

# Association of National Dimensions of Culture with Perceived Public Sector Corruption

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**Abstract.** Corruption, and in particular, public sector corruption, is currently one of the most talked about problems in the world. Following on previous work on the association of national measures of dimensions of culture proposed by Gert Hofstede (1983) with manufacturing strategies (in countries across continents) and road fatalities (in countries within the European Union), this contribution focuses on association with perceived public sector corruption. This is based on the 2014 Corruption Perception Index - CPI (a Transparency International index), measuring the perceived levels of public sector corruption in 175 countries and territories. Power distance is positively associated with corruption, while individuality is negatively associated with perceived corruption (number of countries and territories included from across five continents: 69).

**Keywords:** Power distance · Individualism · Corruption perception index · Correlation analysis

## 1 Introduction

In the current paper, an association approach (Barata and Coelho 2014; Coelho 2014; Coelho et al. 2013; Coelho 2011) is used to identify cultural predispositions based on national cultural dimensions (Hoefstede 1980; Smith-Jackson and Essuman-Johnson 2014) for behaviors leading to a tendency for more perceived public sector corruption. Capturing perceptions of corruption of those in a position to offer assessments of public sector corruption is considered the most reliable method of comparing relative corruption levels across countries (Transparency International 2015). Corruption generally comprises illegal activities, which are deliberately hidden and only come to light through scandals, investigations or prosecutions, but there is no meaningful way to assess absolute levels of corruption in countries or territories on the basis of hard empirical data. Despite a few possible attempts to do so, such as by comparing bribes reported, the number of prosecutions brought or studying court cases directly linked to corruption, these cannot be taken as definitive indicators of corruption levels (instead, they show how effective prosecutors, the courts or the media are in investigating and exposing corruption) (Transparency International 2015).

## 2 National Dimensions of Culture

The argument according to which culture exerts a profound influence on the innovative capacity of a society has been largely supported by empirical research. Barnett (1953) postulated a positive correlation between the individualism of a society and its innovative potential: the greater the freedom of the individual to explore and express opinions, the greater the likelihood of new ideas coming into being. Hofstede (1980) indicated that societies that score high on individualism and low on power distance tend to display higher growth and innovation rates. Shane (1993) found that individualistic societies that accept uncertainty and exhibit a low level of power distance are those who attain better innovation performance. Hussler (2004) introduced a culture-based taxonomy of innovation performance. Societies that succeed by innovating on their own are those that possess a “culture of endogenous innovation”. Vice versa, those countries with high uncertainty avoidance and high power distance can be defined as “cultures of imitation”.

The six measures of national cultures, initially identified by Hofstede (1980, 1983, 2001), are summarized as follows:

1. Power Distance Index (pdi) - Power distance is the extent to which less powerful members of organizations expect power to be equally distributed (Hofstede 1980). In low power distance countries there is limited dependence of subordinates on their bosses. Power is very decentralized as well as decision-making. In contrast, in high power distance countries, hierarchy is the fundamental principle on which all relationships are based. Power is centralized as well as decision-making, leading to more emphasis on formal methods for gathering and analyzing external information (Flynn and Saladin 2006).
2. Individualism versus Collectivism (idv) - Individualism is the degree to which people are oriented towards acting as individuals as opposed to acting as a group (Hofstede 1980). In individualist countries people tend to value individual success and achievement. Members of individualist countries are autonomous and confident, tending to rely primarily on their own ideas (Snell and Hui 2000). In collectivist countries, people are bound in groups such as the extended family or the village and are more likely to rely on information provided by others in formulating their opinions (Snell and Hui 2000).
3. Masculinity versus Femininity (mas) - Masculinity is the extent to which success and aggressiveness are valued (Hofstede 1980). In high masculinity countries, high earnings, advancement through opportunities and challenging work are mostly emphasized. The use of information to support decision-making is dependent on its expected effectiveness in gaining advantage over competitors (Flynn and Saladin 2006). In contrast, in high femininity countries, relationships, concern for the others, inclusiveness and society’s best interest are valued. Cooperation is often a visible feature. The use of information to support decision-making is very typical of a feminine national culture (Wacker and Sprague 1998).
4. Uncertainty Avoidance Index (uai) - Uncertainty avoidance is the degree to which people feel confident about the future (Hofstede 2001). National cultures that score

high in uncertainty avoidance have an emotional need for rules. Vice versa, national cultures that score low in uncertainty avoidance dislike formal rules, setting them only when it is necessary (Flynn and Saladin 2006).

5. Long Term Orientation versus Short Term Normative Orientation (Itowvs) - Long term orientation stands for the fostering of virtues oriented towards future rewards, in particular perseverance and thrift. It's opposite pole, short term orientation, stands for the fostering of virtues related to the past and present, in particular, respect for tradition, preservation of 'face' and fulfilling social obligations.
6. Indulgence versus Restraint (ivr) - Indulgence stands for a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun. Restraint stands for a society that suppresses gratification of needs and regulates it by means of strict social norms.

Geert Hofstede conducted one of the most comprehensive studies of how values in the workplace are influenced by culture. He analysed a large database of employee value scores collected within IBM between 1967 and 1973. The data covered more than 70 countries, from which Hofstede first used the 40 countries with the largest groups of respondents and afterwards extended the analysis to 50 countries and 3 regions. Subsequent studies validating the earlier results include such respondent groups as commercial airline pilots and students in 23 countries, civil service managers in 14 countries, 'up-market' consumers in 15 countries and 'elites' in 19 countries. In the 2010 edition of the book *Cultures and Organizations: Software of the Mind*, scores on the dimensions are listed for 76 countries, partly based on replications and extensions of the IBM study on different international populations and by different scholars.

In what concerns the current validity of Hofstede's cultural measures, criticisms addressed to the construct of national culture as a suitable variable for differentiation, apply directly to all four measures (Coelho 2011). Different corporate, organizational, industrial and/or sector specific cultures may co-exist within the same firm and might as well conflict and counterbalance the national one (Vecchi and Brennan 2009). Furthermore, in many countries, different ethnic or national cultures co-exist (Au 2000), as result of people mobility around the globe. Within the same country, different sub-cultures might persist, standing apart on religious, language or ethnicity grounds. As a consequence, the four measures of national cultures could be far from being reliable proxies for cultural homogeneity for a given national culture (Vecchi and Brennan 2009).

The data extracted from Hofstede's measures of national culture, that was used in the correlation analyses is presented in Table 1. The data has been cross-validated in an empirical study by van Oudenhoven (2001) for Belgium, Denmark, Germany, United Kingdom, Greece, Spain and the Netherlands. The country scores on the dimensions are relative - societies are compared to other societies. It is thought that these relative scores have been proven to be quite stable over decades. The forces that cause cultures to shift tend to be global or continent-wide - they affect many countries at the same time, so that if their cultures shift, they shift together, and their relative positions tend to remain the same.

**Table 1.** Hofstede's national dimensions of culture for the 69 countries included in the analysis (source: <http://www.geerthofstede.com/research—vsm>, accessed February 2015), joined with the Corruption Perception Index 2014 – perceived level of public sector corruption (Transparency International, URL: <http://www.transparencency.org>) (legend of headings given in main text).

Country	pdi	idv	mas	uai	ltowvs	ivr	CPI 2014
Argentina	49	46	56	86	20	62	34
Australia	36	90	61	51	21	71	80
Austria	11	55	79	70	60	63	72
Bangladesh	80	20	55	60	47	20	25
Belgium	65	75	54	94	82	57	76
Brazil	69	38	49	76	44	59	43
Bulgaria	70	30	40	85	69	16	43
Canada	39	80	52	48	36	68	81
Chile	63	23	28	86	31	68	73
China	80	20	66	30	87	24	36
Colombia	67	13	64	80	13	83	37
Costa Rica	35	15	21	86	-	-	54
Croatia	73	33	40	80	58	33	48
Czech Rep	57	58	57	74	70	29	51
Denmark	18	74	16	23	35	70	92
Ecuador	78	8	63	67	-	-	33
El Salvador	66	19	40	94	20	89	39
Estonia	40	60	30	60	82	16	69
Finland	33	63	26	59	38	57	89
France	68	71	43	86	63	48	69
Germany	35	67	66	65	83	40	79
Great Britain	35	89	66	35	51	69	78
Greece	60	35	57	112	45	50	43
Guatemala	95	6	37	101	-	-	32
Hong Kong	68	25	57	29	61	17	74
Hungary	46	80	88	82	58	31	54
India	77	48	56	40	51	26	38
Indonesia	78	14	46	48	62	38	34
Iran	58	41	43	59	14	40	27
Ireland	28	70	68	35	24	65	74
Israel	13	54	47	81	38	-	60
Italy	50	76	70	75	61	30	43
Jamaica	45	39	68	13	-	-	38
Japan	54	46	95	92	88	42	76
Korea South	60	18	39	85	100	29	55
Latvia	44	70	9	63	69	13	55
Lithuania	42	60	19	65	82	16	58

Luxembourg	40	60	50	70	64	56	82
Country	pdi	idv	mas	uai	ltowvs	ivr	CPI 2014
Malaysia	104	26	50	36	41	57	52
Malta	56	59	47	96	47	66	55
Mexico	81	30	69	82	24	97	35
Morocco	70	46	53	68	14	25	39
Netherlands	38	80	14	53	67	68	83
New Zealand	22	79	58	49	33	75	91
Norway	31	69	8	50	35	55	86
Pakistan	55	14	50	70	50	0	29
Panama	95	11	44	86	-	-	37
Peru	64	16	42	87	25	46	38
Philippines	94	32	64	44	27	42	38
Poland	68	60	64	93	38	29	61
Portugal	63	27	31	104	28	33	63
Romania	90	30	42	90	52	20	43
Russia	93	39	36	95	81	20	27
Serbia	86	25	43	92	52	28	41
Singapore	74	20	48	8	72	46	84
Slovak Rep	104	52	110	51	77	28	50
Slovenia	71	27	19	88	49	48	58
Spain	57	51	42	86	48	44	60
Suriname	85	47	37	92	-	-	36
Sweden	31	71	5	29	53	78	87
Switzerland	34	68	70	58	74	66	86
Taiwan	58	17	45	69	93	49	61
Thailand	64	20	34	64	32	45	38
Trinidad & T.	47	16	58	55	13	80	38
Turkey	66	37	45	85	46	49	45
U.S.A.	40	91	62	46	26	68	74
Uruguay	61	36	38	100	26	53	73
Venezuela	81	12	73	76	16	100	19
Vietnam	70	20	40	30	57	35	31

### 3 Corruption Perceptions Index

In the early 1990s, there was no global convention aimed at curbing corruption, no way to measure corruption at the global scale and corruption was a taboo topic. Many companies regularly wrote off bribes as business expenses in their tax filings, the graft of some longstanding heads of state was legendary, and many international agencies were resigned to the fact that corruption would sap funding from many development projects around the world (Transparency International 2015). Having seen corruption's impact during his work in East Africa, retired World Bank official Peter Eigen, together

with nine allies, set up a small organisation to take on the taboo: Transparency International was established in 1993 (Transparency International 2015).

The 2014 Corruption Perceptions Index by Transparency International ranks more than 100 countries and territories based on how corrupt their public sector is perceived to be. It is a composite index – a combination of polls – drawing on corruption-related data collected by a variety of reputable institutions (African Development Bank Governance Ratings 2013, Bertelsmann Foundation Sustainable Governance Indicators 2014, Bertelsmann Foundation Transformation Index 2014, Economist Intelligence Unit Country Risk Ratings 2014, Freedom House Nations in Transit 2013, Global Insight Country Risk Ratings 2014, IMD World Competitiveness Yearbook 2014, Political and Economic Risk Consultancy Asian Intelligence 2014, Political Risk Services International Country Risk Guide 2014, World Bank - Country Policy and Institutional Assessment 2013, World Economic Forum Executive Opinion Survey (EOS) 2014, World Justice Project Rule of Law Index 2014). The index reflects the views of observers from around the world, including experts living and working in the countries and territories evaluated.

The CPI is an indicator of perceptions of public sector corruption, i.e. administrative and political corruption. It is not a verdict on the levels of corruption of entire nations or societies, or of their policies, or the activities of their private sector. As such, citizens of countries or territories that score at the lower end of the CPI often show the same concern about and condemnation of corruption as the public in countries that perform strongly. The Corruption Perceptions Index ranks countries between 0 (highly corrupt) to 100 (very clean). In 2014, Denmark occupied the top spot as the world's least corrupt nation while Somalia and North Korea were tied for the most corrupt countries, according to the CPI 2014 by Transparency international (2015).

Moreover, the CPI is limited in scope, capturing perceptions of the extent of corruption in the public sector, from the perspective of business people and country experts. The CPI is also accompanied by a Confidence Interval that reflects some of the uncertainty associated with a country's CPI score. It is calculated by looking at the range of scores given by all the data used to calculate that country's score, such that a wider interval reflects a wider variation in the data for that country (files.transparency.org/content/download/1900/12610/file/CPI2014\_ResultsSpreadsheet.xlsx).

Countries with a high value of CPI have lower levels of perceived public sector corruption than countries with a lower CPI score, e.g. Portugal with a 2014 CPI score of 63, has more perceived public sector corruption than the United States boasting a 2014 CPI score of 74. The CPI scores are shown in the last column of Table 1, which also shows the dimensions of national culture for each of the 69 countries included.

#### **4 Analysis of Association (Pearson Correlation)**

Statistical analysis was performed on the data shown in Table 1, with the assistance of STATA software. The Pearson correlation factor was calculated for association between the Corruption Perception index scores and the national measures of culture. Only two significant and strong correlations were found as a result of this statistical analysis.

The power distance index was found to be negatively associated with the Corruption Perceptions Index 2014 in the sample considered ( $n = 69$ ) with a correlation factor of  $-0.6503$  ( $p\text{-value} = 0.00$ ). This result suggests that higher power distance cultures (with highly centralized power and decision-making) tend to have lower CPI scores, which indicates more perceived public sector corruption. On the other hand, countries with lower power distance (with decentralized power and decision-making) tend to have higher CPI scores, which indicates lower levels of perceived public sector corruption.

The individualism versus collectivism measure of culture was found to be positively associated with the Corruption Perceptions Index 2014 in the sample considered ( $n = 69$ ) with a correlation factor of  $+0.6651$  ( $p\text{-value} = 0.00$ ). This result indicates that cultures that score high in individualism (where individuals are autonomous and confident) also tend to score high on the CPI, which indicates lower levels of perceived public sector corruption. On the contrary, highly collectivist societies (where people are more likely to rely on information provided by others in formulating their opinions) tend to show lower scores on the Corruption Perceptions Index, which translates into higher levels of perceived public sector corruption.

It is generally known that power distance, for example, is correlated with income inequality, and individualism is correlated with national wealth (Hofstede Centre 2015). Hence, income inequality and national wealth would logically associate with the CPI. This has been shown for national wealth in a recent clustering study by Michal Paulus and Ladislav Kristoufek at Charles University in Prague, Czech Republic, that has circulated on social media showed association between national wealth and the CPI 2014 scores (less corrupt countries are also richer), a result that corroborates the present study's finding suggesting that individualistic societies are less corrupt.

Interestingly, total traffic fatalities per European Union country in the period from 2010 to 2012 had been found to be very much associated with two dimensions of national culture: power distance and uncertainty avoidance (Barata and Coelho 2014). From the current analysis, power distance is again one of the national measures of cultures that is most strongly associated to the object of interest in the current paper (perception of corruption in the public sector).

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