs. If corruption is not measured specifically at customs, however, it is generally believed that the level of corruption in a given country leads it to trade less as a poor institutional structure is detrimental to business. Existing studies, however, have mainly used aggregate bilateral trade flows, an approach which masks potential heterogeneity across products. We argue that, for a variety of reasons, it is likely that certain products respond differently to corruption both at the supply side and the demand side.

In this paper, we examine the impact of corruption on trade for a specific type of goods – cultural goods. UNESCO defines cultural goods as “consumer goods that convey ideas, symbols and ways of life, i.e. books, magazines, multimedia products, software, recordings, films, videos, audio-visual programmes, crafts and fashion”. These are highly differentiated goods expected to provide personal and emotional utility to the consumer. There is evidence from the literature that cultural trade is greater between countries sharing a greater cultural bond. For instance, while all trade is sensitive to variables associated with cultural similarity such as common language and geographical similarity, cultural trade has been shown to show greater sensitivity to such variables. Cultural goods travel shorter distances than non-cultural goods and are traded more heavily between countries sharing a common language.

This paper intends to provide more nuance to the literature on corruption and international trade by exploring this link for particular goods and thereby analyse the heterogeneity of the effect of corruption on trade. It also intends to contribute to the field of cultural economics by deepening our understanding of consumer and producer behaviour in the exchange of cultural goods. It is likely that cultural goods respond more heavily to corruption due to their high level of differentiation and their potential emotional value to the consumer. For instance, when exchanging a painting or antiquated products it is likely the buyer will subject the exchange to much more extensive checks making corruption less feasible. In contrast, more homogeneous goods are less likely to be subjected to the same level of scrutiny.

Our research utilises a very large product-level dataset across 44 European countries, allowing us to expand on a standard empirical gravity model of international trade to examine the impact of corruption on bilateral trade of cultural goods. Results indicate strong evidence in favour of corruption having a detrimental effect on cultural trade (sand the wheels) which exceeds that for non-cultural goods by a considerable margin. This suggests that explicit as well as more tacit boycotts of goods, including cultural goods, from countries

identified as more corrupt, have a significant impact on the trade of cultural goods.

The gravity model of international trade, according to which, any pair of countries' volume of trade is proportional to their economic magnitude and inversely related to their geographical distance, has been a feature of the economics empirical trade literature for over fifty years. The literature has advanced in a number of directions. As well as the gravity model since being applied in a number of fields beyond international trade, such as education, health or migration contexts, the gravity model of international trade has been extended to include a variety of additional factors that might directly impact on trade volumes, such as political and/or economic alliances, common language and corruption. The econometric methods adopted have also developed: while early studies used linear OLS regression and then log-linear OLS regression methods, it is now standard to use the Pseudo Maximum Likelihood (PPML) estimation method as discussed below.

To the best of the authors' knowledge, there are no studies to date that examine the product-level effects of corruption on trade, let alone the effects of corruption on trade in cultural goods. This is despite the existence of gravity models of international trade in cultural goods contexts, and corruption extended gravity models not in cultural goods contexts. As such, our analysis offers an original extension to the empirical literature reporting the results of gravity models of international trade.

The remainder of this paper is structured as follows: Section 2 provides a literature review covering Economics literature on both the international trade of cultural goods, and the relationship between corruption and international trade. In Section 3, the dataset and econometric methodology adopted are discussed. Results are provided and discussed in Section 4, and Section 5 concludes.

## 2 Literature review

### 2.1 Cultural goods and international trade

[Disdier et al. \(2010\)](#) highlight the importance of cultural goods, not only in terms of amounts spent on them by consumers but also crucially in terms of the international trading of them. This paper is a key reference because, as in the analysis below, a gravity model of international trade is utilised, it being concluded that cultural goods are traded over shorter distances than other goods, that trade in cultural goods benefits from common language. The authors also control for earlier colonial links between countries. [Lanati and Venturini \(2021\)](#) and [Liu et al. \(2021\)](#) extend the work of [Disdier et al. \(2010\)](#) by using trade in cultural goods as an indication of cultural proximity that can contribute to explanations of migration flows. See [Wang \(2020\)](#) for a literature survey of studies that focus on the international trade of cultural goods, this survey article paying particular attention to studies that look at the international trade of cultural goods in China.

[Takara \(2018\)](#) adopts a gravity model to look at international trade in music in the form of compact

discs as a specific example of a cultural good. Alternatively, Hellmanzik and Schmitz (2015), Harms and Shuvalova (2020) adopt gravity models to examine trade in the related but broader services sector. Many related empirical gravity models of international trade have been developed, although not focusing specifically on the trade in cultural goods or services. As such, many of these employ similar sets of explanatory variables. Rose (2000) and Egger and Lassmann (2014) similarly control for common language and previous colonial relationships. Felbermayr and Toubal (2010), Kokko and Tingvall (2014) are notable for using Eurovision Song Contest data to measure cultural proximity between countries, while Fensore et al. (2017) use ancestral / genetic distance. Heid and Lu (2022) similarly use genetic distance between countries as a proxy for cultural distance, but in the context of a linear probability model to estimate the probability of trade agreements. See Kabir et al. (2017) for a recent survey article of the broader literature on the use of gravity models of international trade. The research of Fisman and Wei (2009) provides a link between the literature discussed in both parts of this literature review. They quantify the extent of illegal trade in cultural goods as the (theoretically zero) difference between the value of US recorded imports of these goods and the value of the exports of these same goods to the US. This measure of illegal trade in cultural goods is then found to be strongly correlated with measures of corruption in the exporting countries.

## 2.2 Corruption and international trade

Key for the current analysis are the papers of Dutt and Traca (2010) and Gil-Pareja et al. (2019). As in the analysis below, these analyses extend the usual gravity model of international trade by estimating the impact of corruption on bilateral trade, although not in cultural goods contexts. Dutt and Traca (2010) use countries' industrial sector level data from within the manufacturing industry, with results ultimately ambiguous as to whether corruption 'greases' or 'sands the wheels', depending on levels of trade tariffs. Gil-Pareja et al. (2019) similarly use manufacturing sectoral data and the PPML model previously mentioned. Note that Dutt and Traca (2010) query the use of the PPML method because it can result in biased results when there are many zero trade values, resulting in them instead using the Heckman maximum likelihood model suggested by Helpman et al. (2008). This model is similarly used in the corruption extended gravity model of Thede and Gustafson (2012). Meanwhile, de Jong and Bogmans (2011) adopt a third econometric approach in a cross-sectional context, specifically the Hausman-Taylor, instrumental variable, Method (HTM) described in Egger (2005). Our intention is that the analysis below offers a gravity model of international trade, extended to incorporate the impact of corruption on bilateral trade flows, but for the first time focusing specifically on trade in cultural goods. A second contribution to the literature comes through our use of alternative measures of corruption, allowing us to contribute to the literature on appropriate measures of corruption to use in an international trade context. A variety of measures of national level corruption have previously been used in the literature. Dutt and Traca (2010) use the International Country Risk Guide as discussed

in Knack and Keefer (1995). Alternatively, de Jong and Bogmans (2011) and Thede and Gustafson (2012) use data from the World Business Environment Survey (WBES). de Jong and Bogmans (2011) also use the Corruption Perception Index (CPI) as do Gil-Pareja et al. (2019). The starting point for the empirical analysis below is similarly the CPI. However, we are able to make an original contribution to the literature through our use of the Index of Public Integrity (IPI) as an alternative to the CPI. As will be discussed, some interesting and important differences emerge from the application of a corruption extended gravity model depending on whether the CPI or IPI are used to measure corruption.

### 3 Data and methodology

We use two distinct measures of corruption. The first measure is the Corruption Perceptions Index (CPI) constructed by Transparency International, which is a survey based variable. We supplement our estimations with a second corruption variable – the Index of Public Integrity (IPI). The second measure is also survey based but it differs from the first in that it is experience based, i.e., survey respondents are asked about the extent to which they have experienced corruption in a specific period as opposed to how they perceive it to be. The CPI scores each country on a scale of 1 to 100 with a higher number corresponding to less corruption. The IPI scores each country out of 10 with a higher score similarly corresponding to less corruption.

In order to estimate the impact of corruption on the international trade of cultural goods, we use a sample of 44 European countries observed over 2000-2020.<sup>1</sup> We follow the convention in literature on structural gravity models by adopting a standard PPML estimation model as suggested by Silva and Tenreyro (2006) to overcome the biasedness in OLS results arising from heteroskedasticity. We run the following regression:

$$\begin{aligned} \text{Imports}_{ijk} &= \beta_0 + \beta_1 \ln \text{GDP}_{it} \times \ln \text{GDP}_{jt} + \beta_2 \text{Cultural trade} \\ &\quad + \beta_3 \ln \text{Corruption} - \text{destination} + \beta_4 \ln \text{Corruption} - \text{origin} \\ &\quad + \beta_5 \text{Cultural} \times \text{Corruption (origin)} + \beta_6 \text{Cultural} \times \text{Corruption (destination)} \end{aligned} \quad (1)$$

The dependent variable is the imports of country  $i$  (destination) from country  $j$  (origin) of product  $k$  at time  $t$  which is log-transformed in the PPML estimation. As independent variables we include the product of the two countries' nominal GDP at time  $t$ . "Cultural trade" is a binary variable taking the value of 1 if product  $k$  is a cultural good and zero otherwise. Then we include the our measure of corruption – CPI or IPI – of the destination country ( $i$ ) and of the origin country ( $j$ ). We interact the two variables with the "Cultural trade" dummy, and in Table 1. We run three specifications, the difference being the number of interaction terms involving corruption and cultural trade. In all specifications, we include the product of the importer

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<sup>1</sup>We use most European countries but we exclude very small countries such as Andorra and microstates such as the Vatican and Liechtenstein.

(destination) and the exporter (origin) respective GDP. Then we include a dummy for cultural trade and the corruption index of the destination country and the origin country..

## 4 Results

We present our results using CPI as measure of corruption in Table 1. In the first specification presented in column (1), we find that the coefficient on the log of CPI of the importer is not statistically significant in explaining trade flows. However, the CPI of the origin is positive and significant, a finding which is consistent with [Dutt and Traca \(2010\)](#). The coefficient should be interpreted as an elasticity – a one percentage point increase in CPI (decrease in corruption) leads to a 0.3% increase in trade. In the second specification, we interact the cultural trade dummy with the importer’s CPI. The coefficient on the interaction term is large and statistically significant. The additional effect of corruption on trade for cultural goods is thus larger than all other goods. The interpretation of the coefficient is that a 1% increase in CPI (a decrease in corruption) increases cultural trade by 0.7% in addition to the effect on all other goods. In the last specification we include an interaction term for cultural trade and destination CPI. Clearly, the CPI of both the importer and exporter have significant impacts on trade for cultural goods. As such, we identify cultural trade as being sensitive to corruption in both directions as opposed to overall trade which where direction matters. We can also conclude that cultural trade is more sensitive to corruption than overall trade.

We present our results using our alternative measure of corruption, IPI, in Table 2. We first note that there is no statistically significant effect of IPI on total trade neither in terms of the IPI of the origin nor the destination. We interact our binary variable for cultural goods with IPI and we find a particularly strong effect on both the origin and destination in column (3).

## 5 Conclusions

In this paper, we have analysed the effects of corruption on cultural trade. To the best of the authors’ knowledge, there is no systematic analysis of the impact of corruption on product-level trade, let alone cultural trade. Cultural goods are highly differentiated and are likely to have personal and emotional value to the consumer. Economic agents exchanging these goods are therefore likely to be subjecting transactions to a higher level of scrutiny, making such transactions less corruptible.

Using two separate measures of corruption – CPI and IPI – our results show unambiguously that cultural goods are substantially more sensitive to corruption than overall goods trade by a considerable magnitude. In this preliminary version of the paper, we have focused on aggregate cultural trade and there is scope to refine the results by type. Further research could also ascertain whether the effect is conditional on the level of corruption in a given country, as well as exploring other types of measures of corruption such as corruption

Table 1: Initial results using the Corruption Perception Index from Transparency International.

	(1)	(2)	(3)
$\ln \text{GDP}_{it} \times \text{GDP}_{jt}$	0.630*** (0.047)	0.630*** (0.047)	0.630*** (0.047)
Cultural trade	0.080*** (0.020)	-2.910*** (0.259)	-5.263*** (0.329)
$\ln \text{CPI} - \text{destination}$	0.080 (0.074)	0.081 (0.074)	0.061 (0.074)
$\ln \text{CPI} - \text{origin}$	0.299*** (0.100)	0.278*** (0.100)	0.282*** (0.100)
Cultural $\times$ $\ln \text{CPI}$ (destination)			0.668*** (0.061)
Cultural $\times$ $\ln \text{CPI}$ (origin)		0.711*** (0.061)	0.600*** (0.064)
Observations	44115434	44115434	44115434
$R^2$			
Country-pair fixed effects	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Robust standard errors in parentheses

Table 2: Initial results using the Index of Public Integrity from corruptionrisk.org.

	(1)	(2)	(3)
$\ln \text{GDP}_{it} \times \text{GDP}_{jt}$	0.541*** (0.158)	0.541*** (0.158)	0.541*** (0.158)
Cultural trade	-0.216*** (0.030)	-3.276*** (0.496)	-6.611*** (0.627)
Cultural $\times$ IPI (destination)			1.866*** (0.223)
Cultural $\times$ IPI (origin)		1.437*** (0.234)	1.131*** (0.236)
IPI – destination	-0.172 (0.427)	-0.172 (0.427)	-0.215 (0.427)
IPI – origin	0.363 (0.754)	0.329 (0.755)	0.335 (0.755)
Observations	20183796	20183796	20183796
$R^2$			
Country-pair fixed effects	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Robust standard errors in parentheses

at customs.

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