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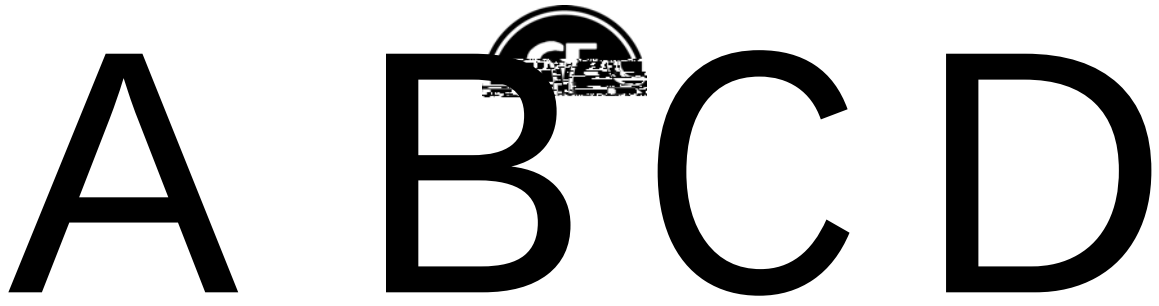

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PRODUCT-BASED CULTURAL CHANGE: IS THE VILLAGE GLOBAL?

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ABSTRACT

Product-Based Cultural Change: Is the Village Global?*

This paper makes three contributions to the growing literature on culture and economics. Using answers to the World Values Survey for a sample of 79 countries over the 1989-2004 period, we first provide evidence of cultural homogenization between countries. Second, we provide a model of product-based cultural change. Our main theoretical predictions are: (i) bilateral trade openness reduces bilateral cultural distance; (ii) the more differentiated the products, the more trade reduces cultural distance; (iii) trade openness has a lock-in effect on culture. Third, we test the model using an instrumental variable approach and including various time and country-pair fixed effects. We find that a one standard deviation increase in bilateral trade openness translates into a 43% standard deviation decrease in bilateral cultural distance.

JEL Classification: F10, O10 and Z1
Keywords: culture, homogenization, persistence and trade

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1. Introduction

What is the impact of globalization on values and preferences? Do cultural values get progressively homogenized and converge towards common patterns over the world, or is there an irreducible persistence of cultural speci…cities across communities? This paper is a …rst attempt to shed both theoretical and empirical light on these issues from an economist's perspective.[1] Our view is that cultural change is partly driven by consumption of a myriad of di¤erentiated products such as movies, music, books, cars, clothes, cosmetics, food, beverages, jewelry and other conspicuous goods. These products convey symbols that are valued di¤erently by agents belonging to di¤erent cultures. As a consequence, the relative supply of these products has an impact on the relative bene…ts of belonging to di¤erent cultures. Typical examples of this mechanism include the widespread rise in consumerism during the post-world war period, the declining trend in religiousness experienced by Western countries over the 20th century and the recent erosion of traditional social norms and categories in emerging countries.[2]

This paper provides a simple theory of product-based cultural change where we borrow insights from psychology and the branch of marketing called consumer research and we incorporate these insights into an otherwise standard economic model. Our main theoretical result is that product market integration reduces bilateral cultural distance. Using answers to the World Values Survey for a sample of 79 countries over the 1989-2004 period, we construct a measure of bilateral cultural distance and we …nd evidence of a trend toward cultural homogenization. Our econometric results con…rms that international trade ‡ows are a strong vector for cultural homogenization as a one standard deviation increase in bilateral trade openness translates into a 43% standard deviation decrease in bilateral cultural distance.

The key insight of our theory is that the long-run distribution of cultural types and the supply of (di¤erentiated) consumption goods are co-determined at the equilibrium. Cultural types drive the demand for consumption goods but the supply of consumption goods has a feedback e¤ect on cultural types. Hence any exogenous supply shock may have a long-run e¤ect on cultural types. In particular, we show that product market integration between two countries leads to a decrease in their bilateral cultural distance. This is because the removal of trade barriers increases the incentives of …rms to anchor their products to cultural types common to the two countries. We also show that the e¤ect is larger when the traded goods are more di¤erentiated. This is 6ultural ten

be used to build social networks).

Our paper provides an additional perspective in the current debate among economists on the possible sources of long-run persistence in economic outcomes. Over the past few years, two schools of thoughts have provided contrasted views on the issue. The …rst one, led by Acemoglu, Johnson and Robinson (2001), emphasizes the role of institutions such as the judicial system or the enforcement of property rights. Institutions are shown to persist over the course of many centuries and are also shown to have a signi…cant and robust impact on economic outcomes. The second one emphasizes instead the role of culture, and more speci…cally the role of values

di¤erentiated consumption goods (food and beverages, fashion clothes, cars, cosmetics, jewelry and other conspicuous goods). As a consequence, …rms tend to take this dimension into account in their marketing strategies and brand image management (Aaker 1997, Govers and Schoormans 2005).

Two …ndings from the marketing literature are worth stressing. First the symbolic content of products is an important factor in directing consumer preferences. Salhlin's in‡uential work (1976) on the symbolism of North American consumption goods shows how consumption of food and clothing items can be directly related to the cultural category of individuals. Motivated by self-consistency, consumers prefer products that have a symbolic meaning consistent with their own identity and values (Sirgy, 1982). Since the seminal paper of Belk (1988), researchers on consumer behavior have also investigated what is called the extended self that is the notion that "who we are is what we have"[5]. Agents use their consumption patterns to de…ne their own identity by signaling information to their self and to other agents (Holman 1981, Solomon 1983, Berger and Heath 2007). This simple theory

associated to characteristics perceived as positive, this association increases the propensity to consume the product.

To summarize, our reading of the literature in anthropology and in consumer research suggests that: (i) consumption goods convey symbols; (ii) consumers prefer products that convey symbols

Standard computation yields:

$$\begin{cases} \text{For type X agents: } c = \frac{1+}{2} P^{(-1)} p^{-} \text{ and } c = \frac{1-}{2} P^{(-1)} p^{-} \\ \text{For type Y agents: } c = \frac{1-}{2} P^{(-1)} p^{-} \text{ and } c = \frac{1+}{2} P^{(-1)} p^{-} \end{cases} \tag{3.2}$$

where the aggregate price index for each composite good $i \quad X;Y$ is given by: $P = (\int_0^R p^{1-} dk)^{1/(1-)}$. Given q ; the current fraction of individuals of type X, aggregate demands for varieties $(x;y)$ are given by:

$$D = \frac{1}{2} + ! \quad q \quad \frac{1}{2} \quad P^{(-1)} p^{-} \text{ and } D = \frac{1}{2} + ! \quad \frac{1}{2} \quad q \quad P^{(-1)} p^{-} \tag{3.3}$$

3.1.2. The supply side

Upon entry, …rms anchor their product to a cultural type, X or Y; and a …xed labor cost F must be paid to start production. Then the production of one unit of product requires one unit of labor. Monopolistic competition prevails on the product market. Finally, we assume that entry and exit (and therefore the number of varieties N and N that are tied to a particular cultural type) adjust instantaneously within each period t; such that pro…ts are equal to zero. This captures in a stylized way the idea that cultural transmission and evolution of preferences across generations takes more time than market structure adjustment.

3.2. Dynamics of Preferences

At this stage, we have described preferences and production at a given date t, and therefore for a given fraction q of type-X agents. We now endogenize how the distribution of preferences evolves over time. In this, we follow a recent line of research which provides a simple micro founded selection process of preferences over time[7]. The dynamics of q comes through a process of intergenerational transmission of preferences. The key assumption of this approach is that parents are imperfectly altruistic. Parents derive utility from their children's consumption but value their children' consumption through the …lter of their own preferences. This implies that if their o¤spring ends up with preferences di¤erent from their own, she will choose a consumption pro…le that maximizes her own utility but not her parents' utility. Thus, it is optimal for a rational parent to spend valuable resources to raise the probability of her child adopting her parents' preferences. According to this process, the distribution of preferences across agents evolves over time and reaches a long run stationary state.

[7] See Bisin and Verdier (1998) in the context of interdependent preferences, Bisin and Verdier (2000) and Bisin et al. (2004) for mariage and religion, François (2002) for social capital and development, Hauk and Saez-Marti (2002) for corruption, Saez-Marti and Zenou (2005) for racial discrimination, Jellal and Wolf (2002) for intergenerational altruism, Tabellini (2008) for pro-social behaviors.

Preference transmission partly results from the direct e¤ort of parental transmission but it also depends on indirect contamination from the rest of the society in case of failure of direct transmission. More precisely, we assume that an e¤ort exerted by parents of type i X; Y results into a probability of the o¤spring being socialized by her parents and adopting their preferences. With probability (1) the o¤spring remains naive and gets socialized by another old generation individual, of type X or Y; through random matching with conditional probabilities (q ; 1 q): Thus, a parent of type i who exerts an e¤ort will successfully transmit her type to her o¤spring with probability P where P = + (1) q and P = + (1)(1 q). E¤ort has a convex cost that we assume quadratic ^{2}=2.

Consider now V ; the expected welfare derived from the optimal consumption behavior of a child of type j as perceived through the preferences of a parent of type i. When o¤springs are of a di¤erent cultural type than their parents, the parents incur a utility cost to see their kids di¤erent from them. This cost is equal to: V = V V . As a consequence each parent of type i chooses an optimal e¤ort of transmission which is given by = arg max P ( )V + (1 P ( ))V ^{2}=2 . Solving this maximization problem yields the optimal e¤orts of transmission for parents of type X and Y :

$$= V (1 q) \text{ and } = V q \tag{3.4}$$

For a parent of type X the optimalsee their yields

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q) x

relative to agents of type Y , $q = (1 - q)$, the more type-X parents free-ride on the socialization process to transmit their type to their o¤spring. In turn, they reduce their e¤ort of transmission and therefore q is lower.

Insert Figure 1 and Figure 2

We can now analyze the full dynamics of our model, which are depicted in the phase diagram on Figure 1. The dashed curve CS in Figure 1 represents the locus of Cultural Stationarity corresponding to equality in condition (CS). It is an upward sloping curve. It represents the set of $(q ; N$

strong that the relative-variety e¤ect dominates the cultural free-riding e¤ect and the initial positive perturbation of q is self-reinforcing.

We formalize this intuition in Appendix B, resulting in the following proposition:

Proposition 1:

For $1 + !^2$; the value $q = 1=2$ is the unique steady state which satis…es (3.9) ; it is globally stable. For $1 < < 1 + !^2$; there are three steady states ($q_0 < 1=2 < q_1$) which satisfy (3.9)[9]; the two stable equilibria are $(q_0; q_1)$ while $q = 1=2$ is not stable.

Proof: See Appendix B.

3.4. Trade Integration

We now consider trade integration between two identical economies, labelled as the domestic and foreign (*) economies. The size of each economy is normalized to 1. We assume that: (1) there are two idiosyncratic cultural types, X and X^*; which are speci…c to the domestic and the foreign country respectively; (2) there is a cultural type, Y; which is common to both countries[10]. As a consequence, at equilibrium, type-X goods are consumed only in the domestic country; type-X^*

number of varieties. This leads to (PM'), the counterpart under trade integration of the Product Market (PM) condition:

$$\frac{N}{N} = \frac{1}{2}\,\frac{1+2!\ q^{\frac{1}{2}}}{1-2!\ q^{\frac{1}{2}}} \qquad \text{(PM')}$$

Comparing (PM') with (PM), one can directly observe that, for a given q, the relative number of type-Y varieties is larger under trade integration than under autarky. This is due to the standard market size e¤ect present in trade models à la Krugman (1979). Here this e¤ect is reinforced by a feedback e¤ect from the cultural dynamics q on aggregate demand. As depicted on Figure 3, the downward shift of the product market curve from (PM) to (PM') induces a shift in the cultural transmission e¤ort: more e¤ort for parents with the common cultural type Y; less e¤ort for parents with the idiosyncratic cultural types X or X^*. This brings down the steady-state value of q. A look at …gure 3 shows that the magnitude of the e¤ect depends on the slope of the (CS) curve around the point $q = 1$

Once an economy has opened to trade and shifted from the high autarkic equilibrium q_1 to the low integrated equilibrium q_0, stability of that equilibrium ensures that the economy is trapped in its neighborhood: if it were to close to trade, (PM') would switch back to (PM) and the economy would converge to the low autarkic equilibrium q_0.

3.5. Testable implications

The analysis above has implications both in terms of consumption pro…les, through the ratio $N_{-}=N$, and in terms of heterogeneity of preferences and cultures, through q. Empirically though, we do not have data which allows us to classify consumption goods along di¤erent clusters of symbols and/or values. We are thus obliged to focus on the implications of the model concerning the impact of trade openness on q. In this respect, our empirical strategy is similar in spirit to arguments in the sociology literature which analyzes the impact of the larger supply of consumption goods made possible by international trade on cultural issues such as religion[12] or the roles played by caste or by politeness in the society[13].

The dependent variable in our empirical analysis is bilateral cultural distance, D; de…ned as the probability that two randomly picked up individuals in two di¤erent countries do not share the same

4. Empirical evidence

In this section we …rst build a time-varying measure of cultural distance and we provide some descriptive statistics. We then test each of the three predictions in Proposition 3.

4.1. Data

The World Value Survey (WVS) is a widely used dataset in the growing …eld on culture and economics. It is an opinion survey which conveys information on attitudes, beliefs and values at the household level. In total, more than 200,000 individuals, above the age of 15, from 82 countries are surveyed in a repeated cross section that comes in four waves (1981-1984, 1989-1993, 1994-1999 and 2000-2004). Our microfounded theory is about trade induced changes in intergenerational transmission of values from parents to children. From an observational perspective, the empirical testing of our theory can take two routes. Either we regard interviewed individuals as children of past generations and we track changes in values that they actually inherited from past generations; either we regard interviewed individuals as (actual and potential) parents of future generations and we track changes in values that they intend to transmit to future generations. The drawback of the inherited value approach is that the statistical identi…cation relies only on the arrival of new generations of adult individuals: Unfortunately the time-series dimension of the VWS (two decades) is potentially not long enough to observe such a intergenerational renewal of values.[14] By contrast the value transmitting approach is compatible with a shorter time-series coverage: Intentions of transmitting values may indeed react quickly to an exogenous shock, even for a given generation of individuals. As a consequence we adopt the value transmitting approach in our empirical analysis. To this purpose we retrieve from the WVS all the questions related to transmission of values from parents to children. This consists of a set of 12 questions that are presented in details in Appendix E. Two questions refer to duty and respect between parents and children; ten questions relate to the core values that parents should transmit to their children[15]. In our robustness analysis in Section 4.6 we also implement the inherited value approach by looking at the time-series evolution of core values embodied in individuals. We consider successively two enlarged sets of 30 and 50 values and then three speci…c core values. In all cases the results, while slightly less signi…cant, are quantitatively similar to the results obtained with the set of 12 questions.

In order to attenuate measurement errors, we restrict our analysis to the subsample of countries and waves for which the full set of 12 questions is available. This leads to dropping the …rst wave of the WVS and leaves us with a subsample composed of 40 countries for wave 2; 50 countries for wave 3; and 63 countries for wave 4. When a country is present for a given wave, it is generally also present in

[14] Among the datasets with information on va lead(n)-3570(to)-7cout62; 50 coulo42(a)ouato to

value is measured by v, the ordinal answer to the value k. Let us consider two individuals $(a;b)$ randomly picked in the world population. We define d; the inter-individual cultural distance between a and b as:

$$d \quad (v \quad v) \; W(v \quad v) \tag{4.1}$$

where $(v \quad v)$ corresponds to the vector of "ordinal differences" defined as: $k \quad (1;12); (v \quad v) = 1$ if $v \quad = v$ and 0 otherwise and where W is a $12 \quad 12$ weighting matrix.

We consider two possible specifications of d corresponding to two different specifications of the weighting matrix W. The unweighted cultural distance corresponds to the case where $W = I_{12}/12$. This distance gives equal weight to all questions. In this case, d simply corresponds to the fraction of the set of 12 values which individuals a and b disagree upon. The weighted cultural distance considers a weighing matrix $W = \quad ^{-1}/\text{sum}(\quad ^{-1})$, where $\quad$ is a matrix of correlations across values. This definition of d corresponds to the Mahalanobis distance between the random vectors v and v; which is a measure of dissimilarity widely used in statistics. We present details of the construction of the weighted cultural distance in Appendix D. Intuitively though, the correction using $\quad$ amounts to giving less weight to values that are strongly correlated across individuals. This is to avoid the case where a same underlying value is being tested with more than one question in the survey.

We now construct cultural distances across countries. For a given pair of countries $(i;j)$, we define the bilateral cultural distance as the average of inter-individual distances d across individuals belonging to i and j:

$$D \quad = \frac{1}{N \; N} \sum_{\in} \sum_{\in} d \tag{4.2}$$

In our econometric analysis we need to control for cultural heterogeneity within country. To this purpose we also define internal cultural distance for a country i as:

$$D \quad = \frac{1}{N \; (N \quad 1)} \sum_{\in} \sum_{\in \atop \neq} d \tag{4.3}$$

The internal cultural distance can be interpreted as the probability that two randomly picked individuals from the same country have different values.

Building (4.2) and (4.3) is computer intensive because of dimensionality issues. There are more than $200;000$ individual observations in the WVS. This corresponds roughly to $2 \; 10^{10}$ inter-individual distances d. Reducing the dimensionality of this system is crucial (see appendix D). However, in the case of the unweighted distance, the solution turns out to be very simple because bilateral distance (4.2) can be rewritten as:

$$D \quad = \frac{1}{12} \sum_{=1}^{12} 1 \quad f \quad f \tag{4.4}$$

where f and f represent the frequency vectors of answers to value k in countries i and j respectively.

The interpretation of the unweigthed distance (4.4) is clear: it corresponds to the average of the standard one-dimensional fractionalization indices based on each single value k.[17] Given this simple interpretation, we opte to use the unweighted bilateral cultural distance, as de…ned in equation (4.4),

4.4. Empirical strategy

In this section, we present our strategy to identify a causal link from international trade openness to bilateral cultural distance. For a given pair of countries $(i; j)$ at a given year t; the basic speci…cation consists in regressing D , our measure of bilateral cultural distance, on the log of bilateral trade openness de…ned as $\ln OPEN \quad \ln(M =GDP + M =GDP)$ where M represents the imports by i from j:

$$D = {}_1 \ln OPEN + CONTROL \beta + FE + " \tag{4.5}$$

where $"$ is an error term, $CONTROL$ is a set of control variables and FE is a set of country-pair

access, country-pair cable TV access and country-pair phone call out‡ows per capita.[19] Sample coverage is signi…cantly better for the last variable than for the other two. We thus use country-pair phone call out‡ows per capita

An increase in $REMOTE$ is expected to increase bilateral trade openness within the pair of country $(i; j)$. The fact that we …lter out country-pair …xed e¤ects in all our IV regressions is important to guarantee the exogeneity of this instrument. Indeed, the purely geographical part of the remoteness index is time invariant and could be linked to cultural history between the two countries. It is thus important to exploit only the time-series variations of $REMOTE$; fortunately those variations are driven by variations in GDP growth of countries k outside the country-pair $(i; j)$. It is therefore not a¤ected by the bilateral relation of the two countries for which we want to estimate the index of cultural distance.

Our second instrumental variable is a measure of trade contagion at the country-pair level. Recent empirical works (Egger and Larch 2008, Baldwin and Jaimovich 2008) show that bilateral trade of a given pair of countries is positively a¤ected by the signing of a FTA with a third country. This stems from the threat of trade diversion that forces the pair of countries to reduce bilateral trade barriers. Hence there is a contagion e¤ect from outside FTAs to bilateral trade. We consider the following bilateral index of contagion by Baldwin and Jaimovich (2008)[20]:

$$CONTAGION = \sum_{\neq} \frac{M_{0}}{GDP_{0}} FTA + \sum_{\neq} \frac{M_{0}}{GDP_{0}} FTA \qquad (4.7)$$

where FTA is a dummy variable coding for the existence of a FTA between i and k at date t; and $M_{0}=GDP_{0}$ is the share of imports by country k from country j the year the FTA between i and k was signed. In words, this represents for a given year t the accumulated sum of the FTAs signed by i with third countries outside the pair, weighted by the commercial importance of the third countries to j. Just like the previous instrument, the time variation of the contagion index is not a¤ected by the bilateral relation between countries i and j. An increase in $CONTAGION$ is expected to increase bilateral trade openness within the pair of countries i and j:

Filtering out country-pair …xed e¤ects implies that the causal impact of the IVs on bilateral trade openness is identi…ed along the time-series (ie. within country-pair) dimension only. Interestingly the time-series correlation between the two IVs is pretty low (0.22) meaning that exploiting the IVs separately o¤ers two independent identi…cation strategies. Yet, our base speci…cation uses 2SLS estimates of equation (4.5) where openness is instrumented with both IVs at the same time as it allows us to perform overidenti…cation tests. However, in our robustness analysis, we also report results of 2SLS estimates where openness is instrumented with each IV separately. We …nd that the choice of IV does not a¤ect signi…cantly our point estimates.

4.4.3. Testing for path dependency

signi…cant. A one standard deviation increase in bilateral trade openness translates into a 43% standard deviation decrease in bilateral cultural distance. This e¤ect is sizeable and it dominates the e¤ect of the control variables. By comparison indeed, a one standard deviation change in phone call out‡ows, bilateral migration and GDP per cap di¤erential translate into a change in bilateral cultural distance of respectively 34%, 6% and 5% standard deviation.[24]

We test for path-dependency in columns 5 and 6 where our preferred speci…cation is estimated respectively on the subsample of country-pairs experiencing an increase in bilateral openness and on the subsample of pairs experiencing a decrease in openness. In the case of an increase, the coe¢ cient on bilateral openness remains negative and signi…cant at the 1% level; in the case of a decrease, the coe¢ cient is not signi…cantly di¤erent from zero. As discussed in the previous section, we can interpret

in column 7. By way of contrast, the coe¢ cient of openness in homogenous goods is reduced by a factor …ve (in absolute value) and is not signi…cantly di¤erent from zero. This …nding validates our theoretical prediction stating that the impact on cultural distance is larger for trade in di¤erentiated goods than for trade in homogenous goods[28]. Also of interest is the coe¢ cient of openness in cultural goods which is large and signi…cant. This …nding is in line with the common view that trade in cultural goods is likely to be an important channel of bilateral cultural in‡uences[29]. More importantly, the fact that we control for trade in cultural goods implies that trade in di¤erentiated goods, net of cultural goods, has a signi…cant causal impact on cultural distance. In other words, we …nd that di¤erentiated goods vehicle elements of cultural transmission, which supports our theory of product-based cultural change.

4.6. Robustness Checks

We now want to investigate whether the results obtained in the previu2gurao-411(4ci)1(gon-411(pa1(Ch)-2(a)-271-4
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a¤ected by the cultural impact of trade than the rest of the population. This di¤erential impact may occur either because these groups are more exposed to the treatment (ie. trade openness) or because they are likely to overreact in terms of cultural change.

Exploiting the household characteristics available in the WVS, we rebuild measures of cultural distances for certain groups of individuals. More precisely, within the population of each country we select a reference group G of individuals for which we suspect that cultural change is a¤ected di¤erently by trade openness than the rest of the population. For each pair of countries $(i; j)$ we thus build the bilateral cultural distance between the reference groups G of the two countries: the procedure is similar to equation (4.2) except that here inter-individual distances are averaged across individuals belonging to the group G in country i and to the group G in country j. We similarly build the bilateral cultural distance between the populations of individualsdi¤32(h)-1(ou082cultural)-334(d)-1(i)c

exposed to imported goods should see their values change more than groups that are less exposed to trade. This insight is again con…rmed by regressions in Table 5: looking at the coe¢ cient of the interaction variable between bilateral openness and the dummy variable corresponding to the subgroup of

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Appendices

A. Foundations of equation (3.5)

Thus $H(q)$ admits one and only one local minimun in $q = 1/2$: Indeed we have

$$H'(q) = \frac{2(1 - !^2)\ q - \frac{1}{2}}{(q(1-q))^2}$$

It is straightforward to check that $H'(1/2) = 0$ and that $H'(q) > 0$ i¤ $q > 1/2$.

Thus $H(q)$ is decreasing for q [0; 1=2] and increasing for q [1=2; 1]: And we get from (B.1):

$$q; \frac{C'(q)}{P'(q)} \quad \frac{C'(1/2)}{P'(1/2)} = \frac{1}{!^2} \tag{B.2}$$

Step2: case where $1 - !^2$

From (3.9) it is clear that $q = 1/2$ is a steady state. From (B.2) we get that $C'(1/2)$ $P'(1/2)$. Hence 1=2 is a stable steady state. Moreover from (B.2) we get that any alternative steady state q should also be stable. Because of C^1 di¤erentiability of $P($

As we know that q = 1=2; k = 1; k = 1=2 we can rewrite the previous equation as:

$$\frac{q \quad q}{q} \qquad \frac{1}{C'(1=2)=C(1=2) \quad P'(1=2)=P(1=2)}$$

$$\frac{1}{4!}\frac{1}{(\quad 1)=!^{2} \quad 1}$$

D. Weighted cultural distance

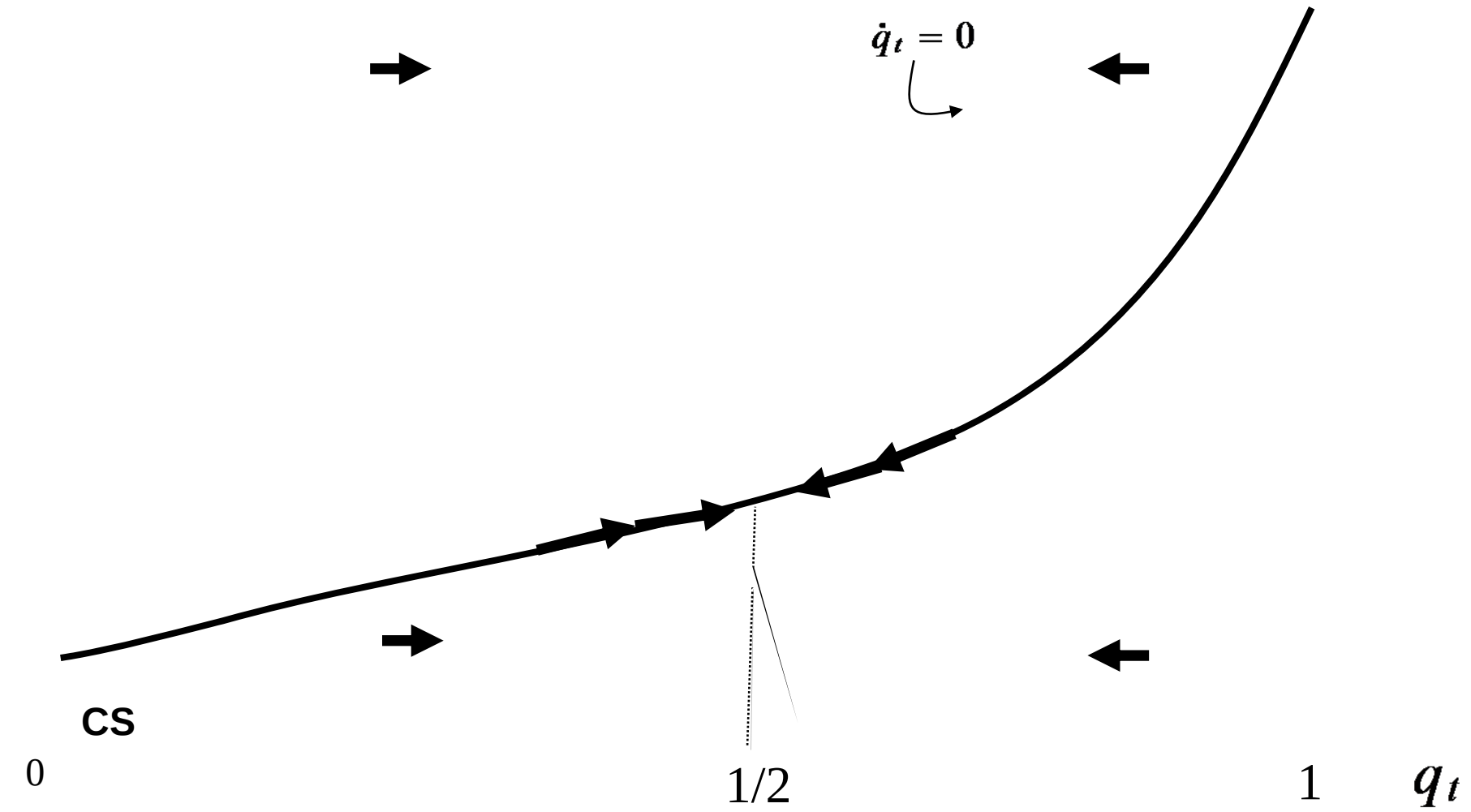
We de...ne d the inter-individual cultural distance between a and b as :

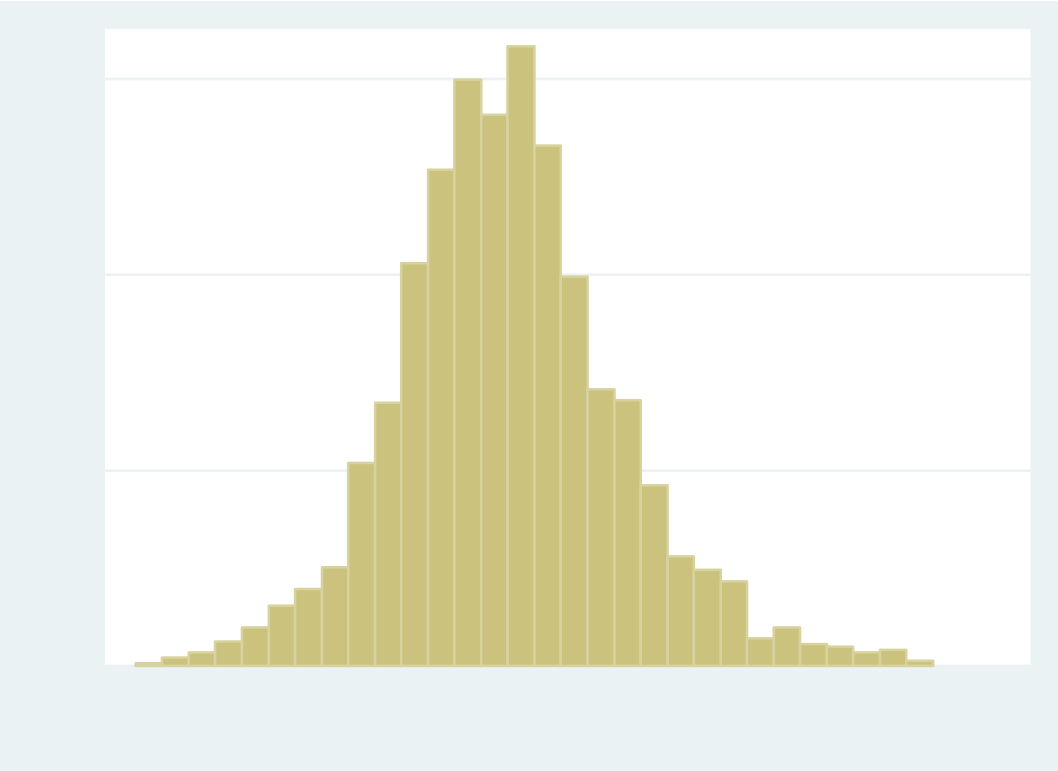
$$d \quad (v \quad v) \; \frac{^{-1}}{\text{sum}(\ ^{-1})}(v \quad v)$$

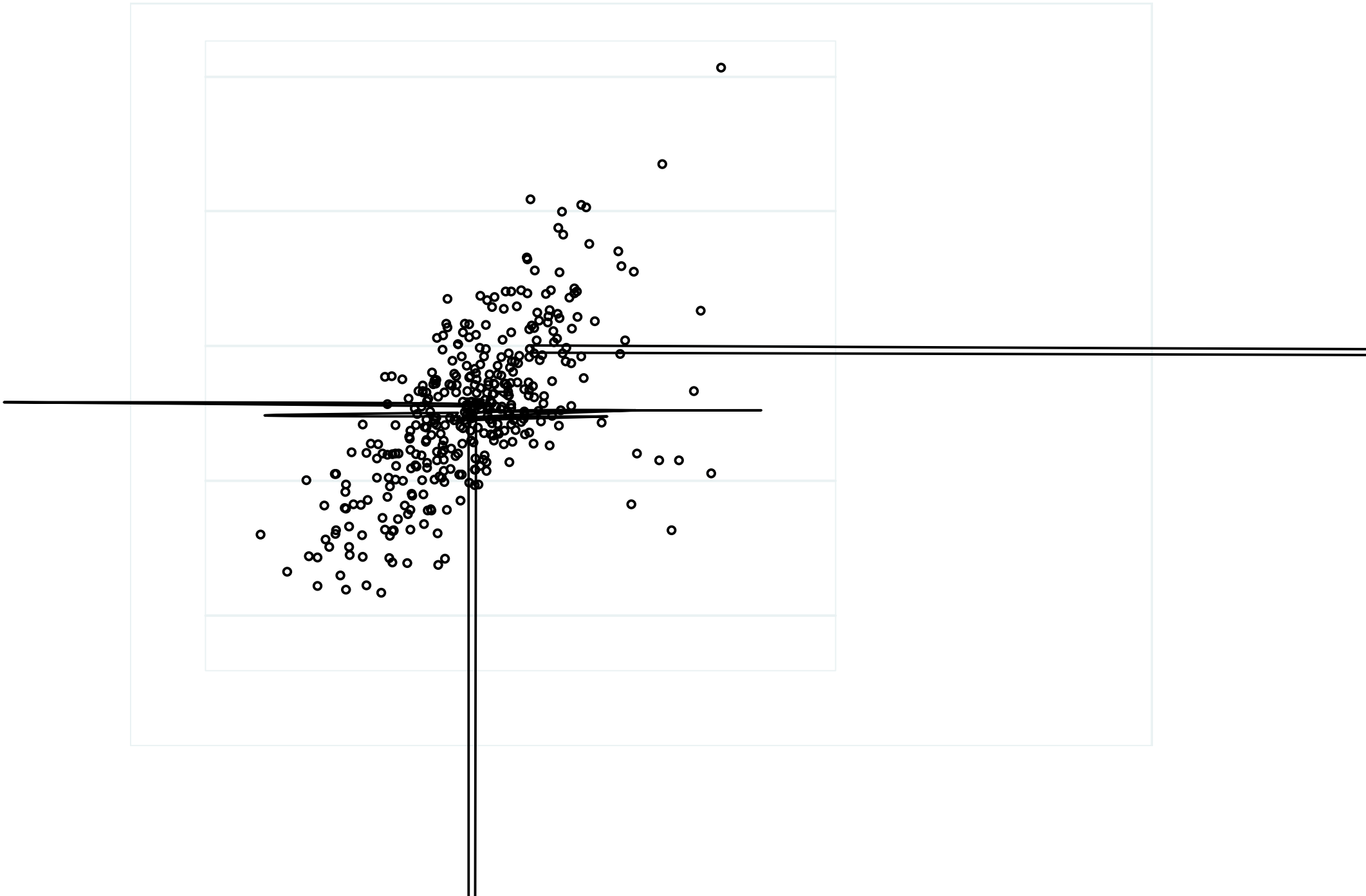
where (v v) corresponds to the vector of "ordinal di¤erences" de...ned as: k (1; 12); (v v) = 1 if v = v and 0 otherwise. The weighting matrix $^{-1}$ corresponds to the inverse of the matrix of polychoric correlations [31]between values computed on the full sample of individuals. The rescaling parameter sum($^{-1}$) corresponds to the sum of all the elemens1

the country-level information f ; this allows to considerably reduce computation time (by a factor N N 10^6)

Figure 1: Phase Diagram in the case $\sigma > 1+\omega^2$







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