

International trade flows in cultural goods and services: Issues and determining factors¹

Foreword

Without sources and weighting for exchange factors, the measurement and understanding of international exchanges of cultural goods and services are difficult and consequently rarely undertaken exercises. However, it is essential to identify the determining factors for the exchange of cultural products and services if we want to outline a strategy for introducing French players into international exchanges and more widely, to defined conditions for cultural diversity. The results of research undertaken by a team of researchers associated with CEPII who made use of econometric methods on expertly evaluated sources, constitute a solid base for the definition of such a strategy from the determining factors in international exchanges of cultural goods and services.

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The consumption of cultural goods and services is an important indicator of tastes and preferences, and from these, the influence of global exchange flows between nations. If the international performance of cultural industries goes together with more general economic performance on the international markets, this makes these cultural industries an issue that goes beyond culture alone.

In a context where these international exchanges – economic on the one hand, artistic and cultural on the other, are developing and presenting a new geographic configuration, these challenges must be taken up. Certain countries, such as China and India in fact occupy an increasing place in economic exchanges, and exchanges of services, after those of goods, continue to increase every year.

Examining the determining factors for cultural exchanges and the links between them and the notion of cultural proximity between countries is the objective of the research presented here to encourage all the levers affecting exchanges of cultural goods and services being taken into account.

To analyse questions of distance and cultural proximity in exchanges, the study is based on the so-called “gravity” model, currently used in the international economy. This methodology allows factors in exchanges of cultural goods to be determined at both global and sector levels (see box p. 23). It also makes the best use of all the available databases to obtain the same type of results for cinema and cultural services.

It seeks to identify any effects arising from the existence of borders in cultural exchanges, to see how much cultural exchanges could constitute indicators of cultural proximity in both commercial exchanges and in other important aspects of international economic relations: Foreign investments and migratory fluxes. ■

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CULTURAL EXCHANGES: DISTANCE AND DETERMINING FACTORS

The gravity model allows the examination of questions of distance and cultural proximity in exchanges and the determination of factors affecting them at both global and sector levels (see box p. 23).

Distance and cultural proximity questions

Different forms of proximity are thus likely to exist between countries and to affect international trade. Among them, the fact of sharing a language and former colonial links, have been the subject of a large number of research projects.

Linguistic proximity tends to favour trade between countries: Having a common language increases the flow of exchanges by about 65%. Attempts to measure the linguistic distance separating two commercial partners – from the absence of a common language to perfect linguistic similarity – have shown that the greater this distance, the more trade decreases. However, it is noted that the influence of this distance has reduced by a third between 1971 and 1985: All other things being equal, trade between two countries that are completely dissimilar from the linguistic point of view reached 28% of the trade between two perfectly linguistically similar countries in 1971, whereas in 1985, the difference was 48%.

Relations created between countries in the course of history, in particular in the colonial period, can also encourage international trade, commercial relations established by colonizing countries with the colonized countries often persisting after the colonial period. In addition, with the colonized country often having adopted the institutional framework of the colonizing country, the resulting similarity of legal rules and administrative systems allows an increase in the security of transactions and a reduction in communication costs, which tends to favour international trade. We thus understand why a former colony can retain a higher than expected² level of trade with its former colonizer, but also why two countries, which had the same colonizer, could also have more developed bilateral exchange flows than expected. Other things being equal, the existence of a colonial relationship in the past multiplies bilateral trade by a

factor of 5.75, whereas the fact of having had the same colonizing country increases bilateral exchanges between two countries by 80%. However, this influence itself is clearly reducing with time.

These preferred relations between countries, favouring exchanges, can arise from the existence of network effects on trade, whether these are business networks or social networks. In this respect, the volume of migratory flows can influence bilateral trade. In fact, immigrants take part in different ways in the development of trade between their country of origin and their host country: By retaining, at least in part, a preference for the goods produced in their country of origin, which leads to additional demand; by distributing these goods within the host country; by being particularly able to establish commercial relations with their country of origin because their mastery of the language, the culture and legal practices allows them to be more in touch with opportunities and needs, and better connected to the business networks. Finally, more generally, we have been able to bring out that the more the citizens of a country felt confident about the citizens of another country, the greater the economic exchanges between the two countries, and in lower proportions, investments in the other countries.

All these factors are likely to have a dual influence on exchanges: First in reducing costs, but also, more indirectly, in influencing cultural preferences. From which we have the idea of using the exchanges of cultural goods in which these cultural preferences are particularly expressed as a measure of the cultural proximity of the countries and an approximation of these bilateral preferences (see “Cultural exchanges: Cultural proximity indicators and a factor explaining all exchanges”, p. 20).

Determining factors in exchanges of cultural goods...

At global level

For all goods, bilateral exchanges are proportional to the respective gross national products (GNP) of the two countries and are larger the higher the level of development. Colonial links, contiguity and a common language all have a positive effect, but the effect of geographic distance itself is negative. The results for the subset of the seven major

2. “Expected” in the sense of “predicted” by the gravity model meaning given the respective economic sizes of the commercial partners and the distance separating them.

cultural goods sectors (heritage, books, newspapers and periodicals, other printed matter, recorded media, visual arts, audiovisual media) show that the fundamental determining factors for exchanges of these goods are imperfectly taken into account by simple gravity, in particular by GNP and GNP/head. But if we introduce “fixed effects”, which take account of the specific features (supposed constant over time) of each country importing and exporting cultural goods, the estimate is greatly improved, which proves the importance of these interrelations and the impact of specific features between countries. The impact of distance is however lower for cultural goods than for all goods, which can be explained by a larger “cultural” separation that does not compensate for possibly lower transport costs.

The fact that transaction costs have a lower negative impact on trade for cultural goods than for other assets appears to be a very solid result. In contrast, the GNP of the exporting country has a positive impact on cultural trade, with colonial links increasing bilateral trade by 33%, a common border by 85% and a common language by 56%, with this last impact being greater for cultural goods.

At the sector level

An attempt to explain the volume of bilateral cultural exchanges has also been tried for each of the seven main categories of cultural goods. We note that the “distance” variable plays a negative role in all cases, but that, in contrast, the development level of the partner countries measured through GNP/head does not play a significant role in explaining the volume of bilateral exchanges, except for the heritage goods sector.

Two influences – that of GNP and that of variables related to cultural proximity (colonial links, common border and common language) – differ between sectors: Whereas colonial links positively influence exchanges in the heritage goods, newspaper and periodical and visual arts sectors, their influence is, rather surprisingly, negative for audiovisual media. For the “books, newspapers and periodicals and other printed matter” sectors, the sharing of a border and/or a language encourages trade. Unlike recorded media, the visual arts and audiovisual media are not influenced by sharing an official language.

A common border has a positive impact on the flows in the visual arts and audiovisual media sectors but does not influence the recorded media sector. The common language is the main factor in the penetration of cultural goods with written content – this factor multiplies the flow of books by over

4.5 – and the colonial has certainly shaped the preferences of consumers in the importing countries for heritage goods where it multiplies the flow by 3.74.

For the “distance” variable, the calculation of the average distance separating partners in the exchange according to the types of goods shows that cultural goods are exchanged over smaller distances than non-cultural manufactured goods (respectively 6,005 km against 7,271). In addition, if we apply this calculation to each of the seven categories of cultural goods, it appears that it is for heritage goods that the partners in the exchange are on average the furthest apart from each other (6,616 km): Essentially comprising irreproducible artistic goods, this category depends less on distance than other cultural goods and is thus less sensitive to transport costs and more generally to transaction costs. The fact that the influence of a common border is not significant for this category of goods adds strength to this observation.

The cinema case

The Unesco data for the period 1970-1999, cover bilateral imports of films from the main producing countries (United States, France, Germany, Russia, Japan, India, Hongkong, United Kingdom and Italy) but also for national production. They allow us to establish that distance plays the same role as in the previous estimates: The flows of films are less affected by distance than flows for the rest of manufactured goods, and confirm the fundamental weight of a common language and a colonial link. However, specific national features also come into play and generate “fixed effects” that can be assessed relatively: So, some importing countries, with a special taste for the cinema, import many films of all origins in contrast to others that are poorly equipped with cinemas or distribution networks, due, for example, to very low density and large spatial dispersal of the population.

The fact of having a common language or a colonial link increases the market share of the exporter concerned by 70% in countries that share one or the other. In this respect, the French speaking community has a real economic advantage in terms of cinematographic exchanges: France, like Great Britain and the United States in particular, benefits in general from links created by historic population movements, the similarity of institutions and cultural practices. If the effects of the “colonial link” and “linguistic link” variables can be very clearly separated for France, they are cumulative in most cases: In fact we note that in a former French colony where French is still spoken, the market share of French films is multiplied by three compared to a country where the language is not French and that has never been a French colony.

... and cultural services

As far as dematerialized services and exchanges in general are concerned, which do not need physical contact between the consumer and the producer

and do not give rise to transport costs, what does the concept of “distance” mean? However, despite this, most studies show a significant and relatively large negative effect of distance on the flow of services. The explanation is perhaps that distance measures similarities in consumer preferences, similarities that are larger as the countries are closer on the geographic level.

At the start of the 2000 decade, the flow of services represented more than 20% of international exchanges, a share that should continue to grow when the development of ICT is taken into account. Despite their significant and increasing weight in exchanges and whatever the services – cultural or not –, these transactions are poorly recorded and we have very few statistics³ due to the lack of a standardized nomenclature. In world exchanges of services, “audiovisual and related services” and “other royalties and licence fees” still only represent a minimal but strongly growing share.

If the effect of the “distance” variable is still negative for these two types of services, it is however weaker than for all services. In addition, all the other “gravitational” variables (see above) have the expected effect: The size of the country has a positive influence on exchanges of cultural services, although less strongly, here too, than for all exchanges of services; the flows also increase with the countries’ development level evaluated by GNP/head; colonial links and sharing a terrestrial border strongly favours trade in cultural services whereas this positive and significant influence of colonial links is not observed for all services; finally, sharing an official language does not appear to influence the flow of services, whether in terms of all services or for cultural services.

As far as the GNP and GNP/head of the exporting country are concerned, their time variations do not appear to influence exchanges of cultural services. In contrast, those of the importing country do have an impact on exchanges, positive for the first and negative for the second. In fact it seems that, following an improvement in their development level, countries import fewer cultural services, the development of local production tending progressively to replace imports. Exchanges of cultural services, contrary to what happens for services in general, tend to reduce when a common border is shared; but they nevertheless remain positively influenced by a the sharing of an official language. The common language thus seems to be one of the

most robust influencing variables for cultural exchanges. This variable has an almost systematic very clear positive impact when the specific features of the importing and exporting countries are taken into account.

CULTURAL EXCHANGES: CULTURAL PROXIMITY INDICATORS AND A FACTOR EXPLAINING ALL EXCHANGES

Cultural exchanges appear to constitute, through the explanation of crossing a border on exchanges, indicators of the cultural proximity between countries. In addition, cultural exchanges constitute a particularly strong explanatory factor for the different aspects of international exchanges (goods and services, foreign investments, migratory flows).

Border effects for cultural goods and services

Another way of envisaging international exchanges consists in asking the question of “the border effect”, meaning the effect of crossing national borders on exchanges. Research on the subject of borders, both between Canada and the United States and within the European Union suggest fairly high border effects despite the process of economic integration and sometimes a common language. These effects are only partially explained by formal commercial barriers to exchanges (customs duties...), there thus remains a place for cultural differences that drive individuals to grant a certain preference – price being equal – to national products. Measuring border effects on cultural goods and services partly allows measurement of these cultural differences. If the impact of national borders comes from cultural differences between countries, we must thus find a border effect in exchanges of cultural goods, which can then become a sort of “tracer” for cultural preferences.

The Eurostat AUVIS database, which supplies the number of admissions achieved by films produced by one country in each of the other countries in the period 1980-2001, allows the border effect to be estimated subject to defining a measure of the

3. Several databases (OCDE, Eurostat, CEPII) supply data from the same source: the balances of payments of different countries.

“internal” distance within the country⁴. We observe that the border effect is very important: On average, admissions for national films are nearly ten times as high as the expected value. This demonstrated the fact that despite the development of international exchanges and the rise in power of the American cinematographic industry on the world scale, the “domestic bias”, meaning the preference for national production in consumption of the cultural good that the cinema comprises, is high. The hypothesis in which cultural differences are one of the probable causes of the existence of the effect of national borders on general trade in goods is thus found to be reinforced.

This border effect, in view of the results of previous research, appears very comparable to that for non-cultural goods taken as a whole and even, paradoxically, clearly less than that estimated from food goods or drinks, non-cultural goods that nevertheless include a large cultural component. The explanation, in the cinema case, could be that the market, even if it is far from being completely integrated, is much more so than for other cultural goods.

Finally, the relative preference of French audiences for national films, or put another way, the level of “closure” of the French market, is not greater than for other countries. On the contrary, the French market is actually slightly more open than other markets. This can be surprising on first encounter, in that France is one of the rare countries where the domestic cinema’s market share remains large, but this result is explained by the fact that production is large, which largely justifies the respectable part that French films occupy in the internal market. Having regard to a border effect for France relatively close to that obtained for the United States, we can consider that public support policies do not lead to distortions in the consumption of films by French audiences. The existence of a high volume of production encouraged by the support systems does not imply a lower level of foreign film imports but rather a higher total level of film consumption, from which foreign films benefit.

Can exchanges of cultural goods explain commercial flows?

How far do exchanges of cultural goods go together with all exchanges, for which they nevertheless represent, on average, only 1.4% of the total for the period 1988-2004? Use of the data in the United Nations Comtrade database allows an estimate that trade in cultural goods positively and significantly influences exchanges of all goods. The use of this explanatory factor as a direct measure of cultural proximity between countries, also leads to rendering the influence of the factors usually used less significant (sharing a common language, distance, GNP, development level...).

If we consider the impact of all seven categories of cultural goods individually, we observe that the flow of five of them exercises a significant positive effect on total trade (with the exception of the flow of heritage goods which has a negative influence and exchanges of other printed matter which does not have a significant effect). In total, an increase of 10% in exchanges of cultural goods increases trade in traditional goods from 3.25 to 4.25% and exchanges of visual arts alone, in increasing by 10%, increase total trade by nearly 2%. If we limit ourselves only to bilateral exchanges of films or cultural services⁵, the positive influence on all trade is found again even if it is less.

The introduction of cultural goods exchange flows thus modifies the influence of the traditional variables relating to cultural proximity (colonial links, common border, common official language) in addition to the influence of the “distance” variable. This signifies that there is a consequent interdependence between these variables and the flow of cultural goods. We can demonstrate, for example, that geographic distance, taken as an explanatory factor for trade as a whole, partly translates the cultural distance separating the countries. These cultural exchange flows explaining the global exchanges well, this means both that they depend in part on the cultural proximity of the countries but also that they take better account of the influence of cultural proximity on total trade of a country than the traditionally used measurements (language, colonial link...).

4. The distance between two countries is calculated as the mean of the distances between the main cities of these countries, each of these distances being weighted by the size of the towns in question. The measurement of the distance “within” a country is calculated in an analogous manner, by using the distances between the main cities of the country. The distance *between* countries leads to cultural separation, and differences in commercial contexts that tend to reduce exchanges. Conversely, *within* a country, proximity between producer and consumer provides greater mastery of the audience’s expectations and tastes and of the distribution networks, which can, for example, contribute to explaining the success of domestic films.

5. Respectively a Unesco source for films and a Eurostat source for cultural services.

The influence of the flows in each of the cultural goods categories, taken in isolation for all trade, is systematically positive and significant. Distance and the existence of a common border retain a significant influence. It also appears that each category of cultural goods taken individually captures part of the effect of the other categories, which testifies to the existence of a relationship between sectors. Again, the influence of visual arts flows is clearly superior to that of the other six categories.

Finally, we can put forward “memory” or hysteresis effects, meaning a positive and significant influence of past cultural exchanges on present global exchanges, and this for each of the seven categories of cultural goods considered. This witnesses to the weight of habit, even of addiction phenomena in cultural preferences and consumption.

Cultural exchanges, foreign investments and migratory fluxes

We can also examine the influence of exchanges of cultural goods on foreign direct investment flows (FDI), an influence that can possibly be explained by the fact that the latter supply information, notably on distribution networks within the countries and on consumer preferences, which condition businesses’ decisions in investment matters. Use of the data supplied by the OCDE on bilateral FDI flows for the period 1980-2001, covering 59 countries, shows that distance has a negative influence whereas flows of cultural goods have a positive influence on them, however, this is slightly weaker than that previously recorded for cultural exchanges. We also observe that cinema film exchanges have a positive influence on them, but less significant. In contrast, the impact of cultural services trade on FDI is not significant.

If we consider the combined but individualized effect of the flows of each cultural goods category,

only three of them have a positive and significant effect on FDI: Newspapers and periodicals, recorded media and visual arts. For the first two categories the particularly intense effect is greater than the effect on trade flows. Taken individually, the flows of each of the cultural goods categories have a positive and significant impact with the exception of heritage and audiovisual media goods whose influence is not significant.

Finally, following work undertaken in other disciplines, in anthropology for example, the same type of gravity approach can be applied to the analysis of migratory flows by examining how the flow of immigrants depends on the economic size of the country, the bilateral distance, the sharing of a border, a language, the existence of colonial links, etc. The use of Eurostat data for the period 1985-2004 shows that colonial links and the sharing of a language have a significant positive impact. The negative impact of distance on migratory flows seems to be less robust than that observed on trade and investment flows. As for the impact of exchanges of cultural goods on migratory flows, it appears to be weaker than that observed for trade and FDI flows. The separate introduction of flows for the seven cultural goods categories confirms this lower impact because only newspapers and periodicals have a significant positive influence.



Applying models and methods used to study global exchanges to exchanges of cultural goods and services thus appears to be both possible and fruitful. The results obtained stimulate thought on the way in which the cultural interferes with the economic in a context of continuing opening of exchanges and economic globalization but also of the perpetuation of specific features and the maintenance of diversity. ■

Status of research

Until now, in the rare works devoted to exchanges of cultural goods and services, certain international economic researchers have used the usual explanations of international trade to explain the exchanges of reproducible cultural goods – recorded music, books, films for example – which, *a priori*, do not behave differently from other goods in international exchanges. Nevertheless, these exchanges will depend on acculturation and cultural affinity phenomena that are constructed over time between the countries, with the result that past flows positively influence current flows. This tends to reinforce the position of the countries that currently dominate exports. Sharing an official language strongly encourages exchanges because, in this case, all other things being equal, the intensity of the flows is multiplied by a factor of 4.38. Similarly, a positive effect for language, education and religion on the export of American films can be demonstrated.

More recently, theoretical studies have been interested in the impact of free exchange of cultural goods and services in terms of social well being¹. Cultural identity is considered as the result of interaction between individual consumption decisions. The differences in consumer preferences combined with differences in the posture of countries with regard to the production of goods, supposing large fixed costs can lead to a reduction in cultural diversity when exchanges are opened, and, in the case of cultural goods, compensate for the beneficial effects of free exchange. Trade barriers can therefore, under certain conditions, increase the social well being of the two partner countries in the exchange and so find a theoretical economic basis.

Two main reasons explain the rarity of work:

- the definition of the cultural field, still in question. Following a recent Unesco² report, a list of seven categories of goods and services that could be identified in the main international trade and production classifications was selected (see p. 20 here);
- the lack of detailed data for sufficiently long periods for many countries. This led to the use of vary varied sources (The United Nations COMTRADE database, the Unesco database, the AUVIS-Eurostat database), with the real origin of the products taken into account to a greater or lesser extent³.

These reasons add to the question: “Is it possible to explain cultural exchanges in the same way as non cultural exchanges?” The new theory of international trade constitutes an explanatory framework for the trade in reproducible cultural goods: These goods, like many others, are characterized by the presence of economies of scale and notable product differentiation. This is the framework that has been selected here.

Questions of method⁴

To perform the research whose main results are presented here, CEPII has made use of the latest developments in econometric techniques as generally applied to large databases, the latter sometimes being unsatisfactory when only cultural exchanges are observed. The results are based on the economic estimation of relations between variables explained and explanatory variables, relations that are considered as statistically plausible – referred to as “significant” – and whose direction (positive, negative, or neither one nor the other) and size can be determined. This has allowed both individualization of the effects by reasoning that “all other things are equal” and an assessment of the explanatory power of the variables with respect to each other. However, these probable effects, impacts and influences always need to be explained and interpreted⁵.

The “gravity equation”

The gravity equation, so called because it is based on an analogy with Newton’s law – the attraction between bodies is proportional to their respective masses and inversely proportional to their distance –, is a standard tool used for several decades by economists to study the determining factors in exchange flows.

The hypothesis is: exchanges between two partner countries depend on their respective economic sizes and the geographical distance separating them, a distance that serves as an approximation to transport costs and more generally to the trade costs that affect exchanges.

Other variables are generally added to take account of specific features of the bilateral relationship such as the sharing of a land border, a common language, one or both partners

1. In economics, traditionally, social well being is measured by the sum of “producers surplus” (The difference between what they obtain for the goods and services that they produce and the cost involved in offering them) and the “consumer’s surplus” (The difference between what they are disposed to pay for the existing goods and services and what they have to pay to benefit from them in reality).

2. Unesco, *Échanges internationaux d’une sélection de biens et services culturels 1994-2003* [International exchanges of a selection of cultural goods and services 1994-2003], décembre 2005.

3. Taking outsourcing phenomena into account.

4. Certain methodological aspects, such as evaluation of the sources and the selection of regression techniques, that have held an important part in this research are not described in the present document.

5. Several assertions in the text correspond to the results of academic work for which references are given in the complete text of the report. See <http://www.culture.gouv.fr/deps>.

belonging to a preferential trade agreement, the existence of former colonial links... These variables, which account for the different dimensions of cultural proximity between countries, are considered as of little importance for exchanges in general because they are likely to have a significant effect on exchanges of cultural goods and services.

This modelling is based on a representation of the economy and exchanges where each producer offers a unique variety of a goods that competes with all other varieties of good produced in the world, knowing that consumers want lesser quantities of high priced goods but globally show a certain taste for diversity. This taste comes from the individual behaviour of consumers who wish to diversity their consumption but also from the diversity of individual preferences. So each country wants to consume all the varieties produced in the world, the exact proportion of this demand being a function of the size of production in the country of origin: Pro-

duction giving rise to increasing gains from scale, the largest countries in terms of population will be able to offer a larger number of varieties. The volume of exchanges of an exporting country will also depend on the bilateral transaction cost, understood in the widest sense. The distance, common language and other variables also come into play here, which is shown by the different access costs for varieties from different countries: For example it will be easier for English consumers to see an American film than a Mexican film, this will not only be due to translation costs; it will also be easier to see a Spanish film than an Indian or Chinese film, because the cultural references will, in general, be closer. Finally, consumers being held to assign a relatively constant part of their consumption to the goods in question, exports will be proportional to the size of the destination market and the purchasing power and so to the development level of the different importing countries.