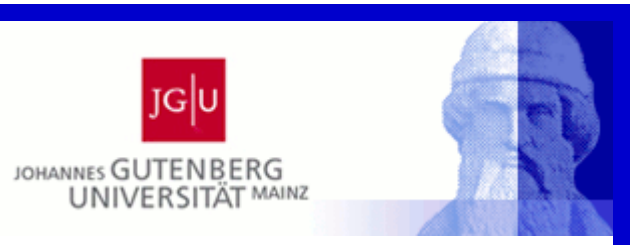

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This is not even funny: cross-country differences in humor styles and international trade in audio-visual services

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Abstract:

Using two survey-based data sets that characterize the prevalence of different humor styles across a wide range of countries, we explore whether humor matters for international trade in audio-visual services. Our results suggest that, *ceteris paribus*, aggregate humor distance – i.e. differences in how countries' inhabitants, on average, use humor in their daily life – negatively affects bilateral trade in movies, tv series etc. We also find that differences in detrimental humor styles – "aggressive" or "self-defeating" – are particularly harmful, while differences in "affiliative" humor seem to enhance trade in audio-visual services.

Keywords: Trade in services, humor, cultural distance, gravity equation, audio-visual services

JEL codes: F14, L82, Z10

1. Introduction

It has long been recognized that cultural distance plays an important role in economic transactions: by enhancing (or undermining) trust and by facilitating (or hampering) communication, shared (or incompatible) values, priorities and taboos may foster (or reduce) trade. This is particularly important for services trade, where the "proximity

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burden" (Francois and Hoekman, 2010) requires a close interaction between producers and consumers.[2]

In this paper, we focus on a particular type of international transactions – trade in *audio-visual services*[3] – and a particular aspect of culture that has received little attention so far: *humor*. We argue that cross-country differences in "humor styles" (or "comic styles") are relevant for trade in audio-visual services for (at least) two reasons:[4] first, because they may undermine trust and communication in a similar way that other aspects of cultural distance – e.g. differences in how people relate to hierarchies, uncertainty, or competition – do. Second, and more importantly, because humor often is a crucial ingredient of audio-visual services. As a consequence, differences in what people enjoy as funny, what they perceive as boring, and what they reject as offensive is likely to affect demand. We therefore hypothesize that cross-country differences in humor styles have a negative effect on bilateral trade in audio-visual services.

To test this hypothesis, we make use of two survey-based data sets that have recently been developed and published by humor researchers: defining four different humor styles ("affiliative", "aggressive", "self-enhancing", "self-defeating"), Schermer et al. (2023) quantify the prevalence of these styles in 28 countries. In a similar way, Heintz et al. (2020) quantify the prevalence of two comic styles ("benevolent",

[2] A necessarily selective list of studies that focus on the relationship between cultural distance and international trade or investment includes Guiso et al. (2009), Tadesse and White (2010); Felbermayr and Toubal (2010), Hellmanzik and Schmitz (2015), White (2015), Gokmen (2017), Nordas (2018), Harms and Shuvalova (2020), Fu et al. (2020), Gorodnichenko et al. (2024), Michalopoulos and Rauh (2024), and Shin et al. (2024).

[3] In the Extended Balance of Payments Services Classification (EBOPS), audio-visual services are reflected by the items SH4 (Licenses to reproduce and/or distribute audio-visual and related products) and SK1 (Audio-visual and related services), respectively. In grouping together SH4 and SK1 we refer to the categorization used by UNCTAD (2024). More details on definitions and categorizations will be given below.

[4] According to Schermer et al. (2023:16304), "…humor styles are representative of how individuals use humor in their daily life". The psychology literature often uses the terms "humor style" and "comic style" as synonyms that "… refer to individual differences in everyday funny/comical occurrences (i.e., detecting, appreciating, and producing funny stimuli, events, and utterances)" (Heintz et al., 2020: 2474). For a distinction between *humor* and *comic* styles, see Heintz et al. (2020:2474). In what follows, we will predominantly use the term "humor style", except when explicitly referring to contributions that use the alternative term.

"corrective") in 25 countries.[5] Computing the absolute difference between country-averages of these scores allows assessing cross-country differences in humor styles.

Including these measures in a standard gravity model, we find that an aggregate measure of "humor distance", which combines information on different humor styles prevailing in a country-pair, has a negative effect on bilateral trade in audio-visual services between these countries. We further show that this result is not driven by other aspects of cultural distance, which suggests that, when it comes to audio-visual services, humor is a relevant dimension that should be considered in isolation. Going beyond our measure of "aggregate humor distance", we also demonstrate that differences in detrimental humor-styles ("aggressive", "self-defeating") reduce audio-visual services trade, while differences in "affiliative" humor enhances transactions.

The rest of the paper is structured as follows: In Section 2 we present the definition of humor that we adopt from the relevant literature in psychology and discuss why we expect differences in national humor styles to matter for bilateral trade in audio-visual services. In Section 3 we describe the data on audio-visual services trade that we want to explain, as well as the datasets on humor/comic styles that we use. Moreover, we introduce the measure(s) of "humor distance" that is at the heart of our analysis, and describe our empirical approach. Section 4 presents and interprets our benchmark findings, as well as the results of various robustness checks. In Section 5, we offer a summary and some conclusions.

2. What is humor – and why is it likely to matter for trade in audio-visual services?

Imagine spending hours in front of a television, computer or movie screen, following an elderly gentleman with a yellow complexion and a balding head through his days. These days are filled with (minor or major) mishaps associated with everyday life (consumption, child education, travel), but sometimes also related to politics, sex, violence, and drug abuse. Overall, spectators take away the impression that the protagonist is intellectually inferior to just about everyone in his surroundings (including his children).

[5] While the two studies cover different sets of countries, there are 15 countries that appear in both samples.

Would you consider this funny? Apparently, a lot of people do, and so “The Simpsons” – a US-American animated sitcom that started in 1989 (and a movie released in 2007) has by now acquired a loyal national and international audience. However, not all countries meet the series with equal enthusiasm, and some spectators find the satirical episodes pointless, or even offensive.[6] Using “The Simpsons” as an example, we argue that whether a TV series – an example of an “audio-visual service” – is a commercial success or failure in other countries depends on whether the humor style prevailing in the consuming country is close to (or different from) the humor style prevailing in the producing country.

To further motivate this argument, we start with a definition. Martin and Ford (2018:3) define humor as “… a broad, multifaceted term that represents anything that people say or do that others perceive as funny and tends to make them laugh, as well as the mental processes that go into both creating and perceiving such an amusing stimulus, and also the emotional response of mirth involved in the enjoyment of it” (quoted after Ford et al. 2024:1). While humor researchers stress the cognitive aspects of humor, emphasizing the importance of *incongruity* – i.e. deviations from receivers’ expectations and (social) “scripts” – as the key prerequisite of perceiving something as funny, they also emphasize the role of “cultural constraints” (Davis and Fiadotova, 2024:181) in determining whether perceived incongruities are interpreted as funny or as offensive (Davis and Fiadotova, 2024:185). In the light of the “benign violation theory” of McGraw and Warren (2010), this potential ambiguity is not surprising: while incongruity generates the *violation* at the origin of a humorous experience, it depends on culture-specific tastes, moral orientations etc. whether the violation is actually perceived as *benign*. The location of the “humor sweet spot” (Ford and Woodzicka

[6] According to the IMDb data base, 60 percent of users in the US and Canada rated “The Simpsons” series with 9 or 10 stars, while 55 percent did so in the UK or Germany. To adjust to Arab audiences, the original series was replaced by “Al Shamshoon”, which, however, did not survive more than 32 episodes (Poplak, 2007). The fact that different audiences perceive “The Simpsons” differently is also documented by Gray (2010) who conducted interviews with international students with various backgrounds: while some viewers “[…] saw few connections with their own country or culture […]” others expressed that “ […] The Simpsons’ appeal to them lay in the relevancy of some of its criticism and humor to their own environment. […]’’ (Gray, 2010:143). Zsila et al. (2021) study how humor styles influence the interest of a Hungarian audience in sitcoms (including “The Simpsons”) and find that “[…] individuals with low levels of all humor styles were less likely to watch animated sitcoms regularly.” (Zsila et al. , 2021:393).

2024:25) is thus likely to differ across cultures, and there is a "… cultural variation and human ambiguity in the creation, transmission, reception, and outcomes of humor" (Davis and Fiadotova, 2024:192). Such differences are even more important since not all humor is necessarily benign. Meyer (2024) lists four "functions" of humor, distinguishing between "identification", "clarification", "enforcement", and "differentiation". He argues that "…humor serves as a social tool to powerfully unite or compellingly divide" (Meyer 2024:366), and that groups and societies may differ in the prominence they assign to the various functions of humor: While teasing and mockery may be an essential ingredient of what is perceived as funny in some countries, residents of other countries may consider such forms of humor as denigrating and offensive.

We argue that the prevalence of different humor styles is reflected by the audio-visual services produced in a given country.[7] While this is immediately plausible for comedies, TV series and cartoons, it might be less obvious for other genres such as crime, horror, science fiction etc.. However, we refer readers to the long tradition of adding humorous ingredients to otherwise serious or even tragic content – from the "comic relief" offered by Shakespeare's tragedies to the panopticon of odd characters populating Thomas Mann's novels, and the dry sarcasm present in Quentin Tarantino's movies. More generally, we argue that national humor styles reflect societies' ability to cope with ambiguity and incongruity, their tendency to be tolerant rather than patronizing, and their willingness to be empathic rather than judging, such that national humor styles shape the supply and demand of audio-visual services even if these services are not meant to be humorous in the first place. We also argue that differences in humor styles represent aspects of human interaction and communication that are not fully captured by other measures of cultural distance, such that differences in humor styles deserve to be considered separately.

Our key hypothesis thus is that bilateral trade in audio-visual services is enhanced if countries are on the same wavelength with respect to specific humor styles. In this case, the humorous content embodied in the audio-visual services produced by an exporting country is appreciated by customers in the importing country. By contrast, if differences in national humor styles are large, what is perceived as funny

[7] Of course, this argument rests on the assumption that the content of TV series, movies etc. is not tailored to be compatible with humorous tastes in some *other* country.

in the exporting country may be seen as boring, annoying, or even offensive by potential trading partners. This, in turn, is likely to reduce demand and thus trade.

While our analysis is closely related to the contributions on the role of cultural distance for trade in goods and services mentioned above, we are not aware of any study that emphasizes the role of differences in humor styles for bilateral trade in audio-visual services. Our analysis also differs from recent research by Michalopoulos and Rauh (2024) who explore whether movies perform particularly well in countries where their contents resonates with the society's "…traditional narratives, images, tales, legends, myths, and epics" (Michalopoulos and Rauh 2024:1). While we share Michalopoulos and Rauh's interest in audio-visual services, we do not relate the success of *individual movies* to the consuming society's oral tradition. Instead, we aim at explaining the broader concept of bilateral trade flows to the humor styles prevailing in producing and consuming societies, i.e. to a particular component of social interaction.

3. Data and empirical specification

3.1. Audio-visual services: definitions

Our data on audio-visual services trade is retrieved from the OECD and covers the years from 2010 through 2019. The OECD database provides information on bilateral trade in services, which are broken down by types or categories according to the EBOPS 2010 classification, translated into its own nomenclature on creative services categories by UNCTAD (2024:24). The EBOPS/UNCTAD classification allows us to specifically identify the service categories that are part of audio-visual services, namely SH4 ("Licenses to reproduce and/or distribute audio-visual and related products") and SK1 ("Audio-visual and related services"). In our analysis we will follow the suggestion of UNCTAD (2024) to combine these two categories under the header "Audio-visual services".[8] Table 1 summarizes this information.

The precise definitions of the categories listed in Table 1 are provided by the Manual on Statistics of International Trade in Services (2010, MSITS):

[8] This is in fact also the official recommendation in the Manual on Statistics of International Trade in Services (2010, MSITS, page 79).

Table 1: List of services categorized as audio-visual

EBOPS item	Name	UNCTAD services category
SH4 (8.4)	Licenses to reproduce and/or distribute audio-visual and related products	Audio-visual
SK1 (11.1)	Audio-visual and related services	Audio-visual

Source: UNCTAD (2024)

Note: The alphanumerical codes in the first column are defined by UNCTAD, while the codes in brackets are taken from the official EBOPS 2010 Annex (EBOPS2010_english.pdf).

The category *Licenses to reproduce and/or distribute audio-visual and related products* (SH4) is split into the sub-categories *Licenses to reproduce and/or distribute audio-visual products* and *Licenses to reproduce and/or distribute other products*. The first sub-category "…covers fees and charges for the authorized reproduction and/or distribution, through licensing agreements, of produced audio-visual originals or prototypes (for example, cinematographic works and sound recordings). Also included are rights relating to the reproduction and/or distribution of recordings of live performances and radio, television, cable and satellite broadcast. Retransmission rights for sports events are also covered" (MSITS, page 69). The sub-category *Licenses to reproduce and/or distribute other products* "…covers fees and charges for the authorized reproduction and/or distribution through licensing agreements of original works of authors (for example, translation rights), painters, sculptors, etc., excluding those relating to products of an audio-visual nature" (MSITS, pages 69-70).

The category *Audio-visual and related services* (SK1) "… covers services associated with audio-visual activities (movies, music, radio and television) as well as services relating to the performing arts. […] It is further broken down into *audio-visual services* […] and *artistic related services*. *Audio-visual services* relates to the production of motion pictures (on film, videotape, or disk or transmitted electronically), radio and television programmes (live or on tape) and musical recordings" (MSITS, page 75). "*Artistic related services* includes the services provided by performing artists (actors, musicians, dancers, etc.), authors, composers and sculptors. It also includes services provided by independent models as well as set, costume and lighting designers" (MSITS, page 76).

3.2. Audio-visual services trade: some descriptive statistics

As illustrated by Figure 1, trade in audio-visual services represents some 1.3 percent of global services trade, i.e. a rather minor component. However, starting in 2015, it expanded more strongly than total trade in services.

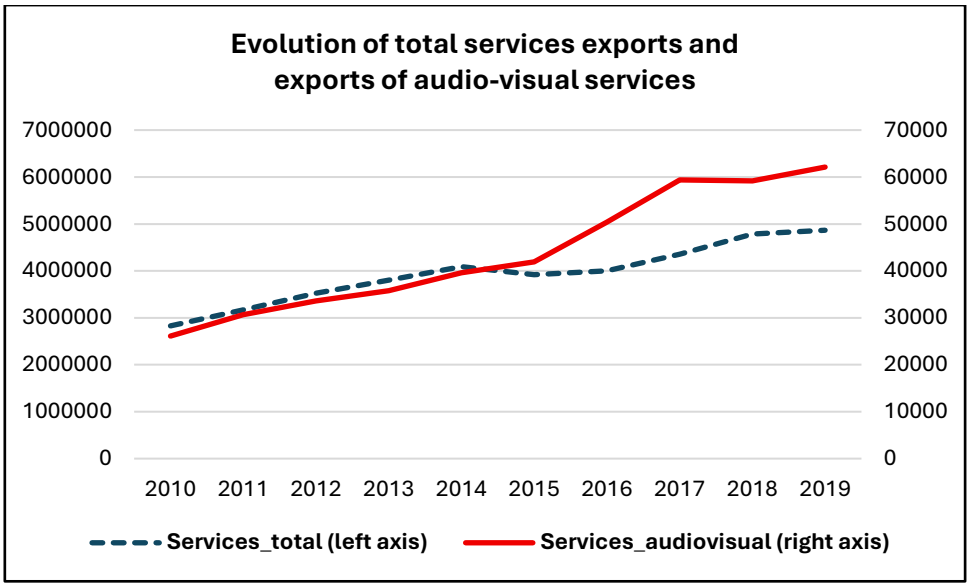

Figure 1: The evolution of global services exports and global exports of audio-visual services (millions of current USD).

Source: OECD International trade in services database

Table 2: The world's most important exporters of audio-visual services in 2018

Country	Audio-visual services exports (millions of USD)	Share in global audio-visual services exports	Share in country's service exports
USA	23,351	39%	2.7%
GBR	11,006	19%	2.5%
CAN	4,215	7%	4.0%
SWE	3,606	6%	4.7%
LUX	2,846	5%	2.5%
FRA	2,518	4%	0.8%
NLD	1,966	3%	0.8%
DEU	1,671	3%	0.5%
KOR	1,343	2%	1.3%
ESP	693	1%	0.4%

Source: OECD International trade in services database

Table 2, which lists the world's top ten exporters of audio-visual services in the year 2018, clearly documents the United States' dominant role, with the country covering

39 percent of global exports of audio-visual services. The rest of the table mostly consists of European countries.[9] The last column of the table shows that, when it comes to the share of audio-visual services in countries' total services exports, there is considerable heterogeneity across countries, with Sweden and Canada being countries where audio-visual services exports represent a high share of total services exports and Germany and Spain reaping a rather low share of their service-exports revenues from audio-visual services.

3.3. Data on differences in humor/comic styles

To estimate the effect of differences in humor/comic styles on bilateral trade in audio-visual services, we leverage two recent data sets which combine the results from large national survey studies.

3.3.1. The Humor Styles Questionnaire (HSQ) dataset

Schermer et al. (2023) report the results of collecting data on humor styles in 28 countries. The respective surveys are based on the *Humor Styles Questionnaire* (HSQ) developed by Martin et al. (2003), which establishes two dimensions along which individuals' humor can be classified: first, whether it is targeting *others* or *oneself*. Second, whether it is *benign* or *detrimental*. When it comes to the orientation towards others, Martin et al. (2003:53-54) define "affiliative humor" as "…the tendency to say funny things, to tell jokes, and to engage in spontaneous witty banter, in order to amuse others, to facilitate relationships, and to reduce interpersonal tensions". By contrast, "aggressive humor" is defined as "…the tendency to use humor for the purpose of criticizing or manipulating others, as in sarcasm, teasing, ridicule, derision, or disparagement humor". Benign humor that is oriented towards *oneself* is "self-enhancing" and defined as "…the tendency to be frequently amused by the incongruities of life, to maintain a humorous perspective even in the face of stress or adversity, and to use humor as an emotion-regulation mechanism." Finally, "self-

[9] The prominent role of Luxemburg as an exporter of audio-visual services is conspicuous. While the TV station RTL may contribute to the high absolute numbers and percentages displayed in Table 2, we conjecture that the country's tax policy may be equally important. When it comes to our later analysis which is based on the assumption that audio-visual services produced in country *i* are actually produced in that country, this distinction might be relevant. However, our data on humor styles do not cover Luxemburg, such that the country does not enter our sample and thus does not distort our results.

defeating humor", the detrimental counterpart, is defined as the "...use of humor to ingratiate oneself with others, attempts to amuse others by doing or saying funny things at one's own expense, excessively self-disparaging humor, and laughing along with others when being ridiculed or disparaged".

For each humor style, the authors developed eight items that allow quantifying the prevalence of "affiliative humor", "aggressive humor" etc. at the individual level.[10] These items were then included in questionnaires that were distributed to respondents in 28 countries. Given that, for each item, respondents were asked to characterize themselves on a seven-point Likert scale, individuals' scores with respect to a particular humor style are located between 7 and 56. The data we use in our analysis are the national averages of these scores, as reported by Schermer et al. (2023:16308).[11]

It should be noted that the original purpose of the Schermer et al. (2023) study was not to relate country-wide averages to other country-wide variables (such as trade flows). Instead, the main goal was to explore whether the correlations between individual humor styles and other personal features (such as well-being, mental health etc.) are universal or country-specific. Moreover, Martin et al. (2003:49) are careful to point out that "… the ability to generate witty cartoon captions or the appreciation of nonsense versus incongruity-resolution jokes may be less relevant to well-being than is the use of humor as a coping mechanism". Nevertheless, we argue that the survey results at the aggregate level convey an impression about the prevalence (or even dominance) of different humor styles in various countries.[12]

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[10] A typical item reflecting the prevalence of affiliative humor is "I enjoy making people laugh", while aggressive humor is captured by items like "If someone makes a mistake, I will often tease them about it". For the complete list of items we refer readers to Martin et al. (2003:58).

[11] Regrettably, the study does not specify the exact time period during which the surveys went into the field in different countries. However, since the authors do not indicate anything else (and given the online publication date of their paper in December 2019), we conjecture that answers were collected more or less simultaneously in the late 2010s.

[12] The authors of the study mention socially desirable responding – i.e. the fact that "…there are national differences in how individuals perceive the social attractiveness of each humor style and respond accordingly" (Schermer et al. 2023:16317) – as a potential threat to their study. However, we argue that the presence of such implicit or explicit norms rather strengthens our notion that humor styles are subject to (and reflect) national characteristics.

Schermer et al. (2023) report that countries‘ average scores are generally lower for the aggressive and self-defeating humor styles than for the affiliative and self-enhancing humor styles. Moreover, they point out that Cronbach’s alpha – a measure of the internal consistence of a measure – is low for the aggressive humor style in a considerable number of countries.[13] While these observations may be a matter of concern when the researcher’s goal is to correlate individual-level measures of humor with individual-level measures of well-being etc., they are less worrying in our context: first, because we consider cross-country differences across national averages, thus eliminating systematic differences in levels across humor styles. Second, because the low Cronbach’s alpha for the detrimental humor styles (especially aggressive humor) can be explained by respondents’ reluctance to consistently confirm a humor style that may be less socially desirable. While a lack of consistency may be a problem when individual-level scores are correlated with other individual-level properties, it is less of a problem in our context.

3.3.2. The BenCor dataset

Heintz et al. (2020) follow a similar strategy as Schermer et al. (2023), using questionnaires to characterize the relevance of two comic styles at the individual level in 25 countries. Their focus, however, is on the prevalence of “benevolent” and “corrective” humor, with benevolent humor referring to “…an accepting and serene world view, in which wrongdoings and human weaknesses are considered part of everyday life and human nature” (Heintz et al. 2020:2474). By contrast, corrective humor “… criticizes and mocks wrongdoings, misconduct, and moral transgressions of people and institutions, which is intended to improve them in the long term” (Heintz et al. 2020:2474). Like the study of Schermer et al. (2023), researchers distributed identical questionnaires in several countries, inviting participants to characterize themselves by choosing options on a seven-point Likert scale.[14] Since each comic

[13] Given that the measures are based on survey participants’ responses to several items, a high value of Cronbach’s alpha emerges if responses to individual items, roughly speaking, point into the same direction.

[14] “Sample items [underlying the BenCor dataset] are ’I am a realistic observer of human weaknesses, and my good-natured humor treats them benevolently’ (benevolent humor) and ‘I have a critical attitude toward arrogant and unfair people and my mockery serves to establish equality and justice’ (corrective humor)” (Heintz et al. 2020:2477).

style was covered by six items, and since researchers averaged individuals' choices across items, individual scores range from 1 to 7. In our analysis, we use the country-level scores, which are obtained by averaging the individual scores of all respondents in each country, producing a national mean that represents the typical prevalence of a given comic style within the country.

In the Appendix we report the scores for each of the humor/comic styles discussed above, as well as a map where we show the countries appearing in the surveys.

3.4. Quantifying "humor distance"

Our key regressor of interest is a measure of *aggregate* "humor distance" that is based on the scores of the two datasets introduced above. In order to construct this aggregate variable, we use a specific multidimensional distance measure – the Mahalanobis distance.[15] The Mahalanobis distance measures the distance between two vectors of variables as a weighted sum of squared differences, with the weights assigned to individual variables being inversely related to the variance and correlation between scores. Kandogan (2012) stresses the fact that correlations do matter when computing distances between different variables arguing that, otherwise, aggregate distance risks to be under- or overrated.

In our case the formula to calculate the aggregate "humor distance" between countries *i* and *j* for the specific dataset *d* (where $d \in \{HSQ; BenCor\}$) reads as follows:

$$H_{ij}^{d} = \sqrt{(\mathbf{H^i} - \mathbf{H^j})' \mathbf{S_H^{-1}} (\mathbf{H^i} - \mathbf{H^j})} \qquad (1)$$

In this formula, $(\mathbf{H^i} - \mathbf{H^j})$ is a K x 1 vector of differences between country *i* and country *j*. If we are measuring the distance based on the *HSQ dataset*, we have K = 4, while K = 2 if we are measuring the distance based on the *BenCor dataset*. The 4x4 (or 2x2) matrix $\mathbf{S_H^{-1}}$ is the inverse of the covariance matrix. The intuition behind this expression is straightforward: dimensions that are highly correlated show similar aspects of humor and therefore get a lower weight in the sum.

[15] The Mahalanobis distance is also used by Beugelsdijk et al. (2019) and Harms and Shuvalova (2020).

Apart from using the *aggregate* measure of humor distance described above we will also explore which of the specific *individual* humor styles affects audio-visual services trade. To measure the distance for individual humor styles, we calculate the *absolute difference* between country *i*'s and country *j*'s scores for each category *k* of the specific datasets *d*, i.e. $H_{ij}^{d,k} = \left|H_i^{d,k} - H_j^{d,k}\right|$. In Table 3, we present summary statistics of the resulting measures.

Table 3: Descriptive statistics on humor distance

Variable	Country pairs	Mean	Std. Dev.	Min	Max
H_{ij}^{HSQ}	756	2.733	.905	.627	5.181
$H_{ij}^{HSQ,\text{Affiliative}}$	756	3.399	3.193	.01	13.64
$H_{ij}^{HSQ,\text{Aggressive}}$	756	2.599	1.842	.01	9.28
$H_{ij}^{HSQ,\text{Selfenhancing}}$	756	2.083	1.567	0	7.68
$H_{ij}^{HSQ,\text{Selfdefeating}}$	756	2.714	1.878	0	7.99
H_{ij}^{BenCor}	600	1.746	1.055	.097	5.47
$H_{ij}^{BenCor,\text{Benevolent}}$	600	.261	.274	0	1.40
$H_{ij}^{BenCor,\text{Corrective}}$	600	.528	.370	0	1.72

Sources: Schermer et al. (2023) for *HSQ*, Heintz et al. (2020) for *BenCor*, and own computations. The table refers to the aggregate measures of humor distance based on the Mahalanobis distance as well as to measures for individual humor/comic styles.

3.5. Empirical specification

To test our hypothesis that cross-country differences in humor styles affect bilateral trade in audio-visual services, we include our measures of humor distance in a standard gravity equation, i.e. we estimate the parameters of the following regression equation:

$$X_{ijt} = \exp\left[\alpha_0 + \beta H_{ij}^{d} + \sum_k \gamma_k x_{k,ijt} + \delta_{it} + \delta_{jt}\right] + \varepsilon_{ijt} \qquad (2)$$

In this specification X_{ijt} is the total value of exports of audio-visual services (the sum of SK1 and SH4) from country *i* to country *j* in year *t*, measured in millions of US dollars. As mentioned above, the data for this variable are downloaded from the OECD International Trade in Services dataset and cover the years 2010-2019. Our key regressor of interest is H_{ij}^{d} which measures aggregate or humor/comic-style-specific

humor distance between country *i* and country *j*. The variables $x_{k,ijt}$ are country-pair gravity control variables that we will describe in detail below. In addition, we also include time-varying source-country (δ_{it}) and time-varying destination-country (δ_{jt}) fixed effects to account for multilateral resistance (Anderson and van Wincoop, 2003). Finally, ε_{ijt} is the error term. To estimate the regression, we use the PPML (Poisson pseudo-maximum likelihood) estimator introduced by Santos Silva and Tenreyro (2006), with errors clustered at the country-pair level.

The *control variables* we use include the log of the (population-weighted) geographical distance between two countries (*Distance*), a dummy variable which indicates whether two countries share a common border (*Contiguity*) and another dummy variable that indicates whether a country pair ever was in a colonial relationship (*Colony*). All these control variables are retrieved from the Dynamic Gravity Dataset (Gurevich and Herman, 2018).

While our benchmark regressions are based on a rather parsimonious specification, robustness tests will later add the following control variables: an index of common spoken language (*CSL*) based on Gurevich et al., (2024), which combines an index of common *native* language (languages spoken as mother tongue) with an index of common *acquired* language, a measure of *Institutional Distance*, which we construct using data from the Worldwide Governance Indicators (WGI)(Kaufmann and Kraay, 2024) by aggregating all six indicators' squared differences to generate a specific country-pair value, and the *de-facto bilateral exchange rate regime* developed by Harms and Knaze (2021) on the basis of Ilzetzki et al. (2019)[16]. Finally, we include the stock of migrants originating from country *i* (*j*) residing in country *j* (*i*). The data underlying these measures are retrieved from the Global Bilateral Migration dataset of the World Bank. A full description of the variables together with the definitions and respective sources is given in the Appendix.

4. Results

4.1. The effect of aggregate humor distance

In this section, we present the results obtained when estimating equation (2). Table 4 shows the estimated coefficients and standard errors when we use the *HSQ dataset*.

[16] A higher value of this variable reflects a more flexible exchange rate regime between two countries.

While column (1) starts with the parsimonious specification, columns (2) and (3) add further control variables. The first conclusion we draw from the table is that aggregate humor distance has a *significant negative* effect on audio-visual services. Apparently, the estimated coefficient remains very similar across the three columns. Focusing on column (3) as our preferred specification, we observe that the increase by one standard deviation of aggregate humor distance (based on HSQ) reduces trade in audio-visual service by 32 percent ([exp(-0.438*0.905)-1]*100). In addition, the coefficients of the control variables have the expected signs, although not all of them are statistically significant. Column (3) suggests that the other gravity controls that significantly affect trade in audio-visual services are geographical distance, contiguity – i.e. the fact that countries share a common border – institutional distance, exchange rate flexibility, and the stock of migrants originating in the exporting country and living in the destination country.

Table 4: Regression results based on HSQ data (aggregate humor distance)

VARIABLES	(1)	(2)	(3)
Humor distance_ij (HSQ)	-0.429*	-0.429**	-0.438**
	(0.252)	(0.216)	(0.213)
Distance (log)	-0.672***	-0.640***	-0.575***
	(0.179)	(0.160)	(0.173)
CSL	0.913	0.409	0.124
	(0.648)	(0.686)	(0.713)
Colony	-0.495	0.145	0.261
	(0.307)	(0.281)	(0.285)
Contiguity	1.409***	1.228***	1.065**
	(0.472)	(0.345)	(0.425)
Institutional distance		-0.340***	-0.352***
		(0.0893)	(0.0873)
Exchange rate flexibility		-0.140***	-0.161***
		(0.0433)	(0.0417)
Migrants_ij			5.42e-07*
			(2.97e-07)
Migrants_ji			9.66e-08
			(1.89e-07)
Observations	1,213	1,213	1,213
Exporter-Year FE	Yes	Yes	Yes
Importer-Year FE	Yes	Yes	Yes
Years	2010-2019	2010-2019	2010-2019
Pseudo R-squared	0.981	0.982	0.982

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5 displays the results of running the same regressions using the measure of humor distance based on *BenCor* comic styles. The coefficients displayed in the table suggest that aggregate humor distance has a *significantly negative* effect on trade in audio-visual services as well and that the estimated coefficient remains relatively similar across columns. Column (3), our preferred specification, suggests that increasing humor distance by one standard deviation reduces trade in audio-visual service by 30 percent ([exp(-0.346*1.055)-1]*100). Concerning the control variables, we observe that, for this data set, only geographical distance is statistically important. When comparing this finding to the one displayed in Table 4, one should bear in mind that the HSQ and the BenCor data sets cover very different country samples. In addition, the fact that the coefficient for language is statistically non-significant in both Table 4 and Table 5 is in line with the finding of Hellmanzik and Schmitz (2015).

Table 5: Regression results based on BenCor data (aggregate humor distance)

VARIABLES	(1)	(2)	(3)
Humor distance_ij (BenCor)	-0.313**	-0.313*	-0.346**
	(0.153)	(0.163)	(0.167)
Distance (log)	-0.941***	-0.963***	-0.956***
	(0.118)	(0.147)	(0.143)
CSL	0.462	0.751	0.528
	(0.560)	(0.587)	(0.605)
Colony	0.297*	0.324*	0.308
	(0.165)	(0.196)	(0.190)
Contiguity	0.407*	0.384	0.314
	(0.235)	(0.269)	(0.288)
Institutional distance		0.102	0.0707
		(0.150)	(0.144)
Exchange rate flexibility		0.0262	0.0212
		(0.0264)	(0.0261)
Migrants_ij			4.35e-07
			(2.91e-07)
Migrants_ji			-2.28e-08
			(9.34e-08)
Observations	1,796	1,759	1,759
Exporter-Year FE	Yes	Yes	Yes
Importer-Year FE	Yes	Yes	Yes
Years	2010-2019	2010-2019	2010-2019
Pseudo R-squared	0.968	0.968	0.968

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

4.2 Which humor/comic styles matter for international trade in audio-visual services?

So far, our regressor of interest was an *aggregate* measure of humor distance, combining information on the different humor/comic styles defined by Schermer et al. (2023) and Heintz et al. (2020), respectively. In this section, we focus on the individual ingredients of these aggregate measures. To do so we re-run the regression specification introduced in equation (2), but this time using specific humor/comic styles. In terms of dependent variable and control variables the specification will be identical to the one in column (3) of Tables 4 and 5.

Table 6: Regression results based on HSQ data (individual humor styles)

VARIABLES	(1)	(2)	(3)	(4)	(5)
Affiliative	0.169*				0.142*
	(0.0928)				(0.0757)
Aggressive		-0.170**			-0.141
		(0.0859)			(0.0937)
Self-enhancing			0.00815		-0.0506
			(0.110)		(0.0998)
Self-defeating				-0.276***	-0.184*
				(0.0908)	(0.0997)
Distance (log)	-0.393*	-0.453***	-0.364*	-0.155	-0.361
	(0.207)	(0.174)	(0.212)	(0.248)	(0.230)
CSL	0.0171	-0.335	0.364	0.149	-0.512
	(0.843)	(0.682)	(0.618)	(0.688)	(0.793)
Colony	0.0574	0.576	0.138	-0.0357	0.274
	(0.251)	(0.374)	(0.267)	(0.279)	(0.386)
Contiguity	1.146**	0.950**	1.196**	1.464**	1.117**
	(0.544)	(0.402)	(0.560)	(0.584)	(0.498)
Institutional distance	-0.318***	-0.345***	-0.315***	-0.323***	-0.353***
	(0.0878)	(0.0876)	(0.0900)	(0.0878)	(0.0898)
Exchange rate flexibility	-0.193***	-0.176***	-0.175***	-0.159***	-0.174***
	(0.0461)	(0.0449)	(0.0420)	(0.0417)	(0.0485)
Migrants_ij	6.38e-07**	6.35e-07**	5.81e-07**	7.12e-07***	7.16e-07***
	(2.74e-07)	(2.70e-07)	(2.89e-07)	(2.71e-07)	(2.57e-07)
Migrants_ji	2.32e-07	2.13e-07	2.01e-07	2.15e-07	2.00e-07
	(1.68e-07)	(1.74e-07)	(1.89e-07)	(1.75e-07)	(1.67e-07)
Observations	1,213	1,213	1,213	1,213	1,213
Exporter-Year FE	Yes	Yes	Yes	Yes	Yes
Importer-Year FE	Yes	Yes	Yes	Yes	Yes
Years	2010-2019	2010-2019	2010-2019	2010-2019	2010-2019
Pseudo R-squared	0.982	0.982	0.982	0.982	0.983

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6 shows the results we obtain when using the four humor styles defined and measured in the HSQ data set individually. In columns (1) to (4) we include the scores of one specific humor style, while column (5) reports the results of simultaneously including all of them. The coefficients displayed show that cross-country differences in affiliative, aggressive and self-defeating humor significantly affect bilateral trade in audio-visual services. Interestingly, we observe that differences in affiliative humor have a significantly positive effect on trade, while differences in aggressive humor and self-defeating humor reduce trade.

To interpret these findings, recall from our discussion in subsection 3.3.1 that the first two humor styles (affiliative, aggressive) are *targeting others* instead of oneself. In addition, affiliative and self-enhancing humor are characterized as *benign* while aggressive and self-defeating humor are characterized as *detrimental*. It seems intuitively plausible that cross-country differences in detrimental humor styles reduce trade in audio-visual services: elements of mockery and derision that may go down well with audiences in one country may be perceived as off-putting and offensive by audiences in other countries. By contrast, differences in affiliative humor – the *benign* humor style targeting others – may reflect the fact that producers in one country are able to supply audio-visual services that are very much appreciated by audiences in other countries – not *despite*, but *because* of a lack of this type of humor in the importing society's daily life. As a consequence, greater humor distance along this dimension may enhance – instead of impeding – trade.[17] Column (5) of Table 6 demonstrates that, while the scores for individual humor styles are correlated, the positive effect of affiliative humor and the negative effect of self-defeating humor are still present if we include all distance measures simultaneously.

Table 7 presents the results for the two BenCor comic styles. While both measures have a negative coefficient, only the effect of benevolent humor is statistically significant. Based on the size of the coefficient in column (3), an increase by one standard deviation of the distance in benevolent humor reduces trade in audio-visual services by around 40 percent ([exp(-2.002*0.274)-1]*100), which is higher than the effect obtained from Column (3) in Table 5. In the light of our interpretation of Table 6, the ordering of the two comic styles in terms of significance comes a bit as a surprise:

[17] Harms et al. (2026) invoke the Heckscher-Ohlin model to argue that measures of cultural distance may be interpreted as differences in countries' *trait endowments* and thus be rather a driver of than an impediment to international services trade.

we would have expected cross-country differences in the view that "…wrongdoings and human weaknesses are considered part of everyday life and human nature" (Heintz et al. 2020:2474) less detrimental to audio-visual services trade than differences in a comic style that "… criticizes and mocks wrongdoings, misconduct, and moral transgressions of people and institutions" (Heintz et al. 2020:2474). However, it needs to be emphasized that Heintz et al. (2020) do not explicitly categorize comic styles as "benign" or "detrimental".

Table 7: Regression results based on BenCor data (individual comic styles)

VARIABLES	(1)	(2)	(3)
Benevolent	-1.891***		-2.002***
	(0.625)		(0.611)
Corrective		-0.0237	0.165
		(0.381)	(0.373)
Distance (log)	-0.998***	-0.958***	-1.008***
	(0.144)	(0.148)	(0.150)
CSL	0.359	0.514	0.363
	(0.606)	(0.587)	(0.602)
Colony	0.407**	0.299	0.405**
	(0.189)	(0.182)	(0.185)
Contiguity	0.239	0.256	0.210
	(0.290)	(0.308)	(0.306)
Institutional distance	0.0566	0.0461	0.0560
	(0.145)	(0.143)	(0.143)
Exchange rate flexibility	0.0228	0.0283	0.0235
	(0.0259)	(0.0260)	(0.0263)
Migrants_ij	4.44e-07	4.04e-07	4.41e-07
	(2.89e-07)	(2.96e-07)	(2.91e-07)
Migrants_ji	-3.98e-09	2.40e-09	3.18e-09
	(8.76e-08)	(9.95e-08)	(9.22e-08)
Observations	1,759	1,759	1,759
Exporter-Year FE	Yes	Yes	Yes
Importer-Year FE	Yes	Yes	Yes
Years	2010-2019	2010-2019	2010-2019
Pseudo R-squared	0.968	0.968	0.968

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

4.3 Robustness: Are our results driven by other aspects of cultural distance?

So far, we have included our humor measures in a standard gravity framework, controlling for institutional distance and other potential determinants of trade in audio-visual services. To make sure that the influence of humor distance which we have

found so far does not just reflect other aspects of cultural distance (omitted so far), we add two "cultural variables" as additional regressors to the specification underlying the results in Table 4 (column 3) and Table 5 (column 3).

First, we include a measure of cultural distance that is based on Geert Hofstede's *cultural dimensions*. Hofstede et al. (2010) define four dimensions of culture – power distance, individualism, masculinity, uncertainty avoidance– along which national priorities, values and taboos may differ.[18] These four dimensions are aggregated into a unique country-pair measure of cultural distance.[19] The inclusion of Hofstede's cultural dimensions is motivated by correlational evidence which suggests that collectivist cultures rather exhibit the affiliative humor style, which helps toward achieving the goal of being part of a group (Kalliny et al., 2006). By contrast, the aggressive humor style is more prevalent in individualistic cultures (Chen and Martin, 2007; Jiang et al., 2019)[20]. These correlations give rise to the possibility that humor distance is just a stand-in for other aspects of cultural distance.

The second cultural variable we include is the measure of *virtual proximity* defined and used by Hellmanzik and Schmitz (2015). The authors show that this measure – reflecting bilateral hyperlinks and bilateral website visits – has a statistically significant effect on trade in audio-visual services. Again, including bilateral hyperlinks reduces omitted variable bias, i.e. the possibility that the significant effect of humor distance simply captures the relevance of overall cultural distance or proximity.

Table 8 shows the results of including these two cultural variables one at a time. We observe that both coefficients (Hofstede and virtual proximity) have the expected sign, although only virtual proximity turns out to be statistically significant and also very close to the value reported by Hellmanzik and Schmitz (2015), especially when we use the BenCor sample. Importantly, however, the coefficient of (aggregate) humor distance remains statistically significant and very close to the values reported in previous tables.

[18] Nordas (2018) as well as Harms and Shuvalova (2020) show that cultural distance based on Hofstede's measures generally affects international trade in services.

[19] We owe this measure to Hellmanzik and Schmitz (2015).

[20] For an overview and an extended list of papers on this topic, we refer readers to Lu (2023).

Table 8: Including additional cultural variables

VARIABLES	(1)	(2)	(3)	(4)
Humor distance_ij (HSQ)	-0.410*	-0.338**		
	(0.216)	(0.159)		
Humor distance_ij (BenCor)			-0.363**	-0.285*
			(0.171)	(0.169)
Distance (log)	-0.619***	-0.308	-0.978***	-0.939***
	(0.188)	(0.194)	(0.144)	(0.151)
CSL	-0.183	0.123	0.077	-0.362
	(0.880)	(0.644)	(0.887)	(0.574)
Colony	0.350	-0.014	0.299	0.289
	(0.301)	(0.320)	(0.187)	(0.203)
Contiguity	0.894**	0.823*	0.302	0.205
	(0.455)	(0.428)	(0.277)	(0.309)
Institutional distance	-0.326***	-0.274***	0.148	0.124
	(0.113)	(0.094)	(0.176)	(0.162)
Exchange rate flexibility	-0.157***	-0.181***	0.028	0.017
	(0.045)	(0.049)	(0.025)	(0.027)
Migrants_ij	0.000**	0.000**	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Migrants_ji	0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Cultural distance (Hofstede)	-0.0722		-0.133	
	(0.130)		(0.109)	
Bilateral hyperlinks		0.760***		0.449**
		(0.160)		(0.179)
Observations	1,158	903	1,746	1,521
Exporter-Year FE	Yes	Yes	Yes	Yes
Importer-Year FE	Yes	Yes	Yes	Yes
Years	2010-2019	2010-2019	2010-2019	2010-2019
Pseudo R-square	0.982	0.984	0.968	0.969

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

4.4 Robustness: Are US audio-visual services exports driving our results?

As we have shown in section 3.2, international trade in audio-visual services is dominated by the United States. This raises the question whether our findings are driven by the specifics of this one country and its production of audio-visual services. To explore this issue, we drop the US from our sample. Table 9 presents the results for the case of the HSQ data set. Column (1) documents that the coefficient of aggregate humor distance remains statistically significant, although its absolute value is reduced. Furthermore, we observe that differences in affiliative humor have a

significantly positive effect, while differences in aggressive humor have a significantly negative effect.

Table 9: Regression results without the USA, based on *HSQ* data

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Humor distance_ij (HSQ)	-0.233*					
	(0.140)					
Affiliative		0.287***				0.206**
		(0.0932)				(0.101)
Aggressive			-0.121***			-0.0926**
			(0.0440)			(0.0439)
Selfenhancing				-0.0537		-0.0622
				(0.164)		(0.175)
Selfdefeating					-0.0502	-0.0195
					(0.0773)	(0.0782)
Distance (log)	-1.122***	-1.156***	-1.082***	-1.176***	-1.126***	-1.071***
	(0.188)	(0.177)	(0.175)	(0.182)	(0.203)	(0.198)
CSL	0.287	0.648	0.131	0.433	0.481	0.375
	(0.655)	(0.545)	(0.607)	(0.621)	(0.653)	(0.580)
Colony	0.841**	0.755**	0.912**	0.887**	0.795*	0.768*
	(0.406)	(0.382)	(0.378)	(0.404)	(0.464)	(0.426)
Contiguity	0.306	0.364	0.226	0.215	0.246	0.321
	(0.393)	(0.313)	(0.340)	(0.353)	(0.374)	(0.315)
Institutional distance	-0.256***	-0.216***	-0.264***	-0.240***	-0.262***	-0.239***
	(0.0646)	(0.0640)	(0.0664)	(0.0737)	(0.0700)	(0.0694)
Exchange rate flexibility	-0.0562	-0.0536	-0.0509	-0.0553	-0.0522	-0.0473
	(0.0388)	(0.0351)	(0.0377)	(0.0397)	(0.0404)	(0.0374)
Migrants_ij	4.23e-07	2.21e-07	3.98e-07	3.88e-07	4.49e-07	2.71e-07
	(3.29e-07)	(2.85e-07)	(3.32e-07)	(3.34e-07)	(3.42e-07)	(2.74e-07)
Migrants_ji	5.55e-07*	4.55e-07*	5.89e-07**	5.63e-07*	5.83e-07**	4.78e-07**
	(2.91e-07)	(2.49e-07)	(2.55e-07)	(3.14e-07)	(2.93e-07)	(2.36e-07)
Observations	877	877	877	877	877	877
Exporter-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Importer-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Years	2010-2019	2010-2019	2010-2019	2010-2019	2010-2019	2010-2019
Pseudo R-squared	0.730	0.733	0.732	0.729	0.729	0.734

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 10 presents the results of running our regressions omitting the United States for the case of the BenCor humor dimensions. As in Table 9, we observe that the difference in aggregate humor distance remains statistically significant, but with a different size of the coefficient (column 1). In addition, differences in benevolent humor keep having a significantly negative effect.

Table 10: Regression results without the USA, based on *BenCor* data

VARIABLES	(1)	(2)	(3)	(4)
Humor distance_ij (BenCor)	-0.479***			
	(0.159)			
Benevolent		-1.806***		-1.809***
		(0.587)		(0.628)
Corrective			-0.0840	0.0110
			(0.371)	(0.396)
Distance (log)	-1.259***	-1.284***	-1.268***	-1.285***
	(0.126)	(0.127)	(0.137)	(0.126)
CSL	0.00605	0.384	0.265	0.388
	(0.814)	(0.641)	(0.725)	(0.656)
Colony	0.756**	0.772***	0.575**	0.773**
	(0.335)	(0.296)	(0.289)	(0.305)
Contiguity	0.0431	-0.0101	0.0218	-0.0109
	(0.173)	(0.181)	(0.176)	(0.186)
Institutional distance	0.244**	0.249**	0.213**	0.249**
	(0.101)	(0.105)	(0.102)	(0.107)
Exchange rate flexibility	-0.00857	-0.0136	-0.0115	-0.0136
	(0.0287)	(0.0299)	(0.0303)	(0.0306)
Migrants_ij	-2.78e-07	-3.66e-07	-3.53e-07	-3.67e-07
	(2.27e-07)	(2.23e-07)	(2.46e-07)	(2.28e-07)
Migrants_ji	-2.09e-07	-2.61e-07	-3.03e-07	-2.63e-07
	(2.23e-07)	(2.49e-07)	(2.28e-07)	(2.36e-07)
Observations	1,411	1,411	1,411	1,411
Exporter-Year FE	Yes	Yes	Yes	Yes
Importer-Year FE	Yes	Yes	Yes	Yes
Years	2010-2019	2010-2019	2010-2019	2010-2019
Pseudo R-squared	0.865	0.864	0.861	0.864

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The results displayed in Tables 9 and 10 suggest that, while the United States are dominating international trade in audio-visual services, our findings on the role of humor distance are robust to removing this country from the sample.

5. Summary and conclusions

Our analysis started from the hypothesis that differences in what national audiences in different countries perceive as funny, boring, or offensive has a negative effect on bilateral trade in audio-visual services. Leveraging two data sets that were compiled by humor researchers and that allow characterizing countries in terms of prevailing humor/comic styles, we demonstrated that, indeed, aggregate humor distance reduces

audio-visual services trade. At closer inspection, we found that differences in *detrimental* humor styles (aggressive, self-defeating) have a negative effect, while differences in affiliative humor are actually positively correlated with bilateral trade in audio-visual services. These results are robust to the inclusion of additional measures of cultural distance or proximity and to the omission of the United States from the sample.

Our findings suggest that differences in humor/comic styles are a separate category that should be taken into account when explaining international trade in audio-visual services. They also highlight the potentially ambiguous nature of cultural distance as both an impediment and a driver of international trade: while differences in national rules, priorities and taboos are likely to reduce trust and hamper communication, they may also give rise to patterns of comparative advantage, which are at the root of international transactions. Exploring this ambiguity in more depth offers a promising avenue for future research.

Finally, we are careful to emphasize that the causal interpretation of our findings rests on the important assumption that the prevalence of humor/comic styles are exogenous, reflecting long traditions of entertainment and social interaction. It might, of course, be argued that the increasing exchange of audio-visual services has brought about a convergence of humor styles across countries, such that trade in audio-visual services is rather a cause than an effect of humor distance or proximity. While the purely cross-sectional nature of our dataset does not allow us to support or refute this idea, we do not see it as a major challenge for our results: first, because – as emphasized by Michalopoulos and Rauh (2024) – many aspects of culture that shape the perception of movies and other audio-visual services are extremely persistent. Furthermore, studies from the behavioral genetic literature find that differences in humor (measured by the HSQ) are partially attributable to genetic differences (Vernon et al.,2008a; Vernon et al.,2008b; Baughman et al.,2012). Finally, the data retrieved by Schermer et al. (2023) as well as Heintz et al. (2020) stem from a period where a large part of such a convergence in humor/comic styles should already have been accomplished. Despite these considerations, however, the analysis of the potentially mutual dependence of culture and trade is a rich field for future research.

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Appendix

Table A1: Countries' average scores for different humor/comic styles

ISO code	Country	Affiliative	Aggressive	Self-enhancing	Self-defeating	Benevolent	Corrective
BGR	Bulgaria	44.48	27.43	35.32	30.02		
BIH	Bosnia & Herzegovina	42.34	25.7	34.72	28.25		
BRA	Brazil	44.47	24.17	34.11	26.75		
CAN	Canada	45.82	28.78	33.92	28.12	5.02	4.3
CHE	Switzerland					5.05	4.13
CHL	Chile	42.76	25.71	35.78	27.7	5.62	5
COL	Colombia	41.06	24.01	35.77	23.94		
CZE	Czech Republic					5.25	4.71
DEU	Germany	43.43	26.71	34.05	25.54	5.17	4.13
ESP	Spain	43.8	22.26	34.45	26.66	5.24	3.87
EST	Estonia	44.26	29.08	35.48	28.04	5.41	4.19
FRA	France					5.38	4.33
GBR	England					5.29	4.4
GRC	Greece					5.22	4.5
HRV	Croatia	42.41	27.61	32.96	25.9	5.4	4.43
HUN	Hungary	42.7	24.74	36.14	25.79		
IDN	Indonesia	43.83	28.6	37.51	31.65		
IRN	Iran	40.8	22.56	31.29	24.32		
ITA	Italy					5.45	4.6
JPN	Japan	37.95	28.35	29.83	31.25	4.22	3.38
KOR	South Korea	40.95	25.31	32.09	28.29	4.78	3.88
LVA	Latvia	34.41	28.79	33.79	29.88	5.43	4.06
MEX	Mexico					5.4	3.4
MYS	Malaysia	32.42	31.54	31.36	31.26	5.14	3.67
NZL	New Zealand					5.26	3.28
PAK	Pakistan	34.76	28.45	34.81	30.05		
POL	Poland	42.86	27.44	34.1	29.42	5.35	4.6
PRT	Portugal	43.57	24.32	33.33	23.66		
ROU	Romania	43.62	28.42	35.33	25.04	5.27	4.69
RUS	Russia	41.88	29.73	34.05	28.25	5.26	3.57
SRB	Serbia	46.06	24.57	36.85	27.6		
SVK	Slovakia					5.23	4.11
TUR	Turkey	42.08	26.77	32.27	24.74	5.07	4.1
TWN	Taiwan					5.09	3.6
UKR	Ukraine	42.66	24.96	35.03	23.84		
USA	United States	41.35	27.84	35.64	27.37	5.21	4.07
VNM	Vietnam	39.24	25.1	35.5	27.68		
ZAF	South Africa	42.94	25.9	37.4	26.11		

Source: Schermer et al. (2023) and Heintz et al. (2020)

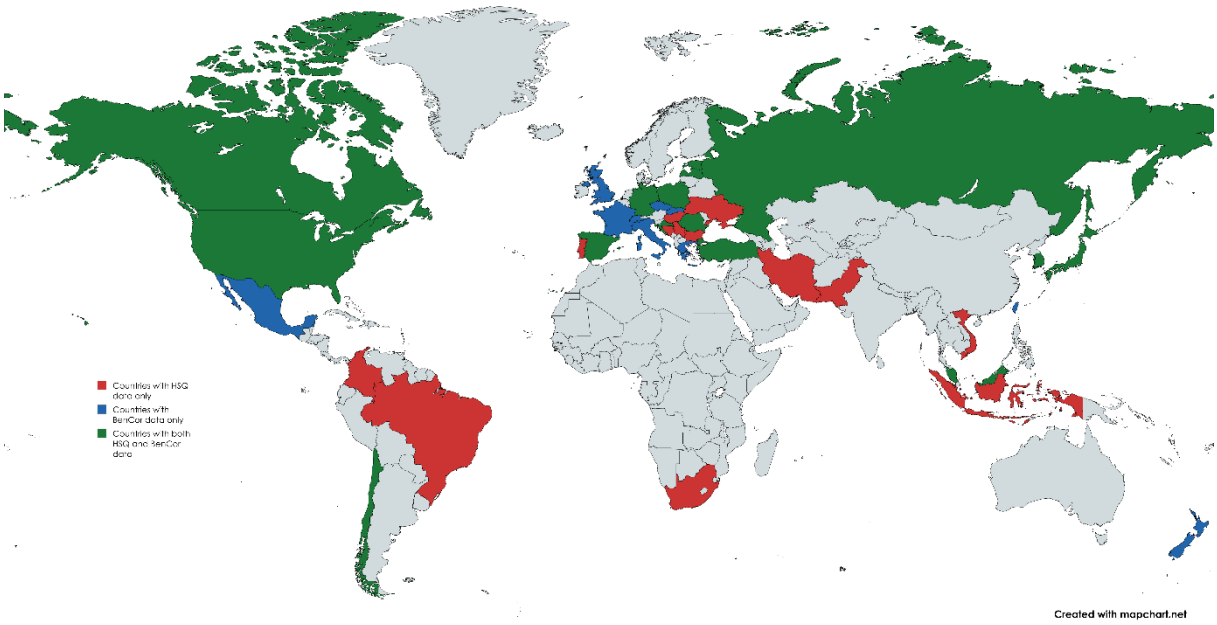

Figure A1: Country coverage of both questionnaires.

Source: Schermer et al. (2023) and Heintz et al. (2020)

Notes: In the figure we show the countries for which we have data on humor/comic styles. Countries who appear in both samples are colored green. Countries covered by HSQ (BenCor) are colored green and red (green and blue).

Table A2: Data definitions, sources, summary statistics

Variable	Definition	Source	Obs.	Mean	Std. Dev.
Audio-visual services exports	UNCTAD classifies as audio-visual services two services categories: "Licenses to reproduce and/or distribute audio-visual and related products" and "Audio-visual and related services". The respective sum at country-pair-year dimension is our value of exports.	OECD	2,367	94.96	426.0
Humor distance_ij (HSQ)	Aggregate humor distance (measured by the Mahalanobis distance) between country i and country j based on HSQ dimensions.	Schermer et al. (2023)	1,277	2.431	0.830
Affiliative	Distance (in absolute value) between country i and country j in the specific humor dimension: Affiliative	Schermer et al. (2023)	1,277	2.481	2.502
Aggressive	Distance (in absolute value) between country i and country j in the specific humor dimension: Aggressive	Schermer et al. (2023)	1,277	2.304	1.725
Self-enhancing	Distance (in absolute value) between country i and country j in the specific humor dimension: Self-enhancing	Schermer et al. (2023)	1,277	1.546	1.227

Self-defeating	Distance (in absolute value) between country i and country j in the specific humor dimension: Self-defeating	Schermer et al. (2023)	1,277	2.133	1.476
Humor distance_ij (BenCor)	Aggregate humor distance (measured by the Mahalanobis distance) between country i and country j based on BenCor dimensions.	Heintz et al. (2020)	1,812	1.424	0.883
Benevolent	Distance (in absolute value) between country i and country j in the specific humor dimension: Benevolent	Heintz et al. (2020)	1,812	0.194	0.212
Corrective	Distance (in absolute value) between country i and country j in the specific humor dimension: Corrective	Heintz et al. (2020)	1,812	0.444	0.322
CSL	Common spoken language index. Combination if native and acquired language speakers into a single measure capturing all linguistic ties	Gurevich et al., (2024)	2,333	0.241	0.226
Distance	(log) Population weighted distance between country pair	Dynamic Gravity Dataset (Gurevich and Herman, 2018)	2,367	8.018	1.108
Colony	Dummy variable indicating if country pair has been in a colonial relationship	Dynamic Gravity Dataset (Gurevich and Herman, 2018)	2,367	0.0760	0.265
Contiguity	Dummy variable indicating if country pair shares a common border	Dynamic Gravity Dataset (Gurevich and Herman, 2018)	2,367	0.124	0.329
Institutional distance	Institutional distance between countries i and j at year t	Worldwide Governance Indicators (WGI)	2,367	2.109	1.265
Exchange rate flexibility	Categorial variable taking the values 1 to 10 (High value means more flexibility) based on the authors constructed "Bilateral de facto exchange rate regimes"	Harms and Knaze (2021)	2,329	8.508	2.803
Migrants_ij	Bilateral stock of migrants with origin country i and residence in j	Global Bilateral Migration (World Bank)	2,357	91,71	307,107
Migrants_ji	Bilateral stock of migrants with origin country j and residence in i	Global Bilateral Migration (World Bank)	2,357	146,086	686,684
Cultural distance (Hofstede)	Bilateral cultural distance based on the original four Hofstede's dimensions. Bilateral aggregate distance constructed based on values from Hofstede et al. (2010).	Hellmanzik and Schmitz (2015)	2,308	1.680	1.282
Bilateral hyperlinks	Bilateral inter-domain hyperlinks with uniquely identified host country. Variable originally constructed by Chung (2011).	Hellmanzik and Schmitz (2015)	1,940	13.87	1.674