DO TOLERANT SOCIETIES DEMAND BETTER INSTITUTIONS?

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ABSTRACT

The increasing ethnic heterogeneity that many societies are experiencing could be interpreted as a detrimental phenomenon, since empirical literature exists that indicates that higher levels of ethnic fractionalization induce higher levels of corruption. This paper aims to show the role of tolerance in overcoming this harmful effect of ethnic heterogeneity. To this end, a sample of 86 countries is tested for a positive association between ethnic fractionalization and corruption. It is then shown that tolerance offsets this effect through both direct and indirect effects on corruption. In order to analyse the indirect effects, the level of income and the freedom of the press are selected as channels, since these represent two determinants of corruption that are linked to tolerance.

Moreover, tolerance and corruption have been modelled as composites. Consequently, Partial Least Squares path modelling (PLS-PM) has been used. For our sample, an index of tolerance towards immigrants and people of different race and an index of corruption are constructed, for which several sources are jointly utilised.

Our results appear to indicate that the adverse effect of ethnic fractionalization on corruption is offset by tolerance, which reduces corruption not only directly but also indirectly through the level of income and the freedom of the press.

Keywords: tolerance, corruption, ethnic fractionalization, income level, freedom of the press, structural equation model

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contains supplementary material, which is available to authorized users.

1 Introduction

Empirical studies on the quality of institutions show that societies of a more heterogeneous nature, especially from an ethnic point of view, tend to present institutions with low levels of quality because ethnic favouritism leads to higher corruption. Politicians and bureaucrats may seek favour from certain groups, thereby inducing an inefficient allocation of resources (see Alesina and Ferrara 2005; Alesina et al. 2003; Mauro 1995; Papyrakis and Mo 2014; and references therein).

This positive relationship between ethnic heterogeneity and corruption may lead to the conclusion that the arrival of immigrants, especially those of a race other than the majority, is detrimental to the quality of institutions and, in general, to the welfare of the receiving country. In fact, the growth of xenophobia in the world is alarming. Even in traditional European democracies, we are witnessing a strengthening of xenophobic

political parties that seek to limit European integration, in particular the free movement of citizens.

Nevertheless, our societies are increasingly heterogeneous as a result of the growing migratory flows and this is a phenomenon that is here to stay. Hence, from the point of view of social welfare and social peace, combating the possible negative effects of ethnic heterogeneity appears as a pressing task for policy makers. This paper aims to contribute towards facilitating this task.

According to Easterly et al. (2006), what matters for the quality of institutions is social cohesion, but, from our perspective, this should not be confused with uniformity or homogeneity. Our hypothesis is that social cohesion could be achieved in a heterogeneous society through tolerance. Thus, our goal is to show that tolerance towards immigrants and people of different race might help the integration of all members of a community, thereby overcoming any friction caused by heterogeneity due to migration, and contributing towards an improvement of institutional quality. Despite the vast literature concerning the social and economic impacts of tolerance (Berggren and Elinder 2012a, 2012b; Das et al. 2008; Florida 2003; Gani 2016; Lopes et al. 2011; Inglehart et al. 2008), to the best of our knowledge, there are no studies focusing on the links between tolerance and quality of institutions and the role of tolerance in offsetting the possible detrimental effects of ethnic heterogeneity.

Therefore, on the one hand, the negative impact of ethnic heterogeneity on the quality of institutions is tested in terms of increasing corruption, as found in the previous literature. On the other hand, the effects of tolerance towards immigrants and people of different race on corruption are analysed in order to ascertain whether tolerance offsets the adverse effects of ethnic heterogeneity. We distinguish between direct and indirect effects that tolerance could exert through various channels. These channels are those determinants of institutional quality that are affected directly by tolerance. In particular, this study has chosen the level of income and the freedom of the press as potential mediators between tolerance and corruption.

To achieve our goals, a sample that covers 86 countries is used. The selection of countries has been conditioned by the availability of data regarding tolerance. For the measurement of ethnic heterogeneity, as explained in Section 3, the index of ethnic fractionalization provided by Alesina et al. (2003) is employed.

As a first step, tolerance and corruption have to be measured. Both of these variables have been modelled as composites, since they represent design constructs or artefacts, that is, they are variables that are products of theoretical thinking and consist of elementary components (Henseler 2017a). This fact has led us to use a component-based structural equation model, namely Partial least Squares (PLS) (Tenenhaus 2008), which also allows us to test both the direct and indirect relationships between the variables of our model.

With respect to tolerance, in order to measure the corresponding composite construct, several items are jointly exploited: elements from the World Values Survey (WVS) and the European Values Survey (EVS), and the component of tolerance to immigrants of the Social Progress Index. This joint exploitation is an innovation with respect to the previous literature. Hitherto, a large proportion of empirical studies concerning tolerance have used the percentage of different groups (foreigners, people of different races, religions or sexual orientations, etc.) on total population (Amores et al. 2016; Florida 2002, 2003; Gani 2016; Rao and Dai 2017) as a measure of tolerance. We consider that this percentage can give rise to erroneous conclusions since tolerance is an

attitude and therefore the fact that different groups of people live in the same territory does not necessarily imply that they respect each other. However, there are studies that exploit the WVS/EVS. In general, they analyse each item of the survey independently (Berggren and Elinder 2012a, 2012b, 2015; Corneo and Jeanne 2009; Melgar et al. 2015) while a few studies have built a broader index of tolerance (Berggren and Nilsson 2013; Das et al. 2008; Dima and Dima 2016; Florida and Tinagli 2004).

Concerning the quality of institutions, our focus is on corruption as one of the main dimensions of institution quality. In order to construct an index of corruption, we have employed the Corruption Perception Index as published by Transparency International, and the Control of Corruption Index from the World Governance Indicators.

As a second step, the channels through which tolerance could affect corruption are selected. To this end, those determinants of corruption that are also associated to tolerance have been chosen, as will be explained in Section 2. This has led to the selection of the level of income, measured in terms of the income per capita, and of the freedom of the press as mediators.

The direct relationship between tolerance and corruption is then tested, as are the indirect relations between them through the two channels selected. Finally, we verify the role of tolerance in overcoming the effects of ethnic heterogeneity on corruption.

We consider these results to be relevant, since it can be shown that heterogeneity in a community is not a problem with respect to corruption, since the key is the tolerance of the population towards heterogeneity. Moreover, there is a broad consensus on the negative effects of corruption on economic and social progress that supports the need for an effective fight against corruption. The determination of the elements that contribute towards its reduction will make this task easier.

Our paper makes the following contributions with respect to the previous literature. On the one hand, it is proposed that the direct and indirect effects of tolerance on the quality of institutions, measured through the corruption dimension, may outweigh the negative effects of ethnic heterogeneity on the quality of institutions. In this respect, contributions are made to both the literature on the impacts of tolerance and to that on the determinants of corruption. On the other hand, a structural equation model is applied that enables us to construct a measure of tolerance towards immigrants and people of different race by exploiting several sources of information. The data corresponding to this new index of tolerance appears in Table A2 in the Appendix. Moreover, this methodology has rarely been applied in the analysis of the determinants of corruption, although it has been widely extended in other areas.

The rest of the paper is organized as follows. Section 2 introduces a review of the literature and the theoretical arguments upon which our model is based. Section 3 describes the data and the methodology. Section 4 offers the results. Section 5 presents the main conclusions. Finally, Section 6 includes the discussion of the implications and limitations of this research.

2 Literature review and theoretical arguments

2.1. The relationship between ethnic fractionalization and corruption

Since the work of Huntington (1968), the ever-increasing literature has striven to show a negative relationship between ethnic fractionalization and quality of institutions. Huntington argued that governments in countries with a more fractionalised population

tended to implement policies that benefitted the winning minority at the expense of those groups not represented in government.

In this sense, La Porta et al. (1999) conclude, by employing the Ethno-linguistic Fractionalization index (ELF) provided by Taylor and Hudson (1972), that ethnic fragmentation is a determinant of the quality of institutions, while Mauro (1995) points out that increasing ethnic heterogeneity in a society gives rise to higher corruption because ethnic favouritism leads to the inefficient allocation of resources. Similar results with the ELF index are obtained by Easterly et al. (2006) and Aixalá and Fabro (2008).

Moreover, Alesina et al. (2003) achieve the same conclusions with their own fractionalization index. In the same vein, Papyrakis and Mo (2014) find evidence of the negative impact of ethnic heterogeneity on the quality of institutions for 102 countries, using the ethnic fractionalization index constructed by Montalvo and Reynal-Querol (2005).

Given the above literature, and considering corruption as a proxy of the quality of institutions, we propose the first hypothesis:

H1: There is a positive association between ethnic fractionalization and corruption

Since globalization is an unavoidable process that makes societies increasingly heterogeneous, the contribution of this paper showing the role of tolerance in offsetting this association is crucial.

2.2. The relationship between tolerance and corruption

Tolerance is a social attitude towards diversity: it is a multifaceted concept linked to values such as openness, acceptance, social inclusion, and respect for diversity irrespective of likes and dislikes.

Tolerant attitudes have major economic, social, political and institutional implications. Florida (2014), based on the Gallup survey, argues that one of the elements that best explains how people settle in certain places is openness (how welcoming a place is). Following this argument, Florida points out that, in environments of a more tolerant nature, there are fewer entry barriers, which allows the rise of a creative class that, in turn, promotes progress. Furthermore, tolerance by allowing the inclusion of all members of a society, reduces conflicts within said society, and improves social networks (Gani 2016), social capital (Das et al. 2008), and even the happiness of its members (Inglehart et al. 2008).

Fewer studies have focused on political and institutional consequences. To the best of our knowledge, there are no empirical studies that explicitly analyse the association between tolerance and corruption. However, there are several arguments that may justify the existence of direct links between these two phenomena.

Intolerance leads to the non-integration of the different groups which form society and this, in turn, can lead to them living in separate environments: segregated, in the words of Alesina and Zhuravskaya (2011). These authors demonstrate that ethnic and linguistic segregation reduces the quality of the polity and policy-making. They argue

that segregation can lead to conflicts over the distribution and financing of public goods. Each group will push to achieve the goods that benefit itself even if that distribution is not the best option for the interest of the whole. Specifically, "ethnic parties" (parties whose basis is mostly or exclusively ethnic) and/or lobbies can arise with the objective of putting pressure on the government to guarantee the interests of the individual group. This situation can lead to the corrupt behaviour of groups that pursue their own interest. In the same vein, Banerjee and Pande (2007) show that voter ethnicization worsens the quality of politicians by increasing their propensity to engage in corrupt practices.

Following these results, our hypothesis is that tolerance prevents segregation and ethical voting, even in a fractionalized society, thereby avoiding one of the triggers to higher corruption. Moreover, tolerance plays a key role in our societies, which are becoming increasingly heterogeneous due to the flows of migrants. Tolerance permits the integration of all the citizens regardless of their differences, and overcomes the negative effects of a fractionalized society on corruption found in the literature.

These arguments lead us to propose our second hypothesis:

H2: There is a negative association between tolerance and corruption

In addition to these possible direct effects of tolerance on corruption, there could also be indirect effects through several channels, selected from the determinants of corruption. There is a vast literature concerning the determinants of corruption and, in general, on the quality of institutions. These determinants can be grouped into stable and changing determinants. On the one hand, stable determinants refer to: issues, such as the fractionalization of society (Alesina et al. 2003); historical factors, such as colonial and legal origin (Acemoglu et al. 2001; La Porta et al. 1999, respectively); geographical constraints (Auer 2013); and cultural features (Alesina and Giuliano 2015). On the other hand, changing determinants include social, economic and political factors (see Alonso and Garcimartín 2013; Treisman 2007; among others). Since stable determinants cannot be modified, our focus is on the group of changing determinants. From among these, level of income and freedom of the press have been chosen as channels, since they present clear relationships with both tolerance and corruption, as explained below.

2.3. The mediating role of the level of income

There are numerous theoretical and empirical studies in the scientific literature that have shown the association between tolerance and economic growth (such as Berggren and Elinder 2012a, 2012b; Das et al. 2008; Florida 2002, 2003, 2014; Florida and Tinagli 2004; Gani 2016; Lopes et al. 2011). Most of these investigations are based on the thesis by Florida. In his work "The rise of the creative class", Florida (2002) argues that what he calls the 3*T*s of economic development (*Technology*, *Talent* and *Tolerance*) collaborate towards the rise of the creative class, which in turn fosters innovation and economic progress. Tolerant environments are places of a more open and diverse nature, which "are likely to attract greater numbers of talented and creative people: the sort of people who power innovation and growth" (Florida 2003, p. 11). Florida and his co-authors test this thesis for various tolerance indicators and in different environments, such as American cities (Florida 2002) and European countries (Florida and Tinagli 2004).

Although all previous studies support the relationship between tolerance and growth, not all find this relationship to be positive. Berggren and Elinder (2012a) introduce a

new and interesting point of view by arguing why different kinds of tolerance may have different effects. They assert that the thesis of Florida is possible but incomplete. Berggren and Elinder (2012a, p. 287) suggest that "tolerance can affect economic growth in three basic ways: first, by affecting others than those towards which tolerance is directed; second, by affecting the productivity and innovative capacity of the minority groups that become tolerated; and third, by affecting the generation and spread of new ideas and values". If the group of tolerant people, or the tolerated minority, or the new ideas that emerge are more talented, productive and innovative, then tolerance can have beneficial effects on growth. But if they are not more talented, productive and innovative, then growth will be slowed down. Berggren and Elinder find empirical evidence, from a sample of 54 countries, that tolerance towards race has a positive but non-significant relationship with growth.

As far as the relationship between income and quality of institutions is concerned, then the association between lower corruption and higher economic development seems to be established in the literature (see Saha and Ali 2017; Treisman 2007; and the references therein).

Following Alonso and Garcimartín (2013, p. 210), in our paper it is considered that a higher level of development provides the resources required to achieve better institutions, which are assumed to be more effective in curbing corruption.

Based on the above, the following hypothesis is proposed:

H3: There is a negative association between tolerance and corruption through the following channel: level of income

2.4. The mediating role of the freedom of the press

Despite the lack of explicit research on the role of tolerance in the freedom of the press, the links of tolerance with other aspects of the freedom of individuals have indeed been studied. In this respect, Inglehart et al. (2008) find that tolerance generates freedom of choice and Berggren and Nilsson (2013, 2014) demonstrate positive relationships between tolerance and market freedom.

Moreover, intolerant societies tend to control information in order to limit the power of non-tolerated minorities and to justify their attitudes towards these minorities. Sandoval and Collins (2016) corroborate this fact by showing how a set of cultural indicators closely related to tolerance explains the differentials in freedom of the press.

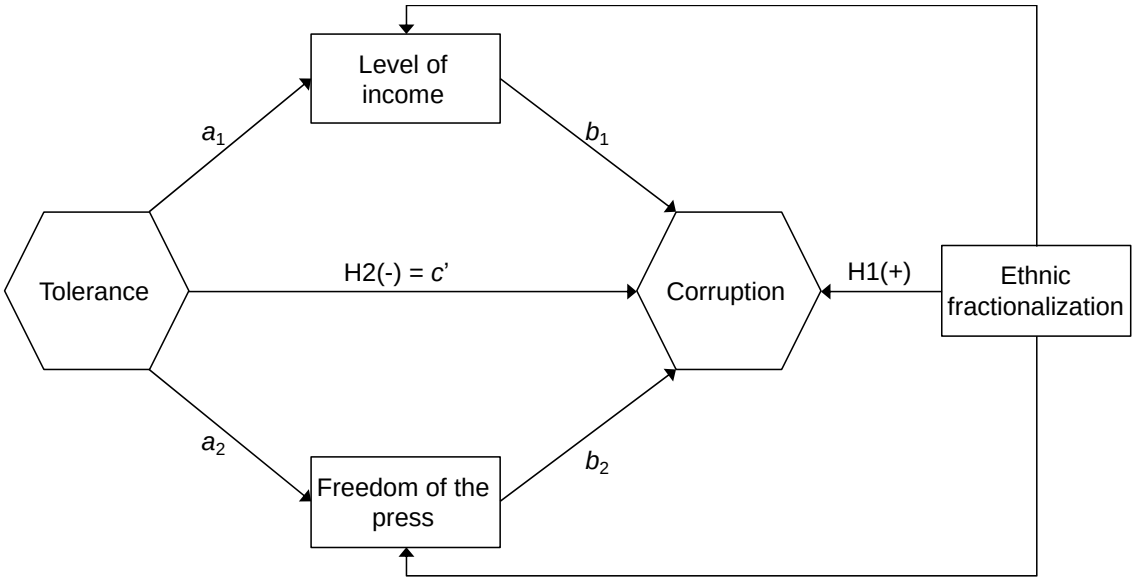
In contrast, the links between the freedom of the press and corruption have been extensively studied. Adsera et al. (2003), Brunetti and Weder (2003), Treisman (2007), Pellegrini (2011) and Dutta and Roy (2016) find that the freedom of the press helps fight against corruption.

Based on the above, the following hypothesis is proposed:

H4: There is a negative association between tolerance and corruption through the following channel: freedom of the press

Finally, ethnic fractionalization is considered as a control variable of both mediators: level of income and freedom of the press.

The following theoretical model (Figure 1) is proposed in order to test our hypotheses.



H3(-) = Tolerance → Level of income → Corruption = a_1b_1
H4(-) = Tolerance → Freedom of the press → Corruption = a_2b_2

Fig. 1 Conceptual model of relationship between tolerance and corruption

3 Data and Methodology

3.1 Sample and Measures

Table 1 provides a summary of all the variables included in the model, the index chosen for each variable, their acronyms, and the data source used. The descriptive statistic for the variables is summarized in the Appendix (Table A1).

INSERT TABLE 1

In order to test the existence of a relationship between tolerance and corruption, only those countries for which there is data available for all the variables have been considered. Therefore, in order to attain a wider sample of countries, the mean value of the variables for the period 2010-2014 have been used for the level of income, the freedom of the press and the two indices employed to construct the index of corruption, and, in order to obtain the index of tolerance, several waves of the World Value Survey and the European Value Survey have been employed, as explained below. Table A2 in the Appendix lists the 86 countries finally included.

A description and justification can now be given for the variables used in our analysis and for the index chosen for each variable.

3.1.1 Index of Ethnic Fractionalization (EF)

In order to measure Ethnic Fractionalization, the index provided by Alesina et al. (2003) is used. This index measures the probability that two randomly selected people from a given country will not belong to the same ethnic group (Alesina et al. 2003, pp. 158-159). The ethnicity index of Alesina et al. (2003) is available for 190 countries and it is referred to the early to mid-1990s.These authors consider that the ethnic fractionalization index can be assumed to be relatively stable over a 30-year horizon (Alesina et al. 2003, p. 160).

3.1.2 Tolerance (T)

Opinion surveys are used as a source of information to measure tolerance towards immigrants and people of different race since this variable is a personal attitude and cannot be observed directly.

Many empirical studies that have studied tolerance have approached this concept from a single item of the opinion polls (Berggren and Elinder 2012a, 2012b, 2015; Corneo and Jeanne 2009; Melgar et al. 2015); there are very few papers that have generated indices (Berggren and Nilsson 2013; Das et al. 2008; Dima and Dima 2016; Florida and Tinagli 2004). Moreover, these few indices refer to the concept of social tolerance in a broad sense, in that they use different items to include tolerance towards different groups.

In our work, a construct for tolerance towards immigrants and people of different race is built using 5 items from two different but complementary sources (Table 1). First, the latest waves of international value surveys, waves 5 and 6 of the World Value Survey (WVS), and wave 4 of the European Value Survey (EVS) are included, and second, the Gallup World Poll is then used.

From the international value surveys, on the one hand, the items (1) Tolerance towards immigrants (VNEIGHINMIG) and (2) Tolerance towards other races (VNEIGHRACE) were constructed from the answer to the question: "On this list, there are various groups of people. Could you please mention any that you would not like to have as neighbours?" We have specifically considered the percentage of population that makes no mention of "Immigrants/foreign workers" and "people of a different race", respectively. The answers to this question have been extensively used in research on tolerance (Berggren and Elinder 2012a, 2012b; Berggren and Nilsson 2013; Corneo and Jeanne 2009; Das et al. 2008; Dima and Dima 2016; Florida and Tinagli 2004; Inglehart et al. 2008).

On the other hand, and also from the opinion survey, the item (3) Children values (VCHILD) was constructed. To this end, following Berggren and Elinder (2015), Berggren and Nilsson (2013), Corneo and Jeanne (2009), and Das et al. (2008), data was collected on the percentage of the population that mentioned "Tolerance and respect for other people" in answer to the question: "Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important?"

The value survey was also employed to build the item (4) Immigrant Job (VPRIORITY), which reflected the percentage of the population that answered "neither" or "disagree" to the following statement: "When jobs are scarce, employers should give priority to people of this country over immigrants". It is important to include this item since unemployment situations can significantly lower the tolerance in attitudes towards immigrants (Melgar et al. 2015).

Finally, Melgar et al. (2015) argue that direct questions regarding one's attitude towards tolerance can provoke inflated responses since it is a socially acceptable value. On this basis, the (5) Index Tolerance for Immigrants (TOLINMIG) produced by the Social Progress Imperative from Gallup World Poll is included. Specifically, data is obtained from the answers to the question: "Is the city or area where you live a good place or not to live for immigrants from other countries?" This item solves the aforementioned problem of exaggerated responses since it avoids asking directly for personal opinions. This index varies from 0 (minimum of tolerance) to 1 (maximum of tolerance).

3.1.3 Corruption (C)

In this paper, we have focused on corruption since the reduction of corruption constitutes a key element for the improvement of the quality of institutions. It is commonly accepted that corruption is "the abuse of entrusted power for private gain" (Transparency International 2017).

In order to measure corruption, we have constructed an indicator from the two most widely used indicators.[1] On the one hand, the (1) Corruption Perception Index (CPI) provided by Transparency International represents the perceptions of entrepreneurs, academics and analysts regarding the degree of corruption between public and political officials. This index ranges from 0 (maximum corruption) to 100 (minimum corruption). On the other hand, the (2) Control of Corruption Index (CC) from the Worldwide Governance Indicators "captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests" (World Bank 2017). This index ranges from -2.5 (maximum corruption) to 2.5 (minimum corruption).

3.1.4 Level of Income (LI)

The level of income is measured by the log of the Gross Domestic Product per capita in PPP (purchasing power parity) in constant 2011 international dollars (GDPpc), as taken from the World Bank.

3.1.5 Freedom of the Press (FP)

This variable has been measured with an index provided by Freedom House (available in Dahlberg et al. 2016) that has been widely used in the literature (see Dutta and Roy 2016, and the references therein). This index (FP) reflects the political pressures and controls on media content and examines "the editorial independence of both state-owned and privately-owned media; access to information and sources; official censorship and self-censorship; the vibrancy of the media; the ability of both foreign and local reporters to cover the news freely and without harassment; and the intimidation of journalists by the state or other actors, including arbitrary detention and imprisonment, violent assaults, and other threats" (Dahlberg et al. 2016, p. 67). The index varies from 0 to 40 where 0 indicates the most freedom. In the estimated model, the scale has been inverted in order to obtain results of a more intuitive nature.

3.2. Epistemic Relationships

Epistemic relationships describe the link between constructs and indicators. While three out of five of our variables of our research model are directly measured by one indicator, two key constructs in our study (i.e., tolerance and corruption) are composite variables measured by several indicators. In this respect, both tolerance and corruption constructs can be considered artefacts, that is, theoretically justified human-made constructions (Henseler 2017a). Such artefacts can be regarded as mixtures of elements that are combined to form a new object (Nitzl and Chin 2017). On the other hand,

[1] To test the robustness of our results, we have constructed a new index for corruption that includes the International Country Risk Guide Index in the indicator as provided by the Political Risk Services Group. Since in this case the sample was reduced to 80 countries, it was decided to present the results corresponding to a wider sample.

Sarstedt et al. (2017) indicate that the presence of artefacts is especially prevalent when secondary and archival data are analysed, given that they lack a comprehensive substantiation on the grounds of measurement theory. Consequently, both these variables have been modelled as composites, which are formed as linear combinations of their respective manifest variables (Henseler 2017b).

3.3. Data analysis

Component-based structural equation modelling has been applied (Tenenhaus 2008) in the form of partial least squares structural equation modelling (PLS-SEM), which is a technique for estimating (complex) path models with composites and their relationships. Partial least squares path models are defined by two sets of linear equations: the measurement model, which describes the link between a construct and its indicators, and the structural model, which focuses on the relationships between constructs (Henseler 2017b).

The principal reason for selecting PLS-SEM is that the main constructs included in our research model meet the requirements of a composite measurement model (Rigdon 2012; Sarstedt et al. 2016). In this case, Rigdon (2016) sustains that the PLS path modelling estimates are consistent, whilst Sarstedt et al. (2016) show there is no bias. Secondly, our choice for PLS-SEM is also due to the use of secondary or archival data, since this kind of data typically fails to fulfil the special requirements for covariance-based SEM (CBSEM) analysis, that is, proportionality constraints on the indicators and uncorrelated measurement errors (Gefen et al. 2011; Rigdon 2013). Finally, this research employs small sample sizes due to the small population (Richter et al. 2016).

Thus, PLS will allow us to meet three research purposes (Henseler 2018): (1) Explanatory, in order to understand the causal relationships between variables; (2) predictive, with the aim to predict values for individual cases; and (3) descriptive, so as to generate indices taking into account the nomological net of our research model. This study applies SmartPLS 3.2.7 software (Ringle et al. 2015).

4 Results

The PLS-SEM evaluation was initially carried out in two stages (Roldán and Sánchez-Franco 2012): the assessment of the measurement model and that of the structural model. We then conducted an evaluation of the predictive performance of the model through the use of holdout samples (Shmueli et al. 2016). Finally, the importance-performance map analysis (IPMA) module was executed (Ringle and Sarstedt 2016) in SmartPLS in order to obtain standardized indices for the tolerance and corruption variables.

4.1. Measurement model

The measurement model evaluation begins by conducting a confirmatory composite analysis (Henseler et al. 2014) for the saturated model. This enables the nomological (external) validity of the composites to be tested (Henseler 2017a). With this aim in mind, the standardized root mean square residual (SRMR) index is applied (Hu and Bentler 1998), which is considered the dominant approximate model fit criterion (Henseler 2017b). Our saturated model achieves an SRMR value of 0.067 (Figure 2) which lies below the cut-off value of 0.08 suggested by Hu and Bentler (1999). Therefore, this confirmatory composite analysis seems to support the composite model,

and composites seem to act within a nomological net rather than as individual indicators (Henseler 2017a).

Since our main constructs (tolerance and corruption) are artefacts, Henseler (2017a) argues that indicators of the composites could probably be correlated. Accordingly, we have estimated these components in Mode A using correlation weights (Table 2) (Rigdon 2016). This means that traditional measures of internal consistency, reliability, and validity can be applied (Henseler et al. 2016). In this way, the analysis of individual item reliability can be started by evaluating indicator loadings. All indicators for each of the two composites have loadings above 0.7. Consequently, individual item reliability is considered appropriate (Roldán and Sánchez-Franco 2012) (Table 2). Additionally, both components achieve composite reliability (ρ_c) figures greater than 0.7 (Table 2), and hence these variables are known to have satisfactory construct reliability (Chin 1998). The average variance extracted (AVE) is then applied to assess the convergent validity (Henseler et al. 2009). Both composites meet this criterion since their AVEs exceed the 0.5 level (Table 2). Finally, all variables attain discriminant validity. This is achieved by applying the Fornell-Larcker (1981) criterion and the strictest Heterotrait-Monotrait Ratio (HTMT) of 0.85 criteria (Henseler et al. 2015) (Table 3). This means that each variable differs from the other variables.

INSERT TABLES 2 AND 3

4.2. Structural model

The assessment of the structural model begins with the evaluation of the SRMR for the estimated model (Henseler et al. 2016). Our hypothesized model achieves an SRMR of 0.069 (Figure 2), which means an adequate fit in accordance with the usual cut-off of 0.08 (Hu and Bentler 1999).

Roldán and Sánchez-Franco (2012) suggest assessing the sign, size and significance of the structural path coefficients, the f^2 values, the R^2 values, and the Q^2 test for predictive relevance. Consistent with Streukens and Leroi-Werelds (2016), bootstrapping (10,000 bootstrap samples[2]) was used to generate *t*-statistics and confidence intervals. This enables the evaluation of the statistical significance of the path coefficients. The six key direct effects, described in Table 4 and Figure 2, are significant. It should be highlighted that H1 and H2 (*c*') have been supported. In addition, all main direct effects reflect major f^2 values above the medium effect value (0.15) established by Cohen (1988) (Table 4). In this way, the effect of level of income on the corruption variable achieves an outstandingly meaningful effect (Table 4). Furthermore, the research model seems to possess appropriate predictive power (in-sample prediction) for all the endogenous variables, especially for the corruption construct (Table 4), which attains the largest coefficient of determination (R^2) (0.811).

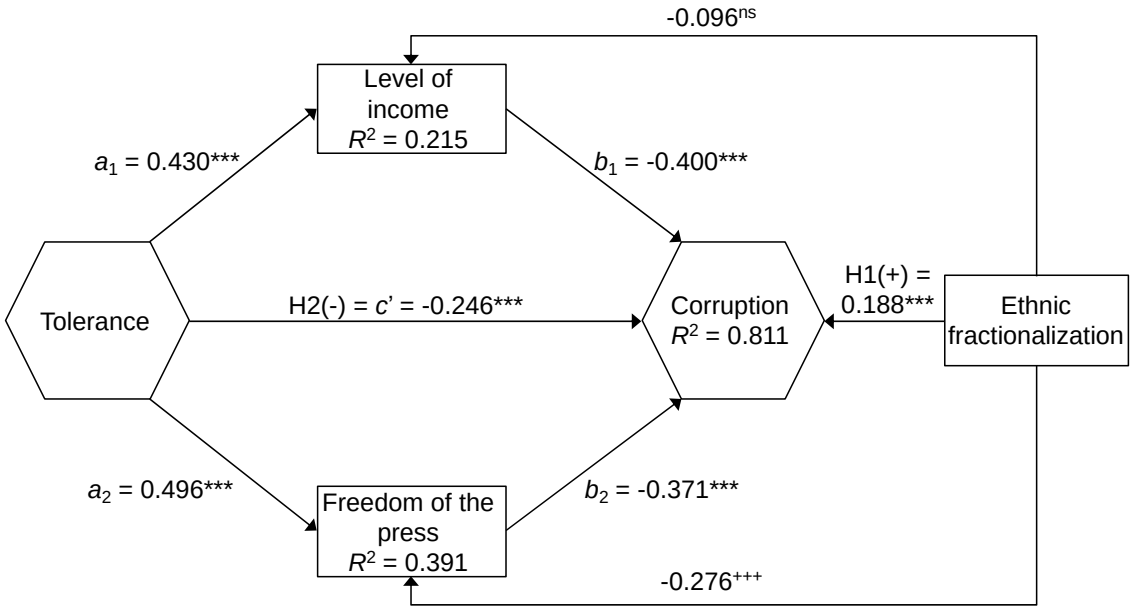
INSERT TABLE 4

Following the guidelines proposed by Nitzl et al. (2016) and Cepeda, Nitzl and Roldán (2017), the mediation hypotheses H3 and H4 have been tested. The indirect effects are specified and contrasted through the two mediators: level of income (a_1b_1) and freedom of the press (a_2b_2) (Table 5), and the direct effect of ethnic fractionalization is considered (H1). Additionally, the total (*c*) and direct (H2: *c*') effects of the exogenous construct (i.e., tolerance) on the endogenous variable (i.e., corruption) have been

[2] Every bootstrap sample contains the same number of cases as the original sample (n = 86).

assessed by taking the influence of ethnic fractionalization into account. The bootstrapping procedure has been chosen to test the indirect effects using the percentile confidence intervals. As Table 5 shows, tolerance (*c*) and ethnic fractionalization present significant total effects on corruption. When mediators are introduced (Fig. 2), ethnic fractionalization and tolerance maintain a significant level of direct effects on corruption (H1 and H2: *c*'). Accordingly, H1 and H2 are supported. On the other hand, all the indirect effects from tolerance on corruption are significant (Table 5). This means that H3 and H4 are supported. This study shows that the level of income mediates the relationship between tolerance and corruption (H3: a_1b_1). At the same time, Table 5 describes how freedom of the press mediates the path between tolerance and corruption (H4: a_2b_2). Therefore, this means that the level of income and freedom of the press partially mediate the influence of tolerance on corruption. This conclusion is also achieved by calculating the variance accounted for (VAF) index (Hair et al. 2017), which determines the size of the indirect effect in relation to the total effect. A typical partial mediation case can be found when the VAF is greater than 20 percent and less than 80 percent. This situation occurs when the total indirect effect of tolerance on corruption is assessed (VAF = 59.1%), (Table 5). Finally, it can be observed that the direct effect (*c*'= -0.246) of tolerance on corruption is smaller than the total indirect effect ($a_1b_1 + a_2b_2$ = -0.356) through mediators (level of income and freedom of the press) (Table 5).

INSERT TABLE 5



H3(-) = Tolerance → Level of income → Corruption = a_1b_1
H4(-) = Tolerance → Freedom of the press → Corruption = a_2b_2

*** p < 0.001 (based on t(9999), one-tailed test)
+++ p < 0.001, ns: not significant (based on t(9999), two-tailed test)
Estimated model: SRMR = 0.069; Saturated model: SRMR = 0.067

Fig. 2 Model of the relationship between tolerance and corruption: Empirical results

4.3. Predictive performance of the model using holdout samples

The predictive performance of a model refers to its ability to predict accurate values for individual cases (Evermann and Tate 2016). Following Shmueli et al. (2016), the predictive performance of our research model (out-of-sample prediction) has been assessed using cross-validation with holdout samples. The PLS predict algorithm in the SmartPLS software has therefore been employed in order to generate *k*-fold cross-validated prediction errors and prediction error summary statistics to assess the predictive performance of our model for the indicators and the constructs. For these statistics, the Q^2 value (SmartPLS 2017) in PLS Predict has been used (Table 6). When the Q^2 value is positive, then the prediction error of the PLS-SEM results is smaller than the prediction error produced when only the mean values are used. Accordingly, our model reflects a satisfactory predictive performance at the level of the main endogenous construct (corruption), and at its indicator level (Table 6). Evidence has therefore been found that shows our model has sufficient predictive power to predict values for new cases for the corruption variable. In addition, this means that the antecedent variables in our model can predict the corruption variable in additional samples that are separate from the dataset used to test the theoretical research model (Woodside 2013), which implies additional support for the research model assessed in this study.

INSERT TABLE 6

4.4. Index generation for tolerance and corruption variables

This study uses the importance-performance map analysis (IPMA) option included in the SmartPLS 3 software in order to obtain indices for tolerance and corruption constructs, which constitute the two key composites included in this research. The IPMA is a useful tool that combines the analysis of the importance and performance dimensions of constructs in explaining other latent variables in a structural model (Ringle and Sarstedt 2016). In this vein, IPMA rescales the standardized construct scores, initially generated by the PLS algorithm, on a range from 0 to 100, thereby allowing an easy interpretation of the data. This enables indices for tolerance and corruption for each country included in our sample to be generated. Both indices vary from 0 to 100, where a score of 100 indicates the highest level for each of the above-mentioned variables (see Table A2 in the Appendix).

5. Discussion and Conclusions

1. This research develops a *new country-level measure of tolerance towards immigrants and people of different race* for 86 countries (Table A2 in the Appendix). We have jointly exploited several sources of information for the creation of this index: World Value Survey, European Value Survey and Index Tolerance for Immigrants produced by the Social Progress Imperative from the Gallup World Poll. Likewise, we have combined the items of these surveys that ask about aspects of tolerance linked to this attitude towards immigrants and people of other races. This has enabled the diverse dimensions of a complex phenomenon that is not directly observable to be taken into account. It is important to analyse the various dimensions in which tolerance can be manifested since, being a socially acceptable value in many territories, partial observations can lead us to overestimate the phenomenon.

To the best of our knowledge, there are no indices of this nature available in the literature. Most of the previous empirical research has used values of a single item as proxy to measure tolerance. The few global indices of tolerance constructed hitherto

constitute indices of social tolerance in the broad sense, in that they combine the same item of tolerance but ask about different social groups. There are no composite indices of tolerance towards a specific social group that have been constructed in a similar way to that presented in the current work for immigrants and people of other races.

This new measure enables countries to be classified according to their levels of tolerance to immigrants and people of other races. Those countries with the highest levels of tolerance include Sweden, Norway, and Denmark; at the other extreme we find Vietnam, Indonesia, and Iran. The results for the highest levels are very similar to those of other global indices of social tolerance (Berggren and Nilsson 2013; Das et al. 2008), and we have found greater differences in the lower levels (e.g. the index built by Das et al. (2008) places Iran in the 15th position out of a total of 62 countries, and Vietnam in the 39th position). Moreover, we are surprised by the result achieved by Berggren and Nilsson 2013 for New Zealand, since they rank it 57th out of 61 while in our study it reaches the 8th position out of 86.

2. On the other hand, we have built a *new corruption index* (Table A2 in the Appendix) combining the Perception Corruption Index of Transparency International and the Control Corruption Index from the World Bank, which allows a greater number of aspects related to corruption to be collected. According to this new index, Denmark, New Zealand and Sweden are the countries with the lowest values of corruption, while Libya, Zimbabwe and Uzbekistan have the highest levels.

3. Taking advantage of the capability of generating latent variable scores offered by Partial Least Squares (Yoon and Klasen 2017), indices for tolerance and corruption have been attained. In particular, the importance-performance map analysis (IPMA) functionality has been applied in order to obtain standardized construct scores rescaled on a range from 0 to 100 (Table A2 in the Appendix).

4. The structural model tested in this work corroborates the *existence of a positive and significant association between fractionalization and corruption* (H1) (Figure 2, Table 4). This result is in line with previous studies (Alesina et al. 2003; Huntington 1968; La Porta et al. 1999; Mauro 1995; Nissan and Naghshpour 2013; Papyrakis and Mo 2014).

5. Nevertheless, the findings presented here provide strong evidence that *the adverse effect of ethnic fractionalization on corruption can be overcome when tolerance is taken into account* (the total effect of tolerance on corruption is both negative and significant: see Table 5).

In fact, a first glance at the data shows, for example, that countries with low levels of corruption, such as Canada and, to a lesser extent, Switzerland and Luxemburg, not only present a relatively high level of fractionalization but also high levels of tolerance. By contrast, both fractionalization and tolerance are low in Japan, but its corruption index is higher in comparison with countries with similar economic features.

In this respect, we have found evidence that the size of the effect that tolerance exerts upon corruption is much higher than the effect that fractionalization has on corruption (-0.246 directly and -0.356 indirectly versus 0.188 from ethnic fractionalization: see Table 5). This result supports that tolerance can largely compensate for the adverse effects that diversity could generate, which may provide major practical implications for governments, especially those with high levels of fractionalization.

The inclusion of the role of tolerance as a determinant of corruption constitutes an innovative contribution to the literature.

6. We have also found that the *total effect of tolerance on corruption has both a direct component (H2) and an indirect component through income level (H3) and the freedom of the press (H4)*. The empirical analysis carried out supports the set of hypotheses (Table 5). The direct relationships between the variables considered and corruption is negative and significant (Table 4). Likewise, the results indicate that the set of indirect effects ($a_1b_1 + a_2b_2 = -0.356$) is (in absolute value) higher than the (absolute value of) direct effect ($c' = -0.246$). Therefore, although tolerance itself can translate into lower levels of corruption, if it also leads to higher levels of income and more freedom of the press, then the decline in corruption could be even greater. On the other hand, the indirect effect through the freedom of the press ($a_2b_2 = -0.184$) is (in absolute value) slightly higher than the absolute value of the level of income ($a_1b_1 = -0.172$) (Table 5). Moreover, these results indicate that both the direct effect and the indirect effects considered in isolation are able to offset the detrimental effect of ethnic fractionalization on corruption.

Both the level of income and freedom of the press partially mediate the relationship between tolerance and corruption. In this respect, our results in Figure 2 coincide with those in the previous literature. The positive relationship between tolerance and income level (a_1) is found by Berggren and Elinder (2012a, 2012b), Das et al. (2008), Florida (2002, 2003, 2014), Florida and Tinagli (2004), and by Gani (2016). With respect to tolerance and freedom of the press (a_2), our results are in line with those of Sandoval and Collins (2016). As far as corruption and income level is concerned (b_1), the relationship between the two variables is well established in the literature: see Saha and Ali (2017), Treisman (2007), and the references therein. Furthermore, in the same way as Adsera et al. (2003), Brunetti and Weder (2003), Dutta and Roy (2016), Pellegrini (2011), and Treisman (2007), we also find that the freedom of the press helps fight against corruption (b_2).

7. Finally, the *predictive effect of the designed model* has been verified (Table 6), which suggests that we could predict new cases for the corruption variable based on new data for the four antecedent variables of our model, that is to say, tolerance, level of income, freedom of the press, and ethnic fractionalization.

6. Implications and limitations

Interesting theoretical and practical implications can be drawn from the results of this work.

From the theoretical point of view, empirical evidence has been found that tolerance could be considered as a determinant of corruption, whereby the sign of this relationship is negative. The association between these two variables occurs both directly and indirectly through income levels and the freedom of the press. These findings can complete the models that explain corruption.

On the other hand, the current study expands the scientific literature on the implications of tolerance. Although there are numerous theoretical and empirical studies that analyse the effects of tolerance on economic development, we cannot find any studies that analyse the relationships between tolerance and the quality of institutions.

Likewise, major practical implications can be drawn from the results of this work, in particular for the governmental management of social diversity. Globalization and growing migratory flows are making current societies more diverse. Various studies have shown that these changes, although they could generate significant benefits for the

economies and host societies, could also translate into lower levels of institutional quality.

This paper finds that tolerance plays a key role in overcoming the adverse effects that ethnic heterogeneity could have on corruption. Based on this result, governments should design and implement measures to promote tolerance. In this sense, on the one hand, from a macroeconomic point of view, the education system plays a key role, so it should be analysed how to approach this issue from primary education to university studies. On the other hand, from a microeconomic perspective, local policies are a relevant element since they allow specific integration actions to be carried out, especially in those territories with high diversity indices.

In the current context, in which nationalism is re-emerging and xenophobic political parties, which seek limitations on migratory flows, are growing, it is crucial to develop scientific studies that demonstrate how the potential adverse effects of social diversity can be overcome. In this work, we have provided empirical evidence that tolerance can be an effective instrument to achieve this objective. In addition, although tolerance itself is an element that can lead to a reduction of corruption, if this tolerance translates into higher levels of income and into more freedom of the press, then the reduction in levels of corruption could be even greater.

Finally, the new indices constructed in this work can be useful for governments to monitor the evolution both of corruption and of tolerance towards immigrants and people of another race. Possessing reliable measuring instruments is essential for the correct diagnosis of economic and social problems, which, in turn, is the key to finding effective solutions.

Further research is required to provide an in-depth analysis of the determinants of tolerance in order to give precise recommendations that help societies to be more tolerant and respectful towards diversity. Likewise, the analysis carried out in this paper could be extended in several directions. First, the tolerance indices referring to other elements of social tolerance, such as tolerance towards people of different languages, religions, and sexual orientation, could be developed. Second, we have focused only on corruption as one of the main components of the quality of institutions, despite the fact that there are several elements, such as democracy and rule of law, that are also relevant dimensions of the quality of institutions. Third, it would be interesting to disaggregate the national level into regional and local levels in order to focus on those regions of least tolerance.

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Table 1 Data description and sources

Name	Variable	Index/Description	Source
CORRUPTION (C):			
- CC	**Control of Corruption**	Perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.	World Bank
- CPI	**Corruption Perception Index**	Synthetic index (combination of surveys and assessments) that measures perceptions about corruption in the public sector.	Transparency International
TOLERANCE (T):			
- VCHILD	**Children values**	% mentioned Item v16 WVS: "Qualities that children can be encouraged to learn at home (choose up to five-v12 to v22-): v16. *Tolerance and respect for other people*"	World Value Survey (waves 5 and 6) European Value Survey (wave 4)
- VNEIGHRACE	**Tolerance towards other races**	% no mentioned Item v37 WVS: "Could you please mention any that you would not like to have as neighbours? (v36-v44): v37. *People of a different race"*	World Value Survey (waves 5 and 6) European Value Survey (wave 4)
- VNEIGHINMIG	**Tolerance towards immigrants**	% no mentioned Item v39 WVS: "Could you please mention any that you would not like to have as neighbours? (v36-v44): v39. *Immigrants/foreign workers"*	World Value Survey (waves 5 and 6) European Value Survey (wave 4)
- VPRIORITY	**Immigrant job**	Sum % disagree or neither Item v46 WVS: "*When jobs are scarce, employers should give priority to people of this country over immigrants*"	World Value Survey (waves 5 and 6) European Value Survey (wave 4)
- TOLINMIG	**Index tolerance for immigrants**	*Is the city or area where you live a good place or not a good place to live for immigrants from other countries?*	Social Progress Index (Gallup World Poll)
LEVEL OF INCOME (LI):			
- GDPpc		GDP per capita in PPP in constant 2011 international dollars	World Development Indicator (World Bank)
FREEDOM OF THE PRESS (FP):			
- FP		Reflects the political pressures and controls on media content	Freedom House
ETHNIC FRACTIONALIZATION (EF):			
- EF		The probability that two randomly selected people from a given country will not belong to the same ethno-linguistic group	Alesina et al. (2003)

Table 2 Measurement model results

Construct / Indicator	Loadings	Weights	ρ_c	AVE
Tolerance (estimated in Mode A)			**0.865**	**0.562**
VCHILD	0.719	0.305		
VNEIGHRACE	0.787	0.281		
VNEIGHINMIG	0.727	0.180		
VPRIORITY	0.739	0.283		
TOLERINM	0.772	0.285		
Level of income			**n.a.**	**n.a.**
GDPpc	1	1		
Freedom of the press			**n.a.**	**n.a.**
FP	1	1		
Corruption (estimated in Mode A)			**0.999**	**0.998**
CC	0.999	0.500		
CPI	0.999	0.502		
Ethnic fractionalization			**n.a.**	**n.a.**
EF	1	1		

Notes: ρ_c: Composite reliability. AVE: Average variance extracted.

Table 3. Measurement model. Discriminant validity

Fornell-Larcker Criterion						**Heterotrait-Monotrait Ratio (HTMT)**					
	T	LI	FP	C	EF		T	LI	FP	C	EF
T	**0.749**					T					
LI	0.454	**n.a.**				LI	0.469				
FP	0.566	0.386	**n.a.**			FP	0.631	0.386			
C	-0.685	-0.693	-0.740	**0.999**		C	0.741	0.694	0.741		
EF	-0.252	-0.204	-0.401	0.480	**n.a.**	EF	0.284	0.204	0.401	0.481	

Notes: T: Tolerance; LI: Level of income; FP: Freedom of the press; C: Corruption; EF: Ethnic fractionalization. Fornell-Larcker Criterion: Diagonal elements (bold) are the square root of the variance shared between the constructs and their measures (average variance extracted). Off-diagonal elements are the correlations between constructs. For discriminant validity, diagonal elements should be larger than off-diagonal elements. n.a.: Non-applicable.

Table 4. Effects on endogenous variables

	Direct effect	*t*-value	*p*-value	PCI	Explained variance	f^2
Level of income (R^2 = 0.215)						
Tolerance (a_1)	0.430	5.887	0.000	[0.326; 0.568] Sig.	19.5%	0.220
CV: Ethnic fractionalization	-0.096	0.720	0.471	[-0.384; 0.126] N.Sig.	2.0%	0.011
Freedom of the press (R^2 = 0.391)						
Tolerance (a_2)	0.496	5.772	0.000	[0.352; 0.663] Sig.	28.1%	0.379
CV: Ethnic fractionalization	-0.276	3.365	0.001	[-0.433; -0.113] Sig.	11.1%	0.117
Corruption (R^2 = 0.811)						
H1(+): Ethnic fractionalization	0.188	3.317	0.000	[0.090; 0.273] Sig.	9.0%	0.157
H2(-): Tolerance (c')	-0.246	3.927	0.000	[-0.350; -0.144] Sig.	16.9%	0.197
Level of income (b_1)	-0.400	5.383	0.000	[-0.526; -0.282] Sig.	27.7%	0.650
Freedom of the press (b_2)	-0.371	5.317	0.000	[-0.475; -0.246] Sig.	27.5%	0.433

Notes: PCI: Percentile confidence interval. Bootstrapping based on n = 10,000 bootstrap samples. CV: Control variable. Paths from hypothesized effects are assessed by applying a one-tailed test for a t Student distribution (PCI 90%). Effects from the control variable are assessed by applying a two-tailed test (PCI 95%). Sig. denotes a significant direct effect; N.Sig. denotes a non-significant direct effect.

Table 5 Summary of mediating effect test

Total effect on Corruption			Direct effects on Corruption			Indirect effects of Tolerance on Corruption					
							Point	PCI			
	Path	*p*-value		Path	*p*-value		estimate	Lower	Upper	Sig.	VAF
T (*c*)	-0.605	0.000	H2(-): T (*c*')	-0.246	0.000	H3(-): a_1b_1 (via LI)	-0.172	-0.246	-0.120	Yes	28.6%
EF	0.326	0.000	H1(+): EF	0.188	0.000	H4(-): a_2b_2 (via FP)	-0.184	-0.251	-0.113	Yes	30.6%
						Total = $a_1b_1 + a_2b_2$	-0.356	-0.448	-0.271	Yes	59.1%

Notes: PCI: Percentile confidence interval. Bootstrapping based on n = 10,000 bootstrap samples. T: Tolerance; LI: Level of income; FP: Freedom of the press; EF: Ethnic fractionalization. Paths from hypothesized effects are assessed by applying a one-tailed test for a *t* Student distribution (PCI 90%). Sig. denotes a significant direct effect. VAF: Variance accounted for.

Table 6 Predictive performance assessment

Construct prediction summary	Q^2
Corruption	0.603
Indicator prediction summary	
CC	0.543
CPI	0.538

Notes: CC: Control of Corruption. CPI: Corruption Perception Index

APPENDIX

Table A1 Descriptive statistics

	Mean	Maximum	Minimum	Std. Dev.	Observations
LI (GDPpc)	24841.53	132467.62	1247.18	21647.98	86
FP (FP)	17.55	37.92	4.08	9.71	86
EF (EF)	0.40	0.85	0.00	0.24	86
CC	0.31	2.38	-1.41	1.07	86
CPI	50.12	91.98	16.85	21.35	86
VCHILD	68.36	91.70	36.10	12.67	86
VNEIGHRACE	82.79	99.00	44.90	11.31	86
VNEIGHINMIG	78.26	97.35	41.00	13.65	86
VPRIORITY	30.50	85.80	4.50	16.28	86
TOLINMG	0.59	0.89	0.19	0.16	86
Corruption	54.69	99.71	0.00	28.30	86
Tolerance	57.54	96.10	31.81	16.71	86

Notes: The descriptive statistics have been constructed for the original values of the variables [LI (Level of income), FP (Freedom of the press), EF (Ethnic fractionalization)] and the items used in obtaining the indices of Corruption and Tolerance, (i.e. CC and CPI for the former, and VCHILD, VNEIGHRACE, VNEIGHINMIG, VPRIORITY and TOLINMG for the latter). See Section 3.1.

Table A2 Corruption and Tolerance Indices. Data base

	Corruption	Tolerance		Corruption	Tolerance
Albania[3]	79.25	38.11	Kyrgyzstan[1]	92.07	48.38
Armenia[1][3]	77.16	39.01	Latvia[3]	57.19	47.15
Australia[1][2]	11.34	87.08	Libya[1]	99.71	34.94
Austria[3]	24.09	61.34	Lithuania[3]	53.75	39.59
Azerbaijan[1][3]	89.84	33.72	Luxemburg[3]	7.71	80.70
Bahrain[1]	54.38	45.60	Malaysia[1][2]	55.90	38.17
Belarus[1][3]	78.27	47.76	Mali[2]	81.13	53.16
Belgium[3]	21.93	79.86	Malta[3]	39.86	42.23
Bosnia and Herzegovina[3]	70.50	49.53	Mexico[1][2]	75.65	66.97
Brazil[1] [2]	65.31	66.99	Moldova. Republic of[2]	80.93	49.74
Bulgaria[2]	69.44	43.17	Morocco[1][2]	71.61	47.68
Burkina Faso[2]	75.41	68.35	Netherlands[1][2]	7.59	81.99
Canada[2]	11.51	87.25	New Zealand[1][2]	1.23	85.00
Chile[1] [2]	23.27	73.35	Nigeria[1]	92.59	53.66
China[1] [2]	74.76	52.19	Norway[2]	4.94	91.63
Colombia[1][2]	73.31	76.78	Pakistan[1]	88.58	47.82
Croatia[3]	61.68	55.52	Peru[1][2]	72.96	62.85
Cyprus[1][2]	34.47	51.75	Philippines[1]	78.37	52.90
Czech Republic[3]	56.25	35.53	Poland[1][2]	48.69	63.21
Denmark[3]	0.00	91.28	Portugal[3]	37.56	68.91
Ecuador[1]	82.39	48.43	Qatar[1]	30.12	60.81
Estonia[1][3]	35.59	49.12	Romania[1][2]	67.99	52.56
Ethiopia[2]	78.46	48.19	Russian Federation[1][2]	88.88	48.74
Finland[2]	4.61	76.13	Rwanda[1][2]	47.88	53.12
France[2]	26.47	69.13	Singapore[1]	6.37	52.45
Gabon[2]	80.05	51.67	Slovakia[3]	59.27	42.92
Georgia[1][3]	56.81	41.14	Slovenia[1][2]	42.03	65.06
Germany[1][2]	16.35	72.20	South Africa[2]	64.34	62.47
Ghana[1][2]	64.32	52.68	Spain[1][2]	39.44	77.19
Greece[3]	67.95	54.31	Sweden[1][2]	3.38	96.10
Guatemala[2]	78.07	58.28	Switzerland[2]	6.91	85.13
Hungary[1][2]	55.93	55.13	Thailand[1][2]	71.92	34.91
Iceland[3]	13.04	85.14	Macedonia[3]	62.88	43.54
India[1][2]	76.75	38.84	Trinidad And Tobago[1][2]	72.69	74.16
Indonesia[2]	80.08	31.95	Turkey[1][2]	61.44	46.05
Iran. Islamic Republic of[2]	84.11	32.24	Ukraine[1][2]	89.51	48.48
Ireland[3]	21.70	65.85	United Kingdom[2]	19.75	81.82
Italy[2]	63.67	67.32	United States of America[1][2]	28.28	75.53
Japan[1][2]	20.03	48.74	Uruguay[1][2]	28.49	79.71
Jordan[1][2]	60.27	35.11	Uzbekistan[1]	95.41	73.52
Kazakhstan[1]	86.33	49.35	Vietnam[2]	78.15	31.81
Korea. Republic of[1][2]	50.25	33.66	Zambia[2]	74.41	44.00
Kuwait[1]	63.03	52.14	Zimbabwe[1]	97.59	60.37

Notes: (1) Data from WVS 6 (2010-2014). (2) Data from WVS 5 (2005-2009). (3) Data from EVS 4 (2008-2010). The descriptive statistic for both indices appears in Table A1.