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ORIGINAL RESEARCH

What Lies Behind Perceptions of Corruption? A Cultural Approach

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Abstract
Countries' resource-base goes also through the Quality of Government, in terms of hidden institutional defects. A long-strand of literature delved into the institutional integrity distortions, with a special focus on corruption. Our study addresses this topic, by proposing a theoretical framework that has its roots in the Expectancy-Disconfirmation Model to conceptually visualize the role of culture in shaping expectations related to the presence of corruption in governmental performance. The research empirically explores whether and how culture, operationalized by means of the whole set of Hofstede's cultural dimensions, affects perceived corruption. The latter is measured through the Bayesian Corruption Index, favoured over the alternatives, and ought to deserve wider use. Over 142 countries worldwide, a cross-sectional econometric analysis shows that societies characterized by more power distance, masculinity, uncertainty avoidance, and less individualism score worse in terms of perceived corruption. Findings provide implications for policy-makers and society, as well as for researchers adding light upon the relevance of cultural values to change the perspective about the course of history.

Keywords Citizens satisfaction · Corruption · Expectancy-disconfirmation model · Hofstede' cultural dimensions · Public sector

1 Introduction

This study aims at exploring the impact of culture on citizens' perception of the presence of corruption in their own government. Even if it is true that it represents a long-strand topic, it is even truer that the culture-corruption linkage still deserves attention, herein provided through a novel approach.

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Given the deeply complex times as those the world is experiencing due to exogenous shocks (e.g., covid-19 pandemic, natural disasters, wars), the public sector's weaknesses are within reach of citizens. Corruption stands for an issue still of current resonance and of interest to researchers, consequently. Corruption includes many actions that fall under the "use of public office for private gain" (Jain, 2001) and therefore is a powerful signal of governmental quality. Quality of Government (QoG) stands for a broad, latent multi-dimensional concept consisting of high impartiality and quality of public service delivery, along with low corruption. Over the past two decades, a growing body of literature has supported the idea that QoG plays a crucial role in explaining the remarkable differences in socio-economic performance across countries. As a main factor for QoG, "corruption exists, persists, and varies significantly by culture" (Banuri & Eckel, 2012), embodying a cultural phenomenon (Barr & Serra, 2010). Indeed, the detrimental action of corruption emerge as heterogeneous, depending upon the national, regional, or local government considered, even whether the comparison is amongst close entities. Considering different legacy landscapes and historical divergences across the world, questions that underpin the (un) power of place in terms of corruption are inordinately complex, and we cannot hope to make much headway in providing detailed responses to them.

However, we herein address such heterogeneity in the perceived level of corruption, by highlighting how the latter is shaped by expectations, that are driven by cultural aspects. In detail, this work aims to contribute to the well-grounded strand of literature surrounding corruption, both theoretically and empirically.

Theoretically, the research tackles the culture-corruption linkage, by recalling the Expectancy-Disconfirmation Model (EDM). Indeed, we build an EDM-based theoretical framework to account for the role of culture in building citizens' expectations about the presence of corruption, which is in turn responsible for the disconfirmation of the expectations. In so doing, culture joins the EDM framework, embodying the former the root for perceptions, by means of culture. National culture is herein seen as the context in which government actions are carried out. Beyond defining it as "the collective programming of the mind that distinguishes the members of one group or category of people from another" (Hofstede, 2001), the social psychologist Hofstede measures culture through a *sui-generis* model. Hofstede's model (2010) entails the following six dimensions: power distance, individualism versus collectivism, masculinity versus femininity, uncertainty avoidance, long-term versus short-term orientation, and indulgence versus restraint. Several academic studies have exploited the potential of national cultural dimensions in many fields. Nevertheless, there exists no academic contribution addressing this topic through an EDM-based framework, that we therefore fulfill. Further, there is a lack of empirical evidence testing the impact of the whole set of Hofstede's cultural dimensions on corruption.

Empirically, we analyze the influence of the whole set of Hofstede's cultural dimensions on how citizens perceive the extent to which their own government fights corruption, by using a novel index for the latter. Importantly, due to the subjective and difficult-to-measure dimension of corruption, its measurement was far from being an easy route (Banuri & Eckel, 2012), and still it is. Considerable efforts have been devoted by many institutions worldwide, addressing the task by means of surveys aimed at providing the perceived level of corruption. Engaged institutions in this line are the World Bank through the Worldwide Governance Indicators (WGI) project, and Transparency International (TI). They respectively provide the control of corruption index and the Corruption Perception Index (CPI). Despite their valuable contribution, methodological issues are therein rooted. Overcoming some of the WGI and TI indexes' issues, this study favors the Bayesian Corruption Index (BCI) produced recently by the QoG Institute at the University of Gothenburg (Sweden).

BCI is herein trusted as a robust proxy of citizens' perceived level of corruption, highlighting the attention that it deserves in anti-corruption research.

Relying on these choices, this study tests the role of Hofstede's whole set of cultural dimensions for a large sample of 142 countries in 2021. Ought to say, in so doing this work produces a new way to look at culture-corruption relationship. The use of BCI and the proposed theoretical framework stand for the joint lens that we propose as the main contribution to the literature. Implications for researchers emerge, paving the way for further work. Findings prove the role of power distance, individualism, masculinity, and uncertainty avoidance in explaining the BCI, by suggesting meaningful implications also for policy-makers and society, as a whole.

The remainder of this study is organized as follows: Sect. 2 presents the literature review, Sect. 3 provides the theoretical background and theoretical framework proposed. Section 4 shows the hypotheses development and Sect. 5 presents the materials and methods used. Then, Sect. 6 and Sect. 7 respectively presents and discusses the results. Finally, Sect. 8 draws the conclusions.

2 Literature Review

Well-trained civil servants and trustworthy politicians who have the best interests in the local community at heart will almost certainly design and implement policies, and deliver public goods and services that citizens require, benefiting the entire community (Rodríguez-Pose & Garcilazo, 2015). These benefits are lacking in the presence of corruption.

Broadman and Recanatini (2001) conceived corruption as an intentional distortion that flows out of illegal and non-transparent provision of personal benefits to public officials. Joint by tax evasion and abuse of power, corruption makes up the integrity distortions' class. Drawbacks of corruption on development are manifold, e.g., legal environment weakening, public administration inefficiency, unfair or distorted competition, and low level of real democracy. Borgonovi and Esposito (2017) demonstrated the negative relation between development and corruption, further proving the results of Rodríguez-Pose and Garcilazo (2015). In their view, economic growth requires huge additional investment unless QoG is significantly enhanced. Indeed, as suggested by Tanzi and Davoodi (1997) and Mauro (1998), corruption alters the composition of governmental spending, by shifting funds away from several fields in which the public sector has to act (e.g., education), whereas contributing for instance to bad phenomena (e.g., environmental degradation). Esposito and Ricci (2015) succeeded in bringing attention to the huge complexities of the negative corruption effects. Through a case study on Italian public administration, the authors witnessed the great extent to which corruption is able to distort public policies, by taking funds away from meeting collective needs and creating public disvalue. It emerges the main character of corruption, that is its irretrievability.

Given these disturbing characteristics, corruption has gained the attention of institutions that struggled to quantitatively measure it, over years. To capture at most a measure of corruption in governments, surveys to citizens are performed, since corruption practically falls on individuals. Assessed by means of indexes of which we cover the most used in sub-Sect. 5.2, the perceived level of corruption that results is heterogeneous across countries. Indeed, even if it is true that obstacles to be managed by the government differ worldwide, it is even truer that culture plays a significant role in perceptions' concerns.

For these reasons, over the years the culture-corruption relationship has been cared for by researchers employing experimental and non-experimental methodological settings. Husted (1999) investigated the impact exerted on CPI of four of Hofstede's cultural dimensions—given that the previous version of the model entailed power distance, individualism, masculinity, and uncertainty avoidance—only. Higher power-distance and masculinity were proven to raise corruption levels. Huber (2001) involved the same four dimensions in relationship with CPI, finding over 47 countries that individualism has a negative effect on corruption, whereas the opposite emerges for power distance, masculinity, and uncertainty avoidance. Gender concerns were also outlined. Swamy et al. (2001) found that low values of the masculinity dimension lead to a decrease in corruption. Alatas et al. (2009), sampling 1326 subjects in 4 different cities in Australia, India, Indonesia, and Singapore, outlined that gender differences are not significant in the propensities to engage in and punish corrupt behavior. Cheung and Chan (2008) by means of a sample of 56 countries, underlined the indirect influence of Hofstede's cultural dimensions on acts of corruption, through enrolment in tertiary education and GDP per capita. Seleim and Bontis (2009) looked at the extent to which culture impacts corruption, by operationalizing the latter through the CPI. In a sample of 62 countries, findings supported the influence of uncertainty avoidance values, human orientation practices, and individual collectivism practices on the level of corruption. Porcher (2019) revealed the great extent to which corruption is affected by one specific dimension, i.e., individualism-collectivism, amongst the six-dimensioned Hofstede's acknowledged model in 2010.

Notwithstanding the wide literature attention on the culture-corruption relationship, the evidence of the cultural impact on corruption and its consequences is still inconclusive (Scholl & Schermuly, 2020). Most of the anti-corruption research used Hofstede's model—in its original shape, with four dimensions—to address culture, testing its influence on corruption, for small subsets of countries worldwide. Corruption has been mainly addressed using WGI and CPI indicators. This study proposes a novel theoretical and empirical approach to the culture-corruption linkage. By embodying an important part of the puzzle (Treisman, 2007), culture still deserves attention concerning perceptions of corruption. Therefore, we propose the theoretical framework that follows and we later test for a wide sample of countries worldwide the role of the whole set of Hofstede's cultural dimensions in explaining the perceived level of corruption, by measuring the latter through an underresearched but valuable indicator, i.e., BCI.

3 Theoretical Background and Theoretical Framework

The questioned phenomenon is worthy to be viewed by relying on the EDM. Despite its original development in the marketing literature engaged in consumer satisfaction in the early 1980s (Oliver, 1980), it took until Van Ryzin (2004) for EDM application in the public sector. Together with the shift of attention, from consumer to citizen, EDM focus goes toward the use of citizen surveys as a powerful means to seek gauging public performance (Van Ryzin, 2013). In light of its ability to explain the reasons behind changes in citizens' satisfaction and to lead to its improvement, EDM has soon become the prevailing model to illustrate citizen satisfaction in the public context (Grimmelikhuijsen & Porumbescu, 2017). EDM posits that citizens compare the performance of a service against their expectations of that service (Zhang et al., 2021), therefore judging public services by comparing the services' quality with prior expectations (Van Ryzin, 2013). Thus, its core idea places

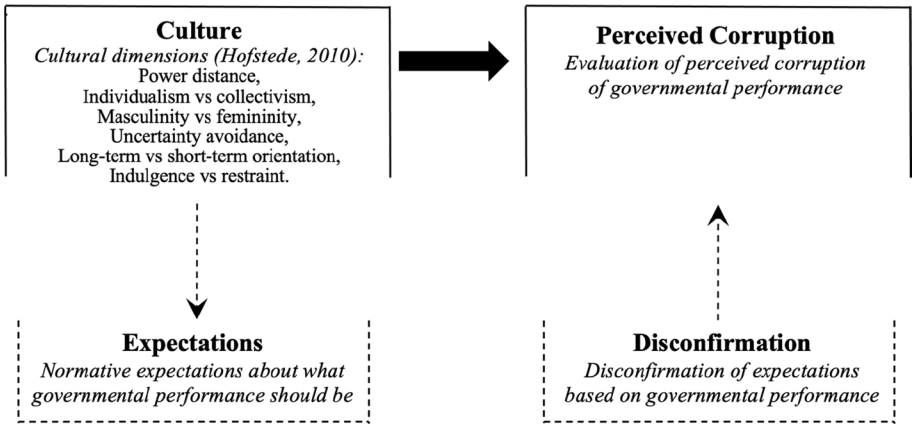

Fig. 1 Theoretical framework (our source)

expectations, which are associated with perceived performance, as factors affecting future disconfirmation, together with perceived performance. Specifically, expectations are built before actual experience (Chatterjee & Suy, 2019), and whether there is a better/worse performance than expected, positive/negative disconfirmation occurs (Oliver, 1980; Spreng et al., 1996).

Academic literature made a distinction between positive and normative expectations (James, 2011; Hjortskov, 2019). Positive expectations explain what performance will be, while normative expectations are related to what performance should be. Very importantly, the former is potentially amenable to adjustments in case of new experiences with services (Zhang et al., 2021). Conversely, normative expectations, being about ideals and goals, are fairly stable over time. Thus, variation in performance exerts little impact on this type of expectation (James, 2011).

From this perspective, we posit a new framework based on EDM, by considering the normative expectations as driven by culture. In this light, even if it is true that the fundamental innovation of EDM is to highlight the determinants of satisfaction linking them to individuals (Zhang et al., 2021), there exists no academic contribution addressing through this model the impact of culture on citizens' satisfaction and, to greater reason, on citizens' perceived level of corruption. Therefore, our study places efforts to examine whether and how perceived corruption is affected by culture, by proposing a newly-built interpretation of EDM, displayed in Fig. 1.

First, it is relevant to mention some points. Undoubtedly, the way in which management in public administration is structured and works is closely linked to cultural aspects (Schedler & Proeller, 2007). Heterogeneity amongst expectations of service recipients belonging to different countries may exist, due to cultural differences (Donthu & Yoo, 1998; Zhu et al., 2018). Moreover, it is also true that different cultural settings produce diverse governmental approaches to manage public goods and services. Providers' behavior and actions (i.e., public managers) rely on cultural values that are embedded in context and tend to persist and endure over time.

Beyond this, the proposed framework assumes the citizens' perspective, considering that some issues are in humans' minds before experiencing life and shape perceptions. Based on perceptions, humans evaluate performance, potentially disconfirming initial

expectations and setting up new ones. Specifically, we posit that cultural characteristics rooted in societies drive citizens' normative expectations about how the performance—and, in this case, the corruption level—should be in their government.

In detail, two levels of concepts are shown and graphically displayed through dotted and solid lines. Shallowly, with solid lines, we assume the impact of culture on corruption, both from the public services provider and recipient sides. Deeply, by means of dotted lines, we consider what lies behind the above-mentioned process. A hidden cycle is shown involving expectations and disconfirmation. Expectations about what performance should be are supposed to be led by culture, as a result of state-specific features whether considering Hofstede's cultural dimensions. Cultural context is herein assumed to shape what citizens expect regarding governmental performance in terms of corruption. When performance is accomplished, disconfirmation of previous expectations may occur. Indeed, expectations, whether (or not)-met, give rise to (dis)confirmation. When expectations change, the process transforms itself. It reflects on the evaluation of the governmental performance by citizens when asked to score their perceived level of corruption.

In light of the deep level at which expectations and disinformation act in humans' minds, the research will empirically favor the shallow link to the deeper one of the figure. Hence, the expectations about governmental performance are captured by cultural dimensions, tested in their ability to shape the perceived level of corruption. The resultant (dis) confirmation of expectations in turn leads to the score of perceived corruption. In so doing, the EDM-based proposed model is the basis on which the empirical application relies on to finally test the hypotheses that follow in explanation.

4 Hypotheses Development

With regard to its deep-rooted and multidimensional essence, culture is herein proxied with Hofstede's six dimensions (2010). In particular, these dimensions are: power distance, individualism versus collectivism, masculinity versus femininity, uncertainty avoidance, long-term versus short-term orientation, and indulgence versus restraint.

Power distance expresses power inequality as far as the workplace and society at large are concerned. It is related to the level of hierarchy and distance between social strata. This dimension offers insights into the extent to which the unequal distribution of power and authority in institutions is conceived as legitimate. Put in another way, it consists of a measure of how inequality between people is managed by society (Vitolla et al., 2019). Expertise, formal position, and tendency to provide rewards are those concepts related to power in low-power-distance countries. Conversely, power that relies on family or friends, charisma, and ability to use force is then associated with high power distance. In the former case, governments are more democratic than in the latter case, where societies are autocratic or oligarchic. Husted (1999), Huber (2001), and Cheung and Chan (2008) have found the positive impact of power distance on corruption. Interestingly, Ahangama and Krishnan (2021) have stated that citizens of societies characterized by high power distance may feel that their voice will not be taken into consideration, due to the presence of asymmetric information, which stands for the information misalignment between subjects differently placed in hierarchical structures. In the case of high hierarchical structures, asymmetric information is more likely to occur, since power is conceived as far from citizens' sight and control. Therefore, perceived corruption is assumed to be more alarming in the case of highly asymmetric contexts with high hierarchical structures which often lies behind

governmental system with high power distance. Indeed, high-power distance has proved to ease unethical behaviors from the government. In line with Ringov and Zollo (2007), low power distance in society encourages the implementation of environmental and social activities that are set aside when corruption occurs (Mauro, 1998; Tanzi & Davoodi, 1997). Hence, we expect that the increasing power distance leads to a high level of perceived corruption. In this perspective, the first hypothesis is formulated as follows:

Hypothesis 1 Countries with a high level of power distance tend to have a high level of perceived corruption.

Individualism versus collectivism refers respectively to individual freedom, realization and time, unlike collective realization, cohesion and fidelity to families. Interestingly, this scale measures whether people prefer to work alone or in groups, respectively conceiving performance as an individual or cooperative achievement. Scholars have highlighted the relationship between this dimension and culture (e.g. Huber, 2001; Husted, 1999; Seleim & Bontis, 2009). Gorodnichenko and Roland (2017) and Porcher (2019) have both found the presence of a relation between individualism and societal transparency level. As suggested by Gorodnichenko and Roland (2012), bureaucracy acts autonomously to political pressure. By promoting order, a collectivistic culture may seem better than an individualistic one in solving societal issues (Porcher, 2019). Individualistic societies favor the interest of all, by consequently raising political expectations. Collectivistic societies do not allow individual freedom and power. For these reasons, this work tests whether individualistic culture negatively impacts corruption. In light of this, the second hypothesis is formulated as follows:

Hypothesis 2 Countries with a high level of individualism tend to have a low level of perceived corruption.

Thirdly, masculinity versus femininity depicts the degree to which masculine traits are favoured over typically female characteristics, respectively dealing with authority, assertiveness, performance, success and, on the other hand, personal relationships, quality of life, service and welfare. Accordingly, societies more oriented toward masculine values are highly competitive. On the contrary, in a female-oriented culture, solidarity and teamwork are enhanced (Porcher, 2019). It reflects in citizens' perception of their effective inclusion within the societal sphere, which has a lot to do with the governmental integrity distortion as corruption. Hence, in female-oriented societies, the overall likelihood of corruption decreases, as supported by a number of studies that have over the years explored gender concerns in relation to corruption. In line with Swamy et al. (2001), high values of masculinity result in high levels of perceived corruption. In this connection, the third hypothesis follows:

Hypothesis 3 Countries with a high level of masculinity tend to have a high level of perceived corruption.

Later, uncertainty avoidance provides insights in terms of the extent to which people are treated by a lack of structure or by uncertain events. Societies that obtain weak uncertainty avoidance accept uncertainty, oppositely to those high-scored societies that consider uncertainty as a threat to face. Uncertainty avoidance is found to be a

significant regressor of perceived corruption (e.g. Cheung & Chan, 2008; Huber, 2001; Husted, 1999; Seleim & Bontis, 2009). As reported by Vitolla et al. (2019), societies with high levels of uncertainty avoidance aim at controlling the future, by strictly conserving behavioral and belief codes. It may represent a potential factor hidden behind old-management-behavior and decision-making systems anchored to the past that contextually would control the future avoiding uncertainty. When society's willingness to tolerate ambiguity, i.e. uncertainty avoidance (Huber, 2001), is high, we thereby assume a high level of perceived corruption, by formulating the following hypothesis:

Hypothesis 4 Countries with a high level of uncertainty avoidance tend to have a high level of perceived corruption.

Afterward, long-term orientation measures the temporal horizon of the community. Long-term-oriented countries are more likely to be related to perseverance and parsimony. Conversely, short-term cultures are those conceiving the world as far from being constantly evolving, rather, the world is viewed essentially as it was created. Orientation towards future rewards goes hand in hand with the tendency to believe that what cannot be done today can be postponed until tomorrow (Vitolla et al., 2019). This dimension may be viewed under the lens of sustainability engagement of the government. In essence, societies oriented to short-term benefits tend to underestimate the potential of sustainability initiatives (Tata & Prasad, 2015), as well as education (Rubino et al., 2020). It makes much more sense to recall that when corruption occurs, governments shift funds away from education and other good phenomena to contribute to bad ones, e.g. environmental degradation (Mauro, 1998; Tanzi & Davoodi, 1997). Accordingly, it ought to expect a lower level of corruption in long-term oriented countries than in oppositely. In this connection, the fifth hypothesis is formulated as follows:

Hypothesis 5 Countries with a long-term orientation tend to have a low level of perceived corruption.

Finally, the indulgence versus restraint dimension provides information related to the attitude of individuals to satisfy and control their needs (Rubino et al., 2020). Indulgence is characterized by a positive view of life that is enriched by family and friends. Conversely, restrained societies are distinguished by a negative view of life, by conceiving it as full of doubts, difficulties, anxieties, and fears. Governmental control prevails in restraint societies (Vitolla et al., 2019), where there may exist a greater interest in environmental and social issues than in the opposite case. Citizens' behavior towards society is likely to be more optimistic, proactive, and law-abiding in indulgent countries than in restraint-oriented ones. Thus, we expect that the level of perceived corruption will be lower in the case of high-level indulgence (as supported in the literature by Seleim & Bontis, 2009). In light of this, the sixth hypothesis is formulated as follows:

Hypothesis 6 Countries with a high level of indulgence have a low level of perceived corruption.

5 Materials and Methods

5.1 Sample

The initial sample of this study was composed of 194 countries worldwide in line with the availability of data of the dependent variable. However, due to the lack of values reflecting Hofstede's dimensions for some countries and due to missing values for the involved control variables, the sample has witnessed a reduction to 142 countries worldwide. In line with the previous section and the six hypotheses herein presented, the operationalization of concepts is realized through six variables that act as regressors of the dependent one. Additionally, four control variables are included in order to reduce the omitted variables bias since they may be correlated with regressors whereas they may not produce a direct influence on the dependent. Further explanations of related choice of inclusions will follow. Because of the non-dynamic nature of the regressors, the analysis investigates the nature of the relationships within one single year. Hence, all variables refer to 2021. Merely related to one amongst the set of control variables, i.e. *Voters*, if no data from 2021 are available for a country, data for 2020 are included. If no data for 2020 exist, data for 2019 are chosen, and so on up to a maximum of − 5 years.

Table 1 provides the overview of the variables herein used and whose explanation emerges in the following subsection. Indicated ranges are referred to the original dataset *ante* normalization. Indeed, all variables' data have been normalized to be involved in the analysis. Since they range over different scales, all data have been transformed letting variables be included within the range 0–1.

5.2 Dependent Variable

The ratio behind the hardship to catch full information on governmental corruption relying on objective data is linked to the characteristics of the concept itself. Proxies of perception of corruption find their *raison d'être* when measured via individuals' thoughts. Thus, indicators surrounding the concept of perceived corruption in literature are built on the basis of surveys and subjectivity undoubtedly occurs. To reduce this problem, we favor the BCI as our dependent variable over the alternatives. BCI holds a more objective estimation procedure than those used by WGI and TI for their indexes (Standaert, 2015). Through the WGI project, the economists Kaufmann and Kraay (2011) scored over 200 countries and territories from 1996 to 2020 in terms of many dimensions of governance, including control of corruption. The global movement TI since 2003 also engaged in measuring corruption, by producing the CPI scoring 180 countries and territories.

Although they stand for the proxies of choice by existent literature, some issues trouble them. BCI is intended to overcome some of the relevant concerns threatening the alternatives. Produced by the QoG Institute of the University of Gothenburg (Sweden), via the efforts of Standaert (2015), BCI is a composite index of the perceived overall level of corruption, the latter defined as the "abuse of public power for private gain" which fits with our main focus. The construction of the index relies on the combination of opinions on the level of corruption from the following categories of subjects: inhabitants, operating companies, NGOs, and officials employed both in governmental and supra-governmental organizations. It amalgamates the information derived from 17 different surveys and more than 80 different survey questions on the topic. Ranging from 0 to 100, it indicates respectively

Table 1 Description, source, and type indications of variables

Variables	Description	Source	Type
BCI	Bayesian corruption index, reflecting the overall level of corruption (0–100)	QoG Institute (University of Gothenburg)	Dependent
PDI	Power distance index (11–104)	Geerthofstede.com	Independent
IDV	Individualism index (6–91)	Geerthofstede.com	Independent
MAS	Masculinity index (5–110)	Geerthofstede.com	Independent
UAI	Uncertainty avoidance index (8–112)	Geerthofstede.com	Independent
LTO	Long-term orientation index (0–100)	Geerthofstede.com	Independent
IVR	Indulgence index (0–112)	Geerthofstede.com	Independent
GOVFORM	Governmental system classification in terms of distribution of power. Dummy (1: Unitary system; 0: Federal system)	Authors' elaboration from OECD	Control
VOTERS	Electoral participation for the adult voting-age population in the last national elections (%)	IDEA	Control
GDPCAP	Ratio of gross domestic product on number of inhabitants of EU regions (thousand $)	IndexMundi	Control
DENSITY	Ratio of number of inhabitants on total area (in h/km^2)	IndexMundi	Control

the absence and alarming presence of corruption. Data refer to a maximum of ±3 years from 2018. Beyond these aspects, the reasons behind the choice to use BCI over the alternatives are provided in detail as follows.

Firstly, BCI covers more countries than the alternatives. This factor itself represents a huge payoff of using this technique. Secondly, the CPI makes the simple average of the available sources for each sampled country, the WGI makes strong assumptions about the noise of data using as the aggregation technique the unobserved component model. Instead, the BCI employs as the main aggregation technique the Bayesian estimation, assuming that each source's perceived corruption level is made up of the true level of perceived corruption jointly by some measurement error, which is in turn random and independent alongside the sources. In so doing, margins of errors are likely to be smaller for BCI compared to the traditional measures, in light of up-to-now evidence. Indeed, the BCI estimates are more stable than other indicators, criticized over the years as prone to small jumps in the data that do not deal with the level of corruption, in line with Arndt and Oman (2006), and Treisman (2007). BCI considers the past and future values of corruption, by thence being the guardian of more information that is useful to discern between random measurement errors and actual changes in the corruption level (Standaert, 2015). Further, BCI lies between 0 and 100 and an increase in the index corresponds to a rise in the level of corruption, differently from CPI (ranging from 0 to 100) and WGI (ranging from −2.5 to 2.5) where an increase is related to a decrease in the level of corruption. Specifically, BCI exhibits an absolute scale, where 0 means that all surveys declare no corruption and 1 is assigned when all surveys state that corruption is as bad as it gets according to their scale. Technically, the absolute scale is computed by rescaling the whole individual survey data, aiming to let 0 correspond to the lowest possible level of corruption and 1 to the highest one, and allowing for a change in each year. Immediately after, the BCI was rescaled to obtain the 0–100 scale. Conversely, CPI and WGI use relative scales since they are rescaling such that the former always lies within the range of 0–100 and the latter has a mean 0 and standard deviation of 1 in each year.

Indeed, in light of the mentioned strengths, BCI stands for the indicator that fits with the measurement of the perceived level of corruption, definitely embodying a methodological improvement over the traditional measures, narrowing subjectivity and therefore deserving attention in the anti-corruption research.

5.3 Independent and Control Variables

Independent variables refer to the Hofstede et al. (2010) cultural dimensions: power distance (*PDI*), individualism versus collectivism (*IDV*), masculinity versus femininity (*MAS*), uncertainty avoidance (*UAI*), long-term versus short-term orientation (*LTO*), and indulgence versus restraint (*IVR*). Even if subjects of criticism, this model is universally accepted to address cultural concerns since the model captures meaningful characteristics of societies that mirror themselves as the essence of culture. Hofstede's approach based upon attitudinal differences between countries outperforms other measures, by defining culture by means of people classification into groups depending on some common connection between them, and identifying ways in which people belonging to a certain group differ from persons without that connection (Dockery, 2010).

See "Appendix A" for further information concerning the index calculation.

To increase the goodness of the econometric model, the analysis encompasses the following control variables: *GOVFORM*, *VOTERS, GDPCAP,* AND *DENSITY*. Their

inclusion is due to the power they detain, being highly correlated with the involved independent variables, and therefore ensuring a decrease in the omitted variables bias.

Firstly, *GOVFORM* provides information on the governmental system in terms of the way in which each country's constitution manages power between central and subnational governments. Countries can be conceived as detaining unitary or federal systems of government, respectively whether they concentrate or distribute power. For this specific reason, the variable is expressed as a dummy variable with 1 addressing unitary systems and 0 federal systems. The inclusion of this variable, of own elaboration from the OECD data warehouse, is supported by several literature contributions. Over the years, researchers reflected upon how unitary and federal systems enable for mitigation of corruption suggesting that the former structure helps reduce levels of corruption (e.g. Gerring & Tacker, 2004; Holcombe & Boudreaux, 2015).

Secondly, *VOTERS* is used as a control variable, referring to citizens' participation in the political life of their surrounding area. Data on voters' turnout are drawn from the data warehouse of the International Institute for Democracy and Electoral Assistance (IDEA). Expressed in percentages (%), the *VOTERS* variable refers to the last national elections (parliamentary or presidential) and captures the level of electoral participation for the adult voting-age population. Noteworthy, in case of a lack of data for 2021, voters' affluence in elections is seen by embedding data on previous years. Up to now, this variable has been almost overlooked as a control variable in studies delving into cultural and corruption concerns. However, few contributions have reported the contingent role of citizen participation upon cultural contexts (Johnston, 1983), reflecting the fitness of inclusion of this variable amongst the set of control variables.

Thirdly, through the *GDPCAP* variable (thousands $), economic accounts are seen in terms of Gross Domestic Product (GDP) per capita. Data are drawn by IndexMundi, a comprehensive data portal. Its inclusion is supported by literature examining culture-corruption association (e.g. Cheung & Chan, 2008).

In this same regard, the *DENSITY* variable has been included to explicitly control for population density since size effects may reflect changes in variables that we do need to account for. Specifically, the *DENSITY* variable (in h/km^2) shows the number of inhabitants by total area, both collected by IndexMundi.

5.4 Model Specification

The work implements a cross-sectional analysis by fixing the baseline in 2021. We chose a cross-section instead of a panel analysis because the Hofstede's values for culture that we used (i.e. Hofstede, 2010) do not change over time. Nevertheless, approaching this way the aim is to test whether our hypotheses are supported at a specific point in time, which is 2021. To do so, this study uses an ordinary least squares (OLS) regression model, reflected in the following equation:

$$\begin{aligned} BCI = {} & \beta_0 + \beta_1 PDI + \beta_2 IDV + \beta_3 MAS + \beta_4 UAI + \beta_5 LTO + \beta_6 IVR \\ & + \beta_7 GOVFORM + \beta_8 VOTERS + \beta_9 GDPCAP + \beta_9 DENSITY + \varepsilon \end{aligned}$$

where β_0 stands for the intercept, and β_1, β_2, β_3, β_4, β_5, and β_6 are the coefficients respectively for variables capturing Hofstede's cultural dimensions, i.e. *PDI*, *IDV*, *MAS*, *UAI*, *LTO*, and *IVR*. Further, β_7, β_8, and β_9 are the coefficients associated with the chosen control variables, i.e. *GOVFORM*, *VOTERS*, *GDPCAP*, and *DENSITY*. The misspecification error term is included in the form of ε. In so doing, we formulate the perceived level of

corruption, measured by *BCI*, as a function of Hofstede's cultural dimensions, the chosen control variables, and the error term ε.

6 Results

6.1 Descriptive Statistics of the Variables

As in Table 2, descriptive statistics of variables are calculated *post* standardization.

The *BCI* variable has a mean value stored at 0.573 and a median stopping at 0.630, demonstrating a slight left-tail distribution. New Zealand and Venezuela respectively appear at the tail and top of its distribution, proving their highly un-corrupted and hugely corrupted system.

Concerning regressors, a few aspects are worthy to be underlined. Looking at the *PDI* variable, the upper bound is held by Slovakia and Malaysia, highly diverse from each other in a multitude of factors but interestingly they share the same distance from power. The lowest value of power distance is obtained by Austria. Secondly, *IDV* variable exhibits a huge difference between Q3 and maximum values that respectively stop at 0.412 and 1.000. Explicitly, concerning the individualism dimension, only 25% of the sampled observations present values in the above-mentioned large range, whose upper bound is detained by the United States of America, the highest individualistic society, placed oppositely to Guatemala whose value was *ante* normalization of 6.00 in the specific 6–91 scale. Similarly, referring to the *MAS* variable, approximately 30% of the sampled countries present high values of masculinity. Conversely, countries in the first 25% of the distribution, and consequently highly female-oriented, are mainly those belonging to Northern Europe. This area is also highly uncertainty tolerant, as from the *UAI* variable. Singapore detains the minimum value of *UAI*, whereas Greek citizens are those most averse to risk. Furthermore, the *UAI* variable's distribution is pretty close to a symmetric one, also due to the congruence of mean and median values that both stop roughly at 0.520. *LTO* variable presents at the tail and top of its distribution in African and Asian countries, by showing a different

Table 2 Descriptive statistics of variables

Variables	Min	Q1	Median	Mean	Q3	Max	SD	Skewness
BCI	0.000	0.421	0.630	0.573	0.756	1.000	0.243	−0.671
PDI	0.000	0.527	0.570	0.573	0.710	1.000	0.182	−0.725
IDV	0.000	0.165	0.353	0.365	0.412	1.000	0.227	1.018
MAS	0.000	0.343	0.390	0.406	0.457	1.000	0.137	0.480
UAI	0.000	0.423	0.529	0.527	0.596	1.000	0.171	0.106
LTO	0.000	0.202	0.295	0.366	0.556	1.000	0.237	0.612
IVR	0.000	0.340	0.417	0.469	0.650	1.000	0.209	0.301
GOVSYST	0.000	1.000	1.000	0.830	1.000	1.000	0.377	−1.755
VOTERS	0.000	0.521	0.646	0.611	0.740	1.000	0.196	−0.638
GDPCAP	0.000	0.032	0.125	0.182	0.278	1.000	0.180	1.479
DENSITY	0.000	0.044	0.117	0.179	0.213	1.000	0.197	1.977

Min stands for minimum, *Q*1, *Q*3 are referred to first and third quartiles, *Max* refers to maximum, *SD* captures the standard deviation

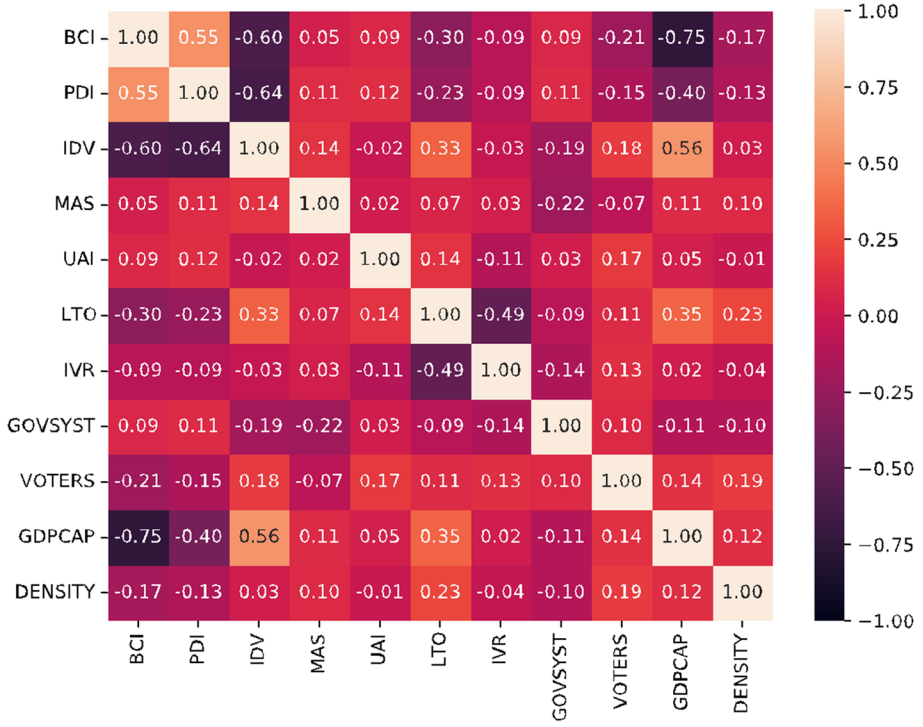

Fig. 2 Correlation heatmap

approach of these two continents, by and large short-term and long-term oriented, respectively. Finally, the sixth dimension is addressed by the IVR variable, whose distribution is positively asymmetric and whose minimum and maximum values refer to Pakistan and Venezuela. Lastly, great heterogeneity emerges also considering the three control variables involved within the analysis.

6.2 Correlation Analysis

Bivariate analysis shows its usefulness at its very first stage when analysing correlation between variables, considering two variables at-a-time. From correlation analysis, the absence of multicollinearity problems is desirable. Figure 2 allows the graphical visualization of the heatmap of the correlation matrix which hosts the correlation indexes through the support of colours. Approaching the value of $+1$, cells tend to white colour, whereas coming up close to -1 cells are displayed with dark colour. The lowest correlation coefficient is obtained by *BCI* and *GDPCAP* variables that are highly negatively correlated (-0.75). Beyond this only exception, it results in an overall absence of multicollinearity problems, since most of the correlation indexes registering low values. Further confirmation of the exclusion of such issues is drawn from the computation of the Variance Inflation Factor (VIF). Referring to Myers (1990), VIF lower than 10.000 is desirable. By recalling that the minimum value of VIF is 1.000, the highest value refers to *BCI* and *IDV* variables,

whose VIF is 2.435. Thus, all values for the involved variables are far from the threshold of 10.000.

6.3 Multivariate Analysis

Table 3 presents values referred to coefficients, standard errors, *p*-values (hereinafter *p*), and significance related to the multiple regression model computed. The regression model allows explaining 65.10% of the variance of the BCI variable (Adjusted $R^2 = 0.651$).

H1 is supported by the results. The degree to which the unequal distribution of power and wealth is tolerated has been examined in terms of its impact on the *BCI* variable. Specifically, the relationship between *PDI* and *BCI* variables is significant and positive ($p = 0.022$). In regions belonging to countries that hold large distances between ranks in the organization, perceived corruption is worse than in the opposite case. Secondly, H2 finds support in the results. *IDV* and *BCI* variables are negatively and highly significantly related ($p < 0.010$), by demonstrating that countries with a high level of individualism are likely to be low-corrupted. Hence, the attention has to move to the *MAS* and *BCI* variables relationship, which is significant and positive ($p = 0.037$). Due to the full support of H3, citizens in countries with higher masculinity are less likely to perceive their government as behaving in the absence of corruption. Results also support H4, due to the significant and positive relationship found between *UAI* and *BCI* variables ($p = 0.029$). Accordingly, countries whose societies exhibit higher uncertainty avoidances are more likely to present high values of corruption. Additionally, H5 finds no support. *LTO* is negatively associated with the BCI variable at $p = 0.424$, even if not significantly. So, the LTO index seems not to be linked to the used corruption index. Similarly, results do not support H6. No significant relationship exists between *IVR* and *BCI* variables ($p = 0.136$).

Concerning the control variables, the results show a negative and non-significant relationship between *GOVSYST* and *BCI* variables, and *VOTERS* and *BCI* variables, respectively with $p = 0.678$ and $p = 0.392$. Furthermore, negative relationships emerge in the case

Table 3 Regression model results

Variables	Coefficient	Standard error	*P*-value	Sign
const	0.655	0.092	< 0.010	***
PDI	0.189	0.082	0.022	**
IDV	− 0.189	0.071	< 0.010	***
MAS	0.214	0.101	0.037	**
UAI	0.144	0.065	0.029	**
LTO	− 0.061	0.077	0.424	
IVR	− 0.112	0.075	0.136	
GOVSYST	− 0.015	0.035	0.678	
VOTERS	− 0.066	0.770	0.392	
GDPCAP	− 0.773	0.089	< 0.010	***
DENSITY	− 0.089	0.071	0.207	

N 142

Adj. R^2 0.651

*** = significant at the 1% level; ** = significant at the 5% level; * = significant at the 10% level

of *GDPCAP* and *BCI* ($p < 0.010$) which is turned as significant and whether addressing *DENSITY* and *BCI* ($p = 0.207$).

6.4 Robustness Analyses

Two robustness tests were conducted to improve the consistency of the findings. We tested the hypotheses using two different measures of perceived corruption coming from WGI and CPI. The former addresses the concept of perceptions of control of corruption, which we named *WGI* variable. The latter has been drawn from TI and joins the analysis through *CPI* variable. Each of them will be chosen as dependent variables at this stage, to compare results with the main analysis that uses *BCI*. Importantly, we remind that an increase in *WGI* and *CPI* variables stands for a decrease in the level of corruption, conversely for *BCI*.

Table 4 shows the findings of the further regressions computed. The adjusted R^2 related to *WGI* and *CPI* analyses are 0.679, and 0.662, respectively. Regression involving *WGI* and *CPI* as dependent variables provides convergent results. Nevertheless, comparing them with our core multivariate analysis—that uses *BCI*—, some differences emerge.

It is firstly relevant to notice that a reduced sample compared to the core analysis is used. Four observations are herein removed due to data availability issues related to *WGI* and *CPI*. Relationships are confirmed with some relevant exceptions, i.e. the relationships involving *UAI* and dependent variables, that turn out to be not significant and of *LTO*, and *IVR* with the dependent variables that now turns significant. Even if no change in the signs emerged between the *WGI/CPI* and *BCI* analyses, the occurring differences corroborate the idea that BCI captures the perceived level of corruption through a diverse methodology. As previously discussed in Sect. 5.2, we opt to favor

Table 4 Robustness analyses

Variables	Coefficient		Standard error		*P*-value		Sign	
	Dv: WGI	Dv: CPI	Dv: WGI	Dv: CPI	Dv: WGI	Dv: CPI	Dv: WGI	Dv: CPI
const	0.213	0.272	0.093	0.074	0.024	< 0.010	**	***
PDI	− 0.272	− 0.197	0.084	0.064	< 0.010	< 0.010	***	***
IDV	0.155	0.162	0.069	0.064	0.027	0.012	**	**
MAS	− 0.154	− 0.119	0.075	0.065	0.043	0.066	**	*
UAI	− 0.093	− 0.073	0.070	0.059	0.189	0.218		
LTO	0.245	0.155	0.072	0.067	< 0.010	0.022	***	**
IVR	0.298	0.201	0.076	0.058	< 0.010	< 0.010	***	***
GOVSYST	0.074	0.055	0.028	0.023	< 0.010	0.020	***	**
VOTERS	0.047	0.039	0.068	0.054	0.494	0.472		
GDPCAP	0.682	0.530	0.121	0.090	< 0.010	< 0.010	***	***
DENSITY	0.070	0.007	0.065	0.066	0.289	0.917		

N 138

Dv WGI Adj. R^2 0.679

Dv CPI Adj. R^2 0.662

DV stands for Dependent Variable

*** = significant at the 1% level; ** = significant at the 5% level; * = significant at the 10% level

this index as the best proxy for the perceived level of corruption, and consequently the interpretation of the results coming from our core multivariate analysis.

7 Discussion

Results show that national culture affects citizens' satisfaction with corruption and therefore represents a key determinant, by supporting four out of our six hypotheses. Specifically, the greater the power distance, masculinity, and uncertainty avoidance, the higher is the perceived level of corruption by citizens. Conversely, more individualism reflects a lower level of perceived corruption.

By interpreting results using our proposed theoretical framework built upon the EDM, it emerges that different national cultural dimensions generate different scenarios, both in humans' minds and actions, respectively in the hidden and shallow levels of the framework. The EDM model has been modified exploring the potential process that may lie behind the culture-corruption relation. Culture shapes expectations about governmental performance that are at the basis of the potential (dis)confirmation of whether the former is (not)-met, and which in turn translates into scores of perceived levels of corruption. Supporting the idea of Zhang et al. (2021), the determinants of satisfaction are internal to individuals. Measuring this deep cycle of expectations-disconfirmation is out-of-our-willingness and possibilities. The methodological approach has rather focused on the shallow relationship, i.e. the influence of culture on perceived corruption, by firstly highlighting from the descriptive statistics of variables the heterogeneous scenario that exists worldwide.

Focusing on the regression model, results show that power distance positively affects corruption. The motives behind this result may refer to the dimension of hierarchy and related concepts. It makes much more sense considering the egalitarian concept that high-PDI-countries' systems do not embrace. The autocratic decision-making style leads to poor citizens' perceptions about their own government. Conversely, citizens living in countries where workers can generally approach bosses experience more relaxed atmospheres, linking this concession to governmental action.

Secondly, individualism negatively impacts on corruption, by confirming that individualistic societies are more likely to favor the interest of all than collectivistic countries. Furthermore, collectivistic societies are more inclined to close their system to citizens and avoid leaking information. It makes transparency difficult, and corruption easy to blow up.

Thirdly, male-oriented societies are associated with the high level of perceived corruption. It supports the idea that female-oriented societies express cooperation, and attention towards humans and the environment as a whole. For this reason, higher values of femininity recognize the huge relevance of relations and quality of life, and by implying equality and permissiveness such societies are intuitively more inclined to lower corruption levels.

Finally, uncertainty avoidance positively impacts corruption. Thus, the fear of the unknown linked to this dimension may deal with bad-evaluated governments. This result may be explained considering that post-modern societies hugely present issues related to stress and anxiety. These feelings may be connected to ambiguous and unknown risks, by consequentially reflecting in width regulatory structures. Their a priori inherent-presence-to-humans in some societies are both crucial to affect and to be affected by corruption level.

Importantly, non-significant impacts on corruption are registered in long-term-oriented and indulgent countries. Furthermore, thanks to the inclusion of control variables, the model has increased in goodness.

Overall, these findings are consistent with previous literature that despite never employing our dependent variable, rather preferring the longest-running alternatives, embody the reference of which we should take care of (e.g. Husted, 1999; Huber, 2001; Cheung & Chan, 2008; Seleim & Bontis, 2009; Barr & Serra, 2010; Porcher, 2019), to support our analysis which is based on 2021 and covers 142 countries.

8 Conclusions

The present work extends literature in the corruption-culture vein, under the lens of EDM. This study showed that culture hugely impacts the extent to which citizens perceive their own government, in terms of the perceived presence of corruption. Governmental action has a lot to do with cultural context, that indeed influences expectations on the former. Findings show that societies characterized by high power distance, masculinity, and uncertainty avoidance score worse when considering governmental behavior. Moreover, societies inclined to individualism present higher perceived corruption levels than oppositely.

This work extends the relevant literature engaged in corruption, through theoretical and empirical contributions. We propose an EDM-based framework that fits with the explanation of how cultural expectations shape perceptions about corruption, addressing the former by means of Hofstede's cultural dimensions, and the latter through BCI. Such a combination of aspects of novelty produces implications for researchers, at first. Researchers are indeed suggested to test this approach, which highlights the role of hidden expectations in shaping perceptions about relevant social phenomena, and applies an under-researched and promising index for perceived corruption. Thus, further tests of these ideas are promoted, adding more evidence in the spirit of knowledge. Secondly, this contribution is also relevant for policymakers. There is a compelling need for projects that may enhance the educational level, and labor system, making further steps on healthcare standards, and thinning overall poverty, honestly acting. An additional regulatory framework is required to monitor the implementation of these projects and to check the lack of corruption. Further, in line with the main feature of culture that is attached to societal roots, corruption is a difficult aspect to work on if changes are not requested and implemented from the bottom. Even if it is true that some issues are in humans' minds before experiencing life, values may be overturned, even in the long run, with increased citizens' voices.

Notwithstanding the contribution, this study is not without limitations. There exist some points to focus on. Hofstede's cultural model does not allow a longitudinal analysis due to its static essence, and therefore a cross-sectional analysis has been carried out. The second limitation also deals with the choice of the proxy for the national culture. Besides being stable over time, Hofstede's model presents other issues, e.g. it uses a unique value to assess a country's performance concerning its dimensions, and it is not measured over the whole country. However, the pioneering study of cultures carried out of Hofstede's model represents the most suitable lens through which we can address culture. Future researches can investigate the phenomenon by using a regional level of analysis and also test the moderating role of national culture in the relationship between perceptions of corruption and other potential determinants, as well as religion, and modernization level of countries.

Appendix A

Drawn by the Geert Hofstede website, cultural dimensions' scores come from the Values Survey Modules (VSMs), involving 5-point-scaled questions. Values and sentiments of respondents are scored when asked four questions per dimension, thus counting 24 content questions. Additionally, other six questions joined the survey, counting for the demographic information of respondents. Table 5 provides more detail about the index calculation, as well as the actual ranges of dimensions *ante* normalization.

Table 5 Hofstede's dimensions calculation

Dimension	Range	Calculation
PDI	11 (low)–104 (high)	PDI = 35 (m07–m02) + 25 (m20–m23) + C (*PDI*)
IDV	6 (low)–91 (high)	IVD = 35 (m04–m01) + 35 (m09–m06) + C (*IDV*)
MAS	5 (low)–110 (high)	MAS = 35 (m05–m03) + 35 (m08–m10) + C (*MAS*)
UAI	8 (low)–112 (high)	UAI = 40 (m18–m15) + 25 (m21–m24) + C (*UAI*)
LTO	0 (low)–100 (high)	LTO = 40 (m13–m14) + 25 (m19–m22) + C (*LTO*)
IVR	0 (low)–112 (high)	IVR = 35 (m12–m11) + 40 (m17–m16) + C (*IVR*)

m_i with i = 1…n are the mean scores for question$_i$ of the Hofstede's questionnaire; C (DIMENSION) is a constant (positive or negative) that depends on the nature of the samples since it can be chosen by the user to shift user's DIMENSION scores to values between 0 and 100

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References

Ahangama, S., & Krishnan, S. (2021). Are E-participation initiatives related to quality of life of nations dependent on cultural dimensions? A country-level empirical investigation. *e-Service Journal, 12*(3), 1–42. https://doi.org/10.2979/eservicej.12.3.01

Alatas, V., Cameron, L., Chaudhuri, A., Erkal, N., & Gangadharan, L. (2009). Gender, culture, and corruption: insights from an experimental analysis. *Southern Economic Journal, 75*(3), 663–680. https://doi.org/10.1002/j.2325-8012.2009.tb00925.x

Arndt, C., & Oman, C. (2006). Uses and abuses of governance indicators. Paris: organization for economic cooperation and development. *Development Centre Series.*

Banuri, S., & Eckel, C. (2012). Experiments in culture and corruption: a review. In D. Serra & L. Wantchekon (Eds.), *New advances in experimental research on corruption* (Vol. 15, pp. 51–76). Emerald Group Publishing Limited.

Barr, A., & Serra, D. (2010). Corruption and culture: an experimental analysis. *Journal of Public Economics, 94*(11–12), 862–869. https://doi.org/10.1016/j.jpubeco.2010.07.006

Borgonovi, E., & Paolo, E. (2017). Integrity management policy in italy. *Symphonya. Emerging Issues in Management, 2*, 88–102. https://doi.org/10.4468/2017.2.10borgonovi.esposito

Broadman, H. G., & Recanatini, F. (2001). Seeds of corruption–do market institutions matter? *MOST: Economic Policy in Transitional Economies, 11*, 359–392. https://doi.org/10.1023/A:1015264312632

Chatterjee, R., & Suy, R. (2019). An overview of citizen satisfaction with public service: based on the model of expectancy disconfirmation. *Open Journal of Social Sciences, 7*(4), 243–258. https://doi.org/10.4236/jss.2019.74019

Cheung, H. Y., & Chan, A. W. (2008). Corruption across countries: impacts from education and cultural dimensions. *The Social Science Journal, 45*(2), 223–239. https://doi.org/10.1016/j.soscij.2008.03.002

Dockery, A. M. (2010). Culture and wellbeing: the case of Indigenous Australians. *Social Indicators Research, 99*, 315–332. https://doi.org/10.1007/s11205-010-9582-y

Donthu, N., & Yoo, B. (1998). Cultural influences on service quality expectations. *Journal of Service Research, 1*(2), 178–186. https://doi.org/10.1177/109467059800100207

Esposito, P., & Ricci, P. (2015). How to turn public (dis) value into new public value? Evidence from Italy. *Public Money & Management, 35*(3), 227–231. https://doi.org/10.1080/09540962.2015.1027499

Gerring, J., & Thacker, S. C. (2004). Political institutions and corruption: the role of unitarism and parliamentarism. *British Journal of Political Science, 34*(2), 295–330. https://doi.org/10.1017/S0007123404000067

Gorodnichenko, Y., & Roland, G. (2012). Understanding the individualism-collectivism cleavage and its effects: lessons from cultural psychology. *Institutions and comparative economic development* (pp. 213–236). Palgrave Macmillan. https://doi.org/10.1057/9781137034014_12

Gorodnichenko, Y., & Roland, G. (2017). Culture, institutions, and the wealth of nations. *Review of Economics and Statistics*, *99*(3), 402–416. https://doi.org/10.1162/REST_a_00599

Grimmelikhuijsen, S., & Porumbescu Gregory, A. (2017). Reconsidering the expectancy disconfirmation model. Three experimental replications. *Public Management Review, 19*(9), 1272–1292. https://doi.org/10.1080/14719037.2017.1282000

Hjortskov, M. (2019). Citizen expectations and satisfaction over time: findings from a large sample panel survey of public school parents in Denmark. The American Review of Public Administration, **49**(3), 353–371. https://doi.org/10.1177/0275074018765822

Hofstede, G. 2010. Geert Hofstede, *National cultural dimensions*, 2–7.

Hofstede, G. (2001). *Culture's consequences: comparing values, behaviors, institutions and organizations across nations*. Sage publications.

Holcombe, R. G., & Boudreaux, C. J. (2015). Regulation and corruption. *Public Choice, 164*, 75–85. https://doi.org/10.1007/s11127-015-0263-x

Huber, W. (2001). *Culture and corruption: Using Hofstede's cultural dimensions to explain perceptions of corruption*. Doi: https://doi.org/10.2139/ssrn.2383486

Husted, B. W. (1999). Wealth, culture, and corruption. *Journal of International Business Studies, 30*, 339–359. https://doi.org/10.1057/palgrave.jibs.8490073

Jain, A. K. (2001). Corruption: a review. *Journal of Economic Surveys, 15*(1), 71–121. https://doi.org/10.1111/1467-6419.00133

James, O. (2011). Managing citizens' expectations of public service performance: evidence from observation and experimentation in local government. *Public Administration, 89*(4), 1419–1435. https://doi.org/10.1111/j.1467-9299.2011.01962.x

Johnston, M. (1983). Corruption and political culture in America: an empirical perspective. *Publius: the Journal of Federalism, 13*(1), 19–39. https://doi.org/10.1093/oxfordjournals.pubjof.a037419

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2011). The worldwide governance indicators: methodology and analytical issues1. *Hague Journal on the Rule of Law, 3*(2), 220–246. https://doi.org/10.1017/S1876404511200046

Loiero, R., & Meoli, C. (2018). Le sfide della coesione territoriale in Europa e in Italia: quale ridisegno istituzionale. *L'impatto della politica di coesione in Europa e in Italia.*

Mauro, P. (1998). Corruption: causes, consequences, and agenda for further research. *Finance & Development, 35*, 001.

Myers, R. H. (1990). Detecting and combating multicollinearity. Classical and Modern Regression with Applications. 368–423.

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research, 17*(4), 460–469. https://doi.org/10.1177/002224378001700405
Porcher, S. (2019). Ancestral institutions and the quality of government. No. hal-03251988.
Proeller, I., & Schedler, K. (2007). Public management as a cultural phenomenon. Revitalizing societal culture in international public management research. *Cultural Aspects of Public Management Reform*. https://doi.org/10.1016/S0732-1317(07)16001-2
Ringov, D., & Zollo, M. (2007). The impact of national culture on corporate social performance. *Corporate Governance: the International Journal of Business in Society*. https://doi.org/10.1108/14720700710820551
Rodríguez-Pose, A., & Di Cataldo, M. (2015). Quality of government and innovative performance in the regions of Europe. *Journal of Economic Geography, 15*(4), 673–706. https://doi.org/10.1093/jeg/lbu023
Rodríguez-Pose, A., & Garcilazo, E. (2015). Quality of government and the returns of investment: examining the impact of cohesion expenditure in European regions. *Regional Studies, 49*(8), 1274–1290. https://doi.org/10.1080/00343404.2015.1007933
Rubino, M., Vitolla, F., Raimo, N., & Garcia-Sanchez, I.-M. (2020). Cross-country differences in European firms' digitalisation: the role of national culture. *Management Decision*. https://doi.org/10.1108/MD-08-2019-1120
Ryzin, V., & Gregg, G. (2004). Expectations, performance, and citizen satisfaction with urban services. *Journal of Policy Analysis and Management, 23*(3), 433–448. https://doi.org/10.1002/pam.20020
Ryzin, V., & Gregg, G. (2013). An experimental test of the expectancy-disconfirmation theory of citizen satisfaction. *Journal of Policy Analysis and Management, 32*(3), 597–614. https://doi.org/10.1002/pam.21702
Scholl, W., & Schermuly, C. C. (2020). The impact of culture on corruption, gross domestic product, and human development. *Journal of Business Ethics, 162*(1), 171–189. https://doi.org/10.1007/s10551-018-3977-0
Seleim, A., & Bontis, N. (2009). The relationship between culture and corruption: a cross-national study. *Journal of Intellectual Capital*. https://doi.org/10.1108/14691930910922978
Spreng, R. A., MacKenzie, S. B., & Olshavsky, R. W. (1996). A reexamination of the determinants of consumer satisfaction. *Journal of Marketing, 60*(3), 15–32. https://doi.org/10.1177/002224299606000302
Standaert, S. (2015). Divining the level of corruption: a bayesian state-space approach. *Journal of Comparative Economics, 43*(3), 782–803. https://doi.org/10.1016/j.jce.2014.05.007
Swamy, A., Knack, S., Lee, Y., & Azfar, O. (2001). Gender and corruption. *Journal of Development Economics, 64*(1), 25–55. https://doi.org/10.1016/S0304-3878(00)00123-1
Tanzi, V., & Hamid, D. (1997). Corruption, public investment, and growth. *The welfare state public investment and growth* (pp. 41–60). Springer. https://doi.org/10.1007/978-4-431-67939-4_4
Tata, J., & Prasad, S. (2015). National cultural values, sustainability beliefs, and organizational initiatives. *Cross Cultural Management*. https://doi.org/10.1108/CCM-03-2014-0028
Treisman, D. (2007). What have we learned about the causes of corruption from ten years of cross-national empirical research? *Annual Review of Political SciEnce, 10*, 211–244. https://doi.org/10.1146/annurev.polisci.10.081205.095418
Vitolla, F., Raimo, N., Rubino, M., & Garzoni, A. (2019). The impact of national culture on integrated reporting quality. A stakeholder theory approach. *Business Strategy and the Environment, 28*(8), 1558–1571. https://doi.org/10.1002/bse.2332
Zhang, J., Chen, W., Petrovsky, N., & Walker, R. M. (2021). The expectancy-disconfirmation model and citizen satisfaction with public services: a meta-analysis and an agenda for best practice. *Public Administration Review, 82*(1), 147–159. https://doi.org/10.1111/puar.13368
Zhu, Y., Freeman, S., & Tamer Cavusgil, S. (2018). Service quality delivery in a cross-national context. *International Business Review, 27*(5), 1022–1032. https://doi.org/10.1016/j.ibusrev.2018.03.002