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THE IMPORT OF “CULTURAL GOODS” AND EMIGRATION: AN UNEXPLORED RELATION

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The Import of “cultural goods” and emigration: an unexplored relation¹

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Abstract:

The paper examines the effect of the import of cultural goods as defined by UNESCO (2009): cultural heritage, performance, visual arts, books, audio-visual material and design on emigration decisions. The import of cultural goods, by affecting individual preferences, reduces the cost of any migration move and favors outflows towards exporting countries. A gravity model for 33 OECD destination countries and 184 sending ones has been estimated for the period 2009-2013. The issue of identification and endogeneity has been addressed through the inclusion of a comprehensive set of fixed effects and by instrumenting cultural imports with past flows and an imputed share of cultural imports à la Card (2001). The positive relationship is robust across different classifications for cultural goods, areas of destination and alternative econometric techniques.

Key words: Migration, trade in cultural goods, gravity model

JEL codes: F16, F22, Z10

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1.Introduction

Understanding the decision to migrate has long been at the center of migration research in several different disciplines. Economists have focused on the decision since Hicks (1932) tried, in a seminal work, to explain the migration outflows in terms of the wage differential between sending and destination countries, and the cost of the journey. This interpretation is, however, not sufficient for understanding the decision. In fact, the income differentials are so large that the research question might best be posed – paraphrasing Trefler (1995) – as “*the case of missing migration*” namely why the migration flows are so small and variable between countries with similar potential attracting conditions. The economics literature has tried to identify some important **non-monetary** determinants of migration decision costs that can affect this pattern, such as time invariant factors like linguistic and cultural proximity, and time-varying variables, such as bilateral migration policies and networks.⁴ The variable physical distance is interpreted as a monetary but also as a non-monetary cost of migration and is considered as a proxy also of cultural distance, and like language differentials can discourage a move. If we look at European migration the outflows in the 1960s to the 1970s from southern European to northern European countries, Italian, Spanish and Portuguese migrants moved first to France, then to Belgium and only afterwards to Germany. First they moved to the closest country, with a similar language, and only later toward countries where the return was greater but where the monetary and psychological cost was higher. The important role played by **migrant networks** in the destination country represents a way to reduce the cultural and linguistic distance and these influence the destination of the outflows. Research has shown that this factor is relevant but varies from country to country (Pedersen *et al.* 2008, Beine and Parson 2015). Munshi (2003) and Bertoli & Ruysen (2017), with individual data, were able to quantify its importance in the individual’s decision with suitable data sets. The network transfer of information influences labor options in destination areas, but it also helps to dispel the fear of a given location because it reduces the psychological costs that are the result of linguistic and cultural distance. Empirical research on migrant integration has focused, too, on the network effect: networks positively influence integration at arrival but can, then, become a trap reducing linguistic and cultural integration⁵.

In this paper we examine another channel for reducing cultural distance: the *import of cultural goods* as a vehicle of transmission of information that enhances, through the transformation of information, cultural affinity with potential destinations. Our hypothesis is that imports of cultural goods shape migration outflows as they are related to what Tabellini (2008) defines as the *horizontal transmission of values*, values that affect cultural traits, and individual behavior; the cultural content embodied in these goods decreases moving costs by reducing the perceived cultural distances between home and destination societies.

The role of culture as a shaper of individual preferences and the values of a society is, increasingly, at the heart of the economic and socio-political debate. Socio-Political Research – with notable contributions by economists (i.e. Acemoglu *et al.* 2005; Tabellini, 2008; Guiso *et al.* 2009) – focuses on how culture strengthens or weakens a country’s institutions. Cultural exchanges can also bring economic benefits, favoring economic and social-political development⁶.

⁴ See Beine *et al.* (2015) for a very good review of the literature on gravity models for international migration.

⁵ See De Palo, Faini & Venturini 2007.

⁶ In 2007 the European commission proposed a European Agenda for Culture in a globalizing world. This agenda was meant to push culture as an instrument of international relations. Communication on ‘European Agenda for Culture in a

Cultural proximity has also proved to be a key driver of international migration. Belot and Ederveen (2012) investigated the role of cultural proximity by using a wide range of refined indicators of cultural barriers to migration. Even if the sample is limited (22 OECD countries) they found strong evidence of the importance of cultural links between countries, links that go well beyond the simple sharing of a common language. We refer to this literature and we propose imports of cultural goods as a better alternative with which to capture cultural distance across countries in the context of international migration. Furthermore, we argue that the transmission of values through the inflows of cultural goods affects the preferences of migrants through the “*learning by consuming mechanism*” and therefore their decision on where to emigrate from a pool of destinations.

But what does “*cultural goods*” mean?

We use the UNESCO definition from the Framework for cultural statistics (FCS) (2009) where cultural goods are defined as goods “*conveying ideas, symbols and ways of life, some of which may be subject to copyrights*”. Exports and imports are, according to UNESCO (2005, p.12), both tangible and intangible and convey cultural content. Six main domains are considered: cultural and natural heritage; performance and celebration; visual arts and crafts; books and press; audiovisual and interactive media; and design and creative services.

This paper looks at the impact of cultural goods imports on emigration flows and adds to the existing literature in many respects.

- First, building on Disdier et al. (2010), we assert that the intensity in bilateral imports in cultural goods should be regarded as a reliable proxy for cultural distance and a better alternative to the indicators proposed so far in the literature⁷. We are well aware of its limitations: it clearly does not encompass all the cross country cultural exchanges that affect migration decisions. However, bilateral imports in cultural goods reflect some time invariant components of cultural proximity and are correlated to the popular Hofstede index, yet have the advantage of exploiting the time dimension (not pre-determined) and benefit from a much larger coverage of country pairs.
- Second, we argue that imports of cultural products in the countries of origin will enhance bilateral emigration flows through a reduction in psychological costs. Psychological costs are crucial in the choice to migrate to a given destination country. They are, also, less related to income with respect to other migration costs. In support of this statement, the studies of Bayer and Juessen, (2012) and Kenan and Walker (2011) estimate that psychological migration costs account for, respectively, about two thirds of average annual income, or about 23,000\$ per year in monetary terms.⁸ Our argument is that the cultural content embodied in these particular goods affects the preferences of migrants – through a reduction in psychological, social, and information costs – and therefore their decision on whether and

globalizing world’ COM(2007) 242 final. Council Conclusions on the promotion of cultural diversity and intercultural dialogue in external relations (2008).

⁷ The same relationship – namely the impact of cultural distance on trade – has been studied in other papers (see Tadesse White (2010) and Felbermayr Toubal (2010)). In particular, Tadesse and White (2010) show that cultural distance is reduced by the presence of migrants.

⁸ In these references the authors do not label these costs as specifically “*psychological*”, rather these estimates are related to a bias in favor of the home location. This implies that, for instance, potential migrants will not move anywhere else unless they earn \$23,106 more than what they earn now. Since these estimates apply to internal migration within a large country where language, culture and political rights are broadly similar, it may be seen as the lower limit for the psychological cost of international migration.

where to move. The paper tests this conjecture empirically using a dataset which covers 33 countries of destination and 184 countries of origin from 2008 to 2013.

- Third, we propose an IV strategy to address any endogeneity in our model. To the best of our knowledge this is the first time that an IV strategy (with time-varying instruments) has been used to study the causal relationship between cultural proximity and the migration choice. In constructing our instruments, we take advantage of the time dimension of the BACI trade dataset provided by CEPII and we build on the strategy à la Card (2001), adopted by Peri and Requena Silvente (2010), for constructing the imputed share of cultural imports. The results are robust across different specifications and indicate a positive relationship: our preferred specification indicates that a 1% increase in the share of cultural imports increases emigration to the exporting country by 0.07%, all other factors being fixed.
- Fourth, similarly to the strategy adopted by Gould (1994) – who imputed the larger effects of migrant networks on imports to the higher preference of migrants for goods produced in their home country – this paper compares the impact of cultural imports on the bilateral emigration rate with the impact of exports and finds the former to be larger. We interpret this result as (a) the extra effect of the “*learning by consuming mechanism*” which does not operate through exports and (b) as evidence in support of the non-symmetric nature of trade in cultural goods as a proxy for cultural affinity.

The paper is organized as follows. The next section is devoted to a review of the strands of the literature where this paper contributes and to which it is most indebted; Section 3 outlines the theoretical foundation of the gravity equation for international migration, the empirical workhorse of this study, and tests the validity of cultural trade as a proxy for cultural distance; Section 4 illustrates the data utilized in the empirical analysis, while Section 5 illustrates the specification and the empirical challenges that we face. Section 6 describes the results obtained from different specifications and econometric techniques, while Section 7 is devoted to conclusions and final remarks.

2 Survey of the literature

Our research is inspired by three main strands in the literature: the first has the gravity model as the main workhorse for studying the determinants of migration flows; the second inquires into the dynamic of trade in cultural flows; and the last analyses the role of cultural proximity in economic exchanges.

2.1 The gravity model for interpreting migration movement

A strand of research to which we are indebted is the recent uses of the gravity model in estimating the determinants of bilateral migration flows. The gravity equation had been extensively applied to international trade since the seminal work of Tinbergen (1962).⁹ Only recently has the model also become the main “*workhorse*” in studying the determinants of international migration flows, following some theoretical refinements that have been introduced over the last decade. In this regard, only a few empirical contributions lack theoretical foundations (see for instance Pedersen et

⁹See Head and Mayer (2014) for a thorough discussion on the evolution of the gravity equation in the trade literature over the years

al., 2008) and most recent studies have provided econometric specifications with sound theoretical underpinnings, as is well illustrated in Beine et al. (2015). Among the numerous contributions, we might mention here the recent paper by Adserà and Pytliková (2015) who constructed refined indicators of linguistic distance to proxy for cultural ties in their gravity setup. There is also Beine Parsons (2015) who built a gravity model where the bilateral emigration rate is a function of bilateral networks and origin-specific environmental factors.¹⁰

A paper that is somewhat related to this literature and which has important links with our research question is Campaniello (2014). This paper looks at the effect of trade on migration using a gravity model and, at the same time, addresses the endogeneity issue of trade flows. The rationale of this paper, however, is based on the previous “networks” argument, namely that trade increases international links, which, in turn, reduces the distance between countries and, therefore, encourages emigration. At first glance this argument seems to say that goods come first and migrants follow, the reverse of what the traditional literature on trade and migration suggests.¹¹ Lastly, unlike Campaniello (2014) – who estimates the effect of the *export* of goods on migrant stocks – we, instead, relate the *imports* of cultural goods (our variable of interest) to migrant flows and we insert migrant stocks as additional controls in capturing the network effects.

Building on the intuition of Anderson and Van Wincoop (2004), Bertoli and Fernandez Moraga (2013) stressed the importance of accounting for multilateral resistance to migration in the gravity framework. The choice of a potential migrant to move to a given destination country does not, after all, depend only on the attractiveness of the destination relative to the country of origin, “*but also on how this relates to the opportunities to move to other destinations*” (Bertoli and Fernandez Moraga (2013) p.79). The standard usage to control for these multilateral resistance terms is through the inclusion of fixed origin and destination effects, whose exclusion leads to significant biases in the determinants of migration coefficients.

2.2 Trade in Cultural goods

The research on trade in cultural goods is quite limited and relies strongly on the UNESCO definition of cultural goods and services. The closest and most relevant paper for our research proved to be Disdier et al. (2010), on the factors that affect the dynamics of trade in cultural goods. The authors looked at the determinants of trade in cultural goods and the traditional variables of gravity model come out as key drivers. More specifically, they analyze the gravity determinants of trade flows separately for each UNESCO cultural domain. Despite the usual negative effect of distance across all domains, sharing a common language has a particularly strong effect for *books* and *newspapers*. A past colonial relationship, on the other hand, positively affects *cultural heritage*, at least generally speaking. More importantly for our purposes, Disdier et al (2010) utilized trade in cultural goods as a proxy for cultural proximity and found that countries with similar cultural tastes have more intense overall bilateral trade relationships. We use the same proxy to test to what extent cultural distance matters in the bilateral emigration rate. We add on their contribution by first testing the validity of the cultural traded goods as a proxy for cultural distance in comparisons with more standard indicators, and also by checking the robustness of the results by utilizing the alternative classification of cultural goods provided by UNCTAD. If this strand of research is

¹⁰ For a thorough review of the literature see Beine et al. (2015)

¹¹ See Gould (1994)

limited, even less research exists on cultural services or the borrowing of cultural products. An important contribution is the work of Marvasti (1994). He analyzed the role of trade barriers and found that, while for aggregate goods economies of scale justify the introduction of tariffs, the idea behind cultural trade is that countries try to protect their national identity by imposing controls on foreign cultural goods.

2.3 Cultural Proximity and Economic Exchange

There is widespread agreement that cultural affinity is a strong determinant of economic exchanges. Tabellini (2008), in his presidential address, surveyed the role that culture plays in the economy and, in particular, concentrated on how culture shapes individual preferences, which, in turn, determine the values of a given society and its institutions. His research takes a very broad definition of culture, where the behavior and the actions of people are the focus of analysis more than cultural goods *per se*. He compares the vertical with the horizontal transmission of cultural values. The first passes mainly through families or clans, which is, as Cavalli Sforza (2001) notes, slow and conservative. The second, is more related to the consumption of cultural goods, incorporating and can affect new forms of individual behavior and actions. Another relevant aspect of the research of Tabellini (2008) is, for our purposes, the relationship between changes in cultural inputs on values and behavior. This is in line with the reasoning that we use in our work here, namely the analysis of the effect of exposure to different cultural goods on the migration decision of potential migrants.

In a cross-country analysis Guiso et al. (2009) found a strong relationship between bilateral cultural affinity and trust, which in turn has a significant impact on bilateral economic exchanges such as trade and FDI. Similarly, Disdier and Mayer (2007) found a positive impact on bilateral opinions and hence on trade patterns, while Du et al (2012) explores the relationship between cultural distance and FDI. An original contribution on the same subject is Felbermayr Toubal (2010) who, by using bilateral score data from the Eurovision Song Contest, found that cultural distance had a strong positive impact on bilateral trade.

As for migration, a particularly relevant contribution is Belot and Ederveen (2012). These authors study the impact of cultural barriers on migration flows, employing innovative measures of cultural proximity to capture bilateral religious distance and the cultural orientation of countries, together with measures of linguistic proximity, all of which enhance migration flows. The relationship between cultural proximity and migration flows has also been explored by White (2013). He employs a survey-based measure of cultural distance in a gravity setup, and – using a limited sample of destination countries – found that a source-destination country's cultural distance is negatively related to international migration flows.

However, as pointed out by Disdier et al. (2010) the common characteristics of these works is to rely on proxies that often entail low country coverage, and/or the lack of a time dimension (they are pre-determined). In addition, standard proxies such as a common language, religion or ethnicity capture only specific aspects/dimensions of cultural proximity. Indeed, as argued by Felbermayr Toubal (2010) “*Cultural proximity relates to the sharing of a common identity, to the feeling of belonging to the same group, and to the degree of affinity between two countries. The sociological concept allows for the evolution of bilateral attitudes and moods over time and for asymmetries within pairs of countries. A country's citizens can display respect and sympathy for the cultural, societal, and technological achievements of another country without this feeling necessarily being*

reciprocal and ever-lasting". We believe that trade in cultural goods can better capture this broader concept of cultural proximity as – by construction – it is non-symmetric and time varying. Our research uses a gravity approach to migration and proxies cultural distance with the trade in cultural goods, providing a new way of analyzing the non-monetary costs of migration and through this channel enhancing an understanding of the emigration choice.

3 Model

3.1 The gravity model

The gravity specification builds on the simple model of migration proposed by Adserà and Pytliková (2015) which follows the *'human capital investment'* theoretical framework first introduced by Sjaastad (1962) and recently applied to model migration movements in Grogger and Hanson (2011) among others.

We assume that a potential immigrant chooses a particular destination country if his or her utility is the highest with respect to all the available destinations.

The utility attained by migrant k from moving to n from country i is logarithmic and given by:

$$U_{kin} = (y_{kn} - c_{kin})^\theta \exp(\varepsilon_{kin}) \quad (a)$$

Where the term $(y_{kn} - c_{kin})$ stands for the net gain differential between income in destination n and the cost of migrating from country i to country n , c_{kin} . The probability of individual k from country i choosing a country n among N possible destinations can be written as:

$$\Pr\left(\frac{j_k}{i_k}\right) = \Pr[U_{ink} = \max(U_{ki1}, U_{ki2}, \dots, U_{kif})] \quad (b)$$

By assuming that ε_{kin} follows an i.i.d. extreme value distribution and $k > 0$ and exploiting the approximation that, $\ln(y_{n,t} - c_{in,t}) \approx \ln y_{n,t} - \left(\frac{c_{in,t}}{y_{n,t}}\right)$, we apply the results in McFadden (1974) and write the log odds of migrating to destination country n versus staying in the source country i as follows:

$$\ln \frac{M_{in,t}}{P_{i,t}} = \ln m_{in,t} \approx \theta (\ln y_{n,t} - \ln y_{i,t}) - \theta C_{in,t} \quad (c)$$

Where $M_{in,t}$ represents flows of individuals from i to n at time t ; $P_{i,t}$ are the stayers; $m_{in,t}$ is the emigration rate from i to n and $C_{in,t}$ are migration costs expressed as a proportion of destination income, $C_{in,t} = \left(\frac{c_{in,t}}{y_{n,t}}\right)$. In order to capture the role of cultural trade as a positive determinant of migration flows we divide the migration costs parameter into two components, similarly to Combes et al (2005): $c_{in,t} = D_{in} - V_{in,t}$. The first term D_{in} are the usual geographical barriers typically found in the gravity literature. The cost imputed by geographical distance is mitigated by $V_{in,t}$, which refers to linguistic and cultural proximity. Language proximity exerts some additional effect beyond its influence through networks; its effect on migration flows has been extensively studied in

the literature. Recent studies, such as Belot and Ederveen (2012) and Adserà and Pytlikovà (2015), employed a variety of measures for language proximity, and found positive effects.¹² However, as pointed out by Beine et al (2015) “*cultural proximity is a more elusive concept than linguistic proximity*”.¹³ Here we model cultural proximity between i (origin) and n (destination) as a function of the imports of cultural products from n to i and the stocks of bilateral migrants from i and resident in n . The idea here is that – following Disdier et al. (2010) – the inflows of cultural products from the possible destination n make the country-pair culturally less distant. Indeed, we argue that the intensity in trade of cultural goods can be regarded as a reliable proxy for cultural distance; its increase will enhance bilateral emigration flows through a reduction in moving costs.¹⁴ In other words, the cultural content embodied in these particular goods affects the utility of migrants and therefore which country to emigrate to from a pool of destinations. The tests for the validity – and the arguments in favor – of trade in cultural goods as a proxy for cultural proximity will be provided in the next subsection.

Lastly, as a proxy for $V_{in,t}$ we also include migrants’ networks as they may affect migration costs through the information channel and they may also be an indicator of cultural proximity, since larger immigrant communities are likely to be associated with common cultural characteristics between hosting and origin countries.¹⁵ To stress the importance of the network effect in the theoretical framework, Belot and Ederveen (2012) found that the effect of their proxies for cultural proximity – with the exception of linguistic and religious distance – became insignificant statistically as the network variable was included in the specification. In Appendix A2, as a robustness check, we tested to what extent the exclusion of the network channel creates distortions in migration determinants, especially for our parameter of interest. Contrary to Belot and Ederveen (2012), the results will show that all proxies for migration costs are still statistically significant but that they have a much larger impact in absolute value, indicating that the costs associated with migration are lower in the presence of relatively large networks.

Formally, the second term reduces to $V_{in,t} = K_{in,t}(\alpha_{ni,t}X_{ni,t}, Q_{in,t}) + L_{in}$ where $K_{in,t}$ stands for cultural proximity, which is a positive function of the inflow of cultural products $\alpha_{ni,t}X_{ni,t}$ – with $\alpha_{ni,t}$ being the share of imported cultural products, $X_{ni,t}$ the aggregate bilateral imports and the bilateral stock of immigrants resident in country n , $Q_{in,t}$. Finally, L_{in} refers to language proximity. It

¹² Adserà and Pytlikovà (2015) used several measures based both on linguistic family trees and on measures of phonetic similarity between languages. Their findings suggest that linguistic proximity, along with softer linguistic requirements for naturalisation and English at destination, triggers migration flows; this impact is less strong when local linguistic networks are larger and more intense with larger linguistic communities at destination.

¹³ Belot and Ederveen (2012), for instance, employed a wide range of refined indicators of the cultural barriers to migration, some of them departing from mere language proximity. These variables capture the religious distance and cultural orientation of countries.

¹⁴ The monetary and psychological costs of migration are at the center of this kind of research. On the monetary costs there are empirical evaluations, and there is a clear understanding that they are important and migration studies always mention them as being at the heart of the migration choice. By psychological costs we mean, for example, the separation from family and friends or the feeling of not “belonging” to the society at destination, at least initially. Due to modern communication technology, psychological migration costs are lower than in the past, but to decide the specific destination country and the model of migration (circular and permanent) they are crucial. Psychological migration costs are probably related to income in a similar way to workers’ valuation of leisure time: with a higher income, monetary migration costs become less important, but psychological costs remain highly significant.

¹⁵ As Beine et al. (2015) warned, a failure to account for networks can lead to an omitted variable bias. Indeed, the inclusion of the bilateral stocks in structural gravity models may significantly affect the dyadic determinants of migration. For instance, as Beine et al. (2015) pointed out, the influence of colonial links can be indirectly captured through the network effect.

is important to note that in our model cultural imports – along with the bilateral stocks of immigrants – is the only time-varying dyadic proxy for migration costs; this is particularly useful because of the longitudinal dimension of data on migration flows.¹⁶

Plugging $c_{in,t}$ into (c) we get:

$$\ln \frac{M_{in,t}}{P_{i,t}} \approx \theta (\ln y_{n,t} - \ln y_{i,t}) - \theta \left(\frac{D_{in} - [K_{in,t}(\alpha_{ni,t} X_{ni,t} Q_{in,t}) + L_{in}]}{y_{n,t}} \right) \quad (d)$$

The dependent variable in the gravity specification includes, as the denominator, the size of population at origin $P_{i,t}$, but this also includes immigrants. As pointed out by Beine et al. (2015) a convenient alternative, for datasets that include multiple destinations, is represented by the inclusion of origin-time dummies. This strategy allows the monadic components of the gravity specification at the denominators to be absorbed by the fixed effects, making the inclusion of denominators in both regressors redundant. These components include, for instance, the population of the country of origin in the dependent variable $P_{i,t}$, the income of country of destination $y_{n,t}$, the expectations about the evolution of the economic conditions in the countries of origin and destination (Bertoli et al. (2013)), country specific migration policies (Ortega and Peri (2013)) and environmental factors (Beine and Parsons (2015)).

3.2 Cultural Goods as an indicator of Cultural Proximity

In this subsection we test the validity and justify the choice of the variable import of cultural goods as a proxy for cultural proximity, by showing that it is strongly correlated with other proxies for cultural distance. We follow a similar strategy proposed by Felbermayr and Toubal (2010) and Guiso et al. (2009); in Table 1 we show that trade in cultural goods reflects time invariant components of cultural determinants, such as geographical, religious and language distance by running a simple OLS regression. The model is a standard gravity setup for international trade with imports of cultural goods as a dependent variable as in Disdier et al. (2010) with country-time fixed effects: the specification also includes a time varying component, namely the stock of bilateral migrants resident in the exporting country.

We add to the standard gravity model by including, among the covariates, a measure of cultural distance widely used in the literature, namely the Hofstede Index.¹⁷ Contrary to the proxies for cultural distance typically used by scholars, one of the advantages of using trade in cultural goods is that it allows for the exploitation of the time dimension (it is not pre-determined) and a much larger number of country pairs. However, the inclusion of the measure for religious distance and the Hofstede Index in Table 1 (data are from Belot & Ederveen (2012)) causes a considerable loss of information as the sample reduces to 19 OECD countries. This restriction will not be a concern for the core analysis of this paper. The results indicate that imports of cultural goods relate to almost all

¹⁶ As Beine et al. (2015) noted, the other time-varying dyadic factors that influence migration costs are bilateral migration policies and networks. However, the inclusion of these variables would mean a considerable loss of observations. Therefore, we keep the analysis while we control for migrant networks in one of our robustness checks.

¹⁷ Other than in Belot and Ederveen (2012) the Hofstede index has been utilized in Tadesse White (2010) as a determinant of trade flows and Du et al. (2012) as a proxy for the effect of cultural distance on FDI.

the proxies we included, whose impact have the expected sign.¹⁸ The Hofstede Index seems to be capturing most of the network and the linguistic effect and – most importantly for our purposes – is negatively related to the imports of cultural goods, which we find to be reassuring.

Table 1 – Regressing imports in Cultural Goods on measures of cultural proximity

Estimator	OLS	OLS
Dep. Variable	$\ln(\text{ImpCultLevel}_{ni,t})$	$\ln(\text{ImpCultLevel}_{ni,t})$
Colony	1.002* (4.52)	0.987* (3.94)
Contig	0.140 (0.65)	0.255 (1.13)
$\ln\text{GeoDist}_{ni}$	-1.108* (-6.46)	-1.195* (-6.80)
LangIndex_{ni}	0.791* (3.65)	0.394 (1.32)
ReligionDist_{ni}	-0.980* (-4.52)	-0.583* (-2.20)
$\ln(\text{ImmStock}_{in,t})$	0.175* (2.84)	0.110 (1.54)
Hofstede_{in}		-1.138* (-4.20)
$S_{n,t}$	X	X
$S_{i,t}$	X	X
<i>N</i>	1175	977
<i>R-sq</i>	0.91	0.89

t statistics in parentheses

* $p < 0.05$

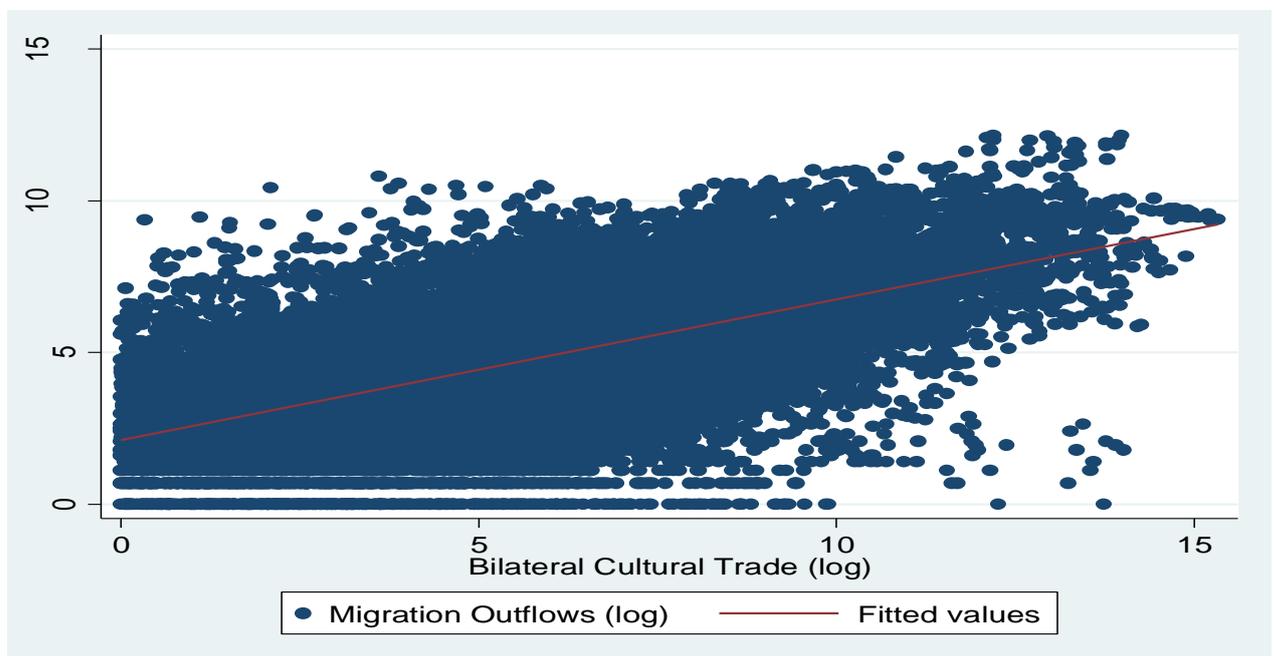
Standard Errors are clustered by country pair. The model includes the intercept and importer-year, as well as exporter-year fixed effects. The dependent variable is bilateral aggregate imports of cultural goods from 2008 to 2014 (BACI, CEPII) which is regressed on geographical distance and dummies for common language, border and for common colonial past (CEPII). Among the covariates we included religious distance from Belot and Ederveen (2012). Given the relatively small country coverage of the Religious Distance database the sample is limited to 19 OECD countries.

Another advantage of utilizing the intensity in trade of cultural goods as a proxy for cultural proximity is that it is non-symmetric. In the context of international migration where moving costs are clearly asymmetric, we reckon the cultural penetration of potential destinations is better captured by the bilateral imports of cultural goods to the country of origin. As they involve consumption, imports of cultural goods have a more direct impact on the (preferences) decision (of where) to migrate and on the perceived affinity with potential destinations. In other words, they are a vehicle for the *horizontal transmission* of cultural values from other countries.

¹⁸ All the proxies of cultural distance listed in Table 1 are correlated with the imports of cultural goods using a simple Pearson Pairwise Correlation coefficient, have the expected sign and are statistically significant at 1%. The results are available upon request.

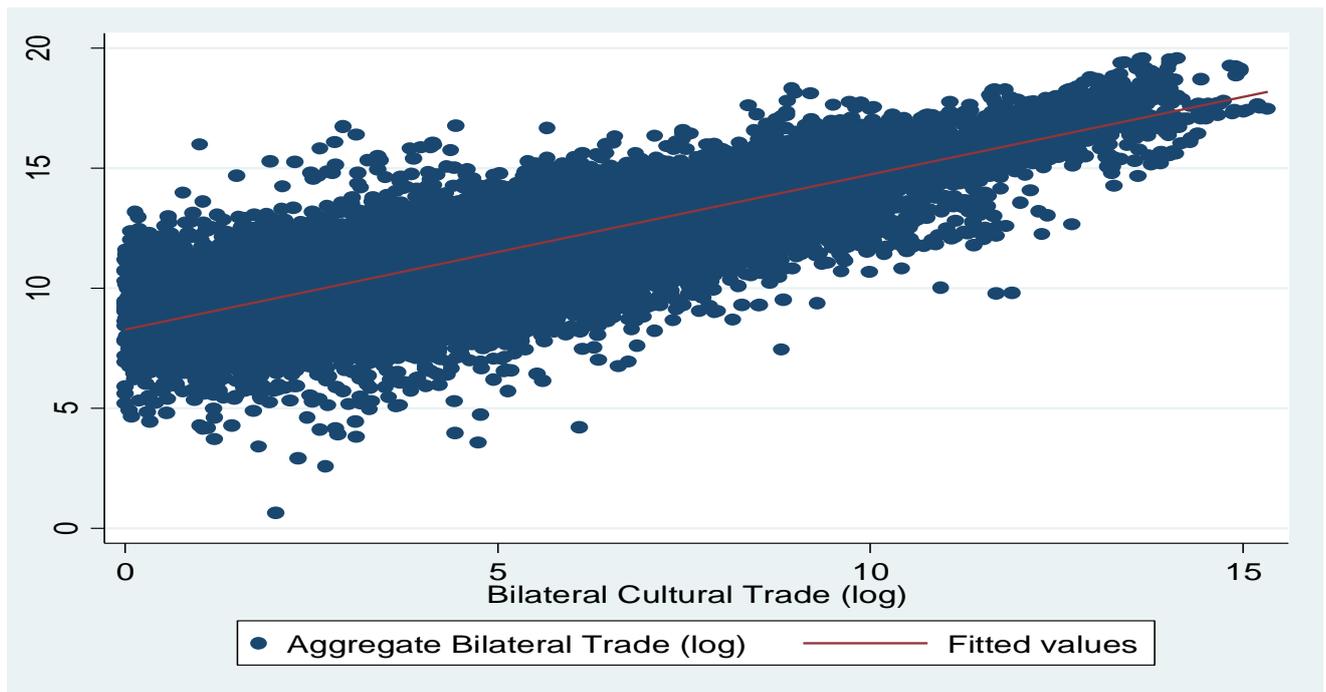
Cultural exports, on the other hand, are not likely to be as important in the migration decision since they are partly consumed by the network resident in the country of destination (e.g. “*ethnic consumption*”) and therefore correlated to the size of the network resident in the hosting society, which we control for. As a consequence, the exports channel is more closely related to the *vertical transmission* of cultural values to the countries of destination. This is, by definition, slower and more conservative, as argued by Cavalli Sforza (2001), and, therefore, not as relevant for the moving costs from origin countries. Our empirical analysis compares the impact of cultural imports with that for exports and found the former to be larger: similarly to Gould (1994), we interpret this result as an indication of a *consumption bias* in the imports cultural goods, whose impact on the moving costs is greater than that of exports.

Figure 1a: Correlation between Emigration Flows and Cultural Imports



Note: Relationship between Imports of Cultural Goods of countries of origin with the flows of Emigrants (log-log). The sample includes data for 33 OECD countries of destination and 184 Countries of Origin for the period 2009-2013.

Figure 1b: Correlation between Aggregate Imports and Cultural Imports



Note: Relationship between Imports of Cultural Goods of countries of origin with the Aggregate Imports (minus the flows of cultural goods) (log-log). The sample includes data for 33 OECD countries of destination and 184 Countries of Origin for the period 2009-2013.

Trade in cultural goods constitutes, in our view, an improvement with respect to other proxies for cultural proximity used in the literature to date, especially in the context of international migration. However, we are well aware of its limitations. Indeed, there are no data on the number of users of cultural goods; while the cross-country *horizontal transmission* of cultural values may happen through a variety of different channels, such as the use of social media. In our empirical analysis we tackle this issue by extending the time span from 2003 to 2013, using a different classification for cultural goods. The use of the internet prior to 2010 was much less developed; indeed, in 2005, only 16% of the entire world population used the internet, the same figure increased to 40% in 2014.¹⁹ With this in mind, we consider trade in cultural goods as a reliable proxy and a lower bound of the effect of overall bilateral cultural exchanges.

Finally, in support of our hypothesis, in Figure 1a, we plot the relationship (in log scale) between flows of emigrants and the imports of cultural goods. Empirically, the positive correlation is particularly evident. Intuitively these two variables might be positively related because of the role of aggregate bilateral trade relations; as argued by Campaniello (2014) trade *per se* (imports of cultural and non-cultural are positively correlated Fig.1b) enhances links between countries and migrants may utilize these links to enter the receiving country. To tackle this issue, we adopt an empirical approach that disentangles the effect of cultural products from the more general impact of aggregate trade.

4 Data

The analysis uses data for 33 OECD countries of destination and for 184 Countries of Origin, 2009-2013.²⁰ The sample composition is similar to the work of Adserà and Pytliková (2015) and more

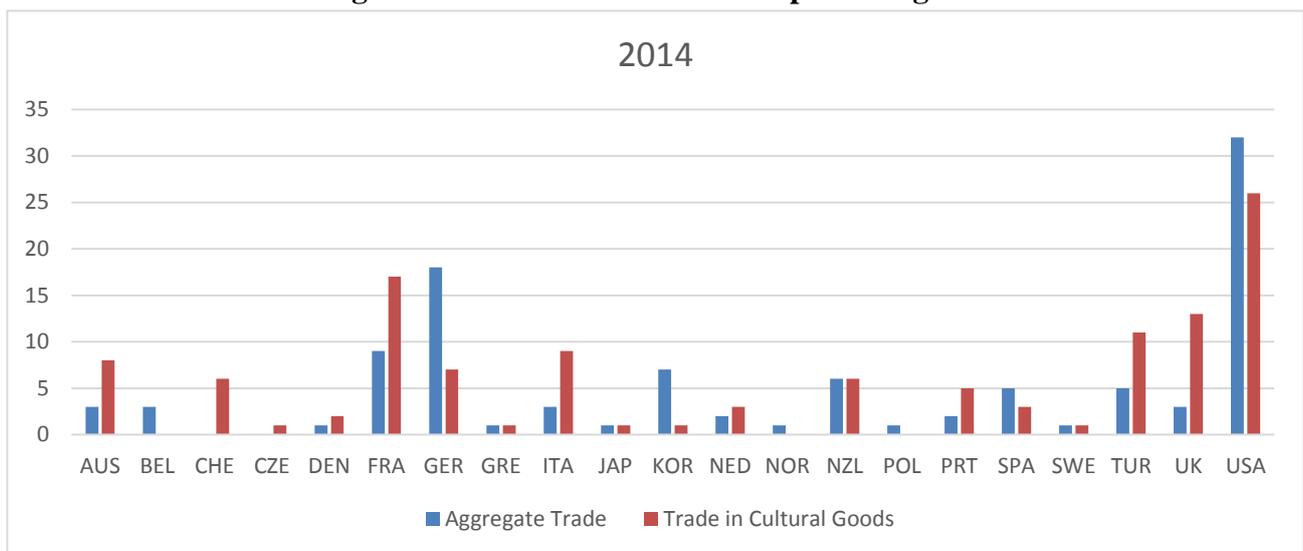
¹⁹ Source: International Telecommunication Union.

²⁰ The list of Origin and Destination countries is outlined in Table 9 and 10 in the Appendix

extensive with respect to other contributions that focus on the impact of cultural proximity on migration decisions, such as Belot and Ederveen (2012) and White (2013). The sample covers a very large share of trade in cultural goods as – despite the growing importance of China – the North-North channel in cultural trade is predominant, whereas the South-South channel remains weak (see UNESCO (2013)).²¹

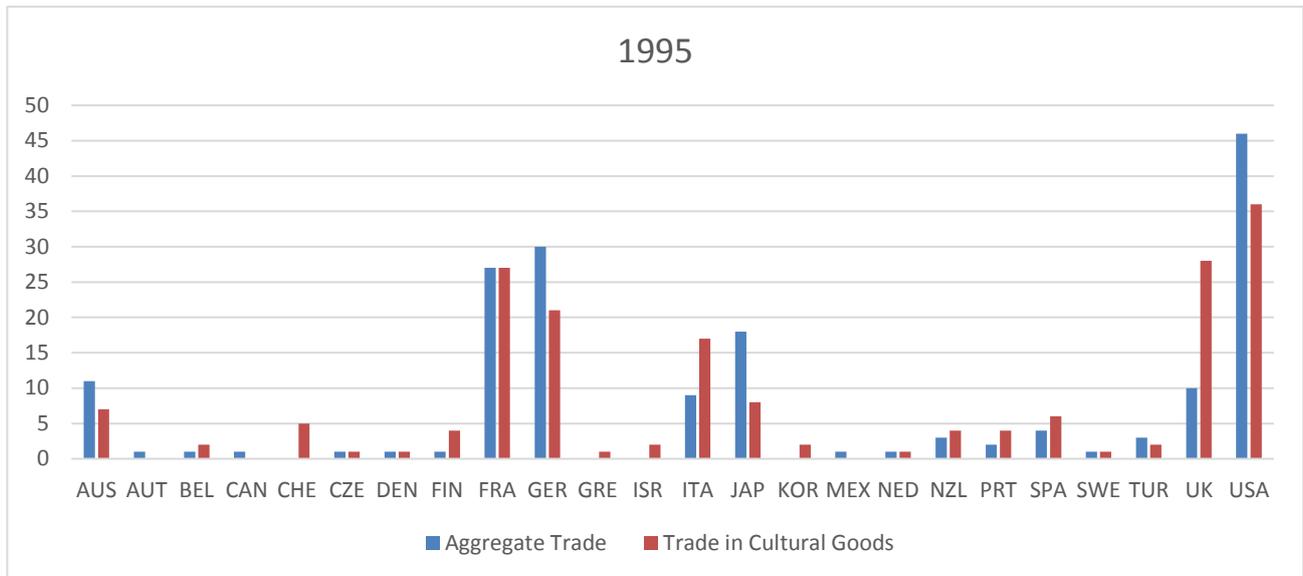
What emerges from the data? First, the importance of OECD economies in international trade has declined over the years. But OECD countries still stand as the top trading partners for cultural goods: 58% of countries for which data are available in 2014.²² More importantly, this share is larger with respect to the corresponding percentage for aggregate trade for the same year (49%). Figure 2 lists the OECD countries that are best trading partners for all world importers, for both aggregate as well as for cultural goods in 1995 and 2014. As can be seen clearly in the graph the figures are – on average – very different over time, as in 1995 OECD economies were the top trading partners in total and cultural goods for, respectively, 82% and 87% of importers. However, the distribution of the top exporters in cultural goods across countries looks fairly similar over time, with the exception of Turkey and Germany, which both gained prominence over the years, and Japan which lost ground as a trading partner in cultural trade.

Figure 2 – OECD Countries as Top Trading Partners



²¹ During the last ten years, India, Turkey and Malaysia have also emerged as leading exporters of cultural goods UNESCO (2013)

²² In the sample there are 206 importing countries for which OECD countries stand for the top trading partner in 120 cases (source: CEPII, BACI dataset)



Note: Source Authors calculations from BACI dataset, CEPII.

The migration flows and migration stocks are from the OECD’s International Migration database. Since we’re interested in the determinants of migration decisions we use the inflows of foreign population by nationality in a given year in the dependent variable. This definition implies that we are including “*all foreign-born (or in some cases foreign nationals) who come to the country to reside there and not for temporary tourism, study, or business reasons*” (Ortega Peri (2013)). On the contrary, we include the stocks of migrants born in n and resident in i among the covariates, since they capture the role of networks in shaping international migration flows (see Beine et al (2015)).

As in Disdier et al. (2010) trade data are from the BACI dataset of CEPII, which provides bilateral values of exports at the HS 6-digit product disaggregation, for more than 200 countries since 1995. BACI – whose original data are from COMTRADE – is constructed using an original procedure that reconciles the declarations of the exporter and the importer. This harmonization procedure allows for a quite remarkable extension in the number of countries for which trade data are available, as compared to the original source. The choice of the very recent time span is imposed by UNESCO’s latest classification of cultural trade products, outlined in UNESCO (2009) and compiled using the Harmonised Commodity Description (HS) and Coding System version 2007 (HS07).²³ The new UNESCO framework correlates 85 of the codes in HS07 with cultural goods, categorized into six cultural domains. It also defines another 84 codes in HS 2007 as equipment and supporting materials for cultural goods, which are not considered in this analysis. The six domains include these product groups (followed by the number of codes in each product group):

- a. **Cultural and Natural Heritage:** *Antiques* (2 codes)
- b. **Performance and Celebration:** *Musical Instruments* (13 codes); *Recorded Media* (6 codes)
- c. **Visual Arts and Crafts:** *Paintings* (3 codes), *Other Visual Arts* (12 codes), *Craft* (24 codes), *Jewellery* (8 codes) and *Photography* (2 codes)
- d. **Books and Press:** *Books* (3 codes), *Newspaper* (2 codes), *Other Printed Matter* (6 codes)
- e. **Audio-visual and Interactive Media:** *Film and Video* (3 codes)

²³ This classification and the differences with the correspondent HS02 classification provided by UNCTAD (2010) are outlined in Appendix A1.

f. **Design and Creative services: Architecture and Design** (1 code)

We construct the share of imported cultural products as the ratio between the sum of imported bilateral products of all cultural goods, which belong to the above categories, and the aggregate imported bilateral flows. Using UNESCO HS07 classification means that the first year available is 2008, a fact that limits the time series information. We chose not to use conversion tables for the years prior to 2008, as different levels of disaggregation across HS classifications may create distortions in the definition of “cultural products”. Rather, as a robustness check we employ data from 2003, using the broader UNCTAD (2010) classification of *creative goods*: this utilizes an HS02 classification and allows, therefore, for a longer time-span. Despite UNCTAD and UNESCO classifications employing different versions of the Harmonized System Codes, they share some “*common underlying principles for capturing the exclusive creative/cultural goods*” (UNCTAD 2010) and they embrace a similar philosophy in classifying cultural/creative products. However, a closer look at the product compositions in each UNCTAD and UNESCO category makes the distinctions between the two classifications much clearer. For instance, the UNCTAD classification encompasses more product groups – namely *carpets, paperware, fashion, interior and toys* – and therefore more product codes (209). In comparison, the UNESCO classification emphasizes more – and puts more weight on – *Design and Art Crafts* categories, which encompass some three quarters of total creative product codes.²⁴

The instruments for our 2SLS analysis are constructed using past bilateral imports. We utilize past HS-6 digit flows from the same BACI dataset, which has provided trade data since 1995. Hence, the maximum time lag for constructing our instrument is thirteen years. Trade data prior to 1997 are classified with the 1992 Harmonized System (HS92-6 digit). In order, therefore, to make the data compatible with the HS07 system, we converted bilateral trade flows using the concordance table provided by the UN.

Proxies for migration costs, such as *weighted distance, common language, colony, common legal origin*, are from CEPII.

5 Empirical strategy

5.1 The gravity model

The econometric specification is very similar to the model estimated in Ortega and Peri (2013). We start with a more “naive” gravity expression, which only includes origin, destination and time fixed effects: this allows an estimation of push and pull factors such as the GDP *per capita* both at origin and destination. We, then, progressively include a comprehensive set of destination-year and origin-year fixed effects, which allows us to better estimate/identify the effects of dyadic covariates, such as bilateral trade in cultural goods and migration costs, by capturing unobservable time-variant factors. Following some recent contributions, which stress the importance of migration networks in shaping migration flows (see Beine and Parsons (2015) and Bertoli and Fernandez-Huertas Moraga (2015)), we initially estimate the full model, including bilateral stocks of immigrants. However, given the very large number of missing observations in the OECD dataset on bilateral stocks in the Appendix we also estimate the same model without including the proxy for migrant networks (as in Ortega and Peri (2013) and Belot Ederveen (2012)) in our robustness checks. We do so as this

²⁴ The product codes in both classifications are outlined in Appendix A1.

allows us to: (a) deal with a much larger sample size; and (b) to test how the dyadic determinants of migration flows react to the exclusion of $\ln(\text{ImmStock}_{in,t-1})$

The gravity model is as follows:

$$\ln(\text{EM}_{in,t}) = \ln(\text{ImpCult}_{ni,t-1}) + \ln(\text{ImmStock}_{in,t-1}) + \ln(\text{dist}_{in}) + \text{Colony}_{in} + \text{Lang}_{in} + \text{Comleg}_{in} + S_{i,t} + S_{n,t} + u_{ini,t} \quad (1)$$

where i stands for the country of origin of migrants and/or the source country, while n stands for the country of destination of migrants and/or the receiving country. The dependent variable $\ln(\text{EM}_{in,t})$ is the bilateral emigration rate from i to n (OECD), which is regressed on the trade flows of cultural goods from n to i at time $t - 1$ $\ln(\text{ImpCult}_{ni,t-1})$ (BACI, CEPII), our variable of interest.²⁵ Among the controls we include the stock of bilateral immigrants born in i resident in n $\ln(\text{ImmStock}_{in,t-1})$, as well as proxies for migration-related costs, such as the log of the weighted geographical distance between i and n (Head Mayer (2011), binary variables Col_{in} , Lang_{in} , Comleg_{in} , which take the value of 1 respectively: if countries have ever been in a colonial relationship (CEPII); if they share a common language; and if both countries have a common legal system (CEPII). $S_{i,t}$ and $S_{n,t}$ are, respectively, origin-year and destination-year Fixed Effects and capture the potential “*multilateral resistance*” for bilateral migration flows; or, in other words, the influence that the attractiveness of possible destinations exerts on the decision to migrate to a given destination (see Bertoli and Fernandez-Huertas Moraga (2013), Ortega Peri (2013) and Beine and Parsons (2015)). $u_{ini,t}$ is the error term which is assumed to be orthogonal to all regressors.

Similarly to Aleksynska and Peri (2014), in the specification we use the fact that the value of bilateral trade labeled as “*cultural*” according to UNESCO classification, $\text{ImpCult}_{in,t-1}$, is equal to the aggregate bilateral trade $\text{ImpTot}_{in,t-1}$ multiplied by the correspondent share of bilateral cultural flows $\text{ImpCultShare}_{in,t-1}$. Specifically, $\text{ImpCult}_{in,t-1} = \text{ImpCultShare}_{in,t-1} * \text{ImpTot}_{in,t-1}$. Hence, by taking logs and using log properties, we can separate the effect into two terms: $\ln(\text{ImpTot}_{in,t-1}) + \ln(\text{ImpCultShare}_{in,t-1})$. The advantage of this type of specification is that it builds on previous studies examining the trade-migration nexus, which normally included the log of aggregate trade as a dependent variable or a dyadic control in a gravity setup, depending on the direction of causation (see Campaniello (2014), for the export effect on migration; see Aleksynska and Peri (2014), Girma and Yu (2002) and Gould (1994) for the other direction of causation). Second, in our pooled OLS setting, aggregate bilateral trade absorbs common factors that affect aggregate trade as well as migration, allowing us to isolate and disentangle the extra impact of the cultural products on migration flows within the same specification. The Benchmark specification reduces to:

$$\ln(\text{EM}_{in,t}) = \ln(\text{ImpTot}_{ni,t-1}) + \ln(\text{ImpCultShare}_{ni,t-1}) + \ln(\text{ImmStock}_{in,t-1}) + \ln(\text{dist}_{in}) + \text{Colony}_{in} + \text{Lang}_{in} + \text{Comleg}_{in} + S_{i,t} + S_{n,t} + u_{in,t} \quad (2)$$

²⁵ The emigration rate is constructed using the number of emigrants plus one in order to avoid the problem of zeroes in the dependent variable. The model of origin-time fixed effects is equivalent to the gravity model estimated by Ortega Peri (2013), who used emigrants plus one as the dependent variable. As robustness checks, Appendix A2 proposes the estimated model with PPML, a strategy recommended by Silva and Tenreyro (2006), to deal with the zero issues in the dependent variable in a gravity setup.

where $\ln(\text{ImpCultShare}_{in,t-1})$ is the share of cultural goods exported from n to i at time $t - 1$ (BACI, CEPII).

5.2 Controlling for Endogeneity

Migration and trade are likely to be closely connected. Empirically, the possible bi-univocal relationship triggers contrasting results and a lack of consensus on the direction of causation. Indeed, the correlation between the two variables might be due to – other than omitted variables we do not control for – reverse causality: migrants may promote trade with their country of origin.²⁶

Our analysis aims to address the endogeneity issue in four ways:

- As argued by Aleksinska Peri (2014), since we control for aggregate bilateral imports, we are likely to absorb the effects of variables that both influence bilateral trade and migration flows, singling out only the extra effect of cultural goods in the parameter of interest.
- The parameter of interest – namely the imports of cultural goods – is predetermined with respect to emigration flows, which is likely to at least attenuate the issue of reverse causality.
- We include a comprehensive set of fixed effects to control for unobserved dyadic time-invariant factors and unobserved time-varying country-specific factors that drive both cultural proximity and migration flows. However, our fixed effect specifications may not be able to capture time varying dyadic unobserved heterogeneity. They thus might be unable to properly identify the causal mechanism between cultural imports and emigration. A way to address this issue might be the inclusion of country-pair fixed effects; this strategy applied to our study, however, would lead to an over specified model, as too many dummy variables would need to be included.
- Alternatively we propose an IV strategy where we instrument the share of cultural goods at time $(t-1)$ with the past bilateral trade in cultural goods at $(t-14)$ and a constructed instrument for the share of cultural imports à la Card (2001), which is plausibly exogenous with respect to migration flows: the imputed share of cultural bilateral imports t . To the best of our knowledge, this is the first contribution that attempts to utilize an IV strategy (with time-varying instruments) to study the causal relationship between cultural proximity and migration flows²⁷ However, the literature

²⁶ As pointed out by Beine and Parsons (2015) another econometric issue in this gravity setup is the potential endogeneity of the network effect, which is proxied by the stocks of migrants born in i and resident in n . Indeed, the exclusion of the network effect – as shown in Appendix A2 – causes significant distortions in the estimates of migration determinants. We cannot say for certain that these biases are caused by the omitted variable or by the substantial change in sample size. However, the network effect is predetermined with respect to migration flows, so the reverse causality argument should not be an important issue here. In support of our econometric setup, Beine et al (2011) find that the network coefficient is robust to reverse causality using an IV strategy. Lastly, Beine and Parsons (2015) augment their gravity specification with the aim of capturing at least part of the omitted variables that are both correlated with the error term and with the stocks of migrants. Their findings confirm the exogeneity of their predetermined network effect.

²⁷ To address the potential endogeneity of bilateral trade flows, Campaniello (2014) adopts a 2SLS approach that uses two different instruments, which are likely to be exogenous with respect to bilateral migration stocks: average trade tariffs and bilateral exchange rate volatility. Neither instrument is, we think, applicable in our case. First, since most of the destination countries in our sample belong to the post-2001 EURO area, in our case bilateral exchange volatility does not provide enough variability to be a valid instrument. As for tariffs, we would be interested in the MFN or NTM tariffs applied by countries of origin, as the object of our analysis are bilateral imports towards the countries of origin. The focus of Campaniello (2014) is exports towards the EU, therefore they choose tax revenue on customs and import duties as a percentage of GDP, taken from the “Revenue Statistics - Comparative Series dataset” (OECD), which is not suitable for our purposes. In addition, our variable of interest is the share of cultural imports, which would preferably require specific data on tariffs applied to cultural goods. A possible alternative might be that of using bilateral tariffs data provided by UNCTAD (TRAINS): however, the number of reported countries only partially covers our sample of countries of origin (see <http://unctad.org/en/Pages/DITC/Trade-Analysis/Non-Tariff-Measures/NTMs-trains.aspx>)

showed some evidence of endogeneity in OLS estimates of similar gravity models for the impact of cultural proximity on international trade. All the contributions seem to point to a downward bias of cultural proximity, a distortion that appears very large in some cases. For instance, Felbermayr Toubal (2010) found an impact of their proxy for cultural proximity on aggregate imports that is ten times larger when using 2SLS. Similarly, Guiso et al. (2009), when addressing endogeneity concerns, obtained an effect of bilateral trust on exports that increases four-fold. For the past cultural trade flows we select the thirteen-year lag since 1995 as it is the earliest year available in the BACI dataset. This strategy is in line with the literature that studies the impact of migrant stocks on trade (see for instance Combes et al. (2005), Bratti et al. (2014) and Briant et al (2014)) in a gravity setup very similar to the one we are dealing with, only with the opposite direction of causation, where the endogenous variable is trade rather than migration. A similar IV lag-approach is also adopted by Felbermayr Toubal (2010). As for the imputed trade share, a similar technique has already been applied by Peri and Requena Silvente (2010) in order to better identify the causal effect of migrants' networks on trade. The instrument builds on the past distribution of bilateral imports (lag of 13 years) and it is constructed as follows. We first calculate the thirteen-year growth rate of total imports for each country of origin by subtracting any country-pair bilateral imports. In other words, considering the imports of Morocco from France, we sum all Morocco's bilateral imports from all countries in the world with the exception of those from France. Then we attribute the resulting growth rate to each bilateral import and we construct the imputed shares of cultural goods. Hence, the imputed growth rates are likely to correlate with the actual ones if the shares of imports by source country remain roughly unchanged i.e. if countries of origin tend to import – both for cultural and all goods – from the same exporters over time. This seems to be the case, as the top exporters – for both cultural and all goods – in 1995 were among the top exporters in 2014 (see Figure 2).²⁸ By the same token, as it is based on the distribution of thirteen-year-lagged bilateral trade flows, the constructed flows are not affected by any bilateral-specific demand shock during the considered period.

6 Results

Table (2) reports the estimates obtained with OLS, using different sets of fixed effects. In order to solve the problem of heteroskedasticity from intragroup correlations we cluster the standard errors at the country of destination and origin level in all our estimates.

In Column (1) we estimate Equation (1), which includes only the logarithm of the total cultural imports, $\ln(\text{ImpCult}_{ni,t-1})$, as the explanatory variable of interest. The coefficient on this variable is positive and statistically significant. This regression, however, brings together, in one coefficient, the impact of cultural imports, which are the focus of our analysis, and the indirect effect of total bilateral imports, whose inclusion in the error term may cause severe biases in the results.

Columns (2-5) report the estimates of our preferred specification (Equation (2)), by gradually including different sets of Fixed Effects. First, the results show that taking the log of aggregate imports out of the model specification causes important biases in the estimates of some dyadic

²⁸ Indeed, as argued by UNESCO (2004) there's a "concentration within a limited number of countries which participate in the trade of cultural goods. Based on customs data, high-income economies are the largest producers and consumers of cultural goods".

controls, such as Indist_{ni} . Furthermore, as in Campaniello (2014), the evidence shows that the inclusion of country-year fixed effects – both for origin and destination – causes little variation in coefficients’ magnitude and significance, as well as in the goodness of fit. This indicates that the factors of the sending or receiving country that influence the decision to migrate – such as institutions, culture, and attitudes toward immigration – do not vary much over the time span considered. All coefficients have the expected sign. The variable of interest $\ln(\text{ImpCultShare}_{ni,t-1})$ is positive and statistically significant at 1%. This suggests that imports of cultural goods have an impact above and beyond the corresponding effect of total imports in triggering migration. In other words, controlling for the overall size of bilateral trade between origin and destination countries, imported goods, which incorporate some *cultural content*, produce a significant additional effect on the decision to migrate. Considering the model with the whole set of fixed effects (our preferred specification) (column 5), an increase by 1 per cent in the bilateral share of imports of cultural goods increases migration flows by about 0.071 per cent, holding all other country-pair variables constant. Lastly, column (6) compares the impact of cultural imports with that of exports and found the former to be larger; we interpret this result as an indication of a *consumption bias* in the imports cultural goods, whose effect on the moving costs of migration is larger than the one of exports.

As for the controls, with the exception of the common legal origin, they are all statistically significant and of the sign predicted by the underlying theory. *Past Colonial Relationships* and *Common Language* have a positive effect on the decision to migrate, while *Distance* deters migration flows. Lastly, the effect of $\ln(\text{ImmStock}_{in,t-1})$ on migration flows is positive and in line with previous studies (see Beine et al. (2011); Beine and Parsons (2015) Bertoli and Fernandez-Huertas Moraga (2015)). The estimated model, without the whole set of country-time fixed effects, whose estimates are reported in the Columns (2-4), allows for an identification of the effect of GDP *per capita* at destination – which proxies for the income prospects of potential migrants from all origin countries – and at origin.²⁹ The results are, again, in the direction we expected; they indicate that people tend to migrate from poorer to richer countries, where income opportunities are higher.

Table (3) reports the 2SLS estimates. The statistics support the validity of the proposed time-varying instruments as they are exogenous – since they pass the Hansen *J*-test for overidentifying restrictions – and they are relevant, since the first stage indicates a strong relationship between the share of cultural imported goods and its instruments and the F test is way above the threshold recommended by Stock and Yogo (2002).³⁰ The 2SLS estimates are obtained using country-time fixed effects. By comparing the second stage with the corresponding OLS estimates (respectively column (2) and (1)) the second stage results indicate that endogeneity introduces a downward bias in our parameter of interest; as with Guiso et al. (2009) and Felbermayr Toubal (2010) – with an IV strategy – the impact of cultural proximity on migration flows is higher when instrumented. The downward bias is also evident when we use the same IV strategy to instrument the aggregate

²⁹ As Ortega Peri (2013) pointed out, some findings in the literature suggest an ambiguous effect of *per capita* income in the country of origin on migration. Some contributions (see for instance Barthelemy et al. 2009) have argued that “*income may affect emigration positively up to a certain income level (by reducing the poverty trap and relaxing the budget constraint for migrants) and then, once potential migrants become richer, further increase in income may affect migration negatively*” (Ortega Peri (2013) p.60). However, Ortega and Peri (2013) control for country fixed effects, splitting countries between those with income below the World median and those above, and found very similar coefficients for the country of origin income.

³⁰ Despite the first stage indicating a negative effect of the Card Instrument on the share of cultural imports, the simple pairwise Pearson correlation coefficient is positive (0.39) and statistically significant at 1%

bilateral trade in cultural goods instead of the cultural share.³¹ However, the bias seems to appear less severe if compared with the previous literature on the impact of cultural proximity on economic exchanges. This may be due to the fact that bilateral trade in cultural goods is less subject to *measurement error* with respect to other proxies of cultural affinity proposed in the literature.

6.1 Robustness Checks

As pointed out by Beine et al. (2015), cultural distance is a broader concept that goes beyond language proximity. Indeed, Belot and Ederveen (2012) use particular time invariant measures capturing, at least partly, the dimension of cultural proximity that departs from the commonality of language. We add to the existing literature by including – along with imports of cultural products – a more refined measure of language proximity introduced by Adsera Pytlikova (2015). This index ranges from 0 to 1, depending on “*how many levels of the linguistic family tree the languages of both the destination and the source country share*”. The inclusion of this Index in the estimation of Equation (2) implies a loss of information of around 300 observations compared to the benchmark estimates reported in Table (2). However, the statistics presented in Table (4) clearly indicate that the effect of linguistic distance is much higher when using this smoother Index, as opposed to the standard dummy commonly utilized in the literature whose effect is now statistically not significant. This result is consistent with the findings of Adsera Pytlikova (2015). In addition, unlike in the findings of Belot and Ederveen (2012), combining a proxy for linguistic distance with an indicator of cultural proximity does not affect the statistical significance of these two determinants: this finding highlights that – although the two variables are undoubtedly related – cultural proximity is a broader and a “*more elusive concept than linguistic affinity*” (Beine et al (2015)). Furthermore, the linguistic proximity index is made to interact with imports of cultural goods in our study; the coefficient is negative, indicating that linguistic proximity matters less when the imports of cultural goods are large, which essentially confirms the positive correlation between language and cultural distance we found in Table (1). As the interaction coefficient is introduced, the impact of linguistic affinity grows significantly, which is in line with the findings of Adsera Pytlikova (2015).³² A larger linguistic affinity coefficient is also found in column (4), where we report the results of the 2SLS analysis with the Index instead of the common language dummy.

As stated in the previous section, the classification of cultural goods provided by UNESCO is fairly broad and it includes a variety of product categories whose cultural content is not alike. For instance, UNESCO labels as cultural product – and gives the same weight to – the HS07 code 581100 “*quilted textile products in the piece*” as well as the HS07 code 370610 “*Cinematographic film, exposed and developed whether or not incorporating sound track or only consisting of sound track of a width of 35 mm or more*”. There may be a different impact of cultural trade on migration flows depending on the specific category we are considering. To address this issue we estimate Equation (2) with OLS, using the share of a subsample of selected cultural goods over total bilateral exports as a variable of interest. This subsample includes the categories which, in our opinion, incorporate relatively higher cultural content, namely *Books, Film & Video, Photography, Paintings, Newspapers, Other Visual*. Table (5) compares the results obtained using this subsample

³¹ In this case to construct the Card instrument by applying the growth rate of aggregate imports in cultural goods. The results are available upon request

³² Adsera Pytlikova (2015) interacted the linguistic proximity index with the linguistic networks. As the interaction was introduced the linguistic Index doubled in magnitude.

with the statistics of Table (2) and (3), which are based on all the categories proposed by UNESCO.³³ The impact of cultural goods with a larger cultural content is still positive – as expected – and slightly greater, though by a very small margin, confirming our hypothesis.

As an additional robustness check we use a different classification of cultural products provided by UNCTAD, which implies a broader and less strict definition of cultural product and allows – at the same time – to use a larger amount of information given the longer time span. Indeed, the results presented in Table (2) might be affected by the relatively small sample size and the specific classification of cultural goods utilized. Furthermore, the extension of the time span from 2003 to 2013 allows us to partially address the issue of the diffusion of social media as a vehicle for the transmission of horizontal values across countries, which may act as a confounding factor for the impact of cultural imports. Indeed, the use of the internet in 2005 was much less developed compared to 2010. Table (5) shows the results. The sample size is twice as big compared to our benchmark estimates and the results are substantially consistent with our benchmark estimates, which we find reassuring.

Additional robustness checks for the reaction of the coefficient of cultural trade to different territorial areas and the use of alternative econometric techniques such as Poisson PML are presented in Appendix A2.

7. Concluding remarks

In this paper we contribute to the research debate in two ways:

First, building on Disdier et al. (2010) we show that the intensity in bilateral trade in cultural goods (UNESCO definition) should be regarded as a reliable proxy for cultural distance and a better alternative to those indicators proposed to date. Bilateral trade in cultural goods reflects some time invariant components of cultural proximity and is correlated to the popular Hofstede index. But it also has the advantages of exploiting the time dimension, and of a much larger coverage of country pairs and is non-symmetric by construction. In the context of international migration, where moving costs are clearly asymmetric, we argue that the cultural penetration of potential destinations in the country of origin is better captured by the bilateral imports of cultural goods, as they have a more direct impact on the perceived affinity with potential destinations – and consequently – on the decision to migrate. In other words, they are a vehicle of the so-called *horizontal transmission* of cultural values from other countries, those that *incorporate changes and can affect new forms of individual behavior or actions* (Tabellini (2008)). The exports channel, on the other hand, entails a largely *vertical transmission* of cultural values to the countries of destination (especially to the stock of emigrants residing in the hosting country) and is, therefore, less significant in terms of moving costs.

Second, by focusing on the imports of cultural goods, we quantify their effect in the countries of origin on bilateral emigration rates. While the relationship between migration and trade flows has been studied a great deal, there is very little research on the reverse relationship. In particular, there is no work on the effect of cultural trade on migration decisions. The hypothesis that we have tested is the following: does the intensity of bilateral imports in cultural goods from a pool of potential

³³ The gap, in terms of number of observations between the two estimates, which refer to different definitions of cultural goods, is due to the larger number of zeroes of trade in cultural goods. These belong to the narrower category we have defined.

destinations affect the decision to migrate by reducing the cultural distance with those exporting countries?

We use a gravity approach to the dyadic emigration rates toward 33 OECD countries from 184 sending countries and we adopt a comprehensive empirical strategy to address the issue of endogeneity. We propose an instrumental variable approach where the share of cultural imports is instrumented with previous trade flows (thirteen-year lags) and an imputed share à la Card (2001), which are exogenous with respect to migration flows. To the best of our knowledge this is the first contribution that attempts to utilize a 2SLS strategy (with time-varying instruments) to study the causal relationship between cultural proximity and migration flows. The results indicate a positive effect, which is robust for different classifications of cultural goods and alternative econometric techniques. Our preferred specification indicates that a 1% increase in the share of cultural imports produces a 0.07% increase in emigration flows. The 2SLS analysis essentially confirms the positive relationship and suggests that endogeneity appears to introduce a downward bias in our parameter of interest: i.e. the impact of the share of cultural imports on emigration flows is larger when instrumented. As a robustness check we also replace the common language dummy with the Adsera, Pytlikova (2015) linguistic proximity index, which becomes more significant. This result also contributes to a better understanding of the formation of preferences and values and provides support for a horizontal transmission of values that can affect migration decisions and that is unusual in the literature. In this regard, our empirical analysis also compares the impact of cultural imports with the impact of exports and finds the former to be larger: we interpret this result as an indication of a *consumption bias* in the effect of cultural imports and this supports the non-symmetric nature of trade in cultural goods as a proxy for cultural affinity.

The policy implications of this research are striking. The cultural and creative industries are at the center of the new economy driven by creativity, innovation and access to knowledge. They represent 3% of global GDP and 30 million jobs worldwide, with seven million jobs in the European Union alone. Culture has also been rediscovered as a policy instrument for favoring national welfare. Indeed, the phrase “cultural welfare” is used to point to the beneficial effect that culture produces by favoring more harmonious development. The UN’s 2030 Agenda for Sustainable Development promotes cultural activities as a tool for more equitable growth³⁴. The trade of cultural goods can favor economic and socio political development. The European commission has an Agenda for Culture in a globalized world. In 2015 the European Council³⁵ asked the EU Commission and the High Representative to prepare “*a strategic approach to culture in external relations*” to pursue peace and multiculturalism. And a “*cultural diplomacy*” approach has been introduced in terms of the support and assistance that the EU provides to third countries. In this research we show that this policy can have some drawbacks because, by reducing the cultural distance between destination and sending country, they favor emigration flows.

³⁴<https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>

³⁵ 2014 EP Preparatory Action 'Culture in EU external relations' <http://cultureinexternalrelations.eu/>

Table 2 – Benchmark Model (Pooled OLS)

	(1)	(2)	(3)	(4)	(5)	(6)
	ln(EM _{in,t})					
ln(ImpTot _{ni,t-1})		0.163*** (6.74)	0.167*** (6.70)	0.164*** (6.76)	0.167*** (6.68)	0.188*** (6.11)
ln(ImpCultShare _{ni,t-1})		0.071*** (7.06)	0.073*** (6.92)	0.069*** (6.90)	0.071*** (6.74)	0.071*** (6.74)
ln(ExpTot _{ini,t-1})						0.094*** (4.30)
ln(ExpCultShare _{in,t-1})						0.060** (3.32)
ln(ImpCult _{ni,t-1})	0.084*** (8.26)					
ln(ImmStock _{in,t-1})	0.550*** (14.45)	0.540*** (14.00)	0.544*** (13.62)	0.533*** (13.78)	0.536*** (13.34)	0.509*** (10.27)
ln(dist _{in})	-0.354*** (-6.74)	-0.264*** (-4.78)	-0.253*** (-4.42)	-0.269*** (-4.84)	-0.258*** (-4.47)	-0.258*** (-4.47)
Colony _{in}	0.589*** (4.38)	0.553*** (4.22)	0.518*** (3.93)	0.567*** (4.30)	0.531*** (4.00)	0.453** (3.22)
LLang _{in} ang _{ni}	0.240** (2.46)	0.268** (2.68)	0.270** (2.74)	0.272** (2.77)	0.279** (2.82)	0.377*** (3.42)
Comleg _{in}	0.116 (1.71)	0.079 (1.16)	0.075 (1.08)	0.080 (1.17)	0.075 (1.08)	0.041 (0.52)
lnGDPpc _{i,t-1}	-0.845*** (-7.74)	-0.912*** (-7.49)		-0.890*** (-7.23)		
lnGDPpc _{n,t-1}	0.506*** (6.06)	0.495*** (5.17)	0.446*** (4.16)			
S_i	X	X	X	X	X	X
S_n	X	X	X	X	X	X
S_t	X	X	X	X	X	X
$S_{n,t}$				X	X	X
$S_{i,t}$			X		X	X
N	8628	8628	8689	8626	8687	6988
$R-sq$	0.83	0.84	0.85	0.85	0.85	0.84

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standard Errors are clustered by country pair. The model includes the intercept

Table 3 – OLS vs 2SLS

	OLS	2SLS 2 nd Step		2SLS 1 st Step
	(1) ln(EM _{in,t})	(2) ln(EM _{in,t})		(3) ln(EM _{in,t})
ln(ImpTot _{ni,t-1})	0.167*** (6.68)	0.241*** (6.43)	Card _{ni}	-0.128** (-3.41)
ln(ImpCultShare _{ni,t-1})	0.071*** (6.74)	0.226*** (5.71)	ln(ImpCult _{ni,t-14})	0.462*** (11.70)
ln(ImmStock _{in,t-1})	0.536*** (13.34)	0.505*** (13.77)	ln(ImmStock _{in,t-1})	0.129*** (6.74)
ln(dist _{in})	-0.258*** (-4.47)	-0.135 (-1.95)	ln(dist _{in})	-0.402*** (-6.34)
Colony _{in}	0.531*** (4.00)	0.417*** (3.33)	Colony _{in}	0.419*** (4.05)
Lang _{in}	0.279** (2.82)	0.196 (1.78)	Lang _{in}	0.376*** (4.34)
Comleg _{in}	0.075 (1.08)	0.008 (0.11)	Comleg _{in}	-0.007 (-0.13)
			ln(ImpTot _{ni,t-1})	-0.651*** (-16.15)
<i>S_{n,t}</i>	X	X		X
<i>S_{i,t}</i>	X	X		X
<i>N</i>	8687	7298		7298
<i>R-sq</i>	0.85	0.83		0.56
<i>Kleibergen-Paap LM</i>				184.0
<i>Cragg-Donald Wald F</i>				449.2
<i>Kleibergen-Paap Wald</i>				154.3
<i>Hansen J statistic</i>				1.024

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Standard Errors are clustered by country pair. The model includes the intercept

Table 4 – Introducing Language Index Distance from Adsera Pytlikova (2015)

	OLS	OLS	OLS	2SLS
	$\ln(EM_{in,t})$	$\ln(EM_{in,t})$	$\ln(EM_{in,t})$	$\ln(EM_{in,t})$
$\ln(\text{ImpTot}_{ni,t-1})$			0.157*** (6.13)	0.222*** (5.82)
$\ln(\text{ImpCultShare}_{ni,t-1})$			0.067*** (6.17)	0.210*** (5.23)
$\ln(\text{ImpCult}_{ni,t-1})$	0.080*** (7.32)	0.091*** (7.51)		
$\ln(\text{ImmStock}_{in,t-1})$	0.546*** (13.30)	0.542*** (13.30)	0.538*** (12.96)	0.511*** (9.64)
$\ln(\text{dist}_{in})$	-0.383*** (-6.91)	-0.397*** (-7.96)	-0.293*** (-5.00)	-0.186* (-2.58)
Colony_{in}	0.654*** (4.56)	0.689*** (4.71)	0.627*** (4.48)	0.473** (3.20)
LangIndex_{in}	0.413** (2.78)	1.221*** (4.75)	0.430** (2.89)	3.378* (2.30)
Interaction_{in}		-0.095** (-3.02)		
Comleg_{in}	0.071 (1.09)	0.071 (1.09)	0.038 (0.58)	-0.039 (-0.56)
$S_{n,t}$	X	X	X	X
$S_{i,t}$	X	X	X	X
N	8371	8371	8371	7031
$R\text{-}sq$	0.85	0.85	0.85	0.83
Hansen J Stat				0.54

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Standard Errors are clustered by country pair. The model includes the intercept

Table 5: Robustness Check: Subsample of Cultural Goods

Sample	Whole OLS	Whole OLS	Subsample OLS	Subsample OLS
	(1) ln(EM _{in,t})	(2) ln(EM _{in,t})	(3) ln(EM _{in,t})	(4) ln(EM _{in,t})
ln(ImpTot _{ni,t-1})	0.163*** (6.74)	0.167*** (6.68)	0.179*** (6.71)	0.182*** (6.66)
ln(ImpCultShare _{ni,t-1})	0.071*** (7.06)	0.071*** (6.74)	0.071*** (5.87)	0.072*** (5.89)
ln(ImmStock _{in,t-1})	0.540*** (14.00)	0.536*** (13.34)	0.532*** (12.83)	0.528*** (12.25)
ln(dist _{in})	-0.264*** (-4.78)	-0.258*** (-4.47)	-0.235*** (-3.99)	-0.237*** (-3.89)
Colony _{in}	0.553*** (4.22)	0.531*** (4.00)	0.545*** (4.08)	0.512*** (3.75)
Lang _{in}	0.268** (2.68)	0.279** (2.82)	0.280** (2.77)	0.304** (2.96)
Comleg _{in}	0.079 (1.16)	0.075 (1.08)	0.060 (0.86)	0.049*** (0.69)
lnGDPpc _{i,t-1}	-0.912*** (-7.49)		-0.927*** (-7.10)	
lnGDPpc _{n,t-1}	0.495***		0.613*** (6.15)	
S_i	X	X	X	X
S_n	X	X	X	X
S_t	X	X	X	X
$S_{n,t}$		X		X
$S_{i,t}$		X		X
N	8628	8687	7807	7936
$R-sq$	0.83	0.85	0.85	0.86

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Standard Errors are clustered by country pair. The model includes the intercept

Table 6 – Robustness Check: UNCTAD Classification

Classification	UNESCO 2008-2013	UNCTAD 2003-2013
	(1) $\ln(EM_{in,t})$	(2) $\ln(EM_{in,t})$
$\ln(\text{ImpTot}_{ni,t-1})$	0.167*** (6.68)	0.170*** (7.34)
$\ln(\text{ImpCultShare}_{ni,t-1})$	0.071*** (6.74)	0.075*** (6.88)
$\ln(\text{ImmStock}_{in,t-1})$	0.536*** (13.54)	0.513*** (14.02)
$\ln(\text{dist}_{in})$	-0.258*** (-4.47)	-0.271*** (-4.76)
Colony_{in}	0.531*** (4.00)	0.741*** (9.79)
Lang_{in}	0.279** (2.82)	0.312** (3.07)
Comleg_{in}	0.075 (1.08)	0.083 (1.16)
$S_{n,t}$	X	X
$S_{i,t}$	X	X
<i>N</i>	8687	16727
<i>R-sq</i>	0.85	0.85

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Standard Errors are clustered by country pair. The model includes the intercept

References

- Acemoglu D., Johnson S., Robinson J.A. (2005) The rise of Europe: Atlantic Trade, Institutional Change and Economic Growth, *American Economic Review*, 95(3), 546-579.
- Adsera, Alicia, and Mariola Pytlikova. "The role of language in shaping international migration." *The Economic Journal* 125.586 (2015): F49-F81.
- Aleksynska, M. and G. Peri (2014). Isolating the network effect of immigrants on trade. *The World Economy* 37(3), 434–435.
- Baum, Christopher F., Mark E. Schaffer, and Steven Stillman. "Instrumental variables and GMM: Estimation and testing." *Stata journal* 3.1 (2003): 1-31.
- Bayer, C., & Juessen, F., 2012. On the dynamics of interstate migration: Migration costs and self-selection. *Review of Economic Dynamics*, 15(3), 377–401. <http://doi.org/10.1016/j.red.2012.02.002>
- Bedassa Tadesse & Roger White (2010) Cultural distance as a determinant of bilateral trade flows: do immigrants counter the effect of cultural differences? *Applied Economics Letters*, 17:2
- Beine, M., F. Docquier, and C. Ozden (2011), 'Diasporas,' *Journal of Development Economics*, 95, 1,30–41.
- Beine, Michel, Simone Bertoli, and Jesús Fernández-Huertas Moraga (2015). "A practitioners' guide to gravity models of international migration." *The World Economy* (2015).
- Beine, Michel, and Christopher Parsons. "Climatic factors as determinants of international migration." *The Scandinavian Journal of Economics* 117.2 (2015): 723-767.
- Belot, M., and S. Ederveen (2012), 'Cultural Barriers in Migration between OECD Countries,' *Journal of Population Economics*, 25, 3, 1077–105.
- Berthélemy, Jean-Claude, Monica Beuran, and Mathilde Maurel. "Aid and migration: Substitutes or complements?." *World Development* 37.10 (2009): 1589-1599.
- Bertoli, S., and J. Fernandez-Huertas Moraga (2015), 'The Size of the Cliff at the Border,' *Regional Science and Urban Economics*, 51, March, 1–6.
- Bertoli S. and Ruysen L., 2016, Network and Migrants' intended destination, IZA D.P.10213.
- Card, David (2001) 'Immigrant inflows, native outflows, and the local labor market impacts of higher immigration,' *Journal of Labor Economics* 19, 22–64
- Campaniello, N. (2014). The causal effect of trade on migration: Evidence from countries of the euro-mediterranean partnership. *Labour Economics*. Vol. 30, October 2014, pp. 223–233
- Cavalli-Sforza, Luigi (2001), *Genes, People and Languages*. University of California Press.
- Combes, Pierre-Philippe, Miren Lafourcade, and Thierry Mayer. "The trade-creating effects of business and social networks: evidence from France." *Journal of international Economics* 66.1 (2005): 1-29.

- De Palo D., Faini R., Venturini A., 2007- Social assimilation of immigrants, World Bank Social Protection Discussion n.0701
- Disdier, A. C., Tai, S. H., Fontagné, L., & Mayer, T. (2010). Bilateral trade of cultural goods. *Review of World Economics*, 145(4), 575-595.
- Du, Julan, Yi Lu, and Zhigang Tao. "Institutions and FDI location choice: The role of cultural distances." *Journal of Asian Economics* 23.3 (2012): 210-223.
- Felbermayr, Gabriel J., and Farid Toubal. "Cultural proximity and trade", *European Economic Review* 54.2 (2010): 279-293.
- Girma, Sourafel, and Zhihao Yu. "The link between immigration and trade: Evidence from the United Kingdom." *Weltwirtschaftliches Archiv* 138.1 (2002): 115-130.
- Gould, D. M. (1994). Immigrant links to the home country: Empirical implications for US bilateral trade flows. *The Review of Economics and Statistics* 76(2), 302–316.
- Grogger, J., and G. H. Hanson (2011), 'Income Maximization and the Selection and Sorting of International Migrants,' *Journal of Development Economics*, 95, 1, 42–57.
- Guillaume, G., & Zignago, S. (2010). *BACI: International Trade Database at the Product-Level. The 1994-2007 Version*. Working Papers 2010-23, CEPII research center.
- Guiso L., Sapienza P., Zingales L., (2009) Cultural Biases in economic exchange, *Quarterly Journal of Economics*, 124 (3), 1095-1131.
- Head K. and Ries J.(1998), Immigration and Trade creation: econometric evidence for Canada, *Canadian Journal of Economics*, 47-62.
- Head, K. and T. Mayer (2009). Illusory Border Effects: Distance mismeasurement inflates estimates of home bias in trade. *The Gravity Model in International Trade: Advances and Applications*. In Bergeijk and Brakman (Eds.).
- Head, Keith, and Thierry Mayer (2014). "Gravity Equations: Workhorse, Toolkit, and Cookbook, chapter to appear in the Handbook of International Economics Vol. 4, eds. Gopinath, Helpman, and Rogoff."
- Hicks, John R. "The Theory of Wages (2nd." (1932).
- Kennan, John, and James R. Walker. "The effect of expected income on individual migration decisions." *Econometrica* 79.1 (2011): 211-251.
- Marvasti, A. (1994). International trade in cultural goods: A cross-sectional analysis. *Journal of Cultural Economics*, 18(2), 135-148.
- Munshi K., 2003, Networks in the Modern economy: Mexican migrants in the U.S. labour market, *Quarterly Journal of Economics*, 118,2:549-599.
- McFadden, D. (1974), 'Conditional Logit Analysis of Qualitative Choice Behavior,' in P. Zarembka (ed.), *Frontiers in Econometrics* (New York: Academic Press), 105–42.

Ortega, F. and G. Peri (2013). The role of income and immigration policies in attracting international migrants. *Migration Studies* 1(1), 47-74.

Parsons C., A.L Winters , 2014, International migration, trade and aid: a survey, in Lucas R. (ed) International Handbook on Migration and Economic Development, chapter 4, 65-112, Edward Elgar Publishing, London.

Peri, G. and F. Requena-Silvente (2010). The trade creation effect of immigrants: evidence from the remarkable case of Spain. *Canadian Journal of Economics* 43(4), 1433–1459.

Pedersen P.J., Pytlikova M., Smith N., 2008, Selection and network effects- Migration flows into OECD countries 1990-2000, *European Economic Review*, 52, 7:1160-1186.

Silva, JMC Santos, and Silvana Tenreyro. (2006) "The log of gravity." *The Review of Economics and Statistics* 88.4 : 641-658.

Silva, JMC Santos, and Silvana Tenreyro. (2011) "Further simulation evidence on the performance of the Poisson pseudo-maximum likelihood estimator." *Economics Letters* 112.2 : 220-222.

Sjaastad, L. A. (1962), 'The Costs and Returns of Human Migration,' *Journal of Political Economy*, 70,1, 80–93.

Stock, James H., and Motohiro Yogo, "Testing for Weak Instruments in Linear IV Regression," NBER Technical Working Paper No. 284, 2002.

Tabellini G. (2008), Institutions and culture, *Journal of the European Economic Association*, 6 (2-3), 255-294.

Trefler, Daniel. "The case of the missing trade and other mysteries." *The American Economic Review* (1995): 1029-1046.

UNCTAD (2010) Creative Economy Report, available at http://unctad.org/en/Docs/ditctab20103_en.pdf

UNESCO (2005) International Flows of Selected Cultural Goods and Services, 1994-2003 - Defining and capturing the flows of global cultural trade. UNESCO Institute for Statistics, Montreal, 2005

UNESCO (2009) Pessoa, José, Lydia Deloumeaux, and Simon Ellis. *The 2009 Unesco Framework for Cultural Statistics (FCS)*. Unesco Institute for Statistics, 2009.

UNESCO (2013) The Globalisation of Cultural Trade, a Shift in Consumption. International Flows of Cultural Goods and Services 2004-2013

White, Roger. "Is cultural distance a determinant of international migration flows? Evidence from Denmark, Germany, and the Netherlands." *Economics Bulletin* 33.3 (2013): 2156-2168.

APPENDIX A1

Table 7 – Summary Statistics

	<u>OLS</u>		<u>IV</u>	
	Mean	Standard Deviation	Mean	Standard Deviation
GDP pc (O) Lag (t-1)	16618.6	19976.3	18429.8	20703.3
GDP pc (D) Lag (t-1)	49195.6	19118.9	49143.1	18587.2
Distance	6115.9	4265.9	5952.5	4268.1
Bil. Agg. Exports (t-1)	3451991	1.55e+07	4059266	1.68 ^e +07
Bil. Agg. Imports (t-1)	3053684	1.18e+07	3597257	1.28 ^e +07
Bil. Cult. Exports (t-1)	42658.7	300649.3	50426.1	326411.2
Bil. Cult. Imports (t-1)	31987.1	175545.8	37798.7	190364.5
Emigrant Flows (t)	2039.6	7532.6	2330.0	8104.6
Bil. Cult. Imports (t-14)			20009.4	109479.8
Bil. Agg. Imports (t-14)			1623890	6592040
Bilateral Migrant Stocks (t-1)	45662.4	308129.9	52324.4	332942.7
Observations	8687	8687	7298	7298

Note: Following the empirical strategy in this paper, the summary statistics for OLS refer to the model that includes the full set of fixed effects, whereas the IV statistics refer to the benchmark model with country-time FE. GDP per capita are in current US dollars, trade values are expressed in current thousands US dollars, Distance is in Km (population weighted).

Table 8 – List of Destination Countries

Australia	France	Korea	Spain
Austria	Germany	Mexico	Sweden
Belgium	Greece	Netherlands	Switzerland
Canada	Hungary	New Zealand	Turkey
Chile	Iceland	Norway	United Kingdom
Czech Republic	Ireland	Poland	United States
Denmark	Israel	Portugal	
Estonia	Italy	Slovak Republic	
Finland	Japan	Slovenia	

Note: in bold the countries included in the non-EU sample

Table 9 – List of Countries of Origin

Afghanistan	Congo	India	Morocco	Somalia
Albania	Costa Rica	Indonesia	Mozambique	South Africa
Algeria	Croatia	Iran	Myanmar	Spain
Andorra	Cuba	Iraq	Nepal	Sri Lanka
Angola	Cyprus	Ireland	Netherlands	Sudan
Antigua and Barbuda	Czech Republic	Israel	New Zealand	Suriname
Argentina	Cote D'Ivoire	Italy	Nicaragua	Sweden
Armenia	Denmark	Jamaica	Niger	Switzerland
Australia	Djibouti	Japan	Nigeria	Syria
Austria	Dominica	Jordan	Norway	Tajikistan
Azerbaijan	Dominican Republic	Kazakhstan	Oman	Tanzania
Bahamas	Ecuador	Kenya	Pakistan	Thailand
Bahrain	Egypt	Kiribati	Palau	Togo
Bangladesh	El Salvador	South Korea	Panama	Tonga
Barbados	Equatorial Guinea	North Korea	Papua New Guinea	Trinidad and Tobago
Belarus	Eritrea	Kuwait	Paraguay	Tunisia
Belgium	Estonia	Kyrgyzstan	Peru	Turkey
Belize	Ethiopia	Laos	Philippines	Turkmenistan
Benin	Fiji	Latvia	Poland	Tuvalu
Bermuda	Finland	Lebanon	Portugal	Uganda
Bhutan	Former Yug. Rep. of Macedonia	Liberia	Qatar	Ukraine
Bolivia	France	Libya	Russian Federation	United Arab Emirates
Bosnia and Herzegovina	Gabon	Lithuania	Rwanda	United Kingdom
Brazil	Gambia	Macau	Saint Kitts and Nevis	United States
Brunei Darussalam	Georgia	Madagascar	Saint Lucia	Uruguay
Bulgaria	Germany	Malawi	Saint Vincent and the Grenadines	Uzbekistan
Burkina Faso	Ghana	Malaysia	Samoa	Vanuatu
Burundi	Greece	Maldives	San Marino	Venezuela
Cambodia	Grenada	Mali	Sao Tome and Principe	Viet Nam
Cameroon	Guatemala	Malta	Saudi Arabia	Yemen
Canada	Guinea	Marshall Islands	Senegal	Zambia
Cape Verde	Guinea-Bissau	Mauritania	Serbia	Zimbabwe
Central African Republic	Guyana	Mauritius	Seychelles	
Chad	Haiti	Mexico	Sierra Leone	
Chile	Honduras	Micronesia	Singapore	
China	Hong Kong, China	Moldova	Slovak Republic	
Colombia	Hungary	Mongolia	Slovenia	
Comoros	Iceland	Montenegro	Solomon Islands	

Table 10 – UNCTAD classification of Creative Goods

Code	Label
CER001	All Creatives Goods
CER002	Art Crafts
CER009	Carpets
570110	Carpets and other textile floor coverings, of wool or fine animal hair, knotted, whether or not made-up
570190	Carpets and other textile floor coverings, of textile materials, knotted, whether or not made-up (excl. those of wool or fine animal hair)
570210	Kelem, Schumacks, Karamanie and similar handwoven rugs, whether or not made-up
570220	Floor coverings of coconut fibres "coir", woven, whether or not made-up
570231	Carpets and other floor coverings, of wool or fine animal hair, woven, not tufted or flopped, of pile construction, not made-up (excl. Kelem, Schumacks, Karamanie and similar handwoven rugs)
570232	Carpets and other floor coverings, of man-made textile materials, woven, not tufted or flopped, of pile construction (excl. Kelem, Schumacks, Karamanie and similar handwoven rugs)
570239	Carpets and other floor coverings, of vegetable textile materials or coarse animal hair, woven, not tufted or flopped, of pile construction, not made-up (excl. Kelem, Schumacks, Karamanie and similar handwoven rugs, and floor coverings of coconut fibre...
570241	Carpets and other floor coverings, of wool or fine animal hair, woven, not tufted or flopped, of pile construction, made-up (excl. Kelem, Schumacks, Karamanie and similar handwoven rugs, plus Axminster and Wilton carpets)
570242	Carpets and other floor coverings, of man-made textile materials, woven, not tufted or flopped, of pile construction, made-up (excl. Kelem, Schumacks, Karamanie and similar handwoven rugs)
570249	Carpets and other floor coverings, of vegetable textile materials or coarse animal hair, woven, not tufted or flopped, of pile construction, not made-up (excl. Kelem, Schumacks, Karamanie and similar handwoven rugs, and floor coverings of coconut fibre...
570251	Carpets and other floor coverings, of wool or fine animal hair, woven, not tufted or flopped, not of pile construction, not made-up (excl. Kelem, Schumacks, Karamanie and similar handwoven rugs)
570252	Carpets and other floor coverings, of man-made textile materials, woven, not tufted or flopped, not of pile construction, not made-up (excl. Kelem, Schumacks, Karamanie and similar handwoven rugs)
570259	Carpets and other floor coverings, of vegetable textile materials or coarse animal hair, woven, not tufted or flopped, not of pile construction, not made-up (excl. Kelem, Schumacks, Karamanie and similar handwoven rugs, and floor coverings of coconut f...
570291	Carpets and other floor coverings, of wool or fine animal hair, woven, not tufted or flopped, not of pile construction, made-up (excl. Kelem, Schumacks, Karamanie and similar handwoven rugs)
570292	Carpets and other floor coverings, of man-made textile materials, woven, not tufted or flopped, not of pile construction, made-up (excl. Kelem, Schumacks, Karamanie and similar handwoven rugs)
570299	Carpets and other floor coverings, of vegetable textile materials or coarse animal hair, woven, not tufted or flopped, not of pile construction, made-up (excl. Kelem, Schumacks, Karamanie and similar handwoven rugs, and floor coverings of coconut fibre...
570330	Carpets and other floor coverings, of man-made textile materials, tufted "needle punched", whether or not made-up (excl. those of nylon or other polyamides)
CER010	Celebration
950510	Christmas articles (excl. candles and electric lighting sets, natural Christmas trees and Christmas tree stands)
950590	Festival, carnival or other entertainment articles, incl. conjuring tricks and novelty jokes, n.e.s.
950810	Travelling circuses and travelling menageries
CER011	Other
442090	Wood marquetry and inlaid wood; caskets and cases for jewellery or cutlery, and similar articles, of wood; wooden articles of furniture (excl. statuettes and other ornaments; furniture, lighting fixtures and parts thereof)

670290	Artificial flowers, foliage and fruit and parts thereof, and articles made of artificial flowers, foliage or fruit, by binding, glueing, fitting into one another or similar methods (excl. of plastics)
701890	Glass eyes (excl. prosthetic articles); articles of glass beads, or of imitation pearls, imitation precious or semi-precious stones, statuettes and other ornaments of lamp-worked glass (excl. imitation jewellery)
960110	Worked ivory and articles of ivory, n.e.s.
960190	Worked bone, tortoise-shell, horn, antlers, coral, mother-of-pearl and other animal carving material, and articles of these materials, n.e.s. (excl. ivory)
960200	Worked vegetable or mineral carving material and articles of these materials n.e.s.; moulded or carved articles of wax, of paraffin, of stearin, of natural gums or natural resins or of modelling pastes, and other moulded or carved articles n.e.s.; worked...
CER012	Paperware
480210	Handmade paper and paperboard of any size or shape
CER013	Wickerware
460120	Mats, matting and screens of vegetable plaiting materials, flat-woven or bound together in parallel
460191	Plaits and similar products of plaiting materials, whether or not assembled into strips; plaiting materials, plaits and similar products of vegetable plaiting materials, flat-woven or bound together in parallel (excl. mats, matting and screens; wall co...
460199	Plaiting materials, plaits and similar products of non-vegetable plaiting materials, flat-woven or bound together in parallel (excl. wall coverings of heading 4814; parts of footwear or headgear)
460210	Basketwork, wickerwork and other articles, made directly to shape from plaiting materials or made-up from goods of heading 4601, and articles of loofah (excl. wall coverings of heading 4814; twine, cord and rope; footwear and headgear and parts thereof...
CER014	Yarn
580430	Hand-made lace in the piece, in strips or in motifs (excl. fabrics of heading 6002 to 6006)
580500	Hand-woven tapestries of the type Gobelin, Flanders, Aubusson, Beauvais and the like, and needle-worked tapestries, e.g. petit point, cross-stitch, whether or not made-up (excl. Kelem, Schumacks, Karamanie and the like, and tapestries > 100 years old)
580610	Narrow woven pile fabrics, incl. terry towelling and similar terry fabrics, and chenille fabrics (excl. labels, badges and similar articles)
580620	Narrow woven fabrics of textile materials, containing \geq 5% elastomeric yarn or rubber thread by weight (excl. woven pile fabrics, incl. terry towelling and similar terry fabrics, chenille fabrics, and labels, badges and similar articles)
580631	Narrow woven fabrics of cotton, n.e.s.
580632	Narrow woven fabrics of man-made fibres, n.e.s.
580639	Narrow woven fabrics of textile materials other than cotton or man-made fibres, n.e.s.
580640	Narrow fabrics consisting of warp without weft assembled by means of an adhesive "bolducs"
580810	Braids in the piece
580890	Ornamental trimmings of textile materials, in the piece, not embroidered, other than knitted or crocheted; tassels, pompons and similar articles of textile materials (excl. braids in the piece)
580900	Woven fabrics of metal thread and woven fabrics of metallized yarn of heading 5605, of a kind used in apparel, as furnishing fabrics or for similar purposes, n.e.s.
581010	Embroidery on a textile fabric ground without visible ground, in the piece, in strips or in motifs
581091	Embroidery of cotton on a textile fabric ground, in the piece, in strips or in motifs (excl. embroidery without visible ground)
581092	Embroidery of man-made fibres on a textile fabric base, in the piece, in strips or in motifs (excl. embroidery without visible ground)
581099	Embroidery of materials other than cotton or man-made fibres, on a textile fabric base, in the piece, in strips or in motifs (excl. embroidery without visible ground)
581100	Quilted textile products in the piece, composed of one or more layers of textile materials assembled with padding by stitching or otherwise (excl. embroidery of heading 5810 and quilted fabrics for bedding and furnishings)
600240	Knitted or crocheted fabrics, of a width of \leq 30 cm, containing \geq 5% by weight elastomeric yarn (excl. containing rubber thread, pile fabrics, incl. "long pile", looped pile fabrics, labels, badges and

	similar articles, and knitted or crocheted fabri...
600290	Knitted or crocheted fabrics, of a width of <= 30 cm, containing >= 5% by weight elastomeric yarn and rubber thread or rubber thread only (excl. pile fabrics, incl. "long pile", looped pile fabrics, labels, badges and similar articles, and knitted or c...
600310	Knitted or crocheted fabrics of wool or fine animal hair, of a width of <= 30 cm (excl. those containing by weight >= 5% of elastomeric yarn or rubber thread, and pile fabrics, incl. "long pile", looped pile fabrics, labels, badges and similar article...
600320	Knitted or crocheted fabrics of cotton, of a width of <= 30 cm (excl. those containing by weight >= 5% of elastomeric yarn or rubber thread, and pile fabrics, incl. "long pile", looped pile fabrics, labels, badges and similar articles, and knitted or ...
600330	Knitted or crocheted fabrics of synthetic fibres, of a width of <= 30 cm (excl. those containing by weight >= 5% of elastomeric yarn or rubber thread, and pile fabrics, incl. "long pile", looped pile fabrics, labels, badges and similar articles, and k...
600340	Knitted or crocheted fabrics of artificial fibres, of a width of <= 30 cm (excl. those containing by weight >= 5% of elastomeric yarn or rubber thread, and pile fabrics, incl. "long pile", looped pile fabrics, labels, badges and similar articles, and ...
600390	Knitted or crocheted fabrics of a width of <= 30 cm (excl. of cotton, artificial fibres, wool or fine animal hair, those containing by weight >= 5% of elastomeric yarn or rubber thread, and pile fabrics, incl. "long pile", looped pile fabrics, labels,...
600410	Knitted or crocheted fabrics, of a width of > 30 cm, containing >= 5% by weight elastomeric yarn (excl. containing rubber thread, pile fabrics, incl. "long pile", looped pile fabrics, labels, badges and similar articles, and knitted or crocheted fabric...
600490	Knitted or crocheted fabrics, of a width of > 30 cm, containing >= 5% by weight elastomeric yarn and rubber thread or rubber thread only (excl. pile fabrics, incl. "long pile", looped pile fabrics, labels, badges and similar articles, and knitted or cr...
630232	Bed-linen of man-made fibres (excl. printed, knitted or crocheted)
630240	Table linen, knitted or crocheted
630411	Knitted or crocheted bedspreads (excl. bed-linen, quilts and eiderdowns)
630491	Articles for interior furnishing, knitted or crocheted (excl. blankets and travelling rugs, bed-linen, table linen, toilet linen, kitchen linen, curtains, incl. drapes, interior blinds, curtain or bed valances, bedspreads, lampshades and articles of he...
630800	Sets consisting of woven fabric and yarn, whether or not with accessories, for making up into rugs, tapestries, embroidered table cloths or serviettes, or similar textile articles, put up in packings for retail sale (excl. sets for making up into artic...
CER003	Audio Visuals
CER015	Film
370610	Cinematographic film, exposed and developed, whether or not incorporating sound track or consisting only of sound track, width >= 35 mm
370690	Cinematographic film, exposed and developed, whether or not incorporating sound track or consisting only of sound track, width < 35 mm
CER016	CD, DVD, Tapes
852410	Gramophone records
852432	Discs, recorded, for laser reading systems, for reproducing sound only
852439	Discs, recorded, for laser reading systems, for reproducing sound and image or image only
852451	Magnetic tapes for reproducing sound or image, recorded, of a width <= 4 mm
852452	Magnetic tapes for reproducing sound or image, recorded, of a width > 4 mm but <= 6,5 mm
852453	Magnetic tapes for reproducing sound or image, recorded, of a width > 6,5 mm
CER004	Design
CER017	Architecture
490600	Plans and drawings for architectural, engineering, industrial, commercial, topographical or similar purposes, being originals drawn by hand; hand-written texts; photographic reproductions on sensitised paper and carbon copies of the foregoing

CER018	Fashion
420211	Trunks, suit-cases, vanity-cases, executive-cases, brief-cases, school satchels and similar containers, with outer surface of leather, composition leather or patent leather
420212	Trunks, suit-cases, vanity-cases, executive-cases, brief-cases, school satchels and similar containers, with outer surface of plastics or textile materials
420221	Handbags, whether or not with shoulder straps, incl. those without handles, with outer surface of leather, composition leather or patent leather
420222	Handbags, whether or not with shoulder straps, incl. those without handles, with outer surface of plastic sheeting or textile materials
420231	Wallets, purses, key-pouches, cigarette-cases, tobacco-pouches and similar articles carried in the pocket or handbag, with outer surface of leather, composition leather or patent leather
420232	Wallets, purses, key-pouches, cigarette-cases, tobacco-pouches and similar articles carried in the pocket or handbag, with outer surface of plastic sheeting or textile materials
420292	Travelling-bags, insulated food or beverage bags, toilet bags, rucksacks, shopping-bags, map-cases, tool bags, sports bags, jewellery boxes, cutlery cases, binocular cases, camera cases, musical instrument cases, gun cases, holsters and similar contain...
420310	Articles of apparel, of leather or composition leather (excl. clothing accessories, footwear and headgear and parts thereof, and goods of chapter 95, e.g. shin guards, fencing masks)
420329	Gloves, mittens and mitts, of leather or composition leather (excl. special sports gloves)
420330	Belts and bandoliers, of leather or composition leather
420340	Clothing accessories of leather or composition leather (excl. gloves, mittens and mitts, belts, bandoliers, footwear and headgear and parts thereof, and goods of chapter 95 [e.g. shin guards, fencing masks])
430310	Articles of apparel and clothing accessories of furskin (excl. gloves made of leather and furskin, footwear and headgear and parts thereof)
611710	Shawls, scarves, mufflers, mantillas, veils and the like, knitted or crocheted
611720	Ties, bow ties and cravats, knitted or crocheted
611780	Made up clothing accessories, knitted or crocheted, n.e.s. (excl. shawls, scarves, mufflers, mantillas, veils and the like, ties, bow ties and cravats)
611790	Parts of garments or clothing accessories, knitted or crocheted, n.e.s.
621410	Shawls, scarves, mufflers, mantillas, veils and similar articles of silk or silk waste (excl. knitted or crocheted)
621420	Shawls, scarves, mufflers, mantillas, veils and similar articles of wool or fine animal hair (excl. knitted or crocheted)
621430	Shawls, scarves, mufflers, mantillas, veils and similar articles of synthetic fibres (excl. knitted or crocheted)
621440	Shawls, scarves, mufflers, mantillas, veils and similar articles of artificial fibres (excl. knitted or crocheted)
621490	Shawls, scarves, mufflers, mantillas, veils and similar articles of textile materials (excl. of silk, silk waste, wool, fine animal hair or man-made fibres, knitted or crocheted)
621510	Ties, bow ties and cravats of silk or silk waste (excl. knitted or crocheted)
621520	Ties, bow ties and cravats of man-made fibres (excl. knitted or crocheted)
621590	Ties, bow ties and cravats of textile materials (excl. of silk, silk waste or man-made fibres, knitted or crocheted)
621710	Made up clothing accessories, of all types of textile materials, n.e.s. (excl. knitted or crocheted)
621790	Parts of garments or clothing accessories, of all types of textile materials, n.e.s. (excl. knitted or crocheted)
650300	Felt hats and other felt headgear, made from the hat bodies, hoods or plateaux of heading 6501, whether or not lined or trimmed (excl. made by assembling strips or pieces of felt, and toy and carnival headgear)
650400	Hats and other headgear, plaited or made by assembling strips of any material, whether or not lined or trimmed (excl. headgear for animals, and toy and carnival headgear)
650590	Hats and other headgear, knitted or crocheted, or made-up from lace, felt or other textile fabric, in the piece (but not in strips), whether or not lined or trimmed (excl. hair-nets, headgear for animals, and toy and fancy-dress headgear)
650692	Headgear of furskin, whether or not lined or trimmed (excl. toy and carnival headgear)

650699	Headgear, whether or not lined or trimmed, n.e.s.
900410	Sunglasses
CER019	Glassware
701310	Glassware of glass-ceramics, of a kind used for table, kitchen, toilet, office, indoor decoration or similar purposes (excl. goods of heading 7018, cooking hobs, leaded lights and the like, lighting fittings and parts thereof, atomizers for perfume and...)
701321	Drinking glasses of lead crystal
701331	Glassware of lead crystal, of a kind used for table or kitchen purposes (excl. articles of heading 7018, drinking glasses, glass preserving jars "sterilizing jars", vacuum flasks and other vacuum vessels)
701332	Glassware for table or kitchen purposes of glass having a linear coefficient of expansion $\leq 5 \times 10^{-6}$ per kelvin within a temperature range of 0°C to 300°C (excl. glassware of glass-ceramics or lead crystal, articles of heading 7018, drinking glasses,...)
701391	Glassware, of lead crystal, of a kind used for toilet, office, indoor decoration or similar purposes (excl. glassware of a kind used for table or kitchen purposes, glassware of glass-ceramics or lead crystal, articles of heading 7018, mirrors, leaded l...)
CER020	Interior
441900	Tableware and kitchenware, of wood (excl. interior fittings, ornaments, cooperage products, tableware and kitchenware components of wood, brushes, brooms and hand sieves)
481420	Wallpaper and similar wall coverings of paper, consisting of paper coated or covered, on the face side, with a grained, embossed, coloured or design-printed or otherwise decorated layer of plastics
481430	Wallpaper and similar wall coverings of paper, consisting of paper covered, on the face side, with plaiting material, whether or not bound together in parallel strands or woven
570310	Carpets and other floor coverings, of wool or fine animal hair, tufted "needle punched", whether or not made-up
570390	Carpet tiles of vegetable textile materials or coarse animal hair, tufted "needle punched", whether or not made-up
570410	Floor tiles, of felt, not tufted or flocked, with an area of $\leq 0,3 \text{ m}^2$
570500	Carpets and other textile floor coverings, whether or not made-up (excl. knotted, woven or tufted "needle punched", and of felt)
580410	Tulles and other net fabrics (excl. woven, knitted or crocheted fabrics)
580421	Mechanically made lace of man-made fibres in the piece, in strips or in motifs (excl. fabrics of heading 6002 to 6006)
580429	Mechanically made lace in the piece, in strips or in motifs (excl. that of man-made fibres and fabrics of heading 6002 to 6006)
590500	Textile wall coverings
691110	Tableware and kitchenware, of porcelain or china (excl. ornamental articles, pots, jars, carboys and similar receptacles for the conveyance or packing of goods, and coffee grinders and spice mills with receptacles made of ceramics and working parts of ...)
691200	Tableware, kitchenware, other household articles and toilet articles, of ceramics other than porcelain or china (excl. baths, bidets, sinks and similar sanitary fixtures, statuettes and other ornamental articles, pots, jars, carboys and similar recepta...)
691410	Ceramic articles of porcelain or china, n.e.s.
821510	Sets of spoons, forks or other articles of heading 8215, which may also contain up to an equivalent number of knives, of base metal, containing at least one article plated with precious metal
821520	Sets of spoons, forks or other articles of heading 8215, incl. those with up to an equal number of knives, of base metal, containing no articles plated with precious metal
821591	Spoons, forks, ladles, skimmers, cake-servers, fish-knives, butter-knives, sugar tongs and similar kitchen or tableware of base metal, plated with precious metal (excl. sets of articles such as lobster cutters and poultry shears)
940320	Metal furniture (excl. for offices, seats and medical, surgical, dental or veterinary furniture)
940340	Wooden furniture for kitchens (excl. seats)
940350	Wooden furniture for bedrooms (excl. seats)
940360	Wooden furniture (excl. for offices, kitchens and bedrooms, and seats)

940380	Furniture of cane, osier, bamboo or similar materials (excl. of metal, wood and plastics)
940510	Chandeliers and other electric ceiling or wall lighting fittings (excl. for lighting public open spaces or thoroughfares)
940530	Electric lighting sets of a kind used for Christmas trees
CER021	Jewellery
711311	Articles of jewellery and parts thereof, of silver, whether or not plated or clad with other precious metal (excl. articles > 100 years old)
711319	Articles of jewellery and parts thereof, of precious metal other than silver, whether or not plated or clad with precious metal (excl. articles > 100 years old)
711320	Articles of jewellery and parts thereof, of base metal clad with precious metal (excl. articles > 100 years old)
711411	Articles of goldsmiths' or silversmiths' wares or parts thereof, of silver, whether or not plated or clad with other precious metal (excl. jewellery, watch-and clockmakers' wares, musical instruments, weapons, perfume atomizers and heads for these, ori...
711419	Articles of goldsmiths' or silversmiths' wares or parts thereof, of precious metal other than silver, whether or not plated or clad with precious metal (excl. jewellery, watch- and clockmakers' wares, musical instruments, weapons, perfume atomizers and...
711420	Articles of goldsmiths' or silversmiths' wares and parts thereof, of base metal clad with precious metal (excl. jewellery, watch-and clockmakers' wares, musical instruments, weapons, perfume atomizers and heads for these, original sculptures or statuar...
711610	Articles of natural or cultured pearls, n.e.s.
711620	Articles of precious or semi-precious stones "natural, synthetic or reconstructed", n.e.s.
711711	Cuff-links and studs, of base metal, whether or not clad with silver, gold or platinum
711719	Imitation jewellery, of base metal, whether or not plated with precious metal (excl. cuff-links and studs)
CER022	Toys
950100	Wheeled toys designed to be ridden by children, e.g. tricycles, scooters, pedal cars (excl. normal bicycles with ball bearings); dolls' carriages
950210	Dolls representing only human beings, whether or not clothed
950291	Garments and accessories, footwear and headgear for dolls representing only human beings
950299	Parts and accessories for dolls representing only human beings, n.e.s.
950310	Electric trains, incl. tracks, signals and other accessories therefor
950320	Scale model assembly kits, whether or not working models (excl. electric trains, incl. tracks, signals and other accessories therefor)
950330	Construction sets and constructional toys (excl. scale model assembly kits)
950341	Stuffed toys representing animals or non-human creatures
950349	Toys representing animals or non-human creatures (excl. stuffed)
950350	Toy musical instruments and apparatus
950360	Puzzles
950370	Toys, put up in sets or outfits (excl. electric trains, incl. accessories, scale model assembly kits, construction sets and constructional toys, and puzzles)
950380	Toys and models, incorporating a motor (excl. electric trains, scale model assembly kits, and toys representing animals, human or non-human creatures)
950390	Toys, n.e.s.
950420	Billiards and accessories
950440	Playing cards
950490	Tables for casino games, automatic bowling alley equipment, and other funfair, table or parlour games, incl. pintables (excl. operated by coins, banknotes "paper currency", discs or other similar articles, billiards, video games for use with a televisi...

CER005	New Media
CER023	Recorded Media
852460	Cards incorporating a recorded magnetic stripe
852499	Recorded media for sound or image reproducing phenomena, incl. matrices and masters for the production of records (excl. gramophone records, discs for laser reading systems, magnetic tapes, cards incorporating a magnetic stripe and goods of chapter 37)
854381	Proximity cards and tags, generally consisting of an integrated circuit with a read only memory attached to a printed antenna
CER024	Video Games
950410	Video games for use with a television receiver
950430	Games with screens, flipper and other games, operated by coins, banknotes "paper currency", discs or other similar articles (excl. bowling alley equipment)
CER006	Performing Arts
CER025	Musical Instruments
830610	Bells, gongs and the like, non-electric, of base metal (excl. musical instruments)
920110	Upright pianos
920120	Grand pianos
920190	Harpsichords and other keyboard stringed instruments (excl. pianos)
920210	Violins and other string instruments
920290	Guitars, harps and other string musical instruments (excl. with keyboard and those played with a bow)
920510	Brass-wind instruments
920590	Wind musical instruments (excl. organs and brass-wind instruments)
920600	Percussion musical instruments, e.g. drums, xylophones, cymbals, castanets, maracas
920710	Keyboard instruments, the sound of which is produced, or must be amplified, electrically (excl. accordions)
920790	Accordions and musical instruments without keyboards, the sound of which is produced, or must be amplified, electrically
920810	Musical boxes
920890	Fairground organs, mechanical street organs, mechanical singing birds, musical saws and other musical instruments not falling within any other heading in chapter 92; decoy calls of all kinds; whistles, call horns and other mouth-blown sound signalling ...
CER026	Printed Music
490400	Music, printed or in manuscript, whether or not bound or illustrated
CER007	Publishing
CER027	Books
490110	Printed books, brochures and similar printed matter, in single sheets, whether or not folded (excl. periodicals and publications which are essentially devoted to advertising)
490191	Dictionaries and encyclopaedias, and serial instalments thereof
490199	Printed books, brochures and similar printed matter (excl. those in single sheets; dictionaries, encyclopaedias, periodicals and publications which are essentially devoted to advertising)
490300	Children's picture, drawing or colouring books
CER028	Newspaper
480100	Newsprint, in rolls of a width > 36 cm or in square or rectangular sheets with one side > 36 cm and the other side > 15 cm in the unfolded state
490210	Newspapers, journals and periodicals, whether or not illustrated or containing advertising material, appearing at least four times a week

490290	Newspapers, journals and periodicals, whether or not illustrated or containing advertising material (excl. those appearing at least four times a week)
CER029	Other Printed Matter
490510	Globes, printed (excl. relief globes)
490591	Maps and hydrographic or similar charts of all kinds, incl. atlases and topographical plans, printed and in book form (excl. globes, and maps and plans, in relief)
490599	Maps and hydrographic or similar charts of all kinds, incl. atlases, wall maps and topographical plans, printed (excl. those in book form, and maps, plans and globes, in relief)
490810	Transfers "decalcomanias", vitrifiable
490890	Transfers "decalcomanias" (excl. vitrifiable)
490900	Printed or illustrated postcards; printed cards bearing personal greetings, messages or announcements, whether or not illustrated, with or without envelopes or trimmings
491000	Calendars of any kinds, printed, incl. calendars blocks
491110	Trade advertising material, commercial catalogues and the like
CER008	Visual Arts
CER030	Antiques
970400	Postage or revenue stamps, stamp-postmarks, first-day covers, postal stationery, stamped paper and the like, used, or if unused, not of current or new issue in which they have, or will have, a recognised face value
970500	Collections and collector's pieces of zoological, botanical, mineralogical, anatomical, historical, archaeological, palaeontological, ethnographic or numismatic interest
970600	Antiques of > 100 years old
CER031	Paintings
970110	Paintings, e.g. oil paintings, watercolours and pastels, and drawings executed entirely by hand (excl. technical drawings and the like of heading 4906, and hand-painted or hand-decorated manufactured articles)
970190	Collages and similar decorative plaques
970200	Original engravings, prints and lithographs
CER032	Photography
370510	Photographic plates and film, exposed and developed, for offset reproduction (excl. products made of paper, paperboard or textiles and ready-to-use plates)
370520	Microfilm, exposed and developed (excl. microfilm for offset reproduction)
370590	Photographic plates and film, exposed and developed (excl. products made of paper, paperboard or textiles, cinematographic film, film for offset reproduction and microfilm)
491191	Pictures, prints and photographs, n.e.s.
CER033	Sculpture
392640	Statuettes and other ornamental articles, of plastics
442010	Statuettes and other ornaments, of wood (excl. wood marquetry and inlaid wood)
691310	Statuettes and other ornamental articles of porcelain or china, n.e.s.
691390	Statuettes and other ornamental ceramic articles, n.e.s. (excl. of porcelain or china)
830621	Statuettes and other ornaments, of base metal, plated with precious metal (excl. works of art, collectors' pieces and antiques)
830629	Statuettes and other ornaments, of base metal, not plated with precious metal (excl. works of art, collectors' pieces and antiques)
970300	Original sculptures and statuary, in any material

Note: In bold the Groups (from CER001 to CER008) and the Subgroups (from CER001 to CER033) defined by UNCTAD.

Table 11 – UNESCO Classification of Core Cultural Goods

HS07	Description	Domain	Macro Category
970600	Antiques of an age exceeding one hundred years	Antiques	Cultural and Natural Heritage
970500	Collections and collectors' pieces of zoological, botanical, mineralogical, anatomical, historical, archaeological, palaeontological, ethnographic or numismatic interest	Antiques	Cultural and Natural Heritage
830610	Bells, gongs and the like	Musical Instruments	B. Performance and Celebration
920110	Upright pianos	Musical Instruments	B. Performance and Celebration
920120	Grand pianos	Musical instruments	B. Performance and Celebration
920190	Harpsichords and other keyboard stringed instruments (excl. pianos)	Musical instruments	B. Performance and Celebration
920210	Other string musical instruments (for example violins, harps) played with a bow	Musical instruments	B. Performance and Celebration
920290	Guitars, harps and other string musical instruments (excl. with keyboard and those played with a bow)	Musical instruments	B. Performance and Celebration
920510	Brass wind instruments (for example, clarinets, trumpets bagpipes)	Musical instruments	B. Performance and Celebration
920590	Wind musical instruments (excl. brass-wind instruments)	Musical instruments	B. Performance and Celebration
920600	Percussion musical instruments (for example drums, xylophones, cymbals, castanets, maracas)	Musical instruments	B. Performance and Celebration
920710	Keyboard instruments other than accordions	Musical instruments	B. Performance and Celebration
920790	Accordions and musical instruments without keyboards, the sound of which is produced, or must be amplified, electrically	Musical instruments	B. Performance and Celebration
920810	Musical boxes	Musical instruments	B. Performance and Celebration
920890	Fairground organs, mechanical street organs, mechanical singing birds, musical saws and other musical instrument; decoy calls of all kinds; whistles, call horn and other mouth blown sound signalling instruments	Musical instruments	B. Performance and Celebration
852321	Cards incorporating a magnetic stripe	Recorded media	B. Performance and Celebration
852329	Magnetic media for the recording of sound or of other phenomena (excl. cards incorporating a magnetic stripe and goods of chapter 37)	Recorded media	B. Performance and Celebration
852351	Solid-state non-volatile storage devices	Recorded media	B. Performance and Celebration
852359	Semiconductor media, unrecorded, for the recording of sound or of other phenomena	Recorded media	B. Performance and Celebration
852380	Gramophone records and other media for the recording of sound or of other phenomena, whether or not recorded, incl. matrices and masters for the production of discs	Recorded media	B. Performance and Celebration
490400	Music, printed or in manuscript, whether or not bound or illustrated	Recorded media	B. Performance and Celebration
970110	Paintings, drawings and pastels, executed entirely by hand, other than drawings of heading 4906 and other than hand-painted or hand-decorated manufactured articles, collages and similar decorative plaques	Paintings	C. Visual Arts and Crafts
970190	Collages and similar decorative plaques	Paintings	C. Visual Arts and Crafts
491191	Pictures, designs and photographs	Paintings	C. Visual Arts and Crafts
970200	Original engravings, prints and lithographs	Other visual arts	C. Visual Arts and Crafts
970300	Original sculptures and statuary, in any material	Other visual arts	C. Visual Arts and Crafts
392640	Statuettes and other ornamental articles in plastic	Other visual arts	C. Visual Arts and Crafts
442010	Statuettes and other ornaments, of wood	Other visual arts	C. Visual Arts and Crafts

442090	Wood marquetry and inlaid wood; caskets and cases for jewellery or cutlery, and similar articles, of wood; wooden articles of furniture	Other visual arts	C. Visual Arts and Crafts
691310	Statuettes and other ornamental ceramic articles of porcelain or China	Other visual arts	C. Visual Arts and Crafts
691390	Statuettes and other ornamental ceramic articles, n.e.s. (excl. of porcelain or china)	Other visual arts	C. Visual Arts and Crafts
701890	Glassware articles including statuettes	Other visual arts	C. Visual Arts and Crafts
830621	Statuettes and other ornaments, of base metal plated with precious metal	Other visual arts	C. Visual Arts and Crafts
830629	Statuettes and other ornaments, of base metal, not plated with precious metal (excl. works of art, collectors' pieces and antiques)	Other visual arts	C. Visual Arts and Crafts
960110	Worked ivory and ivory articles	Other visual arts	C. Visual Arts and Crafts
960190	Bone, tortoiseshell, horn, antlers, coral, mother-of-pearl and other animal carving material, and articles of these materials (including articles obtained by moulding)	Other visual arts	C. Visual Arts and Crafts
580500	Hand-woven tapestries of the type Gobelins, Flanders, Aubusson, Beauvais and the like and needle-worked tapestries	Craft	C. Visual Arts and Crafts
580610	Narrow woven fabrics: Woven pile fabrics (including terry towelling and similar terry fabrics) and chenille fabrics	Craft	C. Visual Arts and Crafts
580620	Narrow woven fabrics: Other woven fabrics, containing by weight 5% or more of lastomeric yarn or rubber thread	Craft	C. Visual Arts and Crafts
580631	Narrow woven fabrics: Other woven fabrics of cotton	Craft	C. Visual Arts and Crafts
580632	Narrow woven fabrics: Other woven fabrics of man-made fibres	Craft	C. Visual Arts and Crafts
580639	Narrow woven fabrics: Other woven fabrics of other textile materials	Craft	C. Visual Arts and Crafts
580640	Fabrics consisting of warp without weft assembled by means of and adhesive (bolducs)	Craft	C. Visual Arts and Crafts
580810	Braids in the piece; ornamental trimmings in the piece, without embroidery; other than knitted or crocheted	Craft	C. Visual Arts and Crafts
580890	Other braids in the piece; ornamental trimmings in the piece, without embroidery; other than knitted or crocheted	Craft	C. Visual Arts and Crafts
580900	Woven fabrics of metal thread and woven fabrics of metallised yarn of heading 5605 of a kind used in apparels as furnishing fabrics or for similar purposes	Craft	C. Visual Arts and Crafts
581010	Embroidery in the piece, in strips or in motifs without visible ground	Craft	C. Visual Arts and Crafts
581091	Embroidery in the piece, in strips or in motifs: Other embroidery of cotton	Craft	C. Visual Arts and Crafts
581092	Embroidery in the piece, in strips or in motifs: Other embroidery of man-made fibres	Craft	C. Visual Arts and Crafts
581099	Embroidery in the piece, in strips or in motifs: Other embroidery of other textile materials	Craft	C. Visual Arts and Crafts
581100	Quilted textile products in the piece	Craft	C. Visual Arts and Crafts
600240	Knitted or crocheted fabrics of a width not exceeding 30 cm, containing by weight 5% or more of lastomeric yarn but not containing robber thread	Craft	C. Visual Arts and Crafts
600290	Other knitted or crocheted fabrics of a width not exceeding 30 cm, containing by weight 5% or more of lastomeric yarn or robber thread	Craft	C. Visual Arts and Crafts
600310	Knitted or crocheted fabrics of a width not exceeding 30 cm of wool or fine animal hair	Craft	C. Visual Arts and Crafts
600320	Knitted or crocheted fabrics of a width not exceeding 30 cm of cotton	Craft	C. Visual Arts and Crafts
600330	Knitted or crocheted fabrics of a width not exceeding 30 cm of synthetic fibres	Craft	C. Visual Arts and Crafts
600340	Knitted or crocheted fabrics of a width not exceeding 30 cm of artificial fibres	Craft	C. Visual Arts and Crafts
600390	Other knitted or crocheted fabrics of a width not exceeding 30 cm	Craft	C. Visual Arts and Crafts
600410	Knitted or crocheted fabrics, of a width exceeding 30 cm containing by weight 5% or more of lastomeric yarn but not containing robber thread	Craft	C. Visual Arts and Crafts
600490	Other knitted or crocheted fabrics, of a width exceeding 30 cm	Craft	C. Visual Arts and

	containing by weight 5% or more of lastomeric yarn or robber thread		Crafts
711311	Articles of jewellery and parts thereof of silver, whether or not plated or clad with other precious metal	Jewellery	C. Visual Arts and Crafts
711319	Articles of jewellery and parts thereof of other precious metal, whether or not plated or clad with precious metal	Jewellery	C. Visual Arts and Crafts
711320	Articles of jewellery and parts thereof of base metal clad with precious metal	Jewellery	C. Visual Arts and Crafts
711411	Articles of goldsmiths' or silversmiths' wares and parts thereof of silver, whether or not plated or clad with other precious metal	Jewellery	C. Visual Arts and Crafts
711419	Articles of goldsmiths' or silversmiths' wares and parts thereof of other precious metal, whether or not plated or clad with precious metal	Jewellery	C. Visual Arts and Crafts
711420	Articles of goldsmiths' or silversmiths' wares and parts thereof of base metal clad with precious metal	Jewellery	C. Visual Arts and Crafts
711610	Articles of natural or cultured pearls Jewellery	Jewellery	C. Visual Arts and Crafts
711620	Articles of precious or semi-precious stones (natural, synthetic or reconstructed)	Jewellery	C. Visual Arts and Crafts
370510	Photographic plates and film, exposed and developed, other than cinematographic film for offset reproduction	Photography	C. Visual Arts and Crafts
370590	Photographic plates and film, exposed and developed (excl for offset production)	Photography	C. Visual Arts and Crafts
490110	Printed reading books, brochures, leaflets and similar printed matter whether in single sheets whether or not folded	Books	D. Books and Press
490191	Dictionaries and encyclopaedias and serial instalments thereof	Books	D. Books and Press
490199	Printed books, brochures and similar printed matter	Books	D. Books and Press
490210	Newspapers, journals and periodicals, whether or not illustrated or containing advertising material appearing at least four times a week	Newspaper	D. Books and Press
490290	Other newspapers, journals and periodicals	Newspaper	D. Books and Press
490300	Children's picture, drawing or colouring books	Other Printed Matter	D. Books and Press
490591	Maps and hydrographical or similar charts of all kinds in book form	Other Printed Matter	D. Books and Press
490510	Maps and hydrographical or similar charts of all kinds in globes	Other Printed Matter	D. Books and Press
490599	Other maps and hydrographical or similar charts of all kinds	Other Printed Matter	D. Books and Press
490900	Postcards, printed or illustrated; printed greeting cards	Other Printed Matter	D. Books and Press
491000	Calendars of any kind, printed, including calendar blocks	Other Printed Matter	D. Books and Press
370610	Cinematograph film, exposed and developed whether or not incorporating sound track or only consisting of sound track of a width of 35 mm or more	Film and Video	E. Audio-visual and Interactive Media
370690	Cinematographic film, exposed and developed, whether or not incorporating soundtrack or consisting only of soundtrack, width < 35 mm	Film and Video	E. Audio-visual and Interactive Media
950410	Video games used with a television receiver	Film and Video	E. Audio-visual and Interactive Media
490600	Plans and drawings for architectural, engineering, industrial, commercial, topographical or similar purposes, being originals drawn by hand; hand-written texts; photographic reproductions on sensitised paper and carbon copies of the foregoing	Architecture and design	F. Design and Creative Services

APPENDIX A2

In order to test the robustness of our results with a larger sample we omit the immigrant stocks from the model. Even though the exclusion of $\ln(\text{ImmStock}_{in,t-1})$ is in line with some influential contributions such as Ortega Peri (2013), it may come at a cost in terms of model misspecification. However, on the other hand, it enables us to approximately double the sample size (from 8,655 to 16,022 observations) and, therefore, quite possibly, adds consistency to our results.

Table (12) reports the estimates of Equation (2), including bilateral exports as additional control. This inclusion does not significantly affect the coefficients. What emerges is the lower impact of exports on emigration with respect to imports. We believe that this result demonstrates the asymmetric role of cultural trade as a proxy for cultural affinity and is due to the specific role of imports in reducing the psychological costs of migrating.

Table (13) reports the estimates of the gravity equation, which excludes the log of bilateral stocks of immigrants as an additional control. This strategy implies a trade-off as it allows us, on the one hand, to deal with a much larger number of observations – the sample is twice the size with respect to Table 2. However, on the other, there is the risk of distorted coefficients because of omitted variable bias. What emerges from the results is that all proxies for migration costs are still statistically significant, but that they have a much larger impact in absolute value terms. This means that, in general, the costs associated with migration are lower in the presence of relatively large networks. In addition, the impact of a common legal system becomes positive and statistically significant when bilateral stocks are omitted and a larger sample is considered. As for our parameter of interest, the impact of the share of cultural goods increases, but increases less relative to other dyadic factors, which we find reassuring.

The last Table (14) compares the estimates obtained using the whole sample of OECD destination countries with the EU³⁶ and the non-EU³⁷ subsamples. In order to perform this exercise we use the specification that omits the bilateral migrant stocks variable, as the non-EU sample would have a very limited number of observations. As expected, the impact of past colonial relationships is larger for the EU subsample and null for the non-EU destinations. Intuitively the larger effect of distance for the non-EU subsample is because of the geographical location of the non-EU countries of destination. As for the parameter of interest, the impact of the share of cultural products is smaller – even if only slightly so – for non-EU destinations.

A possible concern with the estimated model outlined in Equation (2) is the dependent variable, which adds 1 to the bilateral migration flows. This strategy is commonly adopted in the literature (see for instance Ortega and Peri (2013)) as it allows scholars to avoid the loss of the zero flows when using logs. Santos Silva and Tenreyro (2006) argued that this procedure generally leads to inconsistent estimators of the parameters of interest. As they pointed out “*the severity of these inconsistencies will depend on the particular characteristics of the sample and model used, but there is no reason to believe that they will be negligible*” (Santos Silva and Tenreyro (2006) p. 643).³⁸Santos Silva and Tenreyro (2006) propose Poisson PML as an alternative to linear in-logs OLS multiplicative models like the gravity equation, since it provides a solution to the zero issue in

³⁶ The EU sample also includes Israel and Turkey because of their geographical proximity to European countries. The sample composition is outlined in Table 9.

³⁷The non-EU sample includes: Canada, the US, Australia, Japan, Korea, Canada, Chile, Mexico and New Zealand

³⁸ Santos Silva and Tenreyro (2011) have shown that this estimator performs well even with a large share of zeros in the data. However, in our case the share of zeroes is not very big, just under 600 observations.

the dependent variable and it is, at the same time, consistent in the presence of heteroscedasticity if the error terms satisfy log normality and homoscedasticity conditions.³⁹ As a robustness check we propose Poisson PML estimates in the third column of Table (15). Following Bertoli and Fernandez-Huertas Moraga (2015) we estimate Poisson PML with origin-time FE. Estimates are always consistent with heterogeneity in the propensity to migrate when origin-time dummies are included. As an additional robustness check, we also include Gamma PML estimates as advocated by Head and Mayer (2014). After conducting a Monte Carlo simulation, Head and Mayer (2014) argue that Poisson PML should not replace OLS as the “workhorse” for gravity equations; alternatively, they suggest Poisson PML as part of a robustness-exploring ensemble that includes OLS and Gamma PML (GPML). As noted by Head and Mayer (2014), if there is a significant discrepancy between OLS coefficients and the estimates from the other two methodologies, then it is reasonable to conclude that heteroskedasticity is an issue and that the OLS estimates are unreliable. Table (15) compares these different techniques by focusing on selected parameters. All the estimates are of the expected sign and the gap in terms of magnitude across econometric techniques is fairly small, so we can safely conclude that heteroscedasticity is not an issue and that the model appears to be well specified.

³⁹ Indeed, the Poisson PML (PPML) estimator guarantees consistent estimates regardless of the distribution of the error term, as long as: $E[X_{ni}|z_{ni}] = \exp(z'_{ni}\omega)$ where X_{ni} is bilateral trade, z'_{ni} is the transpose of a vector of the trade cost variables and ω is the correspondent vector of coefficients.

Table 12 – Robustness Check: Including Bilateral Exports

	OLS (1) ln(EM _{in,t})	OLS (2) ln(EM _{in,t})	OLS (3) ln(EM _{in,t})	OLS (4) ln(EM _{in,t})
ln(ImpTot _{ni,t-1})		0.144*** (5.86)	0.138*** (5.86)	0.143*** (5.83)
ln(ImpCultShare _{ni,t-1})		0.070*** (6.64)	0.066*** (6.87)	0.067*** (9.55)
ln(ImpCult)	0.077*** (7.60)			
ln(ExpTot _{in,t-1})	0.058*** (4.88)	0.047*** (3.85)	0.049*** (7.18)	0.047*** (3.84)
ln(ImmStock _{in,t-1})	0.540*** (14.06)	0.537*** (13.53)	0.527*** (13.38)	0.530*** (13.10)
ln(dist _{in})	-0.301*** (-5.61)	-0.231*** (-3.98)	-0.245*** (-4.34)	-0.236*** (-4.03)
Colony _{in}	0.563*** (4.24)	0.500*** (3.81)	0.553*** (4.21)	0.512*** (3.88)
Lang _{in}	0.261** (2.68)	0.290** (2.94)	0.286** (2.91)	0.300** (3.02)
Comleg _{in}	0.084 (1.23)	0.258*** (3.98)	0.264*** (4.15)	0.054 (0.78)
lnGDPpc _{i,t-1}	-0.881*** (-7.33)		-0.903*** (-7.30)	
lnGDPpc _{n,t-1}	0.497*** (5.20)	0.467*** (4.28)		
S_i	X	X	X	X
S_n	X	X	X	X
S_t	X	X	X	X
$S_{n,t}$			X	X
$S_{i,t}$		X		X
N	8562	8615	8440	8613
R -sq	0.84	0.85	0.84	0.85

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Standard Errors are clustered by country pair. The model includes the intercept

Table 13 – Robustness Check: Excluding $\ln(\text{ImmStock}_{in,t-1})$

	OLS	OLS	OLS	OLS	OLS
	(1)	(2)	(4)	(5)	(6)
	$\ln(\text{EM}_{in,t})$	$\ln(\text{EM}_{in,t})$	$\ln(\text{EM}_{in,t})$	$\ln(\text{EM}_{in,t})$	$\ln(\text{EM}_{in,t})$
$\ln(\text{ImpTot}_{ni,t-1})$		0.318*** (14.67)	0.329*** (14.61)	0.321*** (14.69)	0.331*** (14.61)
$\ln(\text{ImpCultShare}_{ni,t-1})$		0.103*** (9.50)	0.107*** (9.52)	0.103*** (9.49)	0.107*** (9.55)
$\ln(\text{ImpCult})$	0.140*** (12.73)				
$\ln(\text{ExpTot}_{in,t-1})$	0.117*** (10.11)	0.082*** (7.08)	0.084*** (6.97)	0.084*** (7.18)	0.086*** (7.07)
$\ln(\text{dist}_{in})$	-0.687*** (-14.17)	-0.509*** (-9.52)	-0.494*** (-9.01)	-0.501*** (-9.32)	-0.486*** (-3.97)
Colony_{in}	1.340*** (9.70)	1.250*** (9.37)	1.246*** (9.26)	1.250*** (9.33)	1.246*** (9.22)
Lang_{in}	0.749*** (7.93)	0.751*** (8.13)	0.743*** (7.91)	0.745*** (8.07)	0.738*** (7.85)
Comleg_{in}	0.333*** (5.20)	0.264*** (4.15)	0.258*** (3.98)	0.264*** (4.15)	0.257*** (3.96)
$\ln\text{GDPpc}_{i,t-1}$	-0.427*** (-7.84)	-0.658*** (-11.42)		-0.718*** (-12.97)	
$\ln\text{GDPpc}_{n,t-1}$	0.306*** (3.47)	0.345*** (3.91)	0.296*** (3.33)		
S_i	X	X	X	X	X
S_n	X	X	X	X	X
S_t	X	X	X	X	X
$S_{n,t}$				X	X
$S_{i,t}$			X		X
N	15839	15836	16022	15836	16022
$R\text{-sq}$	0.75	0.76	0.73	0.76	0.76

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Standard Errors are clustered by country pair. The model includes the intercept

Table 14 – EU vs Non EU destinations

	OECD	OECD-EU	OECD-Non EU
	(1)	(2)	(3)
	$\ln(\text{EM}_{in,t} + 1)$	$\ln(\text{EM}_{in,t} + 1)$	$\ln(\text{EM}_{in,t} + 1)$
$\ln(\text{Imp}_{ni,t-1})$	0.331*** (14.61)	0.336*** (11.42)	0.241*** (6.51)
$\ln(\text{ImpCultShare}_{ni,t-1})$	0.107*** (9.55)	0.107*** (8.18)	0.078*** (3.60)
$\ln(\text{Exp}_{in,t-1})$	0.086*** (7.07)	0.078*** (5.22)	0.087*** (3.49)
$\ln(\text{dist}_{in})$	-0.486*** (-3.97)	-0.308** (-2.39)	-1.056*** (-10.53)
Colony_{in}	1.246*** (9.22)	1.421*** (9.08)	-0.071 (-0.21)
Lang_{in}	0.738*** (7.85)	0.748*** (5.15)	0.917*** (6.55)
Comleg_{in}	0.257*** (3.96)	0.243** (2.93)	0.096 (0.82)
S_i	X	X	X
S_n	X	X	X
S_t	X	X	X
$S_{n,t}$	X	X	X
$S_{i,t}$	X	X	X
N	16022	10969	5053
$R\text{-sq}$	0.76	0.77	0.83

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Standard Errors are clustered by country pair. The model includes the intercept

Table 15 – Robustness Check: OLS vs PPML and GPML

Estimator	OLS	OLS	PPML	GPML
	(1)	(2)	(3)	(4)
	$\ln(EM_{in,t})$	$\ln(EM_{in,t})$	$M_{in,t}$	$M_{in,t}$
$\ln(\text{ImpTot}_{ni,t-1})$	0.329*** (14.61)	0.315*** (14.22)	0.333*** (7.45)	0.335*** (14.73)
$\ln(\text{ImpCultShare}_{ni,t-1})$	0.107*** (9.52)	0.099*** (9.11)	0.144*** (5.00)	0.097*** (8.62)
$\ln(\text{dist}_{in})$	-0.494*** (-9.01)	-0.642*** (-13.86)	-0.604*** (-5.90)	-0.691*** (-14.76)
Lang_{in}	0.745*** (8.07)	0.807*** (9.71)	0.708*** (6.03)	0.752*** (8.71)
S_i	X	X	X	X
S_n	X	X	X	X
S_t	X	X	X	X
$S_{n,t}$				
$S_{i,t}$	X	X	X	X
N	16022	15431	16022	16022

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Standard Errors are clustered by country pair. The model includes the intercept