# The Impact of Fractionalization on Cultural Distance Measures

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**Abstract**

We examine the impact of ethno-linguistic fractionalization (ELF) on existing cultural measures employed in various social sciences. Not only do high levels of fractionalization affect the use of statistical means to account for cultural distance, we show that it is not constant and therefore the dynamics of change need to be addressed. This provides us with an opportunity to bridge the cultural distance and institutional distance literature as institutions impact upon culture and MNEs, and institutional development is, in turn, affected by these. We call for a more realistic assessment of what is being captured in cultural measures and for recognition of the complexity of the notion of identity formation and its dynamics. Countries may have different underlying cultural schisms, including ELF, and its introduction will allow for a richer exploration of distance and diversity in the social sciences.

**JEL codes:** Z10; M16; O10

**Keywords:** Cultural distance; entho-linguistic fractionalization; cultural measures

## 1 Introduction

Culture matters. It affects how individuals, groups and organizations relate and interact with one another and can act as a smoothing agent (a lubricant of sorts) or as a spanner in the works and thus has a bearing on the transaction costs of market and nonmarket activities. Cultural affinity is one of the bonding agents in the accretion of social capital whilst cultural distance can act as a deterrent. There can be no question that it plays an important role in various social sciences (including Sociology, Psychology and Economics) but our focus here will be on International Business (IB). Empirical work has focused on how culture impacts foreign investment expansion, entry mode choice and the performance of foreign affiliates, amongst other areas (Buckley, Devinney, & Louviere, 2007; Kirkman, Lowe, & Gibson, 2006; Kogut & Singh, 1988; Shenkar, 2001, 2012; Tihanyi,

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Griffith, & Russell, 2005; Tung & Verbeke, 2010; Zaheer, Schomaker, & Nachum, 2012). Cultural distance (CD), in particular, has been widely utilized in the IB literature and despite growing critiques of how these measures are constructed (see Au, 1999; Berry, Guillen, & Zhou, 2010; Hofstede, 2006; Hult, Ketchen, Griffith, Finnegan, Gonzalez-Padron, Harmancioglu, Huang, Talay, & Cavusgil, 2008; Kandogan, 2012; Shenkar, 2001, 2012; Zaheer, Schomaker, & Nachum, 2012), they continue to be applied often with a caveat at the start of the paper that the CD construct employed is problematic. The purpose of this paper is to demonstrate the implications of ELF on cultural measures, and highlight the implications of ELF on future research.

ELF refers to ethnic and/or linguistic diversity in countries and is conceptualized as the probability that two randomly chosen people belong to unlike groups. Higher levels of fractionalization are thought to capture fundamental differences between different groups including ethnic and linguistic but which could be applied to other dimensions such as religion. These cleavages may represent social "fault lines" which affect domestic cohesion and result in fractured societies. Examples are plentiful including religious schisms in Northern Ireland, ethnic and linguistic tensions in the Ukraine, racial exclusions in apartheid South Africa, and current levels of polarization in the Central African Republic which threatens to spill-over into genocide mirroring that in the nearby country of Rwanda 20 years ago. ELF, in turn, affects the use of statistical means to account for cultural distance in IB (discussed below) because it does not address potentially high levels of intra-cultural variance. It is possible to have a country with two polar ethnic groups of equal size that have very little in common other than being within a geographically defined space. This geography itself may be "unnatural" as many country borders were arbitrarily imposed by colonial powers. Furthermore, we will demonstrate in Appendix 1 that ELF is particularly concentrated in developing countries which not only make up the bulk of the world's countries and population but also increasingly is a source of both inward and outward foreign investment.

This has implications for the employment of CD constructs in IB. Firstly, how does culture fit with ethnicity? In countries which have been in existence for centuries this may not seem like a particularly pertinent question but even there we are seeing increasing moves towards balkanization. Witness the ongoing questioning of what it means to be British versus English or Scottish; or Spanish versus Catalonian, or Canadian versus Quebecois? But in developing countries, this is a very substantive issue where many countries were formed through artificial imposition as a result of colonialism. We have seen attempts to construct national cultures give way to ethnic conflict often through processes of political mobilization. Most recently some of the most severe cases have resulted in the genocide of Rwanda and Burundi, but we have also seen the ethnic conflict in Sudan and the Central African Republic, the conflict of the Moro people in the Philippines, the separatist conflict in southern Thailand, and the Tamils in Sri Lanka, or the failed state of Somalia and the various ethnic secessionist movements within that territory. As IB scholars extend their analysis to more countries it is going to become all the more important for us to reflect on

2

these deep rooted cleavages upon which national cultures are often constructed upon. ELF is an essential, some would argue primordial element of culture, which has not featured prominently within the cultural discourse in IB.

Secondly, we will demonstrate using a country case study that ELF is not constant over time and that one therefore has to account for the dynamic changes. Ethnic, linguistic, and religious diversity are affected through multiple channels. At its simplest, is the impact of migrants both legal and illegal, which is starting to impact on the nature of national societies and leading to debates about multiculturalism, assimilation and the erosion of traditional cultural values. But there are other avenues through which ELF is affected and we will demonstrate that aspects of ELF are endogenous to processes of modernization. As economies develop and modernize so it affects the linguistic and religious choices people make. In developing countries, where the middle class is often growing at unprecedented levels, this too impacts upon the nature of culture. Not only does it reflect itself in changing consumption patterns, it may also affect the suburbs people live in, where they school their children, who they choose to socialize with, the level of religiosity, and so forth. Cultural manifestations are dynamic and complex and this is particularly true for those countries which are experiencing rapid patterns of political and economic transition.

Rather than concluding that IB scholars should be wary of working in this field, given these caveats, we illustrate new fields of study that this opens up particularly as regards the complex webs of association in the dynamics of how these variables interact. How is culture and cultural distance influenced by ELF? And how are these affected by processes of economic modernization? This implies that we should not only be interested in how MNEs are affected by culture and cultural distance (culture being exogenous) but also how MNEs impact upon culture (culture being endogenous). This provides us with an opportunity to bridge the cultural distance and institutional distance literature, as institutions impact upon culture and MNEs, and institutional development is, in turn, affected by culture and MNEs. MNEs are not only institutional takers but makers too. ELF can also prove itself to be an important measure of country risk and an indicator of the economic and political prospects of a country (see Alesina & La Ferrara, 2005). These are all important extensions of the role of culture and how we measure it within IB.

The paper is structured as follows. We introduce the research on ELF, which has its origins in economics and political science, and raise the issues of dynamics, endogeneity and modernization. Next we examine these challenges in the case of South Africa. We conclude by analyzing the new canvass of opportunities that the introduction of ELF opens up for IB scholars interested in the examination of culture and CD.

## 2 Ethno-linguistic fractionalization

The modern origins of the use of ELF measures can be traced back to Soviet ethnographers in the early 1960s and this was published as the *Atlas Narodov*

*Mira*. Their list of ethno-linguistic groups has been employed subsequently by a myriad of scholars in the social sciences and most recently by economists seeking to explain long run growth and instability in less developed countries. Easterly and Levine (1997: 1205) drew attention to the potentially important role of ELF in influencing economic growth: "cross-country differences in ethnic diversity explain a substantial part of the cross country differences in public policies, political instability, and other factors associated with long-run growth." They find that ethnic diversity is an important predictor of economic performance. Their work, in turn, drew wide reaction from other social sciences including economics, political science and sociology which either sought to refute or confirm the findings or to further enhance the actual construction of the measures they used for ELF (Alesina, Devleeschauwer, Easterly, Kurlat & Wacziarg, 2003; Alesina, Easterly & Matuszeski, 2011; Baldwin & Huber, 2010; Desmet, Ortuño-Ortín & Wacziarg, 2012; Eifert, Miguel & Posner, 2010; Fearon, 2003; Posner, 2004).

The research on this has been varied but overwhelmingly confirms the strong influence of ELF on socio-political and economic outcomes. La Porta, Lopez de Silanes, Shleifer, and Vishny (1999: 245) find that higher fractionalization is "associated with more interventionism (worse property rights and regulation), lower government efficiency (more corruption, longer delays, lower tax compliance), inferior provision of public goods (higher infant mortality and illiteracy, lower school attainment and infrastructure quality), smaller government (transfers, consumption, and public employment), though more state enterprises, and finally less political freedom." They show that the adverse effects of ELF on government performance are in line with the suggestion that ELF captures the predilection of ethnic groups in power to redistribute. Alesina and La Ferrara (2005: 762) argue that the potential costs of fractionalization are fairly evident: "Fragmented societies are often more prone to poor policy management and pose more politico-economic challenges than homogenous ones". They do, however, highlight that "a diverse ethnic mix also brings about variety in abilities, experiences, and cultures that may be productive and may lead to innovation and creativity." Esteban, Mayoral and Ray (2012: 1336) find that "ethnic polarization has a large and highly significant impact on conflict across a number of different specifications. . . . For instance, moving polarization from the 20th percentile to the 80th percentile, holding all other variables at their means, approximately doubles the chances of conflict, and the same is true of fractionalization." At a more micro level, Alesina and La Farrara (2005) cite studies which conclude that ethnicity matters for gaining access to group resources including loans and their repayment, the organization of production, and even the informal enforcement of property rights in land markets. Aghion, Alesina and Trebbi (2004) examine a different angle, namely how much society chooses to delegate unchecked power to its leaders. Too much and there is the risk of tyranny, too little and there is the danger of inaction. They find that ethnically more polarized societies, tend to have more "insulated" rulers and that forms of government appear to be endogenous to ethnic fractionalization. A more recent contribution (Alesina, Michalopoulos, & Papaioannou, 2012) ex-

4

plores the consequences of contemporary differences in well-being across ethnic groups within countries. They construct measures of ethnic inequality combining ethno-linguistic maps on the spatial distribution of groups with satellite images of light density at night. Their thesis is that what matters for development are economic differences between ethnic groups coexisting in the same country. Income inequality along ethnic lines is likely to increase animosity, impede institutional development, and lead to state capture and conflict. The research on the impact ELF within the social sciences in the past decade has opened up new lines of research and encouraged multidisciplinary approaches to complex questions.

The ELF literature has not been uncontested and some of problems identified have overlaps with challenges associated with the CD constructs (Brewer & Venaik, 2010; Hofstede, 2010; House, Hanges, Javidan, Dorfman, & Gupta, 2004; Javidan, House, Dorfman, Hanges, & De Luque, 2006; Kirkman et al., 2006: 286; Sivakumar & Nakata, 2001; Taras, Steel & Kirkman, 2010; Tung & Verbeke, 2010) and is thus worth exploring in further detail. Fedderke, Luiz and De Kadt (2008: 261) outline a number of conceptual difficulties including the fact that the "very concept of ethnic identity on which measures of diversity are generally based, has been argued to be subject to conceptual ambiguity." They state that "ethnic identities are viewed as malleable, subject to change over time" and that since "individuals possess multiple ethnic identities at any given point in time, which identity proves salient depends on the circumstance in which agents find themselves." This has measurement implications in that that the wrong cleavage may be "identified by any formulaic or essentialist definition of ethnic or indeed any other (such as religious) form of identity."

Within IB there is an existing literature on the dynamics of ethnic and cultural identities which includes work on cultural identity negotiation, sense-making and multiculturalism (Birkinshaw, Brannen, & Tung, 2011; Brannen & Lee, 2014; Caprar, 2011; Hanek, Lee, & Brannen, 2014; Kuznetsov & Kuznetsova, 2014; Lakshman, 2013; Moore, 2011; Yagi & Kleinberg, 2011). This has often drawn on related work in psychology (Brannen & Lee, 2014; Hanek, Lee, & Brannen, 2014; Hong, Morris, Chiu, & Benet-Martinez, 2000). For example, Hong et al. (2000) propose a dynamic constructivist approach which describes how individuals incorporate multiple cultures in their construction of meaning and how this affects behavior. Hanek, Lee, and Brannen (2014) build on this psychological research, and examine how individuals who have been exposed to multiple cultures differ in their cultural experiences, cultural identities, and adaptation to foreign cultures.

Brown and Langer (2010: 3-5) identify three analytical approaches on the character of ethnicity: primordialism, instrumentalism and constructivism. The primordial view sees ethnicity "as a *natural* result of biological differences or a long historical process" and claim that ethnicity is "unchanging and unique". This view has been challenged and represents a distinct minority in the field. Instrumentalists believe that ethnic groups often interact in cooperative and peaceful ways and that there is nothing inevitable about inter-ethnic hatred. Ethnicity is a *resource* which can be exploited by elites and politicians for their

own purposes to mobilize hostility for resource extraction and the accumulation of power. Eifert, Miguel and Posner (2010), drawing on data from over 35,000 respondents in 22 public opinion surveys in 10 countries, lend support to situational theories of social identification and are consistent with the view that ethnic identities matter. Furthermore, they find strong evidence that ethnic identities in Africa are strengthened by exposure to political competition. In particular, for every month closer their country is to a competitive presidential election, survey respondents are 1.8 percentage points more likely to identify in ethnic terms. Using an innovative multinomial logit empirical methodology, they find that these shifts are accompanied by a corresponding reduction in the salience of occupational and class identities. This implies not only that ethnic constructs are important but also that they can be endogenously influenced and are not immutable through time. Lastly, constructivists see ethnic identity as a cultural endowment which emerges and is malleable and can be reshaped.

There is a further fundamental question which applies both to measures of ELF and CD, namely whether all differences matter equally. For example, Mexico and Switzerland have similar levels of ethnic fractionalization, whilst Luxembourg and Niger have approximate linguistic levels. But one could hardly argue that they mean the same thing substantively. A contribution of a recent paper by Desmet, Ortuño-Ortín and Wacziarg (2012) uses a phylogenetic approach to linguistic trees, describing the genealogical relationship between all 6912 world languages, to compute measures of diversity at different levels of linguistic aggregation. By doing so, they let the data inform which linguistic cleavages are most relevant for a range of political economy outcomes, rather than making ad hoc choices. They find that deep cleavages, originating thousands of years ago, lead to better predictors of civil conflict and redistribution. The opposite pattern emerges when it comes to the impact of linguistic diversity on growth and public goods provision, where finer distinctions between languages matter. Thus for distinct purposes, not all differences matter equally.

Lind (2007) adopts a different approach and argues that a more appropriate measure of fractionalization should take into account that some groups are more different than others, so we need a measure of group distance. We should then measure fractionalization as the average distance between every citizen, or equivalently the average distance between groups weighted by group size. He presents a method to estimate these distances from opinion survey data by regressing stated opinions on indicator variables from groups and a set of control variables. The coefficients on the group variables can then be interpreted as measures of distance. He uses stated preferences on policy questions as his proxy. If members of different groups have very different opinions on these questions, holding other characteristics constant, this indicates that there is a large distance between these groups.

In Appendix 1 we provide the data, on the most widely used fractionalization measure, calculated by Alesina et al. (2003). In different countries the defining schism of intra-cultural variation that has a deterministic impact on stability may range from ethnicity and race, to language and religion amongst others. Alesina et al. (2003) therefore calculate fractionalization for all three

possibilities. The very first country on their list immediately reflects the complexities associated with measures of culture. Afghanistan's ethnic fractionalization is high with the probability that two randomly chosen individuals come from different ethnic groups (including the Pashtuns, Tajiks, Hazara, Turkmens, Uzbeks, Koochis, Baluchis and Nuristanis) being 0.7693. On the other hand, it is fairly homogenous religiously with 84% of the population being Sunni Muslim. Which of these most accurately captures the defining cultural characteristic of this complex country? While some countries like Norway and Japan are ethnically very homogenous with fractionalization of 0.0586 and 0.0119 respectively, there are major regions of the world which are ethnically highly heterogeneous. Of the 20 countries with the highest levels of fractionalization all are from Africa – a continent underexplored in the context of IB. Uganda's ethnic fractionalization is calculated at 0.9302 and it fares similarly in terms of language and to a lesser extent religion.

Fractionalization might be just as salient for developed countries with large recent immigrant populations which appear on the Alesina et al. (2003) measure to be relatively homogenous, like Portugal, Sweden and Malta. This is especially the case where these groups have not assimilated into the host country culture. Giavazzi et al. (2014: 1) examine the speed of evolution (or lack thereof) of a wide range of values and beliefs of different generations of European immigrants to the US: "The main result is that persistence differs greatly across cultural attitudes. Some, for instance deep personal religious values, some family and moral values, and political orientation converge very slowly to the prevailing US norm. Other, such as attitudes toward cooperation, redistribution, effort, children's independence, premarital sex, and even the frequency of religious practice or the intensity of association with one's religion, converge rather quickly." They show that persistence is "culture specific" in the sense that the country from which one's ancestors came matters for the pattern of generational convergence. The consequences of fractionalization on culture are therefore relevant to a large number of countries both in the developing and the developed world.

In a later section we will explore the implications of ELF for studies of culture in IB, but for now we caution that calculating CD using country means is statistically and conceptually fine with homogenous societies but not in countries with high measures of ELF.

## 3   Illustrating the relevance of ethno-linguistic fractionalization: The case of South Africa

South Africa's history makes it an ideal case to examine both the dynamics of, and the impact of, ELF. South Africa is amongst the most heterogeneous societies in the world. In Appendix 1 we report the Alesina et al. (2003) data which shows the country to have fractionalization levels of 0.7517, 0.8652, and 0.8603 for ethnic, linguistic and religious fractionalization respectively. The Alesina et

al. (2003) data is cross sectional and is measured at a point in time. In this section we explore what happened to the levels of fractionalization in South Africa over time. The fractionalization indexes cited in the present study were constructed by consulting official South African government statistical sources which are based on census data (Fedderke et al., 2008). The actual fractionalization index we employ is the standard ELF measure, which we have discussed above, which is essentially a Herfindahl concentration index and represents the probability that two randomly selected individuals in the population belong to a different group.

The census data allows us to construct linguistic, religious and racial fractionalization measures. The latter is important because in the case of South Africa race matters as it was one of the most defining fault lines over the course of the twentieth century. Yet we find that this measure is very time sensitive. Racial proportions changed sharply with blacks making up 66% of the population in 1911 but around 80% by the end of the century, and whites declining from 21% to 9%. As a result racial fractionalization in South Africa fell from 0.49 in 1911 to approximately 0.36 in 2001 as the population became increasingly black and racially homogeneous. On the other hand, aggregate measures of both linguistic and religious fractionalization in South Africa remain constant over protracted periods of time as illustrated in Tables 1 and 2.

We are able to disaggregate fractionalization indexes in both dimensions, decomposed by race, and this shows substantial variation over time. For example, Indian linguistic fractionalization falls from a probability measure of 0.78 in 1970, to 0.10 in 1991, reflecting a switch from a range of Indian first languages to English over the twenty year period. Over the period in which Indian linguistic fractionalization is falling dramatically, Indian religious fractionalization is increasing, from 0.47 to 0.61. White linguistic fractionalization rises from 1970-1980, with the entry of significant Portuguese immigration from the two former Portuguese colonies of Mozambique and Angola as they gained independence in the mid-1970s. This resulted in one of the largest concentration of Portuguese citizens outside of Portugal within South Africa. However, the increase in fractionalization rapidly reverts to the former level by 1991, as the Portuguese immigrants were integrated into the Anglophone linguistic grouping. We thus find that larger marginalized minorities in South Africa show a relatively rapid degree of acceptance of the language of business namely English. We hypothesize that this may reflect decisions to invest in more appropriate forms of "human and social capital in order to increase the prospects for both individual occupational mobility and the reduction of the transactions costs entailed in participation in the economy" (Fedderke et al., 2008: 272). The implication of this analysis is that linguistic fractionalization is no longer exogenous but becomes endogenous to processes of economic modernization. Since the fall of apartheid we are seeing similar trends within the black African population where English is rapidly gaining traction as the language of choice as opposed to the indigenous languages such as Zulu, Xhosa and Sotho. All these linguistic changes were accompanied by shifts away from indigenous language schooling towards English schools, as parents opted to send their children to

schools where they were perceived to most likely be able to access the world of commerce, which is dictated by English within the country.

The South African case has immediate implications for CD measures. Firstly, we demonstrate that ELF is not constant and indeed has endogenous qualities. Whilst at the aggregate level this may not always manifest, there are rich, nuanced strands of change at play at a disaggregated level and this is an important unit of analysis in highly fractionalized societies. Secondly, given the nature of South Africa's history, there is no such thing as a homogenous culture and the use of a mean to capture CD would thus yield spurious results. Examining Hofstede's national culture dimensions for South Africa illustrate the problems (see http://geert-hofstede.com/south-africa.html). At the most obvious, black and white cultures are very different and some studies have tried to correct for this (GLOBE, for example, has a separate measure for black South Africans). Nkomo and Cook (2006) cite studies which indicate that black managers are more collectivist than white managers who score higher on individualism, and that whites have a higher tolerance for uncertainty, higher scores on assertiveness, and performance orientation relative to blacks. Black managers measure higher than white managers on human orientation (that is the degree to which society encourages and rewards fairness, altruism, generosity and kindness as opposed to aggressiveness and hostile actions). This is in sharp contrast to the Hofstede description. Hofstede argues that South Africa is highly individualistic which is not the case for the majority of South Africans. The African philosophy of *Ubuntu* is critical to an understanding of some black cultures with its emphasis on community, humaneness, caring, and harmony. But even having a separate measure for whites and blacks is problematic. Within the black population there are strong differences as we illustrate in Table 2. Whilst GLOBE tries to account for intra-cultural variation by having two measures for South Africa, Table 2 demonstrates that within the black population the level of linguistic and religious fractionalization is exceptionally high at 0.83 and 0.82 respectively. For South Africa intra-cultural variation is a significant issue not only *between* the black and white population but *within* the black population itself.

South Africa is but one country case and similar issues may arise in other countries as a result of high levels of fractionalization. In India there are several cultural schisms or fault lines that could be deterministic – caste, language, religion, rural-urban divides. India has more than two thousand ethnic groups. It would be questionable to assume that someone working in IT in Bangalore would reflect similar cultural values to someone in West Bengal with its long history of communism. 72% of the population is rural where the Indian economic miracle has had a much smaller impact and we have demonstrated that culture is affected by processes of economic modernization. For scholars of culture within IB, we at least need to provide for the possibility of endogenous forces influencing cultural measures and cannot assume that it remains static. A thorough understanding of the dynamics of individual countries and their stages of economic and political development is thus critical to an exploration of CD. Furthermore, intra-cultural variation is a significant issue that may result in

spurious measures of CD. The acknowledgement of ELF is one such variable that can be employed to account for intra-cultural variation.

# 4 Ethno-linguistic fractionalization, culture and international business

The introduction of ELF has direct bearing on the use of measures of CD employed in IB especially as regards issues relating to the cultural dynamics, intra-group differences, and endogeneity.

Firstly, defining culture, ethnicity, and race are not trivial matters. Furthermore, the problem of intra-cultural variation (the population distribution of a characteristic within a culture) is significant and becomes more so with the introduction of ELF. Measuring culture, and thereby CD, using a mean in the Cameroon will be spurious given its ethnic fractionalization of 0.8635 and its linguistic fractionalization of 0.8898. Over the past 150 years the country went from being a German colony to being divided by the League of Nations into French and British territories, before gaining independence and uniting. The western part of it is Anglophone, and the rest Francophone. Some cultures within the country practice polygamy and others monogamy. The cuisine, literature, and music differ from one ethnic, religious, and linguistic group to another. In the largest country in sub Saharan Africa, namely the Democratic Republic of the Congo which has an ethnic and linguistic fractionalization measure of 0.87, there are large parts of it where the capital of Kinshasa has almost no influence. Culturally parts of it have more in common with its southern and eastern neighbors than with the western part. It may be easier for a company in Rwanda to do business in the Congolese city of Goma than a domestic firm based in Kinshasa. This is a challenge for IB and strengthens the call for more in-depth country specific analysis to supplement the understanding we have gained from cross-sectional analysis.

The problems associated with intra-cultural variation have been raised before within IB. For example, Au (1999, 2000) points out that Hofstede's (1980) measures were based upon the typical members of cultures and quantitatively a typical member is represented by the cultural mean of this particular characteristic. But Au illustrates that intra-cultural variation has a substantial influence on the statistical power of cross-cultural tests. There are several factors that may determine intra-cultural variation and Hofstede (1991) himself acknowledged the impact of demographics, colonial inheritance, language, regional customs, and ethnicity. A simple case is that of Belgium which is composed of two distinct linguistic regions namely French-speaking Wallonia and Flemish speaking Flanders. The cultural mean does not reflect a country struggling to hold the center. There are many cultural similarities between francophone Belgium and France but not between the Flemish part and France. Using statistical means glosses over this important point.

Country borders have often been defined not by cultural, ethnic or linguistic

affinity but by historical outcomes of power. For example, the Treaty of Kiel and the Congress of Vienna 1814-1815 redrew the political map of Europe as a result of the Napoleonic Wars and the dissolution of the Holy Roman Empire. More significantly, was the Berlin Conference of 1884–85 which regulated European colonization and the scramble for Africa and resulted in arbitrary borders being drawn across the continent. This, in turn, left a legacy which Africa continues to carry with high levels of civil war, ethnic strife and even genocide. According to the Organization of African Unity, 26 African conflicts took place between 1963 and 1998, affecting some 474 million Africans or 61% of the total population of the continent. Of these 26 conflicts, seven were classified as inter-state, and 19 as occurring within countries (African Development Bank, 2001: 114). Africa's high levels of ethno-linguistic fractionalization means that any use of a cultural mean to construct CD measures may produce spurious results.

Secondly, we illustrate that neither culture nor ELF is constant over time and that endogeneity may be present. We have shown through the South African case that ELF is malleable and potentially endogenous to processes of economic modernization. Recall our evidence that showed linguistic assimilation with the English language of commerce as various racial groupings became more integrated into the economy. Given that CD is measured at a point in time, it implicitly assumes culture to be static. IB research employs CD as an exogenous variable in the determination of foreign direct investment but does not make provision for the reverse, namely that economic factors may affect culture. In political science, the early modernization hypotheses developed by Lipset (1959) argued that the direction of association runs from the economic to the social and political. Lipset posited that economic and technological progress results in structural changes and the diffusion of new ways of thinking, national identity formation and cultural values. This is facilitated through mass media and the assimilation of education. Cultures develop over time and are influenced by these processes of economic modernization. They are living organisms which are reacting and evolving in feedback to a host of influences. Modernization theory would emphasize the economic influences and where economic change is rapid the impact on culture could be striking. It is therefore possible for national cultures to be affected in environments where income levels are rising fast, where urbanization is accelerating, and economies are increasingly being integrated into a global network. This is very much the reality in developing countries. Hofstede (2006: 885) likewise suggested that culture is influenced by economic variables: "Wealth supports individualism, but it also relates to other dimensions."

Tang and Koveos (2008) argue that as a result of postwar economic development, values shifted from materialism (with a focus on economic and physical security) to postmaterialism (placing greater value on nonmaterial needs such as freedom, self-expression and quality of life). This economic transition is now impacting developing countries and we can therefore expect similar cultural dynamics. In particular they find that "individualism, power distance, and long term orientation demonstrate a significant curvilinear relationship with GDP per capita, and tend to change over time" (Tang & Koveos, 2008: 1059). Leung,

Bhagat, Buchan, Erez and Gibson (2005: 361) maintain that the "assumption of cultural stability is valid as long as there are no environmental changes that precipitate adaptation and cultural change. Yet, the end of the $20^{th}$ century and the beginning of the new millennium have been characterized by turbulent political and economical changes, which instigate cultural changes." They present alternative frameworks which view culture as evolving adaptations to ecological and socio-political influences.

A final illustration regarding cultural endogeneity is related to the possible impact of institutions on culture. Giavazzi et al. (2014: 2) discuss research which suggests that "cultural attitudes can change rather quickly in response to changes in economic incentives and opportunities, in technology and in institutions." They cite various papers which reinforce this thesis. For example, Gruber and Hungerman (2008) show how changes in shopping hours can affect religious practices such as church attendance. Alesina and Fuchs-Schundeln (2007) document the effect of German separation and re-unification on the beliefs and preferences of those who found themselves isolated in the DDR. Bowles (1998) and Di Tella, Galiani and Schargrowsky (2007) provide accounts of the channels through which economic institutions, property rights and markets affect the formation of preferences and attitudes. Fehr (2009) shows that in an experimental game, small changes in the institutional setup can have large effects on the participants' trust. These micro and macro studies reveal various channels through which institutional changes impact upon culture.

Furthermore, cultures that gave rise to successful entrepreneurs in some countries often fail to produce entrepreneurship at home. Indians and Chinese, for example, have been far more entrepreneurial abroad than at home, at least until the last two decades when institutional reforms unleashed a new wave of entrepreneurial activity in their home countries. If culture were static and exogenous then the level of individual entrepreneurialism should not be subject to processes of institutional change. Au (1999: 808) refers to research making a similar point that finds that cultural values are correlated with industrial development and political democratization. Economic modernization entails "similar institutional features, and people become modern by incorporating the values implicit in modern institutions into their personal value systems." Our discussion suggests that the process of economic modernization affects institutional change directly and these institutional developments feed through indirectly into cultural values. There is also a direct link from economic variables to culture. Lastly, we accept that feedback loops exist from both culture and institutions to economic development, namely that economic progress itself is affected by both institutions and cultural norms. To assume culture to be static and exogenous is thus, at best, highly problematic.

# 5   Conclusion and implications

Shenkar (2012: 16) in his retrospective on his original 2001 paper argues that "unless culture is appropriately incorporated into the theoretical landscape,

rather than reduced to questionable and frankly indefensible proxies, worthwhile efforts directed at increasing research rigor will have limited value." He then goes on to call for a truly interdisciplinary approach that learns from the other social sciences (sociology, political science, economics etc.) instead of importing out-of-context inputs. In this paper we have demonstrated a limited response to this call by examining one such aspect within the economics and political science literature, namely ELF. We see it as a new, supplementary measure to be explored in studies of culture within IB. An advantage that it has is that it is relatively easy to construct from national censuses which tend to collect data on religion, language, and ethnicity. It adds another dimension to IB research and will allow for a richer exploration of diversity and distance. We have established the importance of examining ELF's implications in highly fractionalized countries. IB cannot ignore this in an environment where a growing share of foreign direct investment and IB activities are directed towards developing countries with some of the highest levels of fractionalization. The use of CD measures based upon means is problematic where parts of the world display higher levels of ELF and these result in systematic biases being introduced as a result of intra-cultural variation.

The implications of our research are an opening up of additional areas for IB scholars. Firstly, we do not argue for elimination of CD studies, rather we call for a more realistic assessment of what is being captured and recognition of the complexity of the notion of identity formation and its dynamics. We illustrate that in different countries there may be different underlying defining cultural schisms, including race, caste, class, ethnicity, religion, and this can only be understood through in-depth country analysis. Too often the "off-the-shelf" measures we employ are insensitive to the level of variation in the dimension being captured. Using CD measures which not only rely on means but on dispersion too is a first step. Within the ELF literature, attempts to do so have relied on measuring the distances in terms of the proximity in a tree diagram of the families of languages of different groups within and between countries (Fearon, 2003). But a further problem is that the index contains no information about the depth or weight of the divisions between different groups. So for example, the relatively small white proportion in South Africa does not capture the impact of this group on the country's political landscape throughout the twentieth century and beyond (Fedderke et al., 2008). This is the advantage of using in-depth country case studies with time series data which account for the dynamics and processes of endogeneity. This will be a fruitful area for further exploration within IB and the advantage of employing the ELF measure is that it allows for longitudinal studies as long as there are regular censuses.

Secondly, research within IB sometimes appears to deal with culture and institutions as separate research strands. "Institutionalists" have focused on the institutional explanations of IB activity and "culturalists" on cultural explanations. In this paper we have suggested that these two strands are, in fact, inter-woven and that there is co-evolution between institutions, ELF and culture. In the South African case, we have shown that ELF was influenced by institutional processes, most visibly by economic modernization affecting

13

linguistic choices through assimilation. We have cited research which demonstrates how institutional changes have affected religious practices and belief structures (see Giavazzi et al., 2014). Bringing together these areas of study in a more systematic manner may help us further understand the processes of internationalization and their consequences.

Empirical work has examined how CD impacts on foreign expansion but scholars have long cautioned about the use of cultural means (Au, 1999, 2000; Chabowski, Hult, Kiyak, & Mena, 2010; Gerhart, 2008; Shenkar, 2001) and in this paper, we do the same. Combining institutional and cultural lenses may open up the opportunity to focus on the consequences of intra-cultural variation in internationalization activities. Instead of only looking at the impact of CD, one possibility would be to analyze whether intra-cultural variation affects foreign investment flows and entry mode choices amongst other things. For example, is internationalization easier between countries with similar levels of fractionalization? MNEs from highly ethnically, linguistically or religiously fractionalized societies may have a comparative advantage when moving into other countries with high levels of ELF because they understand the complexities of operating in such milieus, whilst MNEs from homogenous societies may struggle to understand these challenges.

Given how many lower and middle income countries are characterized by high levels of ELF, this would provide an additional lens for examining country versus firm specific advantages. The traditional resource-based view in IB is that MNEs internationalize by exploiting their firm specific advantages which allows them to overcome the liability of foreignness. MNEs from emerging markets, on the other hand, may not possess these firm specific advantages but instead may have cultivated country specific advantages off their home country institutional weakness as they have learnt how to operate in such milieus (Buckley & Casson, 2009; Cuervo-Cazurra & Genc, 2008; Del Sol & Kogan. 2007; Peng, Wang, & Jiang, 2008). It is possible that high levels of ELF can be an advantage, and that MNEs from home countries with high levels of ELF are able to capitalize upon this advantage as they move into other countries with high levels of fractionalization. This is an avenue for future research. It ties in with prior work on culture which calls on research to focus not only on the "*addition* of distance considerations" but also the "*directionality* of such changes" (Williams & Grégoire, 2014: 1) and that cultural differences can have positive consequences (Drogendijk & Zander, 2010).

Thirdly, how components of ELF map onto existing cultural measures employed within IB, is going to be a logical step for advancing research. In countries with high levels of ethnic, linguistic or religious fractionalization, how do the individual ethnicities, languages and religions affect the "national" culture or cultural mean or cultural components such as individualism or pragmatism? Also how does ELF relate to managerial issues within the IB field such as intercultural or interethnic conflict in the workplace, or teambuilding, or job satisfaction, or work performance in general (Adair et al., 2013; Stahl et al., 2010; Stahl & Tung, 2014)?

Fourthly, instead of focusing on CD measures as exogenous determinants

of modes of entry, foreign investment expansion, and the performance of foreign affiliates, we highlight how social and cultural variables hang together and influence each other. This endogeneity should not be wished away as a methodological nuisance but rather be the subject of deeper exploration. Whilst culture may affect the performance of MNEs in foreign countries, which has been the focus of studies within IB, we have raised the possibility of a reverse loop. MNEs themselves may affect culture through economic and political processes of modernization. Shenkar, Luo and Yeheskel (2008: 911) provide an alternative framework of what they call "cultural friction" whereby culture is viewed as being created and re-created by actors embedded in organizations and national identities, possessing divergent resources and interests, with asymmetrical power, who are engaged in an ongoing exchange of responses and counter-responses. As regards MNEs they are involved in bargaining with host countries and leveraging their monopolistic power derived from its control of resources, including technology and global expertise, so as to extract maximum concessions. Viewed from this perspective "culture is not merely an external designator of the relative ease or comfort of operation for one or the other of those constituencies but ... is instead a part of the struggle to gain and retain predictability in complex and uncertain markets and, by extension, to tilt the balance of power in favor of the organization over its exchange partners. ... Culture is carried and championed by certain groups and individuals and disseminated to others who may embrace, reject, or otherwise negotiate over its content, delivery, and impact, all in the context of shifting and often ambivalent exchange rules" (Shenkar, Luo & Yeheskel, 2008: 914). Using this friction framework, MNEs become carriers of the home and host country culture though various channels including their employees and expatriates. This viewpoint allows for a consideration of how culture evolves through processes of influence and friction between culture and the institutional environment. The introduction of ELF thus allows for another perspective on the existing literature in IB on the dynamics of ethnic and cultural identities which includes work on cultural identity negotiation, sense-making and multiculturalism (Brannen & Lee, 2014; Hanek, Lee, & Brannen, 2014; Kuznetsov & Kuznetsova, 2014; Lakshman, 2013; Moore, 2011; Yagi & Kleinberg, 2011). For example, Caprar (2011) examines the extent to which host-country nationals reflect the attributes of their national culture, and whether they may be "contaminated" by the culture of the organization they work for. He makes a call to investigate MNCs as cultural incubators and finds some evidence of cultural instability.

In Luiz and Stewart (2014) we show that MNEs see themselves as "institution takers" responding to countries' institutional makeup at the organizational and individual level but fail to fully appreciate *their* impact on institutions. A similar analysis can be applied to culture. Adopting a time series or panel data set approach will allow IB researchers to explore how the activities of MNEs affect the development of social, political and economic institutions, of which culture is but one. By doing this, researchers will be bringing together two strands of IB research, namely that on culture and institutions, which have tended to develop on their own, with their own traditions (there have of course

been notable exceptions to this). Our work shows how these two dimensions actually co-evolve and thus the need to tie them together in a coherent framework.

Fifthly, there are implications for practitioners. The incorporation of ELF is a useful proxy of numerous pieces of information for MNEs doing business in foreign environments. The political economy literature points to the fact that high levels of ELF are associated with higher levels of corruption, instability, poorer provision of public goods, lower levels of economic growth and less government efficiency. Thus ELF is a useful indicator of the economic and political prospects of a country that is being considered for business. In effect, it provides another dimension of country risk, not in any sort of deterministic way but one more piece of information to be considered. Furthermore, we have discussed Eifert, Miguel and Posner (2010) who find strong evidence that ethnic, occupational and class identities are affected by exposure to political competition and elections. This carries consequences for managers in relatively unstable countries or those with the potential to be unstable due to high levels of fractionalization, as they approach key electoral dates. For managers of MNEs currently considering CD measures as they plan their moves abroad, the examination of ELF (which is easily available) is a "quick and dirty" indicator of the level of homogeneity within a country. MNEs are progressively moving into countries that they are less familiar with, especially in the developing world, and this will require as much information as possible to help inform and manage their interactions between the organization and the host country.

Au (2000: 235) highlights some further implications for international managers that are pertinent to our study. One implication is related to expatriate training and the likelihood that, other things being equal, expatriates are likely to adapt to cultural differences more easily in a homogeneous culture than a heterogeneous one. They should therefore be "counseled beyond how typical members of a culture are different and be advised as to how and why some cultures have so much variation [such as ELF]. Another implication is related to the selection of personnel and investment locations. MNCs usually have a preference for workers that suit their needs and company culture." High levels of heterogeneity make it more likely that a MNC will have elements of this culture within its workforce that it can draw on. It is also more likely for MNCs to find partners, allies and suitable markets in a "heterogeneous country rather than looking across a number of homogeneous cultures."

In a world where IB activities are increasingly no longer dominated by developed countries, it is important that the CD construct itself reflects this reality. It was born into another era where investment flows reflected the power of the triad of America, Europe and Japan, and the new social, economic, and political realities require a significant overhaul of our methodologies and our conceptual frameworks. Perhaps the most appropriate way to conclude this discussion is by quoting Hofstede (2010: 1344-1345) himself who "called for modesty about the epistemological status of dimensions. Dimensions should not be reified. They do not 'exist' in a tangible sense. They are constructs, 'not directly accessible to observation but inferable from verbal statements and other behaviors and

16

useful in predicting still other observable and measurable verbal and nonverbal behavior' ... If they exist, it is in our minds – we have defined them into existence. They are supposed to help us in understanding and handling the complex reality of our social world. If they cannot do this, they are redundant."

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**Table 1: Fractionalization Measures for Available South African Census Years**

| | Fractionalization Measure | | |
|---|---|---|---|
| Census Year | Linguistic | Religious | Racial |
| 1911 | | | 0.49 |
| 1921 | | | 0.49 |
| 1936 | | 0.82 | 0.48 |
| 1945 | 0.86 | 0.84 | 0.48 |
| 1951 | 0.87 | 0.86 | 0.49 |
| 1960 | 0.87 | 0.88 | 0.49 |
| 1970 | 0.86 | 0.89 | 0.46 |
| 1980 | 0.86 | 0.88 | 0.44 |
| 1991 | 0.86 | 0.87 | 0.39 |
| 1996 | | | 0.38 |
| 2001 | | | 0.36 |

Source: Fedderke et al., 2008: 266

**Table 2: Fractionalization Measures for Available South African Census Years – the racial breakdown**

| Census Year | Linguistic Fractionalization | | | | | Religious Fractionalization | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | White | Colored | Indian | Black | Total | White | Colored | Indian | Black | Total |
| 1945 | 0.52 | 0.19 | 0.80 | 0.81 | 0.86 | 0.75 | 0.83 | 0.48 | 0.74 | 0.84 |
| 1951 | 0.52 | 0.20 | 0.80 | 0.81 | 0.87 | 0.78 | 0.85 | 0.47 | 0.78 | 0.86 |
| 1960 | 0.52 | 0.20 | 0.80 | 0.82 | 0.87 | 0.77 | 0.84 | 0.47 | 0.83 | 0.88 |
| 1970 | 0.54 | 0.21 | 0.78 | 0.80 | 0.86 | 0.79 | 0.84 | 0.47 | 0.85 | 0.89 |
| 1980 | 0.58 | 0.29 | 0.46 | 0.83 | 0.86 | 0.79 | 0.85 | 0.51 | 0.82 | 0.88 |
| 1991 | 0.52 | 0.29 | 0.10 | 0.83 | 0.86 | 0.79 | 0.85 | 0.61 | 0.82 | 0.87 |

Source: Fedderke et al., 2008: 271

## Appendix 1: Measures of Ethnic, Religious and Linguistic Fractionalization

| Country | Ethnic | Language | Religion | Country | Ethnic | Language | Religion |
|---|---|---|---|---|---|---|---|
| Afghanistan | 0.7693 | 0.6141 | 0.2717 | Macedonia | 0.5023 | 0.5021 | 0.5899 |
| Albania | 0.2204 | 0.0399 | 0.4719 | Madagascar | 0.8791 | 0.0204 | 0.5191 |
| Algeria | 0.3394 | 0.4427 | 0.0091 | Malawi | 0.6744 | 0.6023 | 0.8192 |
| American Samoa | . | 0.1733 | 0.6395 | Malaysia | 0.5880 | 0.5970 | 0.6657 |
| Andorra | 0.7139 | 0.6848 | 0.2326 | Mali | 0.6906 | 0.8388 | 0.1820 |
| Angola | 0.7867 | 0.7870 | 0.6276 | Malta | 0.0414 | 0.0907 | 0.1223 |
| Antigua and Barbuda | 0.1643 | 0.1063 | 0.6840 | Marshall Islands | 0.0603 | 0.0601 | 0.5207 |
| Argentina | 0.2550 | 0.0618 | 0.2236 | Martinique | . | 0.0653 | 0.2336 |
| Armenia | 0.1272 | 0.1291 | 0.4576 | Mauritania | 0.6150 | 0.3260 | 0.0149 |
| Aruba | . | 0.3889 | 0.4107 | Mauritius | 0.4634 | 0.4547 | 0.6385 |
| Australia | 0.0929 | 0.3349 | 0.8211 | Mayotte | . | 0.7212 | 0.0620 |
| Austria | 0.1068 | 0.1522 | 0.4146 | Mexico | 0.5418 | 0.1511 | 0.1796 |
| Azerbaijan | 0.2047 | 0.2054 | 0.4899 | Micronesia | 0.7005 | 0.7483 | 0.6469 |
| Bahamas | 0.4228 | 0.1855 | 0.6815 | Moldova | 0.5535 | 0.5533 | 0.5603 |
| Bahrain | 0.5021 | 0.4344 | 0.5528 | Monaco | 0.6838 | 0.7305 | 0.3047 |
| Bangladesh | 0.0454 | 0.0925 | 0.2090 | Mongolia | 0.3682 | 0.3734 | 0.0799 |
| Barbados | 0.1423 | 0.0926 | 0.6934 | Morocco | 0.4841 | 0.4683 | 0.0035 |
| Belarus | 0.3222 | 0.4666 | 0.6116 | Mozambique | 0.6932 | 0.8125 | 0.6759 |
| Belgium | 0.5554 | 0.5409 | 0.2127 | Myanmar (Burma) | 0.5062 | 0.5072 | 0.1974 |
| Belize | 0.7015 | 0.6303 | 0.5813 | Namibia | 0.6329 | 0.7005 | 0.6626 |
| Benin | 0.7872 | 0.7905 | 0.5544 | Nauru | 0.5832 | 0.6161 | 0.6194 |
| Bermuda | . | . | 0.7112 | Nepal | 0.6632 | 0.7167 | 0.1417 |
| Bhutan | 0.6050 | 0.6056 | 0.3787 | Netherlands Antilles | . | 0.2508 | 0.3866 |
| Bolivia | 0.7396 | 0.2240 | 0.2085 | Netherlands | 0.1054 | 0.5143 | 0.7222 |
| Bosnia and Herzegovina | 0.6300 | 0.6751 | 0.6851 | New Caledonia | . | 0.6633 | 0.5462 |
| Botswana | 0.4102 | 0.4110 | 0.5986 | New Zealand | 0.3969 | 0.1657 | 0.8110 |
| Brazil | 0.5408 | 0.0468 | 0.6054 | Nicaragua | 0.4844 | 0.0473 | 0.4290 |
| Brunei | 0.5416 | 0.3438 | 0.4404 | Niger | 0.6518 | 0.6519 | 0.2013 |
| Bulgaria | 0.4021 | 0.3031 | 0.5965 | Nigeria | 0.8505 | 0.8503 | 0.7421 |
| Burkina Faso | 0.7377 | 0.7228 | 0.5798 | Northern Mariana Islands | . | 0.7754 | 0.4811 |
| Burundi | 0.2951 | 0.2977 | 0.5158 | Norway | 0.0586 | 0.0673 | 0.2048 |
| Cambodia | 0.2105 | 0.2104 | 0.0965 | Oman | 0.4373 | 0.3567 | 0.4322 |
| Cameroon | 0.8635 | 0.8898 | 0.7338 | Pakistan | 0.7098 | 0.7190 | 0.3848 |
| Canada | 0.7124 | 0.5772 | 0.6958 | Palau | 0.4312 | 0.3157 | 0.7147 |
| Cape Verde | 0.4174 | . | 0.0766 | Panama | 0.5528 | 0.3873 | 0.3338 |
| Central African Republic | 0.8295 | 0.8334 | 0.7916 | Papua New Guinea | 0.2718 | 0.3526 | 0.5523 |
| Chad | 0.8620 | 0.8635 | 0.6411 | Paraguay | 0.1689 | 0.5975 | 0.2123 |
| Chile | 0.1861 | 0.1871 | 0.3841 | Peru | 0.6566 | 0.3358 | 0.1988 |
| China | 0.1538 | 0.1327 | 0.6643 | Philippines | 0.2385 | 0.8360 | 0.3056 |
| Colombia | 0.6014 | 0.0193 | 0.1478 | Poland | 0.1183 | 0.0468 | 0.1712 |
| Comoros | 0.0000 | 0.0103 | 0.0137 | Portugal | 0.0468 | 0.0198 | 0.1438 |
| Congo, Dem. Rep. | 0.8747 | 0.8705 | 0.7021 | Puerto Rico | . | 0.0352 | 0.4952 |
| Congo | 0.8747 | 0.6871 | 0.6642 | Qatar | 0.7456 | 0.4800 | 0.0950 |
| Costa Rica | 0.2368 | 0.0489 | 0.2410 | Reunion | . | 0.1578 | 0.1952 |

| Country | Ethnic | Language | Religion | Country | Ethnic | Language | Religion |
|---|---|---|---|---|---|---|---|
| Cote d'Ivoire | 0.8204 | 0.7842 | 0.7551 | Romania | 0.3069 | 0.1723 | 0.2373 |
| Croatia | 0.3690 | 0.0763 | 0.4447 | Russian Federation | 0.2452 | 0.2485 | 0.4398 |
| Cuba | 0.5908 | . | 0.5059 | Rwanda | 0.3238 | . | 0.5066 |
| Cyprus | 0.0939 | 0.3962 | 0.3962 | Saint Lucia | 0.1769 | 0.3169 | 0.3320 |
| Czech Republic | 0.3222 | 0.3233 | 0.6591 | Saint Vincent and Grenadines | 0.3066 | 0.0175 | 0.7028 |
| Denmark | 0.0819 | 0.1049 | 0.2333 | Western Samoa | 0.1376 | 0.0111 | 0.7871 |
| Djibouti | 0.7962 | 0.6558 | 0.0435 | Sao Tome and Principe | . | 0.2322 | 0.1866 |
| Dominica | 0.2003 | . | 0.4628 | Saudi Arabia | 0.1800 | 0.0949 | 0.1270 |
| Dominican Republic | 0.4294 | 0.0395 | 0.3118 | Senegal | 0.6939 | 0.6961 | 0.1497 |
| East Timor | . | 0.5261 | 0.4254 | Serbia/Montenegro | 0.5736 | . | . |
| Ecuador | 0.6550 | 0.1308 | 0.1417 | Seychelles | 0.2025 | 0.1606 | 0.2323 |
| Egypt | 0.1836 | 0.0237 | 0.1979 | Sierra Leone | 0.8191 | 0.7634 | 0.5395 |
| El Salvador | 0.1978 | . | 0.3559 | Singapore | 0.3857 | 0.3835 | 0.6561 |
| Equatorial Guinea | 0.3467 | 0.3220 | 0.1195 | Slovak Republic | 0.2539 | 0.2551 | 0.5655 |
| Eritrea | 0.6524 | 0.6530 | 0.4253 | Slovenia | 0.2216 | 0.2201 | 0.2868 |
| Estonia | 0.5062 | 0.4944 | 0.4985 | Solomon Islands | 0.1110 | 0.5254 | 0.6708 |
| Ethiopia | 0.7235 | 0.8073 | 0.6249 | Somalia | 0.8117 | 0.0326 | 0.0028 |
| Fiji | 0.5479 | 0.5479 | 0.5682 | South Africa | 0.7517 | 0.8652 | 0.8603 |
| Finland | 0.1315 | 0.1412 | 0.2531 | Spain | 0.4165 | 0.4132 | 0.4514 |
| France | 0.1032 | 0.1221 | 0.4029 | Sri Lanka | 0.4150 | 0.4645 | 0.4853 |
| French Guiana | | 0.1154 | 0.4959 | St Kitts & Nevis | 0.1842 | . | 0.6614 |
| French Polynesia | . | 0.6078 | 0.5813 | Sudan | 0.7147 | 0.7190 | 0.4307 |
| Gabon | 0.7690 | 0.7821 | 0.6674 | Suriname | 0.7332 | 0.3310 | 0.7910 |
| Gambia, The | 0.7864 | 0.8076 | 0.0970 | Swaziland | 0.0582 | 0.1722 | 0.4444 |
| Gaza Strip | . | 0.0104 | 0.0342 | Sweden | 0.0600 | 0.1968 | 0.2342 |
| Georgia | 0.4923 | 0.4749 | 0.6543 | Switzerland | 0.5314 | 0.5441 | 0.6083 |
| Germany | 0.1682 | 0.1642 | 0.6571 | Syria | 0.5399 | 0.1817 | 0.4310 |
| Ghana | 0.6733 | 0.6731 | 0.7987 | Taiwan | 0.2744 | 0.5028 | 0.6845 |
| Greece | 0.1576 | 0.0300 | 0.1530 | Tajikistan | 0.5107 | 0.5473 | 0.3386 |
| Greenland | . | 0.2188 | 0.4592 | Tanzania | 0.7353 | 0.8983 | 0.6334 |
| Grenada | 0.2661 | . | 0.5898 | Thailand | 0.6338 | 0.6344 | 0.0994 |
| Guam | . | 0.7320 | 0.4082 | Togo | 0.7099 | 0.8980 | 0.6596 |
| Guatemala | 0.5122 | 0.4586 | 0.3753 | Tonga | 0.0869 | 0.3782 | 0.6214 |
| Guinea | 0.7389 | 0.7725 | 0.2649 | Trinidad and Tobago | 0.6475 | 0.1251 | 0.7936 |
| Guinea-Bissau | 0.8082 | 0.8141 | 0.6128 | Tunisia | 0.0394 | 0.0124 | 0.0104 |
| Guyana | 0.6195 | 0.0688 | 0.7876 | Turkey | 0.3200 | 0.2216 | 0.0049 |
| Haiti | 0.0950 | . | 0.4704 | Turkmenistan | 0.3918 | 0.3984 | 0.2327 |
| Honduras | 0.1867 | 0.0553 | 0.2357 | Uganda | 0.9302 | 0.9227 | 0.6332 |
| Hong Kong | 0.0620 | 0.2128 | 0.4191 | Ukraine | 0.4737 | 0.4741 | 0.6157 |
| Hungary | 0.1522 | 0.0297 | 0.5244 | United Arab Emirates | 0.6252 | 0.4874 | 0.3310 |
| Iceland | 0.0798 | 0.0820 | 0.1913 | United Kingdom | 0.1211 | 0.0532 | 0.6944 |
| India | 0.4182 | 0.8069 | 0.3260 | United States | 0.4901 | 0.2514 | 0.8241 |
| Indonesia | 0.7351 | 0.7680 | 0.2340 | Uruguay | 0.2504 | 0.0817 | 0.3548 |
| Iran | 0.6684 | 0.7462 | 0.1152 | Uzbekistan | 0.4125 | 0.4120 | 0.2133 |

| Country | Ethnic | Language | Religion | Country | Ethnic | Language | Religion |
|---|---|---|---|---|---|---|---|
| Iraq | 0.3689 | 0.3694 | 0.4844 | Vanuatu | 0.0413 | 0.5794 | 0.7044 |
| Ireland | 0.1206 | 0.0312 | 0.1550 | Venezuela | 0.4966 | 0.0686 | 0.1350 |
| Israel | 0.3436 | 0.5525 | 0.3469 | Vietnam | 0.2383 | 0.2377 | 0.5080 |
| Italy | 0.1145 | 0.1147 | 0.3027 | Virgin Islands (U.S.) | . | 0.3140 | 0.6359 |
| Jamaica | 0.4129 | 0.1098 | 0.6160 | West Bank | . | 0.1438 | 0.3095 |
| Japan | 0.0119 | 0.0178 | 0.5406 | Yemen | . | 0.0080 | 0.0023 |
| Jordan | 0.5926 | 0.0396 | 0.0659 | Yugoslavia (pre 1991) | 0.8092 | 0.4050 | 0.5530 |
| Kazakhstan | 0.6171 | 0.6621 | 0.5898 | Zambia | 0.7808 | 0.8734 | 0.7359 |
| Kenya | 0.8588 | 0.8860 | 0.7765 | Zimbabwe | 0.3874 | 0.4472 | 0.7363 |
| Kiribati | 0.0511 | 0.0237 | 0.5541 | | | | |
| Korea, North | 0.0392 | 0.0028 | 0.4891 | | | | |
| Korea, South | 0.0020 | 0.0021 | 0.6604 | | | | |
| Kyrgyzstan | 0.6752 | 0.5949 | 0.4470 | | | | |
| Kuwait | 0.6604 | 0.3444 | 0.6745 | | | | |
| Lao People's Dem Rep | 0.5139 | 0.6382 | 0.5453 | | | | |
| Latvia | 0.5867 | 0.5795 | 0.5556 | | | | |
| Lebanon | 0.1314 | 0.1312 | 0.7886 | | | | |
| Lesotho | 0.2550 | 0.2543 | 0.7211 | | | | |
| Liberia | 0.9084 | 0.9038 | 0.4883 | | | | |
| Libya | 0.7920 | 0.0758 | 0.0570 | | | | |
| Liechtenstein | 0.5726 | 0.2246 | 0.3343 | | | | |
| Lithuania | 0.3223 | 0.3219 | 0.4141 | | | | |
| Luxembourg | 0.5302 | 0.6440 | 0.0911 | | | | |

Source: Alesina, Devleeschauwer, Easterly, Kurlat & Wacziarg, 2003