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On the Demand for Favors: Bribes vs. Gifts and their Relation to Law Enforcement

Master's Thesis MSc Business and Economics: Economics of Management and Organization

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1 Introduction

Gift giving has historically been known as a way to express gratitude and inspire reciprocity, which over time has developed into a way to influence business relationships. While small gifts are rather innocuous, the feeling of reciprocity with grandiose gifts can suggest a request for favorable treatment or something in return. Bribery on the other hand, is widely perceived as an intolerable action but the desire for businesses to gain an advantage over adversaries by buying a favor is rather compelling. As countries in the EU vary in their ability to identify and enforce corruption, this thesis explores the relationship between perceptions of corruption enforcement and the prevalence of using bribes and gifts to mitigate business transactions. Although bribes are illegal and gifts may be unethical, they are both widely viewed as mechanisms that facilitate negotiations. The tendency to secure a favor using either a bribe or a gift for private gain may correspond to (1) the likelihood of getting caught and reported to authorities, and (2) the likelihood of being appropriately punished. This relationship may exist as bribes are more easily proven in court while gifts in exchange for a service are more ambiguous in their intention and more difficult to demonstrate. The aim of this research is to determine whether gifts might serve as a substitute for bribes in countries where corruption is more efficiently identified and more adequately enforced. This correlation will be investigated using survey data from several waves of the Flash Eurobarometer on Businesses' Attitudes towards Corruption in the EU (conducted in 2013, 2015 and 2017). Additionally, a commonly suggested remedy for reducing corruption involves creating more stringent policies. The succeeding part of this thesis analyzes the effectiveness of policy creation in mitigating enforcement perceptions, as well as its effectiveness in reducing the dispersion of gifts and bribes in business. As pressures rise from international organizations such as Transparency International and the OECD Anti-Bribery Convention to combat corruption at national as well as international levels, this research will shed light on important links between corruption enforcement and how omnipresent the use of corrupt practices are in business transactions.

2 Literature Review

2.1 Why corruption is a threat to economic growth

Corruption is widely perceived as a serious threat to society because it impedes development, increases transaction costs, and decreases investment incentives (Klitgaard, 1988; Bardhan, 1997; Cintra et. al., 2017) which ultimately hinder economic growth. Mauro (1995) finds that countries with higher rates of corruption have lower amounts of total investment. He argues that a country's bureaucratic inefficiency leads to lower investment and growth. Corruption and its impacts on society as demonstrated by existing research will be reviewed in the ensuing paragraphs.

The concept of corruption stems from the Latin word "*rumpere*" meaning to break, which extends to rules and laws. These laws often serve as a baseline for what is commonly known to be the minimally tolerated behavior in a society. People who choose to violate these guidelines gain an unfair advantage, and do so at the expense of other members in society. This is why Transparency International has defined corruption as "the abuse of entrusted power for private gain" (TI, 2018).

Shleifer and Vishny (1993) present two reasons for why corruption interferes with the ability to maximize social welfare. They first explore the substitution effect of corruption where corrupt officials aim to avoid detection and punishment of accepting bribes by deterring investment transactions into

activities that are less efficient but also less noticeable. For example; assigning public resources towards large defense contracts instead of allocating funds towards building standardized, traceable and easily valuated rural health clinics. Secondly, they acknowledge the need for secrecy in deals when bribery is present. As a result, deals are restricted to a small elite group which raises entry barriers for outsiders and discourages the flow of new ideas and innovation. This thesis will investigate whether the need for secrecy in business deals could also be camouflaged by disguising bribes as gifts in countries where the rates of detection and incidence of punishment for accepting bribes are higher.

Being able to properly identify corrupt agents and prosecute them for misbehavior is an important aspect of reducing corruption as "laws are only as good as the institutions that enforce them" (Graeff and Svendsen, 2013). Graeff and Svendsen (2013) explain that if an agent ignores the formal terms of a contract, he will be punished in a society with low levels of corruption. The offender cannot share his profits with the police or the judge, so he will know that it does not pay to break the rules. Similarly, the other party involved in the contract knows this as well. Repeated interactions reinforce this belief and both agents learn that it is most advantageous for them to respect contracts and laws. Contrastingly, in a society where corruption is widespread, the offender can bribe the police or the judge to bypass his punishment. When this behavior goes undetected and unpunished, the offender learns that anything is attainable as long as he has enough money to bribe authority. In the long run this increases the size of transaction costs for everyone and in turn hinders economic growth as some agents may not invest in otherwise profitable activities. Because laws may only be as efficient as the institutions that enforce them, this thesis utilizes country-wide perceptions of how effectively corruption is identified and enforced to determine if these perceptions are related to how common it is to use bribes and gifts in business transactions. Utilizing this line of reasoning, it may be that in countries where corruption is more efficiently identified and enforced, gift giving may be a prevailing approach towards facilitating private gain because true intentions are camouflaged. Contrastingly, in countries where corruption is not readily identified or enforced, bribery may be more common as it is much easier for perpetrators to bypass appropriate punishment while providing a clear signal about what they are seeking to obtain.

Andvig (1991) present a model of how similar countries have different tolerance levels for bribery and corruption dependent on the number of other people in their society which they expect to be corrupt. They present the Schelling diagram shown below (Figure 1), where the horizontal line depicts the proportion of total number of officials known to be corrupt. Point *O* is where there are no corrupt agents, and point *n* is where everyone is corrupt. The curves *No* and *Co* depict the marginal benefit for an honest agent and a corrupt agent, respectively. When very few agents are corrupt the transaction costs of bribery are high, and the benefit of an honest agent is higher than that of a corrupt agent. This is because when there are no corrupt agents, a corrupt agent looking to benefit from bribery must keep their intentions hidden while aiming to find other corrupt agents. Each attempt to do so is risky and non-profitable when corruption is rare or non-existent. As the proportion of corrupt agents increases, the marginal benefit of an honest agent decreases and ultimately becomes negative. This is because guilt from breaking the rules decreases as the number of other people engaging in the same activity increases (Akerlof, 1980). Additionally, the reputational consequences of being discovered decreases as there are more corrupt actors, and being identified as a corrupt agent also becomes more difficult as public law enforcement and identification resources are constrained.
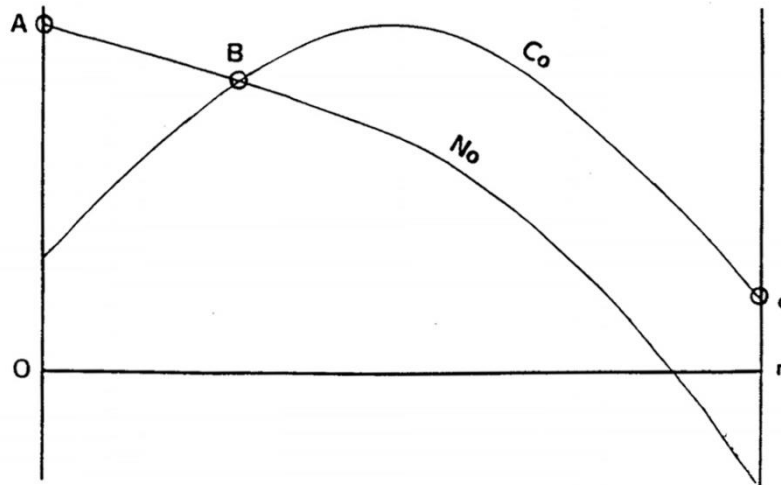
Figure 1

Figure 1. Corruption. Adapted from "The Economics of Corruption: A Survey," by Andvig, J.C., 1991. *Studi Economici*. Retrieved from: http://projects.iq.harvard.edu/files/gov2126/files/andvig_1991.pdf

This results in three equilibrium points; A, B, and C. At point A, corruption is non-profitable because all agents are not corrupt. At point C, honesty is non-profitable as all other agents are corrupt. At Point B, any agent is indifferent between being honest or corrupt, although, if one more agent is corrupt it will become profitable to become corrupt. Similarly, at point B, if one more agent is honest, it will become more profitable to move towards point A. This makes point B a non-stable equilibrium and highlights the importance of how small policy and enforcement changes can (optimistically) move an economy from point B to point A, while delineating how (pessimistically) corruption can breed more corruption by moving towards point C.

This diagram illustrates the ability of two seemingly similar countries to have very different tolerance levels towards corruption. Although this diagram is a simplistic view of reality, it helps represent the cross-cultural differences in the tolerance and dispersion of corruption which will be investigated. A drawback of this illustration is that real-world examples of fully honest (as well as fully corrupt) societies do not exist (Klitgaard, 1988). This research will explore whether in societies where there is a high intolerance for corruption, agents looking to extract opportunistic rents when the transaction costs are high choose to camouflage bribes as gifts to avoid penalties and realize the benefits of private gain. The next section explores academic views towards the roles of gift giving and bribery in business.

2.2 Gift Giving and Bribery in Business

Building valuable relationships is certainly important in business as it allows companies to gain a competitive advantage and it increases efficiency in trade. Small gift giving is a useful method of expressing reciprocity and strengthening existing business relationships (Maréchal and Thöni, 2018). Malmendier and Schmidt (2017) even found that those who do not participate in gift giving face great costs.

Some authors argue that bribes and gifts are substitutes as they both induce favorable treatment (Lambsdorff and Frank, 2010), although the key difference between them is that bribes have a clear request for something in return, while gifts have more ambiguous expectations of reciprocity (Rose-Ackerman, 1999). Despite the fact that a briber explicitly demands his requests to be fulfilled, he risks encountering more severe penalties if his actions are discovered. Meanwhile, a gift-giver only anticipates that he will receive advantageous treatment, but his actions are more difficult to demonstrate in court. Becker (1968) argues that a person's decision to commit a crime depends on the expected benefits from committing the crime versus the costs of the punishment. If a country poses a higher ability to correctly identify corruption and enforce it, the expectation is that the costs of punishment will be higher as well. Therefore, this master's thesis researches whether businesses operating in countries with high costs of punishment make more use of gift giving in order to continue influencing behavior while reducing their costs of punishment. Meanwhile in countries where the costs of punishment are lower, we expect businesses to engage in more frequently in bribery, and make less use of camouflaging their intentions through the use of gifts.

2.3 Policy Implications

Pinker, Nowak, and Lee (2008) analyze the intentions of wording in business transactions and conclude that when engaging in evidently corrupt transactions such as bribery, people tend to construct their language in an ambiguous way to avoid clear evidence and punishment. This leads to several difficulties in creating and enforcing anticorruption policies which aim at disciplining corrupt agents for engaging in bribery. Gordon and Miyake (2001) explain that the difficulty in penalizing and enforcing anticorruption policies stems from three core reasons; there is a blurred line between what is deemed as acceptable relationship-building and corrupt practices, it is difficult to include routine facilitation payments into anti-corruption guidelines without creating a loophole for extortion, and cultural differences are often presented (and widely accepted) as an excuse for bribery (Cameron et al., 2005). Creating new anti-bribery laws and amending existing laws sends a signal to businesses that the government intends to lower its tolerance towards corrupt practices. The second part of this thesis uses the same dataset to determine whether more stringent anticorruption policies relate to (1) changes in the perceptions of how severely corruption is identified and enforced as well as (2) changes in how widespread the use of bribes and gifts are in business transactions.

3 Data

3.1 Raw Data

This thesis uses pooled cross sections of survey answers from 3 waves of the Flash Eurobarometer conducted in 2013, 2015, and 2017.

Specifically;
Flash Eurobarometer 457 - Businesses' Attitudes Towards Corruption in the EU
      Collected: 09/10/2017 to 30/10/2017
      Sample size: 7746 Businesses
      Countries Involved: 28 EU Member states

Flash Eurobarometer 428 - Businesses' Attitudes Towards Corruption in the EU
Collected: 21/09/2015 to 09/10/2015
Sample size: 7996 Businesses
Countries Involved: 28 EU Member States

Flash Eurobarometer 374 - Businesses' Attitudes Towards Corruption in the EU
Collected: 18/02/2013 to 08/03/2013
Sample size: 7842 Businesses
Countries Involved: 28 EU Member States (EU 27 at the time as well as Croatia)

These surveys are conducted by the European Commission through telephone interviews using the TNS e-call center. The businesses were selected from an international business database for businesses employing one or more persons. The European Commission ensured that there was a balanced and representative sample of businesses from key economic sectors, company size, as well as the 28 EU countries. The surveyors ensured that they were speaking with a person who has decision-making responsibilities in the company such as a CEO, general manager, financial director, or any legal officer[1].

3.2 Creation of Variables

3.2.1 Corruption Identification Index (CII) and Corruption Enforcement Index (CEI)

How do the perceptions on corruption identification and corruption enforcement relate to how widespread bribery and gift giving are in business transactions in EU countries?

To answer this question a Corruption Identification Index (CII) and a Corruption Enforcement Index (CEI) were created. The CII was created using the following question from the Flash Eurobarometers;

1. How likely do you think that people or businesses engaging in corrupt practices in (YOUR COUNTRY) would be caught by or reported to the police or prosecutors?

This question was answered using a 4-point Likert scale with possible answers of "very likely, fairly likely, fairly unlikely, and very unlikely", which were assigned scores of 3, 2, 1, and 0, respectively. A 5th possible answer included "don't know" but these answers have been omitted from this analysis. Because data from the Flash Eurobarometer comes in 3 waves (2013, 2015 and 2017), 3 separate scores were created per country and year combination.

The index was created as follows; firstly, the number of responses per category ("very likely", "fairly likely", "fairly unlikely", and "very unlikely") were added for each country and year combination. Secondly, the sum of the number of responses per category was divided by the total number of responses for that country year combination. This resulted in the percentage of responses per category.

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[1] More information about the Flash Eurobarometer results, the questionnaires used, and the survey design can be found at https://search.gesis.org/research_data/ZA6918

For example to find France's CII in 2017 the survey question relating to the CII[2] there were a total number of 298[3] responses; 15 "very likely", 101 "fairly likely", 149 "fairly unlikely", and 33 "very unlikely". This resulted in the percent of responses per category (5%, 34%, 50%, and 11%, respectively). Furthermore, the percent of responses were multiplied by their scores which acted as weights[4] (0.05*3, 0.34*2, 0.5*1, 0.11*0) which were then added together to obtain a score of 1.33 for France. Lastly, for computational simplicity the score was multiplied by 100 resulting in a CII for France of 133 in 2017.

The interpretation of this score is that the higher the value score, the more likely respondents believe that people or businesses engaging corrupt practices will be caught or reported by police or prosecutors in their country. In theory it is possible for this index to range from 0 to 300, but in practice the values range from a minimum value of 91 to a maximum value of 188.

Similarly, a Corruption Enforcement Index (CEI) was created for each country year combination based on the question;

2. How likely do you think that people or businesses engaging in corrupt practices in (YOUR COUNTRY) would be heavily fined or imprisoned by a court?

Possible answers were on the same 4-point Likert scale as the CII ("very likely", "fairly likely", "fairly unlikely" and "very unlikely"), and the similar weights of 3,2,1, and 0 were assigned, respectively. Similarly, the answers of "don't know" were omitted from the analysis, and the Corruption Enforcement Index was computed in the same manner as the CII. Although in theory it is possible for values to range from 0 to 300, in practice they range from 61 to 185.

A summary of each CII and CEI score for each country-year combination is included in Appendix 1- Descriptive Statistics.

In order to determine whether appropriate weights had been assigned to the CII and the CEI, a robustness check was conducted using different weights for each of the indices. In this robustness check the variables CII_2 and CEI_2 were constructed using the answers of the 4-point Likert scale "very likely", "fairly likely", "fairly unlikely" and "very unlikely" with weights of 1, 1, 0, and 0, respectively. The subsequent steps of finding the percent of responses per category for each country and year combination, multiplying these numbers by their respective weights, subtracting 1 and finally multiplying by 100 for computational simplicity, were conducted in a similar manner as the original CII and CEI.

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[2] "*How likely do you think that people or businesses engaging in corrupt practices in France would be caught by or reported to the police or prosecutors?*"
[3] Excluding any answers of "Don't know"
[4] The answers "very likely", "fairly likely", "fairly unlikely" and "very unlikely" were assigned weights of 3,2,1 and 0, respectively.

3.2.2 Bribes and Gifts Variables

The dependent variables BRIBES and GIFTS are based on the following question from the Flash Eurobarometers;

Which of the following practices do you consider to be the most widespread in (YOUR COUNTRY)?
The possible answers include;
- Kickbacks
- Bribes
- Tax Fraud or non-payment of VAT
- Offering a free gift or trip in exchange for a service
- Favoring friends and Family members in business
- Funding political parties in exchange for public contracts or influence over policy making
- Favoring friends and family members in public institutions
- Other
- None
- Don't know

Respondents were allowed to choose up to 3 responses, although some respondents only chose 1 or 2 responses. Two variables were created from this question. BRIBES is a variable which was created by adding the number of responses per country-year combination which responded to "bribes" as being one of the most widespread practice in their country divided by the total number of responses in that country-year combination and multiplied by 100 for computational simplicity. Similarly, the GIFTS variable was created by adding the number of responses per country-year combination which responded to "Offering a free gift or trip in exchange for a service" as being one of the most widespread practice in their country divided by the total number of responses in that country-year combination and multiplied by 100.

For example in the Flash Eurobarometer 457 which was conducted in 2017, the total number of respondents in France was 301, out of which 76 responded that they consider bribes to be one of the most widespread practice in their country. This resulted in a BRIBES score of [(76/301)*100] = 25 for France in the year 2017.

For a summary of the BRIBES and GIFTS variables, please see Appendix 1- Descriptive Statistics.

3.2.3 More Stringent Law Change Variable

In order to identify whether policy changes are related to changes in the perceptions of how well corruption is enforced and identified, a dummy variable called "More Stringent Law Change" was created. This variable equals 1 if the country amended or created a stricter law relating to bribery during the periods between 2013 and 2017, and 0 if it had not. A brief description of which laws have become more stringent for each country is included in Appendix 2.

4 Formulation of Hypotheses

As discussed in the literature review, laws can only be as effective as the institutions that enforce them (Graeff and Svendsen, 2013) and a person's or business' decision to commit a crime depends on the expected benefits from committing the crime and the costs of the punishment (Becker, 1968). This research takes into consideration that countries differ in their ability to adequately identify corruption (actually catching and reporting corrupt agents to the police) as well as in their ability to enforce anticorruption regulations (imposing heavy fines and imprisonment on corrupt agents). An investigation is carried out to determine whether there exists any relationships between how well corruption is identified or enforced and how widespread the use of bribes or gifts are. As bribes demand a straightforward expectation for something in return (Rose-Ackerman, 1999), the expectation is that when a country's ability to correctly identify and enforce corrupt practices is lower, the use of bribes will be more widespread. This leads to the following hypotheses;

Hypothesis 1: There is a negative correlation between corruption identification the dispersion of bribes, as well as a negative correlation between corruption enforcement and the dispersion of bribes.

     H1a: There is a negative correlation between the CII and the perception that bribery is a widespread corrupt practice.

     H1b: There is a negative correlation between the CEI and the perception that bribery widespread corrupt practice.

On the other hand, when corruption is readily identified and enforced, agents will seek to attain similar advantageous benefits while minimizing their punishment by concealing their intentions as gifts. Although the true objective of gift-giving is not as definitive as bribes (Rose-Ackerman, 1999), the repercussions of punishment are also smaller since the action is more ambiguous and less verifiable in court. Therefore, when a country's ability to identify and enforce corruption is higher, the expectation is that the use of free gifts or trips in exchange for a service will be higher. This leads to the following hypotheses;

Hypothesis 2: There is a positive relationship between corruption identification and the use of free gifts or trips in exchange for a service in the respondent's country as well as a positive relationship between corruption enforcement and the use of gifts or free trip in exchange for a service.

     H2a: There is a positive correlation between the CII and perceiving offering a free gift or trip in exchange for a service to be widespread.

     H2b: There is a positive correlation between the CEI and perceiving offering a free gift or trip in exchange for a service to be widespread.

As a response to combating corruption in business, some authors have suggested that more stringent laws and enforcement can serve as a solution (Anokhin and Schulze, 2009). The subsequent part of this analysis investigates whether more stringent law changes relate to an increase in the CII and CEI, as well as how these law changes relate to the dispersion of bribery and gift-giving in business. The intuition behind this is that governments can signal the seriousness of a corrupt offence by altering the level of

enforcement and the size of the penalties (Rose-Ackerman, 1999). When governments alter their laws pertaining to gifts and bribes, they are sending a message to people and business owners that this is an intolerable misdemeanour and that there will be more stringent enforcement of these laws as well as stricter penalties. The intuition is that stricter laws will correlate with a higher CII as well as with a higher CEI because they are aimed at increasing detection and enforcement of corruption.

Hypothesis 3: There is a positive correlation between implementing a more stringent law change and a change in the identification and enforcement of anticorruption laws.

> H3a: A more stringent law change is positively correlated with a change in the CII.

> H3b: A more stringent law change is positively correlated with a change the CEI.

Additionally this thesis will look at whether imposing more stringent law changes also correlate with changes in how widespread bribery or gift giving are perceived to be. The reason for this analysis is to investigate how effective the implementation of new laws is at changing the use of bribery and gift-giving. The intuition is that the countries that implement more stringent laws against bribery and gift-giving will experience a decrease in bribery and in gift giving. This leads to the final hypotheses;

Hypothesis 4: There is a negative correlation between implementing a law change and how widespread bribery and gift-giving practices are in business.

> H4a: A more stringent law change is negatively correlated with a change in how widespread bribes are in the respondent's country.

> H4b: A more stringent law change is negatively correlated with a change in how widespread free gifts or trips in exchange for a service are in the respondent's country.

5 Methodology

These hypotheses will be investigated using several panel regressions. As mentioned in the above section "3.2 Creation of Variables", the pooled cross-sectional data obtained from the 3 waves of the Flash Eurobarometer on Businesses' Attitudes Towards Corruption in the EU, have been aggregated at the country-level to obtain one score per country and year combination for each of the following variables; Corruption Identification Index (CII), Corruption Enforcement Index (CEI), Bribes and Gifts. There are 28 countries (all 28 EU member states) with 3 years of the survey wave (2013, 2015 and 2017) resulting in a total of 84 observations. The European Commission aimed at obtaining a balanced and representative sample from each country for each survey year on several dimensions such as country, economic sector activity, and company size. Because of this, the survey answers are not completely randomly drawn from each country's population. This choice has been executed in order to achieve a balanced and representative sample from each country.

This panel data set is advantageous because typical problems of multiple regression analysis such as omitted variable bias and endogeneity problems can partially be overcome. Because countries have many differences among them such as culture, business norms, age dispersion and more, the list of possible controls using multiple regression analysis would be quite exhaustive and could also present with additional problems such as bad controls or proxy controls. Angrist and Pischke (2009) highlight how more control variables are not always better and explain that bad controls are control variables

that could also be the dependent variables in the experiment. Proxy controls are control variables that could in part control for omitted factors in the regression but are also affected by the dependent variable. These types of controls are problematic because they can lead to sizeable misinterpretations of the coefficients.

Luckily, this panel data set can help overcome these problems by controlling for unobservable factors which affect the dependent variable that are constant, as well as ones that vary over time (Wooldrige, 2016). In the case of this analysis, the major controls of interest are controls for unobservable measures across time (things that have changed in between the years of survey collection such as if the Corruption Enforcement Index was overall lower in 2013 than it is in 2017 across all countries), as well as unobservable measures across countries which would be otherwise difficult to quantify (cultural, social, and economic factors) this helps us account for heterogeneity across different countries. Cameron et al. (2005) find that there are cross-cultural differences in agent's propensity to punish and engage in corrupt behavior. The cultural influences on corruption have been studied by many authors. Andvig and Moene (1990) analyze how corruption varies across different societies, Hauk and Saez-Marti (2002) illustrate how corruption is culturally transmitted through generations by social values, Sah (1988) explains how a culture of corruption may or may not change over time, and Tirole (1996) analyzes how corruption is driven by collective reputations. Therefore, it is reasonable to believe that there may be many unobservable factors across countries which will be captured through the country fixed effects in this panel regression.

The final fixed effects regression model which has both time and country fixed effects is:
$$Y_{it} = \beta_0 + \beta_1 CI_{1,it} + \delta_2 T_2 + \delta_t T_t + \gamma_2 C_2 + \cdots + \gamma_n C_n + u_{it}$$

Where
Y_{it} is the dependent variable (BRIBES or GIFTS), i = country code and t= year
β_0 is the constant
β_1 is the coefficient for the independent variable (CEI or CII)
$CI_{1,it}$ is the independent variable (CEI or CII)
δ_t is the coefficient for the binary year regressors
T_t is the year dummy variable
γ_n is the coefficient for the binary country regressors
C_n is the country dummy variable and
u_{it} is the error term

Some assumptions of this fixed effects model are that the time-invariant components are unique to each country and they should not be correlated with other country components (Torres-Reyna, 2007), and that the unobservable characteristics that might affect the BRIBES/GIFTS variables and the CEI/CII variables are time-invariant (Blumenstock, n.d.).

6 Main Analysis

The main question of interest is does corruption identification and enforcement relate to how widespread the use of bribes and gifts are among the 28 EU countries? The Corruption Identification Index (CII) and the Corruption Enforcement Index (CEI) have been generated through survey answers and act as the independent variables in the regressions to follow. The dependent variables are BRIBES and GIFTS which were also generated from survey answers. For more information on how these variables have been created see Section 3.2 on Creation of Variables above.

Initially, it is quite important to determine how the CII and the CEI relate to each other, as they are quite similar measures which are concerned with how likely corruption is identified and enforced in a county. Being able to properly catch and report people or businesses that are engaging in corrupt practices is the first important step towards curbing corruption as penalties can only be applied if an agent has been caught and reported. The CII captures perceptions on the difficulties of identifying corrupt actors which may arise from the lack of whistleblower protection legislation or a deep-rooted cultural tolerance for corruption. Secondly, in order to combat corrupt practices, there must be appropriate punishment for the agents that are engaging in them. The CEI captures the efficiency of a country's justice system in investigating, demonstrating and appropriately punishing corrupt actors. The relationship between these two variables can be seen in the scatter plot below.
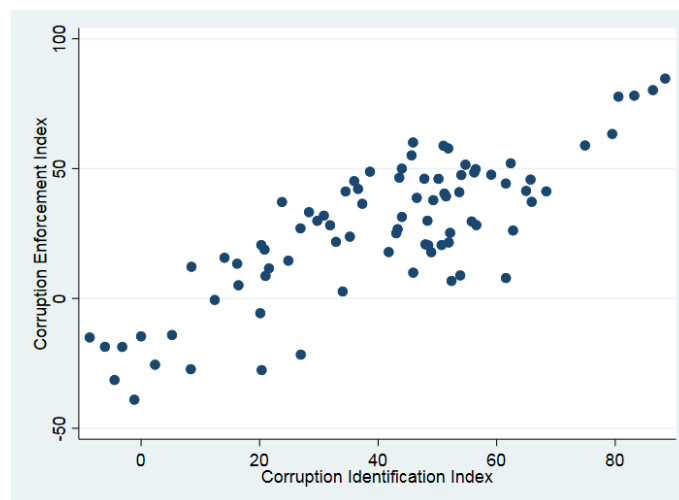
Although there is some variation between the two variables, they do seem to move together. Interestingly, in 2013 the CII for Italy is 154 which puts it in the top 7 of EU countries with the highest CII (a higher CII represents a better ability to identify corruption), and in that same year the CEI for Italy is 109, putting it in the bottom 7 of the 28 countries for corruption enforcement. This trend for Italy remains for years 2015 and 2017. According to the World Economic Forum Italy is ranked among the poorest in the world in their efficiency of the legal framework for settling disputes (GCR, 2017). Additionally, "nearly half of Italian judges indicate that they strongly believe that judges are being promoted on basis other than ability and experience" (ENCJ, 2017). Consequently, Italy may succeed at identifying corrupt people or businesses in their population, but it lacks the ability to take adequate punitive action against them.

The dependent variable BRIBES is a score determined by respondents' perceptions on how widespread bribery is in their country, and the dependent variable GIFTS is a score determined by respondents' perceptions on how widespread offering free gifts or trips in exchange for services is in their country. Descriptive statistics are presented in **Appendix 1.**
Table 1 from Appendix 2 presents the panel regression results pertaining to the first 2 hypotheses. The first four columns do not include any controls. From here it can be seen that the coefficient of the regressions where BRIBES are the dependent variable are negative and significant. Therefore, when a country is better able to both identify and enforce corruption, the use of bribery in business decreases.

On the other hand, the coefficients of the GIFTS variables are positive and significant, therefore when a country is better able to identify and enforce corruption, the use of bribery decreases but the use of gifts and trips in exchange for a service increases. If the Czech Republic was able to increase its CII by one standard deviation, the use of bribes in business would decrease by 4 points. Similarly, if it would increase its CEI by one standard deviation, the use of bribes in business would also decrease by 4 points. Interestingly, when year fixed effects are added to the analysis (columns 5 to 8), the same pattern remains where bribes have a negative and significant coefficient while gifts have a positive and significant coefficient. This suggests that businesses conserve their desire for private benefit either through bribery or gift giving, but as a country's ability to efficiently identify and enforce corruption increases, they become more reliant on gifts rather than bribes. Consequently, gifts become a substitute for bribes as they are more ambiguous in their intention for an unfair advantage and are less easily demonstrated in the court of law.

When including country fixed effects in the panel regressions, the coefficients all become negative and lose any significance. This is most likely due to the fact that there are only 84 observations in the data set and controlling for both year and country fixed effects leaves very little variation left in the data to draw any significant results. This can also be seen by the drastic rise in the R-squared. The fact that all signs are negative when controlling for unobservable time-variant as well as time-invariant factors is still in line with the theory as increasing anti-corruption measures decreases the use of corrupt practices, albeit not at a statistically or economically significant level.

As most governments propose new laws or amend existing laws in order to curb corruption, the previous finding begs the question; what are the policy implications of more stringent laws relating to bribery on corruption identification and enforcement? Although this inquiry may seem trivial, several reputable sources have found that some countries amend existing laws or implement new laws in order to meet certain criteria or join organizations but little change is seen in terms of actual enforcement (Barratt and Pasewaldt, 2017; OECD, 2013; TI, 2015). **Table 2 in Appendix 3** further investigates whether anti-corruption measures relate to a country's ability to identify and enforce corruption (hypothesis 3). A law dummy variable was created which equals 1 if there was a more stringent law change in the respective country and 0 otherwise. More information on how this variable was created can be found in **Appendix 6 – Law Change Variable**. From table 2 we can see that although the coefficients are not significant, they are all positive even when year and country fixed effects are included. Therefore, when a country implements a new law or amends an existing law relating to bribery and gift-giving in business, it might send a signal to the population that corruption is less tolerated and people engaging in corrupt practices may be more likely identified and appropriately punished but not at a statistically significant level.

Table 3 in Appendix 3 looks at whether a more stringent law change relating to bribery in business decreases how widespread bribery and gift-giving are in business. The expectation is to find a negative correlation between the dependent and independent variables because intuitively, a more stringent law change should decrease the dispersion of bribery and gift-giving. Although these coefficients are not significant, their signs are positive. This may be due to the fact that the variables BRIBES and GIFTS are based on perceptions of how widespread bribery and gift-giving are in business. Once a new law is implemented or amended in a country, it might be that the media covers these topics heavily and survey respondents in turn perceive bribery and gift giving to be more widespread.

7 Limitations

This research is meant to be essentially correlational mainly due to limitations in how the data has been collected, sample size, and potential biases in collection. Measurement error is a potential cause for concern because all of the variables have been constructed from survey answers which are based on businesses' perceptions on corruption in their country. As discussed above, perceptions are not a definite mirror of reality and could be easily skewed and shaped by the media and surrounding political topics. This can lead to recency bias (Arnold et. al, 2000), availability bias (Tversky & Kahneman, 1974), and confirmation bias (Nickerson, 1998). Non-response bias is also a concern because surveyors only surveyed businesses if there was a CEO or someone with decision-making authority available to talk to when they called. Additionally, the respondents which answered "don't know" in the CII and CEI survey questions were omitted from the analysis as conclusions cannot be drawn from their responses. Given the nature of the main thesis question, a more qualitative measurement of how widespread bribery is in certain countries (such as the number of bribery cases per country per year) would also cause problems since many perpetrators could bribe their way out of being recorded as an offender. Therefore, it is quite difficult to find a precise tool for answering this research question that is free of any form of bias.

To verify the robustness of the CII and the CEI variables, a robustness check was conducted where the weights of 3,2,1 and 0 for the answers "very likely", "fairly likely", "fairly unlikely" and "very unlikely", had been replaced by the weights 1, 1, 0, and 0, respectively. The results of this robustness check are similar to the ones of the main analysis and can be found in **Appendix 4**. Furthermore, Transparency International has created their own measurement of the corruption perception index (CPI) which ranks countries "by their perceived levels of corruption, as determined by expert assessments and opinion surveys" (TI, 2011). This index was used as another measure of corruption to determine whether the same relationship exists between corruption and bribery as well as corruption and gift giving. The results of this analysis are similar to that of the main analysis and can be found in **Appendix 5**.

Furthermore, selection bias is also a concern in this research as respondents are not randomly selected due to the fact that the European Commission's desire was to obtain a representative sample from each country to meet certain criteria. This interferes with the ability to draw a causal inference as this is not a random draw from the population (Wooldridge, 2016).
Lastly, reverse causality could be an issue as it is possible for an increase of bribery in a country to lead to the perception that corruption identification or corruption enforcement are less effective. Although this is a possibility, it does not credibly explain why an increase of gift giving in business would lead to the perception that corruption identification and enforcement are more effective. Albeit the possibility of reverse causality, the interpretation in the main analysis is more plausible.

8 Conclusion

The predominant trend seen in the main analysis as well as in the robustness checks is that as corruption identification and enforcement increases in a country, the use of bribery in business decreases while the

use of gift-giving increases. This supports Becker's (1968) view where people or businesses weigh the expected benefits of committing a crime versus the costs of punishment and act to maximize their private gain while minimizing their punishment. Because gifts have a more ambiguous demand for something in return (Rose-Ackerman, 1999) their use is more difficult to demonstrate in the court of law making them a reasonable substitute for bribery. This finding also ties into the model presented by Andvig (1991) where societal norms on how predominant corruption is in a country determine what actions a corrupt agent is willing to take. Furthermore it also supports arguments of Shleifer and Vishny (1993) that in societies where the costs of detection and punishment are higher, corrupt agents seek to avoid detection and punishment by diverting investments into activities that may be less efficient but also less enforceable, in the case of bribery, they forego the explicit demand for something in return by camouflaging their bribes as gifts. Keeping the limitations of this research in mind as it is solely correlational and is generally based on perceptions, it is reasonable to conclude that this topic should be investigated further in order to draw any causal inferences between the substitution effect of bribery and gift giving dependent on the perceived level of corruption.

As for policy implications, the effect of law changes on the perceived level of corruption identification and enforcement has not been found to be of statistical significance. Levin and Satarov (2000) point out that this can occur because the people who need to implement these changes are also ones who benefit the most from the corrupt state of affairs thereby causing agency problems. The literature on the policy implications for corruption is extensive, Batory (2012) studies why anti-corruption laws fail in Central Eastern Europe and attributes it to 5 main causes; the lack of a reward for non-corrupt behavior, monitoring issues such as a low likelihood of detecting corrupt behavior, the information effects of not knowing where to turn when encountering corruption, social norms where petty corruption is commonly excused or justified, and the low credibility of the government and individual politicians which are widely seen as corrupt.

Although much still needs to be achieved in terms of creating and efficiently enforcing anti-corruption policies, this research has shed light on how gift-giving may be a substitute for bribery in countries where corruption identification and enforcement levels are higher. Policy makers should keep this relationship in mind as the battle against bribery continues worldwide.

References

Akerlof, G. A. (1980). A Theory of Social Custom, of which Unemployment may be One Consequence, *The Quarterly Journal of Economics*, Volume 94, Issue 4, pp.749–pp.775 retrieved from https://doi.org/10.2307/1885667

Andvig, J.C. (1991). The Economics of Corruption: A Survey, *Studi Economici*, Volume 43, pp.57 – pp.94 retrieved from https://www.researchgate.net/publication/240298512_The_Economics_of_Corruption_A_Survey

Andvig, J. C. & Moene, K. (1990). How Corruption May Corrupt, *Journal of Economic Behaviour and Organization*, Volume 13, Issue 1, pp.63 - pp.76 retrieved from https://www-sciencedirect-com.eur.idm.oclc.org/science/article/pii/016726819090053G

Angrist, J.D., & Pischke, J., (2009). *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton: Princeton University Press.

Anokhin, S., & Schulze, W. S. (2009). Entrepreneurship, Innovation, and Corruption. *Journal of business venturing*, Volume *24*, Issue 5, pp. 465 - pp. 476 retrieved from http://igup.urfu.ru/docs/Bank%20English_Transleted%20Articles/English/Innovation%20Management/Entrepreneurship,%20innovation,%20and%20corruption.pdf

Arnold, V., Collier, P. A., Leech, S. A., & Sutton, S. G. (2000). The effect of experience and complexity on order and recency bias in decision making by professional accountants. *Accounting & Finance*, Volume *40*, Issue 2, pp.109 – pp.134.

Bardhan, P. (1997). Corruption and development: a review of issues. *Journal of Economic Literature*. Volume 35, pp.1320 – pp.1346.

Barratt, P. and Pasewaldt, D. (2017). Anti-Bribery and Corruption Review. *Clifford Chance*. Retrieved from https://financialmarketstoolkit.cliffordchance.com/content/micro-facm/en/financial-markets-resources/resources-by-type/guides/anti-bribery-and-corruption-review--june2017/_jcr_content/parsys/download/file.res/Anti_Bribery_and_Corruption_Review___June_2017_6035860.pd

Batory, A. (2012). Why do anti-corruption laws fail in Central Eastern Europe? A target compliance perspective. *Regulation & Governance*, Volume 6, Issue 1, pp.66 – pp.82.

Becker, G. S. (1968) .Crime and Punishment: An Economic Approach. *Journal of Political Economy*, Volume 76, Issue 2, pp.169 – pp.217.

Belgian anti-bribery laws strengthened. (2017). *Osborne Clarke*. Retrieved from: http://www.osborneclarke.com/insights/belgian-anti-bribery-laws-strengthened/

Blumenstock, J.E. (n.d.), Fixed Effects Models, retrieved from www.jblumenstock.com/files/courses/econ174/FEModels.pdf

Branco, S. R. (2015). *The Anti-Bribery and Anti-Corruption Review*. Law Business Research Ltd, pp 193 – pp. 202. Retrieved from http://www.vda.pt/xms/files/Publicacoes/2016/The_Anti-Bribery_and_Anti-Corruption_Review.pdf

Cameron, L. A., Chaudhuri, A., Erkal, N., & Gangadharan, L. (2005). Do attitudes towards corruption differ across cultures? Experimental evidence from Australia, India, Indonesia and Singapore. Reveived from http://dx.doi.org.eur.idm.oclc.org/10.2139/ssrn.778464

Cintra, R.F., Cassol, A., Ribeiro, I., & de Carvalho, A.O. (2017). Corruption and emerging markets; Systematic review of the most cited. *Research in International Business and Finance*. Volume 45, pp.607- pp.619, retrieved from http://dx.doi.org/10.1016/j.ribaf.2017.07.177

Eggers, T. & Wagner, S. (2018). *Bribery & Corruption 2018 Germany*. GLI Global Legal Insights. Retrieved from https://www.globallegalinsights.com/practice-areas/bribery-and-corruption-laws-and-regulations/germany

ENCJ - European Network of Councils for the Judiciary (2017). Independence, Accountability and Quality of the Judiciary Performance Indicators 2017. Retrieved from https://www.encj.eu/images/stories/pdf/workinggroups/independence/encj_report_ia_ga_adopted_ga_13_6.pdf

GCR – Global Competitiveness Report (2017). *The Global Competitiveness Report 2017-2018*. World Economic Forum. Retrieved from http://www3.weforum.org/docs/GCR2017-2018/05FullReport/TheGlobalCompetitivenessReport2017%E2%80%932018.pdf

Geertsma, J. (2015). Overview on anti-corruption rules and regulations in The Netherlands. *ACE Anti-Corruption in Europe.* Retrieved from: http://www.ecba.org/extdocserv/projects/ace/20160131_ACE_CountryreportNL.pdf

Gordon, K., & Miyake, M. (2001). Business approaches to combating bribery: A study of codes of conduct. *Journal of Business Ethics*, Volume 34, Issue 3-4, pp.161 - pp.173.

Graeff, P. & Svendsen, G.T. (2013). Trust and corruption: The influence of positive and negative social capital on the economic development in the European Union. *Quality & Quantity*. Volume 47, Issue 5, pp. 2829 – pp.2846, retrieved from https://doi.org/10.1007/s11135-012-9693-4

Foose, J.D.A. & Vermeulen, G. (2018). The Netherlands "House for Whistleblowers" Regulation: How Small & Medium Sized Enterprises (SMEs) Can Prepare. N*avex Global*. Retrieved from: https://www.navexglobal.com/en-us/resources/legal-briefs/netherlands-house-whistleblowers-regulation-how-small-medium-sized?RCAssetNumber=1701

Hauk, E. & Saez-Marti, M. (2002). On the Cultural Transmission of Corruption. *Journal of Economic Theory*, Volume 107, Issue 2, pp.311 – pp.335.

Hegymegi-Barakonyi, Z. (2014). New whistleblowing regulation in Hungary. *Baker McKenzie*. Retrieved from https://globalcompliancenews.com/new-whistleblowing-regulation-in-hungary/

Klitgaard, R. (1988). *Controlling Corruption*. University of California Press.

Lambsdorff, J. G., & Frank, B. (2010). Bribing versus gift-giving – An experiment. *Journal of Economic Psychology*. Volume 31, Issue 3, pp.347 – pp.357, doi:10.1016/j.joep.2010.01.004

Levin, M., Satarov, G. (2000). Corruption and Institutions in Russia. *European Journal of Political Economy*, Volume 16, Issue 1, pp. 113 – pp.132.

Malmendier, U. & Schmidt, K. M. (2017). You owe me. *American Economic Review*, Volume 107. Issue 2, pp.493 – pp.526.

Maréchal, M. A. & Thöni, C. (2018). Hidden Persuaders: Do Small Gifts Lubricate Business Negotiations?. *Management Science*.

Mauro, P. (1995). Corruption and Growth. *The Quarterly Journal of Economics*. Volume 110, Issue 3, pp.681-pp.712.

Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology,* Volume 2, Issue *2,* pp.175 – pp.220.

NRF – Norton Rose Fulbright (2017). The changing anti-bribery and corruption landscape in Spain. Norton Rose Fulbright. Retrieved from: http://www.nortonrosefulbright.com/knowledge/publications/148901/the-changing-anti-bribery-and-corruption-landscape-in-spain

OECD - Organization for Economic Cooperation and Development (2013). *Anti-corruption Reforms in Eastern Europe and Central Asia: Progress and Challenges, 2009-2013*. OECD Publishing. Retrieved from https://doi-org.eur.idm.oclc.org/10.1787/9789264201903-en.

Pinker, S., Nowak, M., & Lee, J. (2008). The logic of indirect speech. *Proceedings of the National Academy of Sciences*. Volume 105, Issue 3, pp. 833 – pp.838.

Penal Code. (2015). *Riigi Teataja (Estonian State Notifier or Gazette).* Retrieved from https://www.riigiteataja.ee/en/eli/522012015002/consolide

Rose-Ackerman, S. (1999). *Bribes and gifts*. Economics, Values and Organisations. Cambridge: Cambridge University Press. pp. 296 – pp.328.

Sah, R. K. (1988). Persistence and Pervasiveness of Corruption: New Perspectives. *Yale University, Economic Growth Center Discussion Paper No. 560*. Volume 31, Issue 8, pp. 2573 – pp.2598.

Sapin II. (2018). *GAN Business Anti-Corruption Portal*. Retrieved from: https://www.business-anti-corruption.com/anti-corruption-legislation/sapin-ii-law/

Schweizer, L., & Szabo, S. (2016) Criminal Liability of legal persons. In *Ruzicka Csekes s.r.o*. Retrieved from: http://www.r-c.sk/images/content/publications/086/Criminal%20liability%20of%20legal%20persons.pdf

Shleifer, A. & Vishny, R. W. (1993). Corruption. *The Quarterly Journal of Economics.* Volume 108, Issue 3, pp.599 – pp. 617.

Tirole, J. (1996). A Theory of Collective Reputation (with Applications to the Persistence of Corruption and Firm Quality*). The Review of Economic Studies*, Volume 63, Issue 1, pp.1 - pp.22.

Torres-Reyna, O. (2007). Panel Data Analysis Fixed and Random Effects using Stata (v. 4.2). *Princeton University*. Retrieved from https://www.princeton.edu/~otorres/Panel101.pdf

TI - Transparency International. (2018). What is Corruption. Retrieved from https://www.transparency.org/what-is-corruption

TI - Transparency International (2015). Exporting Corruption Progress Report 2015: Assessing Enforcement of the OECD Convention on Combatting Foreign Bribery. Retrieved from: https://issuu.com/transparencyinternational/docs/2015_exportingcorruption_oecdprogre

TI- Transparency International (2011). "Corruption Perceptions Index". Transparency International. Retrieved from https://www.transparency.org/news/feature/corruption_perceptions_index_2017?gclid=EAIaIQobChMIhZyo9Jnd3AIV9ArTCh0LDA2FEAAYASAAEgKob_D_BwE

Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science (New Series)*, Volume 185, Issue 4157, pp.1124 – pp.1131.

Wooldridge, Jeffrey M. (2016*). Introductory Econometrics: A Modern Approach. 6th Edition*. Mason, Ohio: South-Western Cengage Learning,

Appendix 1 – Descriptive Statistics

Number of Respondents by Country per Wave Year

Country	Year 2013	2015	2017	Total
France	301	301	301	903
Belgium	301	315	300	916
The Netherlands	302	312	300	914
Germany	302	302	301	905
Italy	300	329	302	931
Luxembourg	181	180	151	512
Denmark	300	300	300	900
Ireland	182	180	180	542
United Kingdom	301	300	300	901
Greece	303	300	300	903
Spain	302	300	300	902
Portugal	301	328	300	929
Finland	303	301	301	905
Sweden	301	304	303	908
Austria	300	322	300	922
Cyprus	180	180	150	510
Czech Republic	302	320	302	924
Estonia	307	330	304	941
Hungary	300	310	303	913
Latvia	303	317	302	922
Lithuania	302	300	302	904
Malta	180	180	150	510
Poland	301	300	304	905
Slovakia	300	300	300	900
Slovenia	182	180	183	545
Bulgaria	301	300	302	903
Romania	303	300	302	905
Croatia	301	305	303	909
Total	7,842	7,996	7,746	23,584

Economic Sector of Activity (NACE)	Frequency	Percent
Energy, mining, oil, gas & chemicals	3,620	15.35
Healthcare & pharmaceuticals	3,809	16.15
Engineering & electronics,motor vehicles	4,014	17.02

		Frequency	Percent
Construction & building		4,237	17.97
Telecommunications & IT		4,011	17.01
Financial services, banking & investments		3,893	16.51
Total		23,584	100

BRIBES
Which of the following practices do you consider to be most widespread in (YOUR COUNTRY)?

	Frequency	Percent
Did not mention bribes	18,580	79%
Bribes	5,004	21%
Total	23,584	100%

GIFTS
Which of the following practices do you consider to be most widespread in (YOUR COUNTRY)?

	Frequency	Percent
Did not mention gifts	17,586	75%
Offering a free gift or trip	5,998	25%
Total	23,584	100%

Variable	Observations	Mean	Standard Deviation	Min	Max
CII	84	140	23	91	188
CEI	84	126	27	61	185
BRIBES	84	21	12	1	53
GIFTS	84	25	10	7	51

Corruption Identification Index (CII)

Country	2013	2015	2017	Δ 2013 to 2015	Δ 2015 to 2017
Austria	137	147	162	10	16
Belgium	139	151	154	13	3
Bulgaria	108	96	102	-13	7

Country				Δ	Δ
Croatia	175	165	162	-10	-3
Cyprus	91	112	124	21	11
Czech Republic	127	131	143	4	12
Denmark	183	181	188	-3	8
Estonia	142	166	155	24	-11
Finland	154	148	168	-5	20
France	116	121	133	5	12
Germany	146	146	151	0	5
Greece	132	122	130	-10	8
Hungary	121	109	114	-12	6
Ireland	100	99	148	-1	49
Italy	154	152	149	-1	-3
Latvia	157	152	163	-4	11
Lithuania	151	152	146	1	-6
Luxembourg	156	144	152	-12	8
Malta	135	125	116	-10	-8
Poland	162	166	179	4	14
Portugal	120	144	136	23	-8
Romania	159	186	137	27	-49
Slovakia	94	97	105	3	8
Slovenia	120	127	120	7	-7
Spain	134	148	149	14	1
Sweden	143	135	156	-8	21
The Netherlands	151	144	156	-7	12
United Kingdom	128	150	148	22	-2

Corruption Enforcement Index (CEI)

Country	2013	2015	2017	Δ 2013 to 2015	Δ 2015 to 2017
Austria	142	139	152	-3	13
Belgium	149	139	148	-10	8
Bulgaria	73	69	74	-4	6
Croatia	159	141	108	-17	-34
Cyprus	85	99	137	14	38
Czech Republic	127	132	125	5	-7
Denmark	178	178	185	0	7
Estonia	118	137	152	19	14
Finland	141	130	141	-11	11
France	113	109	122	-5	13
Germany	155	160	159	5	-1
Greece	128	112	130	-17	18

				Δ 2013	Δ 2015
				-7	3
Hungary	119	112	116	-7	3
Ireland	85	61	121	-24	60
Italy	109	107	118	-2	11
Latvia	128	125	126	-3	1
Lithuania	121	122	110	1	-12
Luxembourg	149	150	158	1	8
Malta	141	115	105	-27	-9
Poland	144	146	163	2	18
Portugal	121	146	145	26	-1
Romania	148	180	136	33	-44
Slovakia	81	81	86	0	5
Slovenia	72	78	94	6	16
Spain	103	120	138	18	17
Sweden	127	124	130	-3	6
The Netherlands	140	131	150	-9	18
United Kingdom	133	146	146	13	0

BRIBES Score

Country	2013	2015	2017	Δ 2013 to 2015	Δ 2015 to 2017
Austria	15	9	15	-6	6
Belgium	12	14	21	2	7
Bulgaria	30	32	39	2	8
Croatia	31	24	29	-7	5
Cyprus	33	31	47	-3	17
Czech Republic	37	29	39	-7	9
Denmark	1	4	5	3	1
Estonia	4	10	10	5	0
Finland	4	2	6	-2	4
France	18	21	25	3	4
Germany	13	9	15	-4	5
Greece	50	44	50	-6	6
Hungary	22	22	22	0	0
Ireland	9	9	7	1	-2
Italy	36	35	43	0	8
Latvia	17	15	15	-2	0
Lithuania	30	23	28	-7	4
Luxembourg	10	14	11	3	-3
Malta	24	17	25	-7	8
Poland	16	15	14	-1	-1
Portugal	24	19	28	-5	9

Romania	29	37	53	8	17
Slovakia	25	30	25	5	-6
Slovenia	25	25	24	0	-1
Spain	27	24	23	-3	-1
Sweden	8	10	10	2	0
The Netherlands	13	12	13	-1	1
United Kingdom	11	13	17	2	5

GIFTS Score

country	2013	2015	2017	Δ 2013 to 2015	Δ 2015 to 2017
Austria	35	34	27	-1	-7
Belgium	40	41	40	1	-2
Bulgaria	16	14	17	-2	3
Croatia	20	16	20	-4	4
Cyprus	22	8	11	-14	3
Czech Republic	22	23	30	2	6
Denmark	28	34	25	7	-9
Estonia	23	21	22	-2	1
Finland	33	29	26	-3	-4
France	43	41	48	-2	7
Germany	38	33	33	-5	-1
Greece	17	7	18	-10	11
Hungary	18	16	13	-3	-3
Ireland	25	29	17	5	-12
Italy	20	19	19	-1	-1
Latvia	19	12	16	-7	4
Lithuania	29	28	22	-1	-6
Luxembourg	25	29	25	4	-4
Malta	25	17	26	-8	9
Poland	25	26	22	1	-5
Portugal	21	19	35	-3	16
Romania	21	20	15	-1	-4
Slovakia	20	15	13	-5	-2
Slovenia	19	18	24	-1	6
Spain	14	23	27	10	3
Sweden	35	35	43	0	8
The Netherlands	46	46	51	1	4
United Kingdom	32	25	23	-6	-2

Corruption Perception Index (CPI)
created by Transparency International

Country	2013	2015	2017
Austria	69	76	75
Belgium	75	77	75
Bulgaria	41	41	43
Croatia	48	51	49
Cyprus	63	61	57
Czech Republic	48	56	57
Denmark	91	91	88
Estonia	68	70	71
Finland	89	90	85
France	71	70	70
Germany	78	81	81
Greece	40	46	48
Hungary	54	51	45
Ireland	72	75	74
Italy	43	44	50
Latvia	53	56	58
Lithuania	57	59	59
Luxembourg	80	85	82
Malta	56	60	56
Poland	60	63	60
Portugal	62	64	63
Romania	43	46	48
Slovakia	47	51	50
Slovenia	57	60	61
Spain	59	58	57
Sweden	89	89	84
The Netherlands	83	84	82
United Kingdom	76	81	82

Appendix 2 – Table 1 Main Panel Regression

Table 1 - Main Panel Regression Results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	H1a	H1b	H2a	H2b	H1a	H1b	H2a	H2b	H1a	H1b	H2a	H2b
	Bribes	Gifts	Bribes	Gifts	Bribes	Gifts	Bribes	Gifts	Bribes	Gifts	Bribes	Gifts
CII	-0.183** (0.0552)	0.1000* (0.0458)			-0.195*** (0.0553)	0.104* (0.0466)			-0.0632 (0.0488)	-0.0531 (0.0567)		
CEI			-0.151** (0.0462)	0.123** (0.0370)			-0.160*** (0.0462)	0.125** (0.0375)			-0.00823 (0.0401)	-0.0142 (0.0462)
year=2013					0 (.)	0 (.)	0 (.)	0 (.)	0 (.)	0 (.)	0 (.)	0 (.)
year=2015					-0.376 (3.003)	-2.073 (2.530)	-0.940 (3.005)	-1.773 (2.441)	-0.757 (0.997)	-1.620 (1.158)	-0.940 (1.002)	-1.773 (1.154)
year=2017					4.461 (3.027)	-1.634 (2.551)	4.055 (3.020)	-1.681 (2.454)	3.466** (1.053)	-0.454 (1.223)	3.045** (1.037)	-0.759 (1.194)
Year Fixed Effects?	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects?	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes
Constant	46.93*** (7.847)	11.09 (6.515)	40.39*** (5.986)	9.545* (4.791)	47.28*** (7.869)	11.82 (6.631)	40.54*** (6.137)	10.49* (4.985)	28.48*** (6.251)	50.98*** (7.258)	21.84*** (5.034)	46.22*** (5.799)
Observations	84	84	84	84	84	84	84	84	84	84	84	84
R^2	0.118	0.055	0.115	0.119	0.152	0.064	0.148	0.126	0.939	0.872	0.937	0.870

Standard errors in parentheses. $^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$. Base year is 2013, base country is France.

Appendix 3 – More Stringent Law Change
3.1 More Stringent Law Change, CII & CEI

Table 2 – Law Change Panel Regression Results

	H3a - Change in Corruption Identification Index			H3b- Change in Corruption Enforcement Index		
	Change CII	Change CII	Change CII	Change CEI	Change CEI	Change CEI
More stringent law change	2.180	1.972	4.142	5.201	4.441	3.757
	(4.972)	(5.031)	(8.715)	(5.872)	(5.847)	(9.463)
year=2015		0	0		0	0
		(.)	(.)		(.)	(.)
year=2017		1.706	1.551		6.239	6.288
		(3.854)	(4.658)		(4.479)	(5.058)
Constant	3.431	2.615	2.305	2.374	-0.610	-0.512
	(2.101)	(2.807)	(3.494)	(2.481)	(3.262)	(3.794)
Year Fixed Effects?	No	Yes	Yes	No	Yes	Yes
Country Fixed Effects?	No	No	Yes	No	No	Yes
Observations	56	56	56	56	56	56
R^2			0.015			0.067

Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Baseline year is 2015. Baseline Country is France

3.2 More Stringent Law Change, BRIBES and GIFTS

Table 3- Panel Regression Results Bribes and Gifts

	H4a - Change in how widespread the use of Bribes are			H4b- Change in how widespread the use of Gifts are		
	Change Bribes	Change Bribes	Change Bribes	Change Gifts	Change Gifts	Change Gifts
More stringent law change	0.633	0.0409	0.683	1.970	1.657	1.548
	(1.889)	(1.705)	(2.730)	(2.058)	(2.035)	(3.455)
year =2015		0	0		0	0
		(.)	(.)		(.)	(.)
year =2017		4.867^{***}	4.821^{**}		2.575	2.582
		(1.306)	(1.459)		(1.559)	(1.847)
Year Fixed Effects?	No	Yes	Yes	No	Yes	Yes
Country Fixed Effects?	No	No	Yes	No	No	Yes
Constant	1.382	-0.946	-1.038	-0.779	-2.010	-1.994
	(0.798)	(0.951)	(1.095)	(0.870)	(1.135)	(1.385)
Observations	56	56	56	56	56	56
R^2			0.305			0.083

Standard errors in parentheses. $^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$. Base Year is 2015. Baseline Country is France.

Appendix 4 - Robustness Check for CEI & CII Variables

Panel Regression Results – Robustness Check for CII and CEI

	Bribes	Gifts	Bribes	Gifts	Bribes	Gifts	Bribes	Gifts	Bribes	Gifts	Bribes	Gifts
CII_2	-0.290**	0.116										
	(0.0930)	(0.0778)										
CEI_2			-0.301**	0.216**	-0.312**	0.122	-0.319***	0.220**	-0.111	-0.0951	0.00111	-0.0209
			(0.0885)	(0.0719)	(0.0935)	(0.0794)	(0.0885)	(0.0730)	(0.0866)	(0.101)	(0.0724)	(0.0834)
Year Fixed Effects?	No	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Country Fixed Effects?	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Constant	63.08***	8.486	62.44***	-4.419	64.74***	8.702	63.79***	-3.764	35.68**	57.32***	20.77*	47.34***
	(13.45)	(11.26)	(12.18)	(9.903)	(13.40)	(11.39)	(12.17)	(10.05)	(11.78)	(13.67)	(9.667)	(11.13)
Observations	84	84	84	84	84	84	84	84	84	84	84	84
R^2	0.106	0.026	0.124	0.099	0.140	0.034	0.157	0.107	0.939	0.872	0.937	0.870

Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Base year is 2013, Base Country is France. In the main table the variables CII and CEI are created using weights of 0,1,2, and 3 for the answers "very unlikely", "unlikely", "likely" and "very unlikely", respectively. In this robustness check the variables CII and CEI are created using weights of 0,0,1, and 1 for the answers "very unlikely", "unlikely", "likely", and "very unlikely", respectively.

Variable	# of Obs.	Mean	Standard Deviation	Min	Max
CII_2	84	144	13	118	172
CEI_2	84	137	14	109	170
Bribe	84	21	12	1	53
Gift	84	25	10	7	51

Appendix 5 - Robustness Check using CPI by Transparency International

Robustness Check with CPI (Corruption Perception Index provided by Transparency International)

	Bribes	Gifts	Bribes	Gifts	Bribes	Gifts
CPI	-0.655***	0.437***	-0.657***	0.442***	0.0123	0.0289
	(0.0529)	(0.0533)	(0.0521)	(0.0533)	(0.220)	(0.253)
year=2013			0	0	0	0
			(.)	(.)	(.)	(.)
year=2015			0.562	-2.784	-0.968	-1.839
			(1.868)	(1.913)	(1.121)	(1.292)
year=2017			3.882*	-1.454	2.973**	-0.893
			(1.866)	(1.911)	(1.046)	(1.205)
Year Fixed Effects?	No	No	Yes	Yes	Yes	Yes
Country Fixed Effects?	No	No	No	No	Yes	Yes
Constant	63.50***	-3.077	62.13***	-1.984	20.06	42.62*
	(3.502)	(3.523)	(3.550)	(3.635)	(15.35)	(17.69)
Observations	84	84	84	84	84	84
R^2	0.651	0.451	0.672	0.465	0.937	0.870

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Base year is 2013, Base country is France.

Appendix 6 – Summary of More Stringent Law Changes

France –   Jun 2017   Sapin II "the law stipulates that companies must establish an anti-corruption program to identify and mitigate corruption risks. The Sapin II law criminalizes influence peddling and, thus, makes any legal or natural person criminally liable for offering a donation, gift or reward, with the intent to induce a foreign public official to abuse his/her position or influence to obtain an undue advantage ("Sapin II", 2018)."

Belgium –   Feb 2016   Provisions amending the Belgian Criminal code to include the definition of passive bribery as well as include more severe mandatory sentences for transnational corruption("Belgian anti-bribery laws strengthened" ,2017).

The Netherlands –   Jul 2016   The House for Whistleblowers Regulation came into force. Both public and private organizations must have an internal procedure for reporting suspicious misconduct. Furthermore, they proposed external investigations concerning whistleblowing (Foose & Vermeulen, 2018).

The Netherlands -   Jan 2015   The Dutch Criminal Code was amended to abolish the distinction between bribes being paid to act in breach of duty and to act without the breach of duty and the maximum sentence for bribery was changed from 2 and 4 years of imprisonment to 6 years. Additionally, the maximum sentence for bribing a judge was changed from 6 to 9 years to 9 to 12 years. (Geertsma, 2015)

Germany –   Nov 2015   The Act on Combatting Corruption came into force and extended the criminal offence of taking bribes in commercial practice, and for bribing public officials. (Eggers and Wagner, 2018)

Italy –   Apr 2017   The Italian Civil Code was amended to include not only the top managers but also persons who carry out executive functions. It also extended bribery to include not only promising and pay but also requesting money. It also made it an offence to attempt to corrupt an executive or a top manager. (Branco, 2015).

Spain –   Jul 2015   Amendments were made to the Penal Code through the Organic Law, which increased the scope of which legal entities are criminally liable, and also included grounds for exemption from criminal liability if these legal entities can show that they have effectively implemented and enforced an anti-bribery and corruption program prior to the offence. (NRF, 2017).

Portugal -   Sep 2015   Amendments to Portuguese Criminal Code to establish criminal liability and offences for corruption in international trade, criminalize public officials who receive financial advantages while on the job, as well as criminalizing bribe-giving and passive bribery (Barratt and Pasewaldt, 2017).

Estonia -   Jan 2015   Estonian Penal Code introduced punishments for private sector gratuities as well as taking and giving bribes. Both offences included prison sentences from 1 to 5 years. ("Penal Code", 2015)

Hungary –   Jan 2014   Hungarian Whistleblower Protection Act encourages whistleblowers to come forward and helps fight against bribery. The legislation includes both public and private sectors (Hegymegi-Barakonyi, 2014).

Slovakia –   Jul 2016   Criminal Liability of Legal Persons Act came into force, companies can now be held criminally liable for certain offenses including accepting a bribe, offering or giving a bribe or indirect corruption (Schweizer and Szabo, 2016)