Cultural Remittances and Diasporas

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Abstract

Migration between two countries may affect their cultural values. Migrants may export the values of their origin countries to their new homes, and, in time, they may the remit values from their new countries to the previous homes. Because cultural values of the origin countries of migrants tend to be less secular and emancipative than those of the destination countries of migrants, the relative strength of these two effects is important for understanding the global trajectory of cultural values. Distinguishing between these two effects is difficult because migration is non-random, and the precise details of cultural transmission are difficult to observe. I develop a new approach to identify cultural remittances that exploits second-order links in the global migration network. Briefly, if the cultural values of countries with similar diasporas tend to converge, then cultural remittances must exist. I find robust evidence of culture remittances across a wide range of cultural values. Remittances are strongest for cultural values such as trust in public institutions, political voice, and equality under the law that are most closely related to the relationship between citizens and governments. These results imply an important role for migration in the global spread of secular and especially democratic values.

1 Introduction

In its earliest form, human migration consisted of a simple movement of genetic material. Over time, migration became a movement of goods and ideas. As civilization developed, migration eventually became a movement of culture, beliefs and values.[1] This *export* of culture is likely the first process by which cultural values spread across societies, and it is a unidirectional path by which the culture of a sending society might impact the culture of a recipient society.

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[1]For example, the transfer of paleolithic pottery, a good, throughout Eurasia to Mesopotamia (Cooper (2000)) was succeeded by the likely transfer of writing, an idea, from Mesopotamia to Egypt (Fischer (2003)) and then the spread of ethical monotheism, a cultural belief, throughout the middle East and Mediterranean by the early Jewish diaspora ("Ethical Monotheism," *Encyclopedia Brittanica*).

As transportation and communication costs decreased, migrants were able to reestablish links with their origin countries. This yields the potential for *cultural remittances*, whereby migrants assimilate cultural values and associated products of their new societies and then send them back to their homelands through communication and trade. Perhaps the most famous early example of a cultural remitter is Marco Polo in the 13th century who, after 23 years assimilating the culture of the Far East, returned to Venice to share, among other things, his newly shaped values. Marco Polo notwithstanding, migration was largely one-way for most of history, so cultural remittances were almost certainly dominated by cultural exports. However, as international communication costs have collapsed exponentially in recent decades, there is far greater scope for cultural remittances to affect the culture of emigrant societies.[2] Given that roughly one third of all international migration is from the global South to the global North[3] and that a growing body research finds evidence of causal links between culture and growth (e.g., Spolaore and Wacziarg (2009), Gorodnichenko and Roland (2017)), such remittances could play an important role in the reduction of global poverty and inequality across countries in the coming decades.

In this paper, I propose a new empirical approach to identify the presence of cultural remittances, and I provide evidence that for a comprehensive array of distinct values, cultural remittances are contributing to a convergence of values along international migration links. These remittances are strongest for cultural values related to the political process such as trust in public institutions, political voice and equality under the law. I present alternative strategies to identify export and cultural remittance effects (thought not necessarily separately) and discuss potential pitfalls to their application. I then present a novel strategy that exploits the fact that bilateral links between countries exist within a broader, multilateral migration network. Accordingly, the relationship between the diasporas of two countries can be informative as to their exposure to cultural remittances. Specifically, if cultural values in countries with similar diasporas tend to converge, then we can conclude that cultural remittances exist.

I conduct my analysis on a sample of over 105 countries over the past three decades. I study a wide set of 34 cultural values from the World Values Survey that span individuals' secular values

[2]For instance, a three minute telephone call from New York to London cost approximately $350 in 1931, $1.20 in 2001, $0.30 in 2005 and $0.05 in 2015, all in constant 2000 dollars (Rodrigue (2020) and author's calculations).

[3]Source: *Population Facts*, 2012, Department of Economic and Social Affairs, United Nations Population Division, no. 2012/13.

and views on independence, broadly defined. I combine this with detailed data on the stocks of migrants in each country by country of origin that is maintained by the United Nations. In all, my analysis covers a variety of different societies and best estimates of all formal, international migration.

The informal framework offered to understand how migration shapes cultural transmission is inspired by Bisin and Verdier (2001)'s seminal model of cultural transmission. Rapoport et al. (2020) have expanded on this model precisely in the context of migration and carefully delineate multiple channels whereby migration allows for the cultural values of different nations to influence each others'. Their model makes clear predictions that allow they to identify the presence of cultural remittances, and indeed, they find evidence in favor of their existence. One of the empirical approaches that I describe (approach 2) is equivalent to theirs in practice, though it may suffer from endogeneity concerns that are, to some extent, minimized when diasporas are used for identification. Moreover, by analyzing specific values separately, I am able to identify a specific pattern in cultural values that are related to the political process.

More broadly, this work also fits into a larger literature in the economics of culture. This literature has explored both its deep roots in prehistory (Ashraf and Galor (2013)) to its evolution over the past few millenia (Giuliano and Nunn (2021)) to its evolution over the past few centuries (Bazzi et al. (2020)). Its effects on contemporary institutions has been widely studied and is well surveyed by Alesina and Giuliano (2015).

The remainder of the paper is organized as follows. In Section 2, I describe the data. In Section 3, I present a broad conceptual framework to think about how migration may shape cultural transmission, and then I outline three approaches to estimate cultural exports and remittances. I present empirical results in Section 4 before concluding in Section 5.

2 Data

In order to explore how values converge along migration networks, I combine data from two main sources that are related to values and migration respectively: The World Values Survey (WVS) and UN Migration Database. Because each of these data sources sample at different frequency over different sample periods, I merge them in a specific manner that is summarized in Table 1. This leaves me with an unbalanced panel of six time periods and 21 to 60 countries in each period.

Finally, whenever I refer to variables at five-year lags in the empirical analysis, I treat the period from 2015-2019 to be a five year interval. I describe the datasets and variables in more detail.

Table 1: Primary Data Sources

World Values Survey			UN Migration Data
Wave	Years of Survey	Number of Countries	Year
1	1981-1983	11	
2	1990-1992	21	1990
3	1995-1998	55	1995
4	2000-2004	41	2000
5	2005-2008	58	2005
6	2010-2014	60	2010
			2015
7	2017-2022	57	2019

Note: Availability of data on values and migration.

World Values Survey

The World Values Survey (WVS) is an international survey that seeks to capture the intrinsic values and beliefs of residents of a wide variety of participating countries. I employ six longitudinal waves of the WVS that include 105 countries over 32 years.[4]

Each wave of the WVS asks several hundreds of questions to approximately 1500 residents of each country.[5] These questions range concern individuals' views of family, neighbors, children, leaders and society more broadly. They cover topics such as trust, respect, goals, politics, religion, worries and aspirations. Given the large number of questions and the fact that specific questions are sometimes asked in specific countries, the WVS constructs several indices that encapsulate respondents views on secular values, defiance/authority, moral relativism, skepticism, and autonomy/choice.

The 34 cultural indices can be categorized into a three-level hierarchy. There are two primary measures of values: Secular Values and Emancipative Values. Secular values are contrasted with traditional values which place an emphasis on the importance of religion, parent-child ties, deference to authority, and traditional family values. Secular values are further broken down in to four secondary subindices: defiance, disbelief, relativism and skepticism. Each of these secondary indices

[4]Although Taiwan is surveyed in four waves of the WVS, I must omit this country from the analysis as the UN does not report migration data to and from Taiwan.

[5]The number of respondents per country-wave varies from 240 to 6025. Roughly 75% of country-waves have 1000-2000 respondents.

is further broken down into three tertiary subindices. Defiance is composed of an inverse respect for authority, inverse national pride and inverse devoutness. Disbelief is composed of a lack of importance given to religion, religious people and religious practice. Relativism is composed of into three different (inverse) norms of conformity. Finally, skepticism is composed of distrust in the military, distrust in the police and distrust in the courts.

Emancipative values prioritize self-expression over survival. They emphasize environmental protection, tolerance of others, freedom in economic decisions and freedom in political participation. Emancipative values are further broken down into four secondary subindices: autonomy, equality, choice and voice, each of which is further broken down into three tertiary subindices. Autonomy is composed of independence, imagination and obedience. Equality refers to gender equality in the workplace, in politics and in education. Choice is composed of views on homosexuality, abortion and divorce. Finally voice is composed of beliefs on political and economic participation.

These indices were devised by Christian Welzel (Haerpfer et al. (2021)) and have been widely used by social science researchers. As my analysis only concerns relative values between countries, I normalize each of the 34 indices to have a mean of zero and a standard deviation of one. Greater values for each of the indices correponds to more secular or emancipative values.

International Migration (UN)

The United Nations Statistics Division has produced estimates of the international migrant populations in 232 political jurisdictions disaggregated by their jurisdiction of origin. For each political jurisdiction in each year that the data is available, the UNSD estimates the total stocks of migrants who arrived from each other jurisdiction. Because residents of overseas territories (e.g., Aruba from the Netherlands and Guam from the United States) are unlikely to be surveyed in the WVS, I omit them, and I restrict my attention to only those migrants from 197 countries. International migration stocks are estimated at roughly 5 year intervals, from which it is straightforward to compute country-to-country flows.

3 Empirical Approach

I draw inspiration from the the seminal Bisin and Verdier (2001) model of cultural transmission to describe how values may propagate along migration networks. Rapoport et al. (2020) have

extended this model to explicitly consider how migration and cultural transmission interact. As my focus is primarily empirical, I discuss mechanisms of cultural transmission more broadly and informally here. Moreover, as my main contribution leverages more distant links in a migration network, the specific formal results of Rapoport et al. (2020), which model only bilateral links between country pairs, are not as relevant.

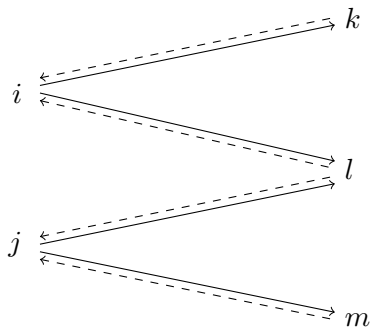
In the simplified migration network shown in in Figure 1, country i sends immigrants to countries k and l, and country j sends immigrants to countries l and m. The various arrows indicate how values in one country may affect the values in another country. The solid arrows, which go in the same direction as migration flows, correspond to cultural *exports*, and they encapsulate three effects. One of these effects is mechanical, and two are formally modeled in Bisin and Verdier (2001). First, even if cultural values were completely fixed immigrants would directly change the average cultural values of the countries in which they settled. Second, even if cultural values were completely fixed, immigrants would indirectly change the average values of the countries in which they settle by having children and passing down their values. This corresponds to vertical cultural transmission. Third, immigrants might indirectly influence the values of their new countrymen through personal, professional and political contact. This corresponds to horizontal cultural transmission.

The dashed arrows, which go in the opposite direction as migration flows, correspond to cultural *remittances*, and they encapsulate two effects. First, because specific destination countries attract specific types of immigrants, the characteristics of destination countries will mechanically affect the values of origin countries purely by subtraction. Second, because immigrants may retain social and economic ties with their former countrymen, they may serve as a conduit through which values in destination countries are horizontally transmitted to origin countries.

If there is positive assortative cultural matching between migrants and the residents of destination countries (e.g., the emigrants from country i whose values are most similar to country k are most likely to immigrate to k) then the two mechanical effects described above will generally lead greater migration to cause a divergence in values. However, these effects are limited by (1) the size the migration flow, (2) the population of the sending country, and (3) the population of the receiving country. As country populations are at least an order of magnitude larger than migration flows for all country pairs surveyed by the WVS, these effects should be negligible.[6] Meanwhile, all

[6]Indeed, Rapoport et al. (2020) rule out meaningful effects of these types.

Figure 1: Value Transmission on a Migration Network



Notes: In this migration network, country i sends immigrants to countries k and l, and country j sends immigrants to countries l and m. Solid arrows represent channels whereby values in origin countries affect values in destination countries. Dashed arrows represent channels whereby values in destination countries affect values in origin countries.

of the non-mechanical effects should likely lead greater migration to cause a convergence in values.

It remains then to distinguish cultural exports from remittances. I describe three potential approaches to do so below. The first approach, a country-level approach, is the most direct and yet also the most fraught with identification issues since (1) migration is non-random and likely correlated to country characteristics, and (2) the approach suffers from a fundamental issue of simultaneity. The second approach, at the level of country pairs, or dyads, looks at differences between countries to mitigate some of these endogeneity concerns. The third approach, which is the main contribution of this paper, is also done at the level of country dyads, but importantly it focuses on the effects of diasporas, a higher order network effect, on the convergence of values. The simple intuition for this approach is captured neatly in Figure 1: The values of countries i and j should be related to migration flows *only if* cultural remittances exist. If so, the cultural values in these two countries will be liked by countries in their common diaspora, which in this case, is country k. Without cultural remittances, there would be no link between the values in those two countries. Moreover, the strength of the relationship between the values of countries i and j and the commonality of the diaspora is informative as to the relative strength of cultural remittances.

For all approaches, I assume that cross-sectional data on V_i, some measure of values in country i, and I_{ik}, the stock of migrants from country i who live in country k, are observable. Where relevant,

I explain how panel data could be leveraged to overcome identification problems. However, it is important to note that while I_{ik} is observed at consistent intervals over time, V_i is not observed consistently over time, hence a balanced panel is unavailable.

Approach 1: Baseline

The intuition of the basic framework can be summarized in a simple empirical model in which the solid arrows and dashed arrows in Figure are specified as coefficients β_k and γ_k, respectively, in the following regression equation

$$V_i = \underbrace{\sum_{k \neq i} \beta_k I_{ki} V_k}_{\text{Export}} + \underbrace{\sum_{k \neq i} \gamma_k I_{ik} V_k}_{\text{Remittance}} + \epsilon_i \tag{1}$$

It would be unwise to interpret β_k and γ_k as the effects of migration on values in a least squares estimation of equation (1) because migration networks form endogenously and are undoubtedly influenced by the characteristics and values of both origin and destination countries. But even in the absence of this concern, the β_k and γ_k are not identified. To see this, we can subtract equation (1) from itself and and rearrange terms to write

$$V_i - V_j = \sum_{k \neq i,j} \left[\beta_k \left(I_{ki} - I_{kj}\right) + \gamma_k \left(I_{ik} - I_{jk}\right)\right] V_k + \left(\left(\beta_j - \gamma_i\right) I_{ji} V_j - \left(\beta_i - \gamma_j\right) I_{ij} V_i\right) + \left(\epsilon_i - \epsilon_j\right) \tag{2}$$

Under the mild assumptions that $\text{Cov}\left(I_{ki} - I_{kj}, I_{ji}\right)$ and $\text{Cov}\left(I_{ki} - I_{kj}, I_{ij}\right)$ for all $k \neq i, j$, equation 2 can be rewritten as

$$V_i - V_j = \left(\beta_j - \gamma_i\right) I_{ji} V_j - \left(\beta_i - \gamma_j\right) I_{ij} V_i + \xi_{ij} \tag{3}$$

where $\xi_{ij} = \left(\epsilon_i - \epsilon_j\right) + \sum_{k \neq i,j} \left[\beta_k \left(I_{ki} - I_{kj}\right) + \gamma_k \left(I_{ik} - I_{jk}\right)\right] V_k$. In words, these assumptions requires that immigration between two countries is uncorrelated to the difference in immigration from third countries and should be understood as an independence of irrelevant alternatives (IIA) assumption for immigration. Equation 3 can further be rewritten as

$$V_i = \frac{1 + I_{ji}\left(\beta_j - \gamma_i\right)}{1 + I_{ij}\left(\beta_i - \gamma_j\right)} V_j + \xi_{ij} \tag{4}$$

This exercise reveals that either IIA is violated or the parameters $(\beta_i, \beta_j, \gamma_i, \gamma_j)$ are not identified. Fundamentally, the direct approach is vulnerable to the well-known reflection problem (Manski (1993)). The relationship between the values in country pairs cannot be separately attributed to the effects of immigration in different directions. And when immigration has bilateral effects (in the form of cultural remittances), this problem is doubled; indeed, in the absence of cultural remittances, i.e., $\gamma_k = 0$ for all k, the direct effects are still unidentified (and vice-versa). There are two common approaches to circumventing the reflection problem. The first approach relies on instrumental variables (IVs). Note that these IVs would also need to generate exogenous variation in the *values* of countries, not only in the migration flows between countries.[7] Such IVs are difficult to conceive of. The second approach exploits the timing of these effects using panel data to break the reflection problem. This is difficult to implement in practice because (1) the V_i are only sporadically measured in the World Values Survey, and (2) one would need to impose strong assumptions on the timing of these different effects, e.g., direct effects unfold at a 5-year lag whereas remittances unfold at a 10-year lag. Justifying these assumptions could be difficult.

Approach 2: Dyadic Differences

One of the implications of basic framework described above is that values in countries with stronger migration links will tend to be more similar. That can be modeled in the following regression equation

$$|V_i - V_j| = \alpha \left(I_{ij} + I_{ji}\right) + \eta_{ij} \tag{5}$$

which is estimated over all (i, j) pairs of countries. The parameter α is intended to capture the effect of immigration on the difference in values between countries. There is much to like about this straightforward approach; however it suffers two drawbacks. First, η_{ij} is almost certainly correlated to migrant flows between i and j, thereby biasing an estimate of α upward. For example, countries with shared languages or colonial legacies are likely to have similar values and are also likely to have larger migrant flows between them. The standard way that researchers have dealt with this issue is by including a rich set of control variables and country fixed effects (Egger (2000)) or dyad fixed effects, and time fixed effects. However, this approach will still be vulnerable to transitory

[7] To be sure, migration flows between countries are not exogenous for reasons described above, so in practice any candidate IVs would also need to be orthogonal to migration flows.

shocks in country dyads that affect immigration flows and contemporary cultural values. It is not difficult to conceive of such shocks, e.g., temporary political instability, campaigns for womens' or children' rights, or religious scandals. Second, this specification does not allow for cultural exports to be distinguished from cultural remittances since the dyadic specification of the dependent variable does not differentiate between sending and receiving countries. [8]

Approach 3: Common Diasporas

A third approach to identifying whether values propagate along migration links, which is novel to this paper, takes advantage of the fact that any pair of countries represents only two nodes in a broader migration network. Hence, there is information in the migration flows to third countries that may be useful for identification. The basic idea is that if the fact that two countries have more similar diasporas causes a convergence in their values, then it must be the case that both cultural remittances exist. Moreover, this approach has two advantages in terms of implementation: (1) the identifying assumptions are weaker than those in the other approaches, and (2) it is straightforward to leverage (well observed) longitudinal variation in migration for identification in the absence of (poorly observed) longitudinal variation in values.

The first step is to construct a measure of the dissimilarity of diasporas for two countries. This will be a function of $\boldsymbol{I}$, a matrix that represents the network of all migrant stocks between all countries for which the (i, j) entry is I_{ij}. Because there is no single measure of diaspora dissimilarity, I posit three conditions that any sensible measure ought to satisfy and then propose a specific candidate measure $D_{ij}(\boldsymbol{I})$.

Condition 1. If $\frac{I_{ik}}{I_{jk}}$ is constant for all $k \neq i, j$ and $I_{ik} > 0 \iff I_{jk} = 0$ and $\frac{I'_{ik}}{I'_{jk}}$ is not constant for all $k \neq i, j$ and $I'_{ik} > 0 \iff I'_{jk} = 0$, then $D_{ij}(\boldsymbol{I}) < D_{ij}(\boldsymbol{I'})$.

Condition 2. If $I_{ik} < I_{jk}$ and $I_{im} > I_{jm}$ then $D_{ij}(\boldsymbol{I}) > D_{ij}(\boldsymbol{I'})$ where $I'_{ik} = I'_{jk} = \frac{I_{ik}+I_{jk}}{2}$, $I'_{im} = I'_{jm} = \frac{I_{im}+I_{jm}}{2}$, and $\boldsymbol{I} = \boldsymbol{I'}$ everywhere else.

Condition 3. If $I_{ik} > 0 \implies I_{jk} = 0, I_{jk} > 0 \implies I_{ik} = 0$, then $D_{ij}(\boldsymbol{I}) > D_{ij}(\boldsymbol{I'})$ for any $\boldsymbol{I'}$ that doesn't satisfy these conditions.

[8] Rapoport et al. (2020) partially deal with this issue by exploiting the predictions of a formal model of cultural transmission and migration. Under the assumptions of their model, exports would imply a more positive value of α whereas remittances would imply a more negative value of α, hence the sign of α is informative as to which effect dominates.

Condition 1 states that the difference in diaspora is minimized when i and j send equal proportions of migrants to all other countries. Condition 2 states that if country i sends more migrants to one country than j and less migrants to another country than j, then equalizing these two flows for countries i and j would reduce the difference in diaspora. Finally, condition 3 states that the difference in diaspora is minimized when countries i and j have completely disjoint diasporas. These three conditions suggest an inuitive measure of the diaspora dissimilarity given by

$$D\left(\boldsymbol{I}\right) = \sum_{k} \left| \frac{I_{ik}}{\sum_{k'} I_{ik'}} - \frac{I_{jk}}{\sum_{k'} I_{jk'}} \right| \tag{6}$$

In a regression of the form

$$|V_i - V_j| = \alpha D_{ij}\left(\boldsymbol{I}\right) + \epsilon_{ij} \tag{7}$$

The coefficient α might represent the causal effect of the difference in diasporas between country pairs and the difference in values. Of course, countries with similar diasporas are potentially similar in other ways that may be related to their values, so this would be subject to endogeneity concerns. I exploit the timing of immigration flows to mitigate these concerns. First, I construct five-year immigration flows $\Delta I_{ijt} = I_{ijt} - I_{ijt-1}$. I then estimate the following regression

$$|V_{it} - V_{jt}| = \delta D_{ij}\left(\boldsymbol{I_{t-1}}\right) + \lambda D\left(\Delta I_{ijt}\right) + \epsilon_{ij} \tag{8}$$

where "controls" refers to a vector of time-varying characteristics of countries i and j along with country i, country j and time t fixed effects. By conditioning on the difference in current diaspora flows ($D\left(\Delta I_{ijt}\right)$), the parameter α represents the effect of difference in the prior diasporas of countries i and j on the difference in values between countries i and j that is orthogonal to any determinant of immigration that is currently relevant to the diasporas of i and j. Practically speaking, I identify the parameter α using only transitory shocks to the diasporas of countries i and j from the past that are no longer relevant in the current period. These shocks are more plausibly exogenous determinants of the current difference in values in countries i and j.

4 Results

I estimate effects adapted from all three approaches described above separately on the thirty-four different measures of values from the World Values Survey described in Section 2. Due to the large numbers of estimated parameters, I present results in graphical from preferred specifications that feature a full set of control variables. Results obtained without the inclusion of controls are presented in the appendix. Standard errors computed using Approach 1 are clustered at the country i level, and standard errors using Approaches 2 and 3 are computed using twoway clustering at the country i and country j level; 95% confidence intervals are shown in all figures.

I begin by modifying Approach 1 and estimating the following regression:

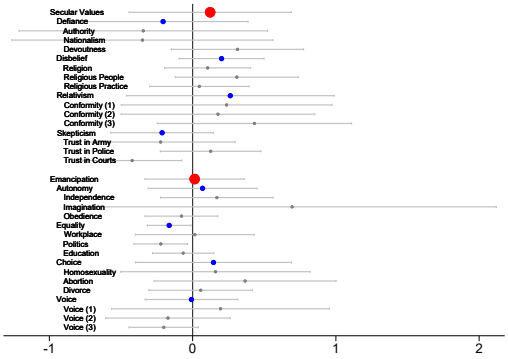
$$V_{it} = \beta \sum_{k \neq i} I_{kit-5} V_{kt} + \gamma \sum_{k \neq i} I_{ikt-5} V_k + \text{controls}_{it} + \epsilon_{it} \tag{9}$$

This is similar to equation (1) with three modifications: the β_k and γ_k are respectively restricted to be equal for all k, the immigration weights are lagged by five years in order to break the simultaneity from the reflection problem, and a vector of controls is included. β represents cultural export of immigrants on county i' values, and γ represents the cultural remittance to country i that is returned by immigrants from i who now reside around the world. Control variables include the population of country i, the total stock of migrants sent by country i to other countries, country i fixed effects, and year fixed effects.

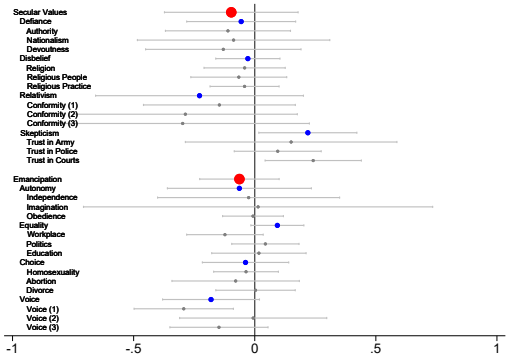
Estimation results are presented in Figure 2. Estimates of both direct effects and cultural remittances are overwhelmingly statistically insignificant. Of course, one should hesitate to draw any firm conclusions from this exercise as this approach is fraught with unsolved endogeneity issues.

Figure 2: Effects of Migration-weighted Values on Values (Approach 1)

(a) Cultural Exports



(b) Cultural Remittances



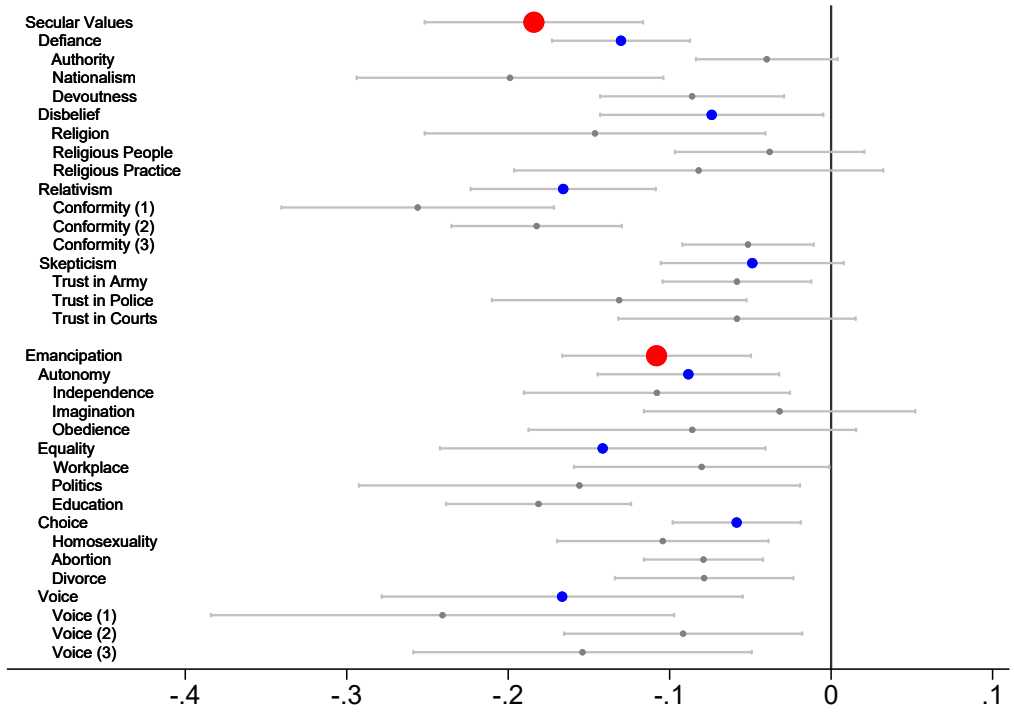
Notes: Estimates of β and γ respectively from a regression of country i values on migration-weighted values controlling for the total stocks of immigrants originating from country i, the population of country i, and country i and year fixed effects. Estimates for primary value indices are shown in red, estimates for secondary value indices are shown in blue, and estimates for tertiary value indices are shown in grey. 95% confidence intervals shown. Robust standard errors are clustered by country i.

Next, I take Approach 2 and estimate the following regression:

$$|V_{it} - V_{jt}| = \alpha \left(I_{ijt-5} + I_{jit-5}\right) + \text{controls}_{ijt} + \epsilon_{ijt} \tag{10}$$

This is similar to equation (5) with two modifications: the immigration stocks are lagged by five years to allow for the effects of interest to take hold, a vector of controls is included. α represents the effect of bilateral immigration on the difference in values between countries i and j. Control variables include the populations of i and j, the total stock of immigrants originating from countries i and j, country i fixed effects, country j fixed effects, and year fixed effects. These controls are intended to partially address endogeneity concerns. I further address this by restricting the estimation subsample to those country pairs in which both countries are immigration sources. This makes it more likely that any estimate of α reflects effects due to migration as opposed to a spurious correlation. I define an immigration source as a country for whom the total stock of immigrants sent abroad is at least 5% of the current population. Results are qualitatively similar when this threshold is chosen to be 1% and are presented in the appendix.

Figure 3: Effects of Total Immigration Flows on Values Differences (Approach 2)



Notes: Estimate of α from a country pairs regression of value differences on total immigration flows between countries i and j controlling for total stocks of immigrants originating from countries i and j and country i, country j and year fixed effects. Estimates for primary value indices are shown in red, estimates for secondary value indices are shown in blue, and estimates for tertiary value indices are shown in grey. 95% confidence intervals shown. Robust standard errors are computed using two-way clustering on country i and country j.

Estimates of α are mostly negative and statistically significant. This is consistent with the idea that migration links facilitate a convergence of values between countries. The effects of migration on both primary indices, secular values and emancipation, are negative and highly statistically significant. With the exception of skepticism, the effects of migration on all eight secondary indices are negative and statistically significant as well. These robust findings are consistent with the findings of Rapoport et al. (2020) who interpret negative values of α as evidence of cultural remittances.

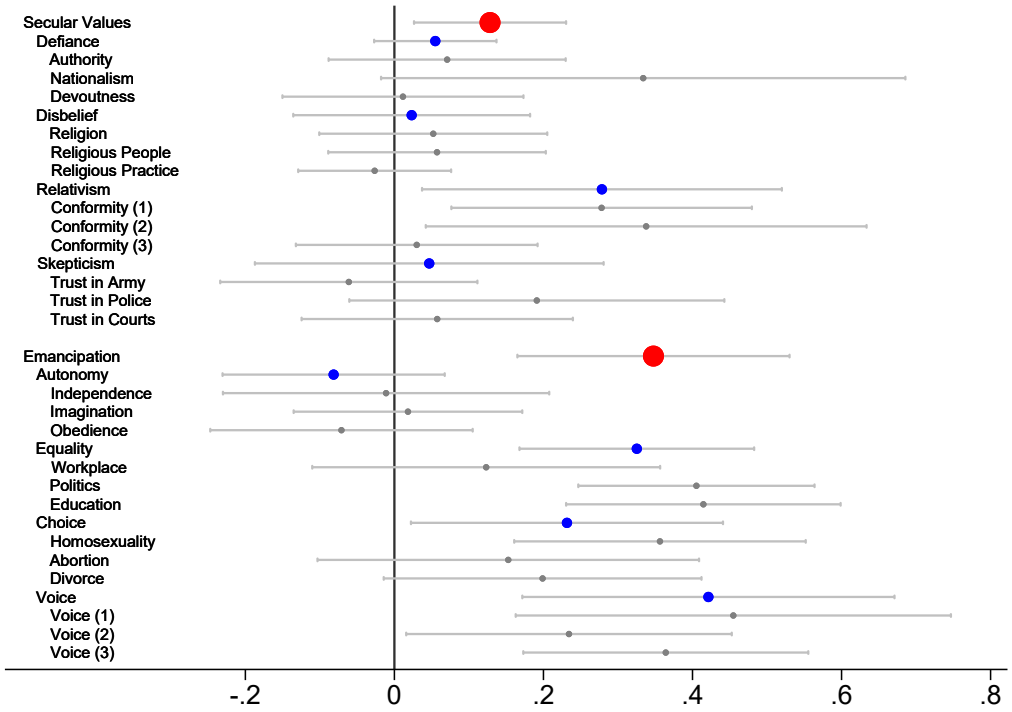
Finally, I take Approach 3 and estimate the following regression:

$$|V_{it} - V_{jt}| = \delta D_{ij}\left(\boldsymbol{I_{t-5}}\right) + \lambda D\left(\Delta I_{ijt}\right) + \text{controls}_{ijt} + \epsilon_{ij} \tag{11}$$

This is identical to equation (8) with a vector of controls that includes the populations of i and j,

the total stock of immigrants originating from i and j, total bilateral immigration between i and j, country i fixed effects, country j fixed effects, and year fixed effects. For similar reasons, I restrict the estimation subsample to country pairs in which both countries are immigration sources.

Figure 4: Effects of Diaspora Difference on Values Differences (Approach 3)



Notes: Estimate of δ from a country pairs regression of value differences on lagged diaspora difference controlling for the difference in diaspora flows over the past five years, population of each country, total immigration flows between countries i and j, total stocks of immigrants originating from countries i and j and country i, country j and year fixed effects. Estimates for primary value indices are shown in red, estimates for secondary value indices are shown in blue, and estimates for tertiary value indices are shown in grey. 95% confidence intervals shown. Robust standard errors are computed using two-way clustering on country i and country j.

Estimates of δ for the primary measures, secular values and emancipation, are positive and statistically significant. This reveals that as countries diasporas become more different (similar), their values diverge (converge). This could only be the case in the presence of cultural remittances, otherwise there would be no scope for the similarity of diasporas to affect origin countries similarly. Although not all estimates of δ for secondary measures are statistically significant, they are all positive, which the exception of autonomy.[9]

[9]I obtain positive and statistically significant estimates of δ when I use an alternative measure of autonomy

The values for which estimates of δ are larger are likely to be remitted at greater rates than the values for which estimates of δ are smaller. These correspond to the secular values of relativism and the emancipative values of equality, choice and voice. Because these values are the most closely related values to the political process, they suggest an important role for migration in the spread of democracy as migration flows from less democratic countries to more democratic countries greatly outnumber flows in the opposite direction.

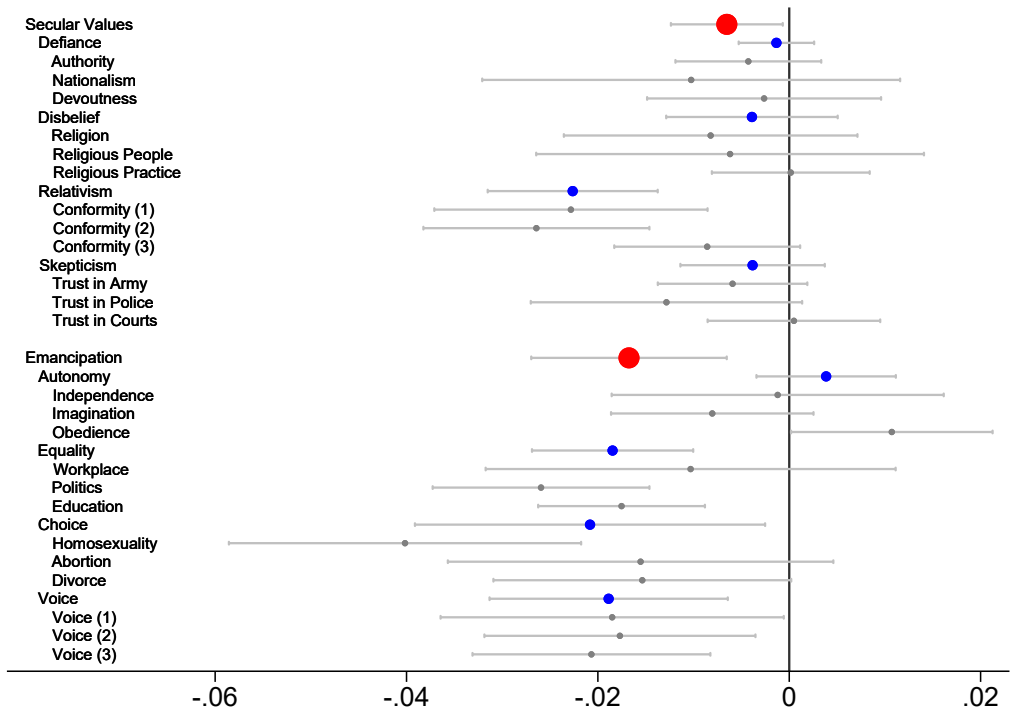
I present more direct evidence for this claim by modifying the dependent variable in equation (11) as follows

$$\min\left(V_{it}, V_{jt}\right) = \delta^{min} D_{ij}\left(\boldsymbol{I_{t-5}}\right) + \lambda D\left(\Delta I_{ijt}\right) + \text{controls}_{ijt} + \epsilon_{ij} \tag{12}$$

Because the value measures are all increasing in their degree of secularism and emancipation, a negative estimate of δ^{min} implies that for country pairs with more similar diasporas, the less secular and emancipative country in the dyad will become more secular and emancipative due to cultural transmission via migration. I present the results of this estimation in figure (5). Estimates of δ^{min} for both primary indices and the four secondary indices most closely related to the political process (relativism, equality, choice and voice) are all negative and statistically significant, lending further support for the hypothesis that migration plays a key role in the spread of democracy. Importantly, this role would go unfilled in the absence of cultural remittances.

computed by the WVS.

Figure 5: Effects of Diaspora Difference on Values in Less Secular/Emancipative Countries(Approach 3)



Notes: Estimate of δ^{min} from a country pairs regression of the smaller value within a country pair on lagged diaspora difference controlling for the difference in diaspora flows over the past five years, population of each country, total immigration flows between countries i and j, total stocks of immigrants originating from countries i and j and country i, country j and year fixed effects. Estimates for primary value indices are shown in red, estimates for secondary value indices are shown in blue, and estimates for tertiary value indices are shown in grey. 95% confidence intervals shown. Robust standard errors are computed using two-way clustering on country i and country j.

5 Conclusion

Migration is one of the central forces that has shaped societies. It is perhaps no surprise then that culture, one of the hallmarks of civilization, has been shaped by migration. In the past, costly transportation and communication made for unilateral migration links: the vast majority of people who would travel from one society to another would never again impact their homelands. One of the many effects of the exponential decline in these costs is that migration links are now bilateral. This facilitates the exchange of some of the most valuable assets of countries – their values.

Identifying whether similarities between two countries that are linked by migration are due to exports, remittances or simply a common context is a difficult identification problem, and this is

the case whether one is studying culture, trade, or any other form of exchange. This paper presents one possible approach to untangling this problem by taking advantage of the fact that there is a global migration network, and second order links in this network, which can be conceptualized with the notion of a diaspora, can yield clues about remittances.

Given the nature of migration – a substantial fraction has historically occured and continues to occur from the global South to the global North – remittances may be crucial to shared prosperity, innovation and freedom. A growing body of research finds that certain cultural values such as trust (Bjørnskov (2017)) and individualism (Gorodnichenko and Roland (2017)) are engines of economic growth. Moreover, it has been noted that countries with similar political systems (particularly democracies) rarely go to war with one another (Babst (1964)). With these facts in mind, strengthening migration links can be a valuable tool for reducing poverty and promoting peace.

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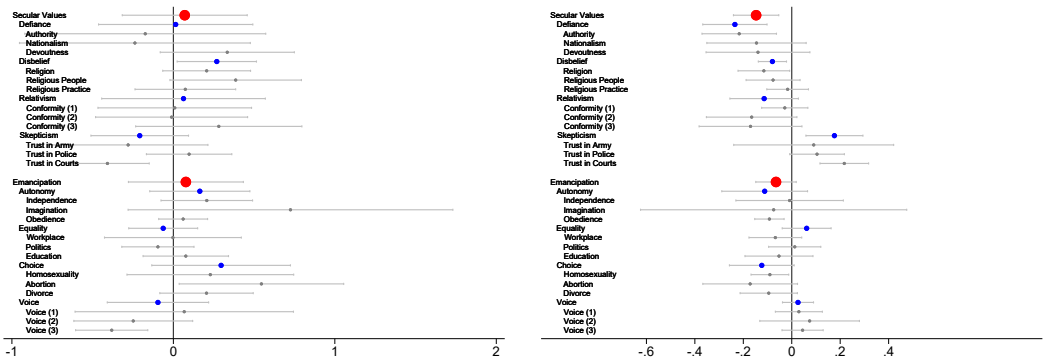
A Appendix Figures

Figure 6: Effects of Migration-weighted Values on Values (Approach 1) - No Controls

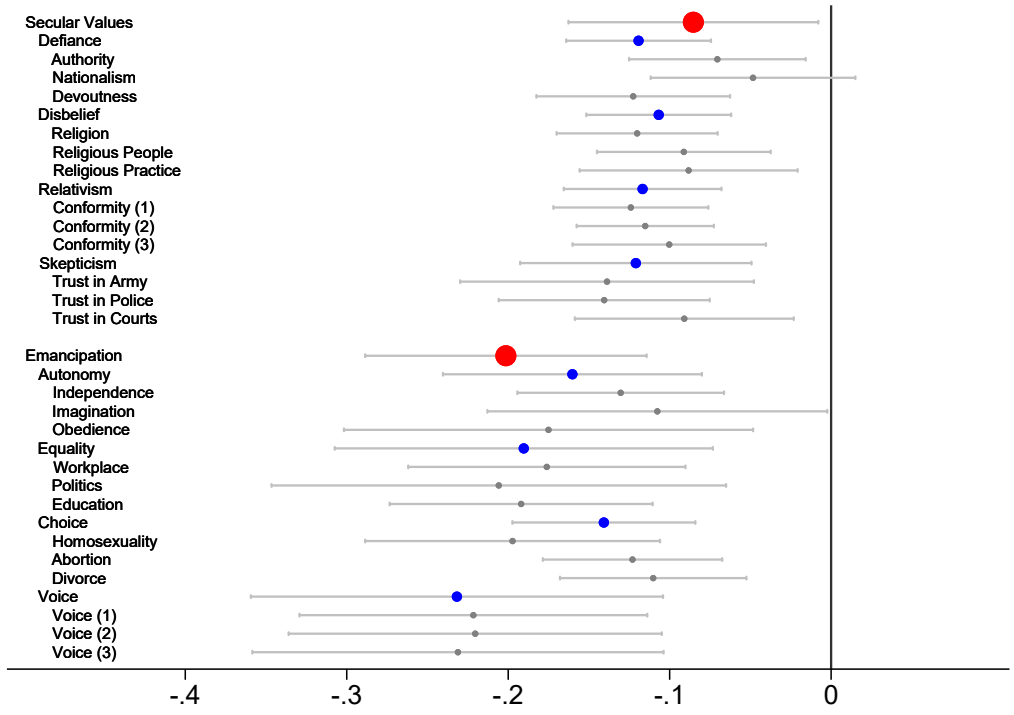
(a) Cultural Exports

(b) Cultural Remittances



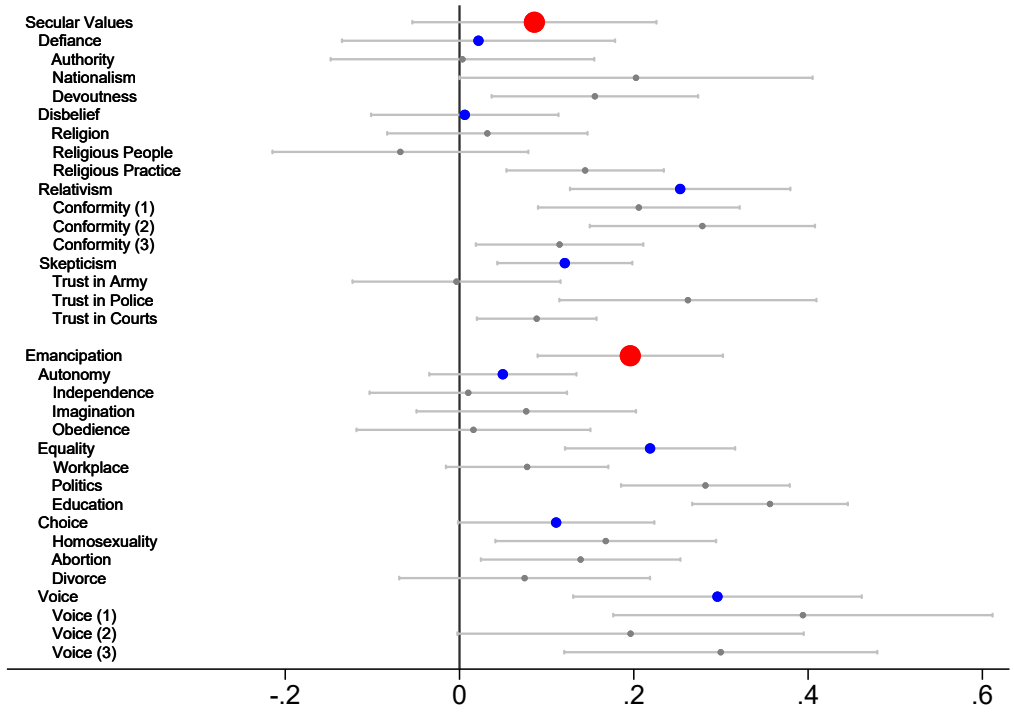
Notes: Estimates of β and γ respectively from a regression of country i values on migration-weighted values. Estimates for primary value indices are shown in red, estimates for secondary value indices are shown in blue, and estimates for tertiary value indices are shown in grey. 95% confidence intervals shown. Robust standard errors are clustered by country i.

Figure 7: Effects of Total Immigration Flows on Values Differences (Approach 2) - No Controls



Notes: Estimate of α from a country pairs regression of value differences on total immigration flows between countries i and j controlling for year fixed effects. Estimates for primary value indices are shown in red, estimates for secondary value indices are shown in blue, and estimates for tertiary value indices are shown in grey. 95% confidence intervals shown. Robust standard errors are computed using two-way clustering on country i and country j.

Figure 8: Effects of Diaspora Difference on Values Differences (Approach 3) - No Controls



Notes: Estimate of δ from a country pairs regression of value differences on lagged diaspora difference controlling for year fixed effects. Estimates for primary value indices are shown in red, estimates for secondary value indices are shown in blue, and estimates for tertiary value indices are shown in grey. 95% confidence intervals shown. Robust standard errors are computed using two-way clustering on country i and country j.