



**University of Piraeus**

**Faculty of Banking and Financial Management**

## **Causes of Corruption in European Countries**

A dissertation

Submitted in partial fulfillment of the requirements for the Degree

Master of Science in Financial Analysis for Executives

**By**

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**February 2018**

*“Power doesn’t corrupt people,  
People corrupt power...”*

*-William Gaddis-*

## **Aknowledgments**

Above all, I would like to express my deepest gratitude to my supervisor, Prof. Christodoulos Stefanadis, Professor at the Department of Banking and Financial Management of the University of Piraeus, for providing me with guidance, constructive critique and constant feedback throughout the writing process.

In addition I would like to thank my classmates for being invaluabley supportive during this research task and my closest friends for their continuous patience and endorsement.

Finally and most importantly I am truly grateful to my family for their endless tolerance and tremendous encouragement, as being a part of a dissertation journey may prove to be quite challenging.

## Abstract

This paper examines the political, economic and social issues of corruption in modern society, whereas the implications of this multifaceted phenomenon are being demonstrated. Further on, the determinants that have been attributed as causes of this persistent problem are being presented in order to structure a full resolution framework. Deepening the analysis, an empirical research is being conducted via two separate cross-sectional regressions in an attempt to explore whether corruption as measured by the Corruption Perceptions Index could be predicted by a series of indicators, id est economic growth (estimated in GDP per capita), legal origin, religion status and Eurozone membership across the countries members of the European Union.

During the implementation process, the methodology adopted for both regressions is Ordinary Least Squares (OLS), while the conclusions of the tests reveal that the coefficient for GDP per capita is positive, implying that an increase in the level of economic development results in higher levels of the Corruption Perceptions Index and lower levels of corruption respectively, corroborating at the same time the theories perfectly. Moreover, the religion status, in fact the level of Protestants, appears to have a positive impact on the efficiency of anti-corruption policy, illustrating the case that cultural and religious aspects bear equally high significance along with the economic variables.

**Key-words:** Corruption; Economic Growth; Legal Origin; Religion Status; Institutions; Education; Culture; Corruption Perceptions Index; GDP per capita

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## List of abbreviations

|          |   |
|----------|---|
| B.P.     | Breusch- Pagan Test                                   |
| B.P.I.   | Bribe Payers Index                                    |
| C.P.I.   | Corruption Perceptions Index                          |
| E.U.     | European Union  |
| G.C.B.   | Global Corruption Barometer                           |
| G.D.P.   | Gross Domestic Product                                |
| e.g.     | Exempli gratia  |
| etc.     | Et cetera   |
| i.e.     | Id est  |
| I.M.F.   | International Monetary Fund                           |
| N.G.O.   | Non-Governmental Organization                         |
| O.E.C.D. | Organization for Economic Cooperation and Development |
| O.L.S.   | Ordinary Least Squares                                |
| T.I.     | Transparency International                            |
| U.K.     | United Kingdom  |
| U.N.     | United Nations  |
| U.S.A.   | United States of America                              |
| V.I.F.   | Variance Inflation Factor                             |
| W.T.O.   | World Trade Organization                              |

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# 1 Introduction

## 1.1 Overview

The problem of corruption is encountered in different social contexts and financial systems, in different historical periods and cultural parameters. For history researchers, it is almost commonplace that anyone in a position of authority may abuse that position in order to promote personal interests. This conspicuous position, is clearly associated with selfish motivations and human arrogance when one holds a position of authority and is therefore an inherent tendency of the average person, for whom it has been found to be difficult to set aside their own ambitions and consciously adopt a selfless attitude in their daily activity<sup>1</sup>.

Nevertheless, in spite of the timelessness of this effect, in recent years, there has been a development of the relevant arguments, in which different scientific disciplines contribute to analyzing the causes and consequences of corruption from an economic, legal, sociological, anthropological, criminal and a philosophical point of view. The International Organizations seem to share the same attitude and unanimously clearly condemn corruption, in conjunction with the problems faced by developing countries in their development phases<sup>2</sup>. The same disapproval rationale against corruption also includes civil society, with the proliferation of non-governmental organizations active in the fight against corruption. Additionally, the media nowadays reveal many cases intertwined, successive corruption events, and in this context, politicians have profoundly been providing promises to fight corruption for at least two decades.

However, it is evident, that the concept of corruption is far more complex than the average citizen might think. At an international level, there are two main opposite arguments. On the one hand, the globalized environment imposes an international

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<sup>1</sup> Welsch, H. (2004). "Corruption, Growth, and the Environment: A Cross-Country Analysis." *Environment and Development Economics* 9 (5): 663–93.

<sup>2</sup> Vogl, F. (2012). *Waging War on Corruption: Inside the Movement Fighting the Abuse of Power*. Lanham, Maryland: Rowman and Littlefield.

campaign against corruption, since it is evident that corruption poses a timeless obstacle to development and investments and distorts fair distribution of income and public spending<sup>3</sup>. On the other hand, the cultural, social and ethical features of the developing countries are often highlighted, resulting in a demand of differentiated treatment, which is caused by the fact that individual behaviors do not follow the same social codes and therefore should not be treated as criminal offenses or moral hazards in any case.

Although consensus is apparent at an international level regarding the need to disapprove of and deal with corruption, there is confusion on its precise definition and a partial disagreement about its causes and consequences<sup>4</sup>. This disagreement is compounded by the difficulty of collecting and interpreting valid statistical data on a phenomenon that follows the rule of "guilty-complicit" silence, bearing in mind that the victim of an illegal transaction usually cannot be personalized. In this context, it is questionable whether corruption is the cause or the result of individual effects, such as economic distress, poverty or lack of investment activities - which often highlights the fact that corruption is part of a vicious circle<sup>5</sup>.

## 1.2 Research aim and objectives

The aim of the present research is to determine the factors that explain the variability of corruption, as measured by several surveys and indicators in the European economies. Through the examination of the previous literature concerning the determinants of corruption that fall in several categories, the study will examine whether irrespective of the use of the corruption measure, the determinants that have been previously reported in literature explain the corruption levels of the aforementioned economies. In order to support the research aim, specific research objectives have been developed:

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<sup>3</sup> Svensson, J. (2005). "Eight Questions about Corruption." *Journal of Economic Perspectives* 19 (3): 19–42.

<sup>4</sup> *ibid.*

<sup>5</sup> Rajkumar, A. S, and Vinaya S. (2008). "Public Spending and Outcomes: Does Governance Matter?" *Journal of Development Economics* 86 (1): 96–111.

1. To examine whether macroeconomic indicators have significant impact on various corruption indicators
2. To investigate whether religion has significant impact on various corruption indicators
3. To examine whether the legal system has significant impact on various corruption indicators
4. To investigate the influence of the recent crisis has significant impact on various corruption indicators
5. To examine whether the fact that a country belongs in the Eurozone affects significantly various corruption indicators

### **1.3 Significance of research**

Previous researches studied the influence of several variables on corruption. As European economies are subject to an on going crisis, it is important to investigate whether the effect of various determinants of corruption changes during the crisis. Given that corruption is actually a drain of resources in an economy, a government will try to reduce it. However, in order to reduce corruption, as a starting point one should focus on the causes of corruption. Therefore, the results of the research are significant, as a starting point to understand the reason we observe high or low corruption levels in European economies and how they can be reduced in order to achieve the highest possible effectiveness and efficiency in an economy.

### **1.4 Structure of research**

The first section is the present introductory one. The following chapter involves the literature review concerning corruption. Specifically, this section discusses corruption and various definitions and forms, as well as the causes and consequences of corruption, especially concerning the growth of an economy. The third section involves the methodology of research and the key findings for the research, whilst last chapter involves the concluding remarks.

## 2 Literature Review

### 2.1 Government corruption

The so called "corruption culture" is a term used by several political thinkers to define the modern-time world in terms of the extent to which corruption has taken place at an international level. International regional organizations and governments are concerned with the very serious impact this widespread corruption has on the function of democratic institutions and the economy. Also, the social dimension of this effect is equally important, since corruption creates a feeling of injustice, imposes excessive and unnecessary charges on the taxpayers and leads to non-compliance with the law<sup>6</sup>. In addition, it is noted that it contributes to the transfer of income from the productive sectors to parasitic sectors, further hindering the development process mainly of the developing countries with great international effects due to the expansion of debt obligations.

Political, economic, legal and business personalities in more than 100 countries have developed a citizens' organization called "Transparency International" to jointly combat corruption and criminal activities. The international literature has been expanded and large organizations such as the World Bank, O.E.C.D., the European Union, etc..., have published several directives to strengthen and coordinate actions in all countries. Additionally, an international agreement was signed by O.E.C.D. members providing for concrete measures<sup>7</sup>. More specifically, the contracting parties, one of which includes Greece, are obliged to legislate in a certain direction. Transparency International has been recognized as a consultant to these organizations and as a pressure group that promotes transnational and national institutional changes to ensure transparency and fight against corruption.

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<sup>6</sup> Mauro, P. (2004). "The Persistence of Corruption and Slow Economic Growth." *IMF Staff Papers* 51 (1).

<sup>7</sup> *ibid.*

First, however, the concept of corruption must be understood by citizens. In the early 1970s, many governments around the world were shocked by the revelation that the American company Lockheed Corporation was systematically bribing top government officials and achieved a major increase in aircraft sales<sup>8</sup>. At the same time, in Greece, suspicion and implications about the works assigned to contractors during the Greek military junta dictatorship were a commonplace for most Greeks.

After several years, during the 1980s it was obvious that those who intended to invest in Third World countries, especially Latin America and Africa, were obliged to follow the "local customs" of bribery. Similarly, in Southern Europe, the same phenomenon was widely known according to statements of prime ministers, who criticized government officials because they had exceeded the limits and sought to appropriate a great amount as a bribe<sup>9</sup>.

The beginning of the 1990s was marked by the investigation of the judicial authorities under the name of "Main pulite" ("clean hands") in Italy, which revealed a wide range of political corruption involving governments, parties, local authorities with private companies and the mafia itself. During the same period, in Greece the promise to fight corruption had been a commonly made statement, especially after the fall of the Papandreou government for reasons including, among others, serious suspicions of direct involvement of government officials in the Bank of Crete scandal<sup>10</sup>.

The most outstanding examples during the aforementioned three decades indicate that corruption, on the one hand, is not a new phenomenon only observed today, and on the other hand, it is not an exclusive feature of the developing or third countries or, in particular, of Greece. Corruption could be identified as follows:

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<sup>8</sup> Le Billon, P. (2003). "Buying Peace or Fueling War: The Role of Corruption in Armed Conflicts." *Journal of International Development* 15 (4): 413–26.

<sup>9</sup> Bohara, A.K., Mitchell, N.J. and Mittendorff, C.F. (2004). Compound democracy and the control of corruption: A cross-country investigation. *The Policy Studies Journal*, 32, pp. 481-49.

<sup>10</sup> Goel, R., Nelson, M. (2010). Causes of corruption: History, geography and government, *Journal of Policy Modeling*, 32, pp. 433–447.

Corruption originates from the state's interdependence on individuals, including either natural or legal persons. A public officer who has some discretion in exercising statutory power by distributing benefits, imposing burdens or providing services to individuals is a potential corruption target<sup>11</sup>. Overall, the existence (or absence) of corruption will be judged by the provisions of legislation on transparency in transactions and by the ex post facto review of those exercising state authority in their relations with individuals. At an individual level, corruption will be judged by the public officer himself and the individuals he / she transacts with.

Starting from this definition of corruption, interesting conclusions can be suggested about its interdependence with society. At this point, however, it must be clarified that the following suggestions do not refer to authoritarian regimes, where it is impossible to control and connect authority with the citizens<sup>12</sup>. On the contrary, and despite the generality of the following findings, the main field and aim of this dissertation is the analysis of corruption and transparency in Europe, accompanied by some examples. The key points around this approach include: the exercise of state authority and its connection to politics and money, the great discretionary power in the exercise of statutory authority that creates the conditions for bribery, the absence of ex post facto review and the absence of sanctions, therefore facilitating potentially illegal transactions, and the prevailing attitude in society that decisively determines the behavior of individuals<sup>13</sup>.

However, the confusion over the definition of corruption is not only apparent in Southern Europe. The relevant scientific literature on this subject accepts that corruption is a generic concept, that is, a generic category capturing a set of

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<sup>11</sup> Kaufmann, D. (2005). Myths and realities of governance and corruption. In the World Economic Forum (ed.), *The Global Competitiveness Report 2005-2006*.

<sup>12</sup> Khan, M. (2012). Governance and growth: History, ideology and methods of proof. In N. Akbar, K. Botchwey, S. Howard & J. Stiglitz (Eds.), *Good growth and governance in Africa: Rethinking Development Strategies*. Oxford: Oxford University Press.

<sup>13</sup> LaloUNtas, D.A., Manolas, G.A. and Vavouras, I.S. (2011). Corruption, globalization and development: How are these three phenomena related?. *Journal of Policy Modeling*, 33, pp. 636-648.

punishable forms of behavior. These forms often escalate between two extreme ends, including criminal offenses (e.g. bribery), but also legitimate forms of behavior, e.g. a civil servant resigning in order to work in the private sector<sup>14</sup>. On the other hand, however, the aforementioned group of behaviors additionally includes behaviors identified as being in the intermediate / gray zone between legitimacy and crime.

It is also recognized that the relative multiplicity in the concept of corruption is exacerbated by the fact that the same practices and behaviors may be ethically reproachable or criminal offenses in specific cultural environments, historical contexts or legal systems, while other environments may deem those behaviors as acceptable (e.g. the acceptance of the usual bribes, the concept of "lobbying"). This finding increases the risk of the prevalence of conceptual relativism, in which scientific discussion faces two equally unpleasant choices: either to impose a Western-centered definition of corruption, or to invoke locally defined values and rules for the definition of corruption<sup>15</sup>.

In this context, three main categories of definitions of corruption are identified, including definitions of public position, definitions of public interest and market definitions. The most widely accepted and typical definition of public position involves the following: corruption is a behavior that deviates from the formal duties of a public role due to the expectation of private benefits regarding financial benefits or improvement of social status, in violation of the rules that explicitly prohibit the exercise of certain types of influence in one's own interests<sup>16</sup>.

According to the above definition, corruption is a form of behavior deviating from the duties of a public position, aiming at obtaining one's own benefits. On the other hand, according to the definition corruption exists when a holder of authority

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<sup>14</sup> *ibid.*

<sup>15</sup> Kunicová, J. (2006). Democratic institutions and corruption: Incentives and constraints in politics. In S. Rose-Ackerman (ed.), *International handbook on the economics of corruption*, Cheltenham, U.K.: Edward Elgar, pp. 140-160.

<sup>16</sup> Manolas, G., G. Sfakianakis, M.-E. Syrmali and I. Vavouras (2010). "Institutions, quality of governance and economic growth: The case of Greece", *Statistical Review*, Vol. 6, No. 1-2, pp. 15-34.

who is in charge of performing certain tasks, i.e. a public sector official or employee, receives monetary or other illegal rewards in order to undertake actions that favor those who provide the above rewards and are therefore harmful to the public interest<sup>17</sup>.

In this definition of corruption, the existence of barriers against the public interest by a public position holder is a key feature of corruption. It is therefore defined in terms of the consequences on the public interest, since the existence of a public position is a prerequisite in this definition<sup>18</sup>. In order to overcome the confusion caused by the two aforementioned definitions, to the extent that regulatory judgments on public position and harm to the public interest are required, the field of finance and economics has formulated market definitions, suggesting advantage of their moral neutrality. Market definitions use economic methods to analyze a political phenomenon<sup>19</sup>. A characteristic definition of the third category includes the following: the public servant abuses his / her authority to obtain an additional income from the public sector, and therefore corruption is evident when the public servant perceives his position as an enterprise whose income should be maximized. Therefore, this position becomes a "maximization unit".

In this case, it can be understood that the public servant perceives his position as a factor in over-increasing one's own benefit. Once more, the existence of a public position is a prerequisite for maximizing the personal benefit of an employee. As a conclusion, all three definitions share some common features<sup>20</sup>: First, all three definitions require the existence of a public position, most cases of corruption are observed to take place in the public sector, the private sector, but also in certain social events, such as sports events. Secondly, all three definitions perceive corruption as an individual (instantaneous) form of behavior rather than as a central effect, excluding

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<sup>17</sup> *ibid.*

<sup>18</sup> *ibid.*

<sup>19</sup> Rontos, K. and Vavouras, I. (2013). Corruption control as a quasi-luxury good, *Discussion Papers DEO34*.

<sup>20</sup> *ibid.*



many non-individualized forms of corruption from this definition that come from collective agents (e.g. political parties, organizations). Thirdly, all three definitions focus on the corrupted individual (public official) and exclude the corrupter from the conceptual determination of corruption<sup>21</sup>. Fourthly, all definitions associate corruption with an attempt to obtain an economic (or financially valued) benefit, excluding other types of exchange, such as the acquisition of opportunities, access to information, etc..

The same strict definition of corruption is generally used in international conventions that express the purpose of the international community to combat corruption<sup>22</sup>. International conventions show that national laws are unable to combat or limit corruption on their own due to the different legal treatment of the phenomenon in different countries and the increased demands of international competition.

Therefore, the O.E.C.D. Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, which Greece sanctioned by Law 2656/1998, was signed on 21 November 1997. Historically, the O.E.C.D. Convention is the first coordinated international effort to combat active bribery and the only effort explicitly aimed at combating the "provision" of bribery. Under the Convention, member states are required to establish the legislation against active bribery of a foreign official<sup>23</sup>. However, the criminal denial of active bribery does not derive from the need to protect the public interest, the goodwill of the national public administration or its development. On the contrary, active corruption is criminalized primarily to protect the conditions of free competition at an international level.

Within the framework of the Council of Europe, the Civil Law Convention on Corruption was signed on 4 November 1999 and the Criminal Law Convention on Corruption was signed on 27 January 1999. However, both conventions oblige states

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<sup>21</sup> *ibid.*

<sup>22</sup> Rontos, K., Salvati, L. and Vavouras, I. (2013). Corruption in the world: Its economic, political and geographic determinants and their interactions. *Journal of Regional Socio-Economic Issues*, 3, 2, pp. 5-26.

<sup>23</sup> *ibid.*

to criminalize (and to introduce indemnity obligation for) the active and passive bribery of national and foreign public employees. Bribery of civil servants in both conventions is almost used as a synonym for corruption<sup>24</sup>.

In the context of the European Union, the "Treaty on the Protection of the European Communities' Financial Interests" was signed on 26 July 1995 and established the offense of fraud against the financial interests of the European Communities. Subsequently, the additional Protocol of the Treaty was signed on 27 September 1996 establishing the offense of active and passive bribery, which harms the financial interests of the European Communities. Finally, on 26 May 1997, the Treaty on European Union on the fight against corruption involving officials of the European Communities or officials of Member States of the European Union was signed, whereby corruption deemed punishable, irrespective of damage caused to the financial interests of the European Communities (In this case, a protected legal right is the fair and efficient operation of the Community's administrative mechanism)<sup>25</sup>.

Finally, within the UN framework, the United Nations Convention against Corruption was signed on 9-11 December 2003. This is the most general of all the aforementioned conventions, since it does not only focus on corruption in the public sector but also in the private sector, including national and foreign public officials and is particularly careful in the use of definitions<sup>26</sup>. In particular, in the Chapters of the General Provisions (Articles 1-4) and the Preventive Measures (Articles 5-14), the Convention uses the general term "corruption", avoiding to identify it, because there was no consensus on the definition of corruption.

On the other hand, the chapter on Criminalization and Suppressive Measures (Articles 15-42) identifies corruption in individual offenses, indicating (active and

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<sup>24</sup> Shen, C. and Williamson, J.B. (2005). Corruption, democracy, economic freedom and state strength. *International Journal of Comparative Sociology*, 46, 4, pp. 327-345.

<sup>25</sup> Warren, M.E. (2004). What does corruption mean in a democracy? *American Journal of Political Science*, 48, 2, pp. 328-343.

<sup>26</sup> Paldam, M. (2002). The cross-country pattern of corruption: Economics, culture and the seesaw dynamics. *European Journal of Political Economy*, 18(2), pp. 215-240.

passive) bribe of a public official, but also abuse, embezzlement, bribery in the private sector, etc. Additionally, in the context of international conventions, the archetypal form of corruption usually includes cases of bribery of a public official - with the exception of the E.U. Convention on the fight against Fraud (which specializes in fraud) and the U.N. Convention to against corruption (which avoids any definitions)<sup>27</sup>. The international legal approach of the corruption problem overall coincides with its theoretical approach, in which the existence of an official public position and the reward of the corrupted transaction including financial gain are the norm.

Corruption is a complex and multifaceted phenomenon with multiple causes and consequences, as it takes various forms and functions in different contexts. The phenomenon of corruption varies, ranging from a separate transaction of an illegal payment to the systemic dysfunction of a political and economic system. Studies on corruption have been conducted in the context of political, economic, cultural or moral underdevelopment, with an overall consensus that corruption is a universal effect<sup>28</sup>. It exists in all countries, both developed and developing countries, in the public and private sectors, as well as in non-profit and charitable organizations.

Moreover, the discussion on corruption has included the following causes: it damages businesses and nations' economies (increased costs, limited taxes, investment and external aid cuts, increased poverty rates, and increased bribery rates). Corruption also disrupts society, deconstructs social structures (increased frustration, reduced confidence of citizens in governments, colleagues, families, society) and threatens personal and national security (health, security, environmental risks, crime, terrorists escaping justice, increased overall crime rates)<sup>29</sup>.

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<sup>27</sup> Manolas, G., G. Sfakianakis, M.-E. Syrmali and I. Vavouras (2010). "Institutions, quality of governance and economic growth: The case of Greece", *Statistical Review*, Vol. 6, No. 1-2, pp. 15-34.

<sup>28</sup> Rabl, T., Kühlmann, T.M. (2009) "Why or why not? Rationalizing corruption in organizations", *Cross Cultural Management: An International Journal*, 16:3, 268 – 286.

<sup>29</sup> Pedersen, K.H., Johannsen, L. (2006) "Corruption: Commonality, Causes and Consequences in Fifteen Post-communist Countries", in Rosenbaum, A., Nemec, J. (eds), *Democratic Governance in Central and Eastern European Countries*, NISPAcee, Bratislava, 311-336.

Regarding the concept of justice and morality, corruption can be considered unjust, since acts of corruption violate rules, have poor results, destroy relationships, violate trust and rules that are accepted in many cultures and religions<sup>30</sup>. Regarding ethical dimension of corruption, it is often associated with moral damage, degradation, immorality and moral perversion, decline of virtue and moral values, and even the reduction of personal honesty or values.

### **2.1.1 Forms of corruption**

Economic corruption is the most immediately recognizable when an illegal economic benefit is evident. Social corruption refers to a form of (political) favor or facilitation, not necessarily illegal, when provided in return or with the expectation of return<sup>31</sup>. Like nepotism (favoritism of relatives and friends) or, more generally, national favoritism, etc.

Private corruption is further categorized to: 1) Private-to-Private corruption, 2) Public corruption: private-to-public official, and public official-to-public official corruption, 3) International-to-International corruption (international organizations, multinationals), International-to-National corruption (public or private)<sup>32</sup>.

In the private sector, corruption occurs when a manager or an employee exerts a certain form of power or influence on the performance of a function, goal, or task within a private organization or company. Because managers have some degree of discretion, he / she may choose to act contrary to the duties and responsibilities of the job position or duties and thereby directly or indirectly damage the company or the organization in pursuit of one's own benefit or those of another person, company or

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<sup>30</sup> *ibid.*

<sup>31</sup> Melgar N, Rossi M, Smith T. (2010) "The Perception of Corruption", *International Journal Of Public Opinion Research*, 22:1, 120-131.

<sup>32</sup> *ibid.*

organization<sup>33</sup>. This form of corruption refers to all companies operating under private economic criteria.

The use of state authority in pursuit of one's own benefits refers to a public official (appointed or elected official) who employs his authority unlawfully or illegally to promote his or her own interests. The following analysis addresses corruption in the public sector rather than in the private sector. Additionally, political corruption and administrative or bureaucratic corruption refers to the influence on the political process where laws, policies and regulations are planned and decided and bureaucratic corruption refers to the influence of the procedures for implementing laws and policies<sup>34</sup>.

Corruption is also apparent within the public sector, i.e. among the different forms of statutory authority, such as the executive, legislative, judicial power (the minister intervenes in the judiciary for the non-prosecution / acquittal of civil servants), between political and administrative / bureaucratic institutions such as public services, local authorities and semi-governmental organizations<sup>35</sup>.

In the context of international corruption, it is suggested that, through the expansion of globalization, all countries of the world are exposed to external corruption activities (trade agreements between countries and multinational companies). The expansion of corruption within a country depends on the vulnerability to corruption of the internal factors and especially politicians and public servants of the country<sup>36</sup>.

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<sup>33</sup> Lindgreen, A. (2004) "Corruption and Unethical Behavior: Report on a set of Danish guidelines", *Journal of Business Ethics*, vol. 51, 31-39.

<sup>34</sup> Johannsen, L., Pedersen, K.H. (2011) "For the common good: Combatting corruption in new EU member states", *Journal of Comparative Politics*, 4:1, 91-110.

<sup>35</sup> *ibid.*

<sup>36</sup> Gopinath, C. (2008) "Recognizing and Justifying Private Corruption", *Journal of Business Ethics*, vol. 82, pp. 747-754.

International corruption is often identified within the boundaries of international organizations (the scandal at the International Olympic Committee on the determination of the country hosting the Olympic Games). Low frequency corruption refers to isolated actions at irregular intervals where only a few individuals are corrupt in an otherwise transparent system, while systematic (high frequency) corruption is observed when many individuals are involved - where the system itself has become corrupt – and it is an essential aspect of the function of the economic, social and political system<sup>37</sup>. Many parts of the government have been corrupted over time.

Corruption is based on opacity and therefore on the impossibility to measure different activities. So it generally depends on what the world thinks. However, citizens draw conclusions from many different characteristics that may lead to different conclusions<sup>38</sup> (For example, the number of bribes, or the number of bribed employees or corruption in a particular service, etc.).

The most common forms of corruption include the misappropriation of the public budget regarding public works and the bribery of companies in order to avoid compliance with hygiene and safety regulations, the purpose of which is, of course, to protect the public. Some characteristic examples are mentioned below. In 1997 Zaire's government, under President Mobutu Sese Seko, collapsed, although the President had previously managed to misappropriate about \$ 5 billion from his country's Treasury, an amount equal to the entire country's external debt that year<sup>39</sup>. At the beginning of the 1990s, the Goldenberg Group received at least \$ 1 billion from the Kenyan government as part of a compensation plan for supposedly performed exports of Kenya's products, either produced in small quantities (gold) or

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<sup>37</sup> *ibid.*

<sup>38</sup> Goel, R. K., Budak, J., Rajh, E. (2015) "Private sector bribery and effectiveness of anti-corruption policies", *Applied Economics Letters*, 22:10, 759-766.

<sup>39</sup> Ademola, A. (2011). Endangering good governance for sustain-able democracy: The continuity struggle against corruption in Nigeria. *Journal of Research in Peace, Gender and Development*, 1, 307-314.

not at all (diamonds)<sup>40</sup>. Also, the 2004 earthquake in Turkey would not have so many victims if contractors did not bribe the authorities to use materials that were not believed to be unreliable.

Corruption as a phenomenon occurs both in the private and public sector. In the private sector, corruption is related to the disclosure of false financial statements, fraud against of small shareholders, etc. In the public sector, corruption is related to the abuse of state authority (by officials who hold positions of authority in the wider public sector) for one's own benefit. It is worth noting that the "corrupters" do not exclusively aim at maximizing their own benefits but also at maximizing the usefulness of third parties such as family, friends, or a political party. Corruption in the public sector may therefore assume several forms such as bribery, misappropriation, fraud, extortion, and favoritism-nepotism<sup>41</sup>.

Depending on the position of the public official involved in corruption, this can be distinguished in political and bureaucratic corruption. Political corruption occurs at the highest levels of the political authorities (e.g. Heads of State, Ministers, Senior Officials), while bureaucratic corruption is common in the public administration during the daily provision of public services (e.g. hospitals, customs, tax offices etc.). The analysis of the phenomenon concludes that corruption is directly linked to state power<sup>42</sup>.

By defining corruption, one can initially argue about corruption from the state and statism. The traditional perception suggests that corruption is the use of power for one's own benefit. However, the definition is not complete, since there are particularly serious forms of corruption and transaction<sup>43</sup>. An example includes the

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<sup>40</sup> Ashforth, B.E. and Anand, V. (2003), "The normalization of corruption in organizations", *Research in Organizational Behavior*, Vol. 25, pp. 1-25.

<sup>41</sup> Manolas, G., G. Sfakianakis, M.-E. Syrmali and I. Vavouras (2010). "Institutions, quality of governance and economic growth: The case of Greece", *Statistical Review*, Vol. 6, No. 1-2, pp. 15-34.

<sup>42</sup> *ibid.*

<sup>43</sup> Helmke, G. and Levitsky, S. (2004). "Informal Institutions and Comparative Politics: A Research Agenda." *Perspectives on Politics*. 2(4): 725-740.

corruption of a state agent that is being bribed to act or remain inactive, and another includes the corruption of a judge that defines e.g. his / her judgment based on external pressures.

The definition mentioned above does not cover the entire concept corruption, but only that form of corruption in relation to public officials. However, it has also been extended to illegal bribery of individuals. Its forms include transactions carried out by executives of large multinational companies, delegations, public limited liability companies and by some freelancers whose unacceptable conduct is aimed at the acquisition of one's own benefit<sup>44</sup>.

This effect is not just a public effect, but there is also corruption that stems from the very nature and interests of a company, individual, but also from the attitude of some citizens. In this case, corruption becomes a widespread effect in a society, indicating a deep moral crisis. Studies on the subject of corruption suggest that corruption cannot be identified only with the effect of bribery<sup>45</sup>.

An example includes covering up a colleague to avoid the consequences of the law, which is also considered an act of corruption. The distortion of results in order to successfully promote a candidate's position is also unarguably an act of corruption. Corruption, therefore, is not simply an effect, nor is it just a matter of financial crime<sup>46</sup>. From a philosophical and legal point of view, this identification is deficient.

It is evident that society stands at the threshold of a new era, including free competition and globalization. This new situation provides citizens with significant benefits, but also poses many risks. This is where the political challenge lies, as society is called upon to capitalize on the positive aspects of globalization and to

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<sup>44</sup> Katsios, S. (2006). "The Shadow Economy and Corruption in Greece." *South-Eastern Europe Journal of Economics*. 1(1): 61-80.

<sup>45</sup> Khagram, S. and You, J.S. (2005). "A Comparative Study of Inequality and Corruption." *American Sociological Review*. 70(1): 136-157.

<sup>46</sup> Kurer, O. (2005). "Corruption: An Alternative Approach to its Definition and Measurement." *Political Studies*. 53(1): 222-239.



reject and remove its negative aspects. Unfortunately, nowadays, the advantages of globalization are utilized by many individuals and organizations who seek to acquire large amounts of illegal revenues. However, the failure of the methods in fighting corruption should not lead society to abandon its efforts<sup>47</sup>. Corruption today is multifaceted. That may be caused by the fact that opportunities for corruption have increased nowadays.

On the contrary, although the available means to fight corruption have increased, they are less effective. But that does not mean corruption is irresistible. In practice, the constitutional, institutional and legal support of the fight against corruption is necessary and must be fully protected. Corruption and illegal transactions, whether in the public or in the private sector, constitute the extreme expression of lawlessness, contempt of law and provocation towards the community, whose interests are being damaged and misappropriated<sup>48</sup>.

Therefore, justice is not only the opposite concept of corruption and illegal transactions, but its countervailing force. It is the power of morality, the guarantor of equality and egalitarianism for the protection of public and private rights and the great values of a society. Therefore, justice, with the morals of its officials and its decisions, is not only responsible for penalties but also the pioneering power of innovation in all societies<sup>49</sup>.

It is a fact that in recent years - since the regime change - many efforts and many steps have been taken to combat the effect of corruption. The results of the Global Corruption Barometer in 2009 were extracted from interviews of 73,132

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<sup>47</sup> *ibid.*

<sup>48</sup> Mishra, A. (2006). "Persistence of Corruption: Some Theoretical Perspectives." *World Development*. 34(2): 349-358.

<sup>49</sup> *ibid.*

individuals, conducted between October 2008 and February 2009, in 69 countries. The main conclusions were as follows<sup>50</sup>:

First of all, the political parties and the public are considered by the participants as the most corrupt sectors of public life. The problem of corruption is thus found in the system of state governance, i.e. in democracy itself. However, the overall results do not clarify the significant cultural, financial, social and political differences between countries<sup>51</sup>.

Corruption in the private sector is also a growing concern for the general public. Half of the sample considers the private sector corrupt. Indeed, on a global scale, political parties (through which the democratic system operates) and the public officials (i.e. public officials and employees) are considered (by the citizens of the countries), on a percentage of 29% and 26% respectively, as the more corrupt institutions<sup>52</sup>.

Corruption is defined as the sale of state assets by government representatives or agents, motivating personal benefit. The corruption phenomenon ranges from an illegal payment transaction to any endemic dysfunction of the political-financial system. For example, the phenomenon of receiving various types of bribes has been observed in exchange for the granting of public permissions or goods<sup>53</sup>. Corruption is pervasive and growing at a global level, existing in the public and private sector and accounting for a large percentage of the country's Gross Domestic Product.

However, its influence on society varies depending on the type and size of a country, but also on its social environment, i.e. its customs and traditions, as well as

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<sup>50</sup> Manolas, G., G. Sfakianakis, M.-E. Syrmali and I. Vavouras (2010). "Institutions, quality of governance and economic growth: The case of Greece", *Statistical Review*, Vol. 6, No. 1-2, pp. 15-34.

<sup>51</sup> *ibid.*

<sup>52</sup> Warren, M. 2004. "What does Corruption Mean in a Democracy?" *American Journal of Political Science*. 48(2): 328-343.

<sup>53</sup> Rontos, K. and Vavouras, I. (2013). Corruption control as a quasi luxury good, *Discussion Papers DEO34*.

all kinds of social institutions that constitute this environment. Also, all forms of government are susceptible to corruption. Depending on the position of the public official involved in the act of corruption, this can be distinguished in political and bureaucratic corruption<sup>54</sup>. Political corruption takes place at the highest levels of political authority, while bureaucratic corruption takes place during the day-to-day public administration service.

Corruption as a phenomenon is apparent in both the public and the private sector. In the public sector, corruption is identified with a misuse of power by individuals who hold positions of authority for their own benefit. In the private sector, it occurs in cases such as falsification of financial statements, false information for small shareholders and many other examples. However, corruption in the private sector does not attract as much interest as in the public sector because, on the one hand, in the private sector, competition punishes all sorts of corruption, and control is much more intense at all levels of government<sup>55</sup>.

Additionally, corruption is divided into international and national corruption. The frequency of corruption can be occasional (low frequency) or systematic (high frequency), and this relates to both the nature of the individual who is committing the act of corruption and the environment to which it is concerned<sup>56</sup>. It is worth noting that those who commit acts of corruption are not only aimed at maximizing their usefulness but also in maximizing the usefulness of their social environment (family, friends, etc.).

Some examples of corrupt practices may include the following: bribery from development programs or multinational companies, responses in exchange for legislative support, diversion of public Funds for private use, dismissal of illegal activities or interference in the administration of justice, nepotism or routine

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<sup>54</sup> *ibid.*

<sup>55</sup> Goel, R. K., Budak, J., Rajh, E. (2015) "Private sector bribery and effectiveness of anti-corruption policies", *Applied Economics Letters*, 22:10, 759-766.

<sup>56</sup> *ibid.*

misappropriation, overcharging, record non-existent works, inflation of payroll statements, fraud when assessing and collecting taxes<sup>57</sup>.

## **2.1.2 Methods of corruption**

### **2.1.2.1 Bribery**

Two different agents - parties are required for the realization of any bribe. In this case, Funds (money or any kind of financing) are offered to senior officials to perform a task for which they are already paid. Cases where bribes are offered to circumvent laws or rules are also quite common. Examples of bribes are bribery by restaurant owners in order to avoid health inspection by the competent bodies as well as bribery for easier acquisition of a driving license<sup>58</sup>. Bribery is a criminal offense and is punishable by up to seven years of imprisonment.

Graft is the fraudulent exploitation of a position in order to generate profits. It differs from the concept of bribery, which is based on pretensions that result in personal gain and it is difficult to prove that it is an illegal form of profit. However, according to the concept of graft, the official earns some considerable amount of value during his job<sup>59</sup>. An example of graft is the bribery of physicians in Greece, as well as bribery of customs officials.

### **2.1.2.2 Nepotism**

Nepotism is another usual practice of modern-day society. According to nepotism, officials usually grant their position and authority to their ascendants in a similar way they bequeath their property. This referred to as is nepotism: the exploitation of the opportunities that an official occupies, in order to secure official ranks and public positions for their relatives and friends. With favoritism and

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<sup>57</sup> Johannsen, L., Pedersen, K.H. (2011) "For the common good: Combatting corruption in new EU member states", *Journal of Comparative Politics*, 4:1, 91-110.

<sup>58</sup> Rontos, K., Salvati, L. and Vavouras, I. (2013). Corruption in the world: Its economic, political and geographic determinants and their interactions. *Journal of Regional Socio-Economic Issues*, 3, 2, pp. 5-26.

<sup>59</sup> *ibid.*

nepotism, every concept of meritocracy is abolished, as nepotism is the most corrupt form of corruption, even though it assumes a different form<sup>60</sup>.

### **2.1.2.3 Clientelism**

Clientelism refers to those supported clients or agents involved, for example, in government employment. It may be legitimate, for example, when a newly elected government is changing top executives in the administration in order to implement its policy more effectively. This, however, can be perceived as corruption if unauthorized individuals are selected instead of the more qualified individuals, in return for their support to a government or regime<sup>61</sup>.

### **2.1.2.4 Blackmail**

While bribery involves the exchange of gifts and/or favors to achieve the desired result, in case of a blackmail, corrupt officials threaten to make unlawful use of state power in order to impose damage if their demands are not met. This is similar and legally equivalent to blackmailing by organized crime groups<sup>62</sup>. Finally, forgery refers to the full embezzlement of trusted Funds.

## **2.2 The optimal level of corruption**

This section attempts to analyze the size of corruption, based on the financial amounts involved in an illegal transaction. Corruption is separated in large scale or significant corruption and small scale or minimal corruption. Large scale corruption is considered to be one from of corruption in which considerable amounts of money are traded, while a small amount is considered as small scale corruption. However, the amount of money involved in an illegal transaction is not a good guide, since big or small amounts depend on the financial situation, for example, of a poor country

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<sup>60</sup> *ibid.*

<sup>61</sup> *ibid.*

<sup>62</sup> Shen, C. and Williamson, J.B. (2005). Corruption, democracy, economic freedom and state strength. *International Journal of Comparative Sociology*, 46, 4, pp. 327-345.

compared to a rich and developed country<sup>63</sup>. That is why the distinction of large and small scale corruption is also related to the individuals involved or the respective socio-economic environment in which corruption activities take place.

Large scale corruption refers to politicians and senior civil officials and is usually associated with multinational corporations or large national corporations, organized crime, the weapons industry, the circulation of medicines or even individuals<sup>64</sup>. Small scale corruption involves lower to middle public servants with low wages, damaging a large number of citizens and mostly the poor, and is linked to health, police, justice, education. This is also referred to as "survival bribery" or "bribery of need"<sup>65</sup>. Therefore, corruption is distinguished by the following aspects<sup>66</sup>:

- ❖ Large scale corruption is identified with political corruption.
- ❖ Small scale corruption is identified with bureaucratic corruption.

The distinction does not imply that the major cases of corruption are worse than the small scale cases or vice versa. It depends on whether the phenomenon is widespread or the frequency in which such transactions occur. Small scale corruption can be much more devastating to the poor when it is widespread because it excludes them of many services<sup>67</sup>.

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<sup>63</sup> Warren, M.E. (2004). What does corruption mean in a democracy? *American Journal of Political Science*, 48, 2, pp. 328-343.

<sup>64</sup> Bohara, A.K., Mitchell, N.J. and Mittendorff, C.F. (2004). CompoUNd democracy and the control of corruption: A cross-country investigation. *The Policy Studies Journal*, 32, pp. 481-499.

<sup>65</sup> Goel, R., Nelson, M. (2010). Causes of corruption: History, geography and government, *Journal of Policy Modeling*, 32, pp. 433-447.

<sup>66</sup> Manolas, G., G. Sfakianakis, M.-E. Syrmali and I. Vavouras (2010). "Institutions, quality of governance and economic growth: The case of Greece", *Statistical Review*, Vol. 6, No. 1-2, pp. 15-34.

<sup>67</sup> *ibid.*

Another interesting case of the optimal level of government corruption stems from the research of Acemoglu and Verdier (2000)<sup>68</sup>. The researchers discussed the relationship between market failures and corruption. They acknowledge that state intervention is a factor that leaves room for corruption. The effort to reduce corruption by the government is most of the times costly, suggesting that they may choose to bear some level of corruption, leading to second-best intervention. At this second-best, a fraction of public sector employees may accept bribes. The overall result of the research is that governments in their effort to mitigate market failures through state intervention, allow the emergence of such corrupt practices. Plus, when corruption is harder to control, this may imply that the number of public sector employees is big, and/or that public sector wages are high. Hence, being costlier for the government to prevent corruption it accepts bribery by a fraction of public sector employees.

### 2.3 Measures of corruption

Corruption cannot be located by regular means, therefore it is not possible to estimate its size; it is after all measured by subjective perceptions based on citizens' actual experience. Regarding simple or complex indicators, it can be said in general that corruption is determined by surveys conducted by companies, public officials and individuals, external observations by N.G.O. observers, surveys of the private sector (households or businesses), etc. concerning questions relative to public opinion on corruption<sup>69</sup>.

Regarding the reliability of different measures, there is no corruption measure that can be totally reliable, since it is affected by sampling errors, inaccuracy of measurement or identification inability in relation to the form of corruption or the relevant sector (corruption in the police does not automatically indicate corruption in other services, etc.)<sup>70</sup>.

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<sup>68</sup> Acemoglu, D. & Verdier, T. (2000). The Choice Between Market Failures and Corruption. *The American Economic Review* 90(1), 194-211.

<sup>69</sup> *ibid.*

<sup>70</sup> Treisman, D. (2014). *What does cross-national empirical research reveal about the causes of corruption?* Routledge Handbook of Political Corruption. Routledge.

However, what are the indicators of corruption? There are about different 7 indicators, but only two of those indicators are globally accepted, namely the Corruption Perception Index (C.P.I.), developed by Transparency International and the Control of Corruption Index (CCI) developed by the World Bank. The Corruption Perceptions Index is a composite indicator based on 13 individual surveys (for each country, it uses at least 3 surveys) regarding 180 countries since 1998. Countries are rated with 10 percent minimum corruption rates, while those countries with lower ratings present very high levels of corruption<sup>72</sup>.

The Corruption Perception Index (C.P.I.) is a composite index of 9 individual indicators, mainly based on the perception of the public or corruption experts. Using this index may cause problems when it is used for empirical studies, since in this case, data based on perceptions of corruption are considered as reliable criteria for the true corruption levels of a country<sup>73</sup>. Such problems include:

1. Methodology problems of different surveys
2. Ambiguities, lack of a specific definition at an international level.
3. Different methodologies including measurement of corruption type, monetary amounts or number of transactions, etc..

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<sup>71</sup> Rontos, K., Salvati, L. and Vavouras, I. (2013). Corruption in the world: Its economic, political and geographic determinants and their interactions. *Journal of Regional Socio-Economic Issues*, 3, 2, pp. 5-26.

<sup>72</sup> *ibid.*

<sup>73</sup> Zhang, Y., Cao, L. and Vaughn, M.S. (2009). Social support and corruption: Structural determinants of corruption in the world. *Australian and New Zealand Journal of Criminology*, vol. 42, pp. 204-217.



4. In case of research of the monetary amounts in a country with high levels of corruption, these amounts, e.g. for bribes, may be less than those in developed countries, which does not necessarily imply that this country is more corrupt<sup>74</sup>.
5. An unknown form of corruption to which the composite indicator refers (the various indicators refer to different forms of corruption, including bureaucratic, political, small and large scale corruption).
6. The bias problems of the source of information.
7. Information from court judgements. In a corrupt system, there are only a few convictions in contrast to a non-corrupt system, including more convicts<sup>75</sup>. However, the highest corruption level will be shown in the non-corrupt system.
8. Favoritism and corruption of the media, who are generally interested in major cases, with the corruption of the media being evident as well<sup>76</sup>.
9. A person's opinion depends on many personal characteristics and features.
10. Rating problems according to index values.
11. What does the index increase indicate? It may indicate that the state of corruption in the country has been improved or that the average level has been changed due to the addition of new data sources<sup>77</sup>. The same applies to a country's position in the ratings. Loss of position does not necessarily imply increased corruption.

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<sup>74</sup> Zhang, Y., Cao, L. and Vaughn, M.S. (2009). Social support and corruption: Structural determinants of corruption in the world. *Australian and New Zealand Journal of Criminology*, vol. 42, pp. 204-217.

<sup>75</sup> *ibid*

<sup>76</sup> *ibid*

<sup>77</sup> *ibid*

12. The confidence limits of the average figure. Greece, having an index of 3.8, confidence limits between 3.2- 4.3, is ranked at 71<sup>st</sup> position. Its position varies between 63-95<sup>th</sup> position<sup>78</sup>.

The following indicators may provide some insight on the size of corruption, apart from the C.P.I. index<sup>79</sup>:

- **The Business International Index (BI)**: This index, which is prepared by the Economist Intelligence Unit, includes an estimate of corruption levels in different countries. The findings are based on data collected by a network of reporters and analysts around the world and were originally published for the period 1981-83. This index is now incorporated in the aggregate index accessing the risk of a country provided by the Economist Intelligence Unit.
- **The International Country Risk Guide (ICRG)**: This index is published annually by Political Risk Services Inc. The index rates 140 world economies according to economic, political and financial risk since 1980.
- **The World Economic Forum**: The World Economic Forum also provides information on a bribery measure in their annual publication entitled “World Competitiveness Report”.
- **The World Governance Indicators**: World Bank measures specific World Governance Indicators, based on citizen, firms, institutes, international institutions, non-governmental institutions surveys and think tanks. One of those indicators is the Control of Corruption from the part of the government. It is actually a measure of the perceived effectiveness of the government to deal with corruption.

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<sup>78</sup> Kaufmann, D., Kraay, A. and Mastruzzi, M. (2009). Governance matters VIII: Aggregate and individual governance indicators 1996-2008. *Policy Research Working Paper* No. 4978, World bank.

<sup>79</sup> LaloUNtas, D.A., Manolas, G.A. and Vavouras, I.S. (2011). Corruption, globalization and development: How are these three phenomena related?. *Journal of Policy Modeling*, vol. 33, pp. 636-648.

- **The Global Corruption Barometer (G.C.B.)** is a public opinion survey conducted since 2003. This research studies the perceptions of public opinion on corruption.
- **The Bribe Payers Index (B.P.I.)** is based on special population surveys. In 2011 the survey was conducted in 28 countries. It includes the most significant executives, companies and banks in the host countries.

### 2.3.1 The C.P.I. Index

The most widely used index of corruption measurement in the international literature is the Corruption Perceptions Index by the global non-governmental organization "International Transparency". This is a global scale which ranks countries with a scale of 10 (no corruption) to 0 (high corruption). In the survey of 2007, Greece was ranked among 179 countries and held the 56<sup>th</sup> position with an index of 4.6, a few positions below the relevant measurement in 2003 in which Greece held the 50<sup>th</sup> position among 133 countries with an index of 4.3<sup>80</sup>. It is therefore a composite index (C.P.I. - Corruption Perception Index) resulting from a combination of different researches<sup>81</sup>. In order to include one country in this index, at least three surveys or three data sources for this country must be available. The importance of the C.P.I. index is great, because it relies heavily on empirical research on the issue of corruption and the formulation of an international strategy to combat this phenomenon<sup>82</sup>.

From a methodological point of view, the definition of corruption for research purposes is identified with the narrow definition of abuse of public position for one's own benefit. In other words, the definition focuses on the corrupted (public civil servant or officials) and bribery. The Corruption Perceptions Index survey is based on

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<sup>80</sup> LaloUNtas, D.A., Manolas, G.A. and Vavouras, I.S. (2011). Corruption, globalization and development: How are these three phenomena related? *Journal of Policy Modeling*, vol. 33, pp. 636-648.

<sup>81</sup> *ibid*

<sup>82</sup> *ibid*

individual surveys, including capture the perceptions of the business community and special researchers on the topic of corruption in different countries. Since they reflect the perceptions of business communities on corruption, they also affect investment decision making processes in the countries concerned<sup>83</sup>.

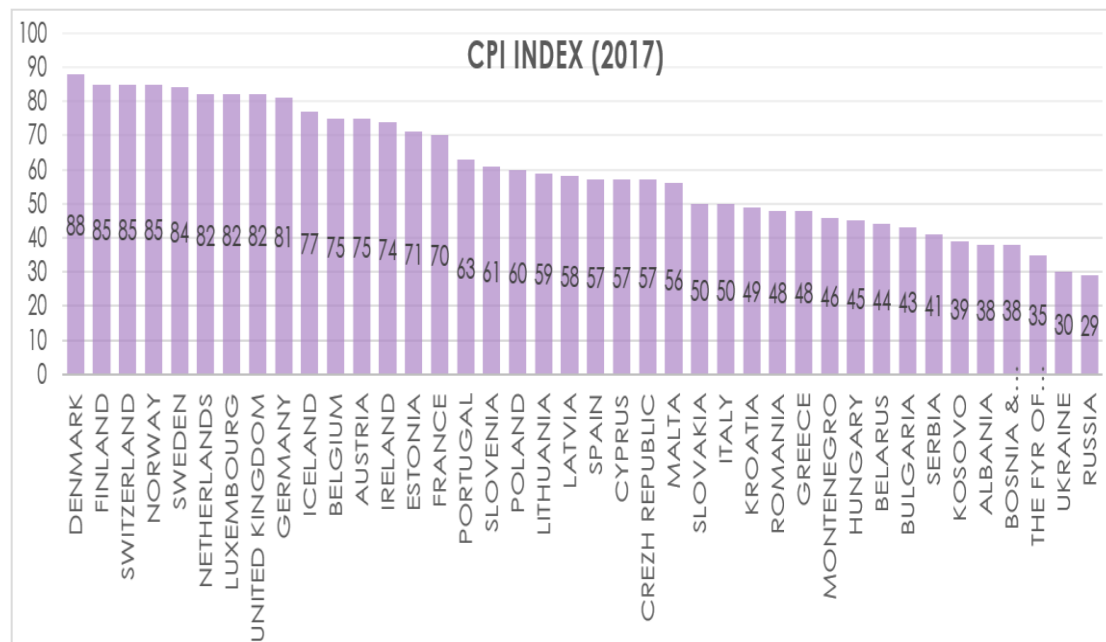
Additionally, research is based on perceptions of entrepreneurs and corruption experts make use of a purely subjective element, which can be influenced by many factors (e.g. improving the public image for communicative reasons). Also, the Corruption Perceptions Index is based on data for the last three years from the conduct of the investigation and is therefore subjected to a time lag in relation to the measures taken by a country for limiting the phenomenon, the beneficial effects of which can be perceived after some time. Therefore, this index does not reflect the real extent of the phenomenon and cannot be changed easily.

The official justification for the selection of the perception of corruption as the basis of research is that it is subjective, but it is much more valid for measuring corruption from objective elements of criminal prosecution or convictions for corruption offenses. However, these researches do not include the true extent of the phenomenon but the effectiveness of the persecutory and repressive mechanisms of a country, or the extent to which media present corruption cases.

At this point, it is important to present the most recent data provided, for the European economies in 2017:

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<sup>83</sup> *ibid*



**Figure 3: CPI Index, 2017 (European economies)**

**Source: Transparency International**

According to the data provided for the C.P.I. index, Balkan countries, involving Greece seem to have the highest corruption levels in Europe. Scandinavian countries seem to have the lowest corruption rates, along with Netherlands, Germany, Luxemburg and the United Kingdom. Then, follow Iceland, Belgium, Austria, Ireland, Estonia and France.

### 2.3.2 Global Corruption Barometer-G.C.B.

Transparency International polls the perception of public opinion about corruption in another Global Corruption Barometer survey, with the main disadvantage being that it does not rank countries according to the extent of corruption<sup>84</sup>. This survey was carried out for the first time in 2003, while at measurement survey was conducted in 2004 including 64 countries and a total sample of 50,000 respondents.

However, unlike the two aforementioned surveys on corruption, this survey is not based solely on citizens' perceptions about the issue but also combines empirical data, since one of the questions erasad is whether the respondents have been engaged

<sup>84</sup> Li, H., Meng, L., Wang, Q., Zhou, L.-A. (2008), Political connections, financing and firm performance: Evidence from Chinese private firms. *Journal of Development Economics*, 87(2), 283-99.

in bribery activities lately<sup>85</sup>. The results of the survey for year 2004 were very interesting: with regard to the question about the statutory departments that were the most corrupt, the vast majority of the respondents from 64 different countries responded that political parties (4.0) are the most corrupt, while they generally considered large or political corruption a greater phenomenon (3,4) than low or administrative corruption (3,2).

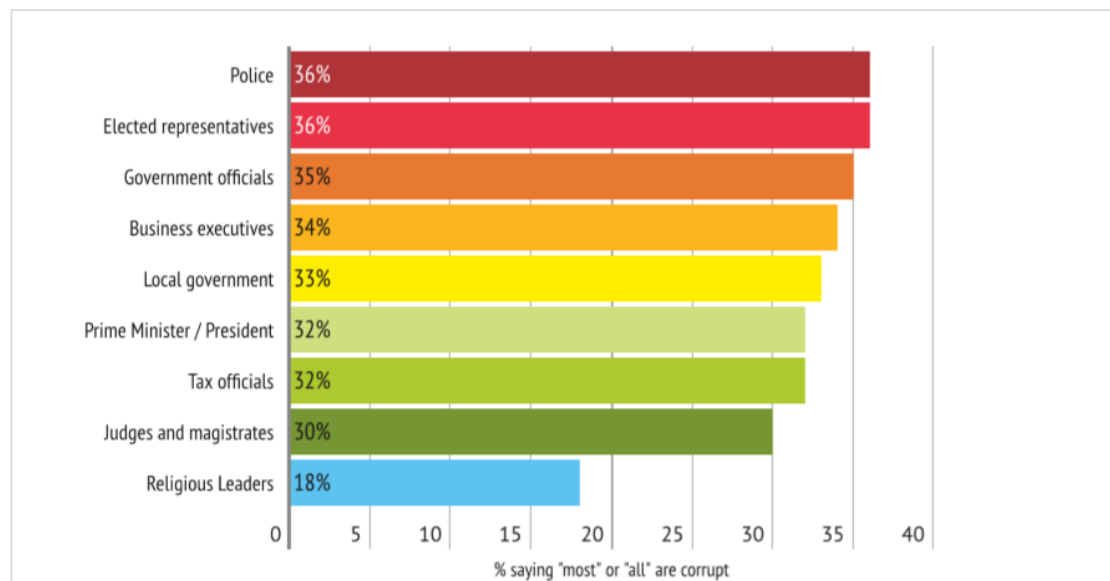
In 2007 the survey covered 60 countries in total<sup>86</sup>. This index mainly studies the subjective perceptions and understanding of public opinion about corruption and provides general indications about the extent of this problem. As far as Greece is concerned, however, the survey is based on a relatively small sample of 1000 individuals, and covers only urban areas, which in 2001 accounted for 62% of its population. Also, for comparison reasons at an international level, the survey provides information only about some preselected areas of the State – raising the scientific and theoretical question regarding the definition of the public sector<sup>87</sup>. According to the more recent results of the G.C.B. survey in 2016, the most corrupted services globally are:

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<sup>85</sup> *ibid*

<sup>86</sup> De Vaal, A. and Ebben, W. (2011). Institutions and the relations between corruption and economic growth. *Review of Development Economics*, vol. 15, No. 1, pp. 108-123.

<sup>87</sup> LaloUNtas, D.A., Manolas, G.A. and Vavouras, I.S. (2011). Corruption, globalization and development: How are these three phenomena related?. *Journal of Policy Modeling*, vol. 33, pp. 636-648.



**Figure 4: Public sector institutions seen as corrupt**

**Source: Transparency International (2017), p.p 5.<sup>88</sup>**

According to the results of the survey, as presented in the figure above, the police and elected representatives seem to be the most corrupted public institutions based on the perceptions of the citizens (36%). Then, government officials (35%), business executives (34%) and local government (33%) follow. The least most corrupted institutions according to the citizens are religious leaders (18%). Furthermore, as of the year 2016, the public sector is considered as the least corrupt in Germany (6%), Switzerland (8%), Sweden (8%) and Netherlands (11%). The results are in accordance with the Corruption Perceptions Index presented above for the aforementioned economies, as they ranked at the top 10 for the European economies<sup>89</sup>.

### 2.3.3 The Bribe-Payers Index

The Bribe-Payers Index is another index measuring corruption. This index is also based on population-specific surveys. In 2006 it covered 125 countries. This is

<sup>88</sup> Transparency International (2017). *People and Corruption: Citizens' Voices from Around the World*. Retrieved 25 November 21017, from: <https://www.transparency.org/view/publication/8064>

<sup>89</sup> *ibid*

essentially a ranking of the 30 largest exporting countries based on the tendency of their multinational companies to bribe state officials when operating abroad<sup>90</sup>. The relevant investigations are carried out include senior executives of companies, chambers of commerce, host countries' banks, and concern the activity of multinational companies in their country.

However, the first positions according to measurements of Transparency International were held by Scandinavian countries. For example, Finland ranked at the 1<sup>st</sup> position, while the rest of the Nordic countries held some of the highest positions. In comparison, Bangladesh and Haiti (together with many developing countries) held the lowest positions<sup>91</sup>. The occasional criticism on the Corruption Perception Index forced Transparency International to design and implement this measurement index. B.P.I. is a response to the criticism that the Corruption Perceptions Index presents an ideological-political and methodological bias. For this reason, B.P.I. focuses on the “supply” side, i.e. to the countries from which bribery is offered, and ranks these countries on a scale from 10 (low bribery tendency) to 0 (high bribery tendency). The measurement survey which took place in 2002 in 15 developing countries involved in investment and development commercial activities with multinational companies from 21 countries. The participants were trend leaders in the countries examined<sup>92</sup>.

As a conclusion, it was mentioned that bribery tendency of US multinational companies (where the bribery of a foreign official is a criminal offense since 1977) was relatively high (5,3) and the same applies to other industrialized countries that have signed the O.E.C.D. Convention on Combating Bribery of Foreign Public Officials in International Business Transactions<sup>93</sup>. The conclusions, in other words,

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<sup>90</sup> De Vaal, A. and Ebben, W. (2011). Institutions and the relations between corruption and economic growth. *Review of Development Economics*, vol. 15, No. 1, pp. 108-123.

<sup>91</sup> Imai, M., and Shelton, C.A. (2011), "Elections and Political Risk: New Evidence from the 2008 Taiwanese Presidential Election." *Journal of Public Economics* 95(7-8), 837-49.

<sup>92</sup> *ibid*

<sup>93</sup> Faccio, M., Masulis, R., McConnell. J. (2006). Political connections and corporate bailouts. *Journal of Finance* 61(6), 2597-635.



provide insight on the information of the business community for the O.E.C.D. Convention and the success of its implementation. The most recent B.P.I. index results come from 2011. For the European Economies, that are examined in the present study, the least corrupted countries are the Netherlands (1<sup>st</sup> position), Switzerland (2<sup>nd</sup> position), Belgium (3<sup>rd</sup> position), Germany (4<sup>th</sup> position), the United Kingdom (8<sup>th</sup> position), France (11<sup>th</sup> position), Spain (11<sup>th</sup> position along with France) and Italy (15<sup>th</sup> position)<sup>94</sup>.

The three different surveys may lead to different conclusions. In two of the surveys (C.P.I., B.P.I.), the term corruption is indiscriminately included in bureaucratic and political corruption, while in the third survey the two kinds of corruption are distinguished by allowing comparison (G.C.B.)<sup>95</sup>. In terms of comparison, citizens consider political corruption for citizens to be a bigger problem than bureaucratic corruption.

## 2.4 Causes of corruption

### 2.4.1 Macroeconomic variables

The more prosperous a state, the more prone it is for citizens to manage its resources. For example, if a country is rich in coal, fossil or even oil, the civil servants who manage these resources will have great tendency towards corruption. In cases of natural wealth, private companies approach civil servants or officials in order to enter into agreements for the provision of benefits at the disadvantage of other private companies<sup>96</sup>. The objective of private companies is the maximization of profits, while civil servants or officials aim at increasing their income through the above exchanges.

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<sup>94</sup> Transparency International (2011). *The Bribe Payers Index*. Retrieved 20 November 2017, from: <https://www.transparency.org/bpi2011/results>

<sup>95</sup> Khwaja, A. I., and Mian, A. (2005), Do lenders favor politically connected firms? Rent provision in an emerging financial market. *Quarterly Journal of Economics* 120(4), 1371-411.

<sup>96</sup> Roodhooft, F., and Van den Abbeele, A., (2006), 'Public procurement of consulting services: Evidence and comparison with private companies', *International Journal of Public Sector Management*, 19: 5, pp. 490-512.

Ades and Di Tella (1994)<sup>97</sup> also reached to the same result, with the use of two indicators of corruption, the C.P.I. index and WGI index provided by the World Bank. In fact, they found that lower perceived corruption is correlated with low natural resources.

However, trade Unions play an important role in the distribution of resources. Unions are citizens' organizations with financial incentives, usually of the same industry with a purpose to act as an organization that will have great influence and promote the interests of its members<sup>98</sup>. This Union manages to give them both influence and authority in order for them to be able to affect the government with a view to favoring distribution resources. The more financial power a Union has with its actions being able to affect the community, the greater the influence it poses in many areas. Since Unions have the ability to influence the political decisions on the distribution of resources in the present and, at the same time, on the development of prospects in the future, they compete with one another for the purpose of securing most of their members in society<sup>99</sup>. The competition among the trade Unions provokes conflicts among them as the resources of a state are limited.

In general, economic development has a restraining effect on the extent of corruption through education, actions against illiteracy, and the depersonalization of relations<sup>100</sup>. For a more efficient market, a feature of developed rich countries includes fast and transparent transactions by the depersonalization of relations. Also, the social stigma for the corrupt individuals is greater in the developed countries since the reasons that transform corruption into a common and legitimate activity of everyday life are reduced. Regarding greater social control on e.g. SMEs, the basic

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<sup>97</sup> Ades, A., & Di Tella, R. (1994). *Competition and Corruption*. Institute of Economics and Statistics Discussion Papers 169. University of Oxford.

<sup>98</sup> *ibid*

<sup>99</sup> *ibid*

<sup>100</sup> Khwaja, A. I., and Mian, A. (2005), Do lenders favor politically connected firms? Rent provision in an emerging financial market. *Quarterly Journal of Economics* 120(4), 1371-411.

assumption is that low wages force civil servants to resort in receiving bribes to supplement their income.

In contrast to high wages, alternative costs in a case of corruption are very high for individuals participating in corruption activities (wages are lost, pensionable years are expected to increase and salary ranges decrease). Surveys only confirm that corruption is lower when salaries in the public sector are relatively higher than salaries in the industry<sup>101</sup>. Additionally, reverse causality is also observed in such transactions. In countries with poor financial status, salaries may be reduced to low levels on the grounds that civil servants earn a good amount of income from bribery.

Restrictions on international trade and consequently on competition create monopolistic conditions that increase corruption. The ability of an employee to provide protection within the domestic market to an entrepreneur will depend on how open the domestic market is to international competition and imports. Studies confirm the higher the Imports / G.D.P. ratio, corruption is decreasing but the Imports / G.D.P. ratio can measure openness in the international market, however, it does not measure the extent of the competition<sup>102</sup>. Rich and developed countries present high levels of competition because of their large market. Several studies found that openness to international trade leads to lower perceived corruption measured by the C.P.I. and the WGI index<sup>103104105106107</sup>

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<sup>101</sup> De Rosa, D., N. Gooroochurn, and H. Görg, (2010). Corruption and productivity: firm-level evidence from the BEEPS Survey, *Policy Research Working Paper Series 5348*, World Bank.

<sup>102</sup> *ibid*

<sup>103</sup> Ades, A., & Di Tella, R. (1994). *Competition and Corruption*. Institute of Economics and Statistics Discussion Papers 169. University of Oxford.

<sup>104</sup> Treisman D. 2000. The causes of corruption: a cross-national study. *Journal of Public Economics* 76(3):399--458.

<sup>105</sup> Sandholtz W, Gray MM. 2003. International integration and national corruption. *Int. Org.* 57:761--800.

<sup>106</sup> Sandholtz W, Koetzle W. 2000. Accounting for corruption: economic structure, democracy, and trade. *Int. Stud. Quart.* 44:31--50.

Another solution includes research with two variables, namely "the naturally open economy" and the "remaining open economy". The naturally open economy is defined by the size, geography, and language of a country. The remaining open economy variable refers to trade policies. As a statistically significant effect, naturally open economies present limited levels of corruption. Corruption decreases with the use of other variables depending on 1) the number of years a country is open to international trade, 2) the increase in the number of international organizations (UN, W.T.O., I.M.F., etc.)<sup>108109110111</sup>. On the contrary, corruption increases with the increasing distance of one country from the main exporting countries due to the transport cost, which also reduces competitiveness levels of the price of imported products.

Another study uses both theory and research data in order to determine the extent to which the quality of politicians and political corruption levels are affected by additional government revenues<sup>112</sup>. A model of political agency including endogenous entry of candidates and several career-related concerns constitutes the basis of the theory. However, the implementation of a regression discontinuity design is possible since the data was related to Brazil, where several transfers to municipal governments occurred exogenously at certain thresholds of population. The results of the empirical evidence suggest that corruption levels increased and that the average education levels

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<sup>107</sup> Gerring J, Thacker S. 2004. Political institutions and corruption: the role of unitarism and parliamentarism. *B.J.Pol.S.* 34(2):295--330.

<sup>108</sup> *ibid*

<sup>109</sup> La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W., 1999. The quality of government. *Journal of Economics, Law and Organization* 15 (1), 222-279.

<sup>110</sup> Ades, A., & Di Tella, R. (1994). *Competition and Corruption*. Institute of Economics and Statistics Discussion Papers 169. University of Oxford.

<sup>111</sup> Treisman D. 2000. The causes of corruption: a cross-national study. *Journal of Public Economics* 76(3):399--458.

<sup>112</sup> Hellman, J. S., Jones, G. and Kaufman, D. (2003). Seize the state, seize the day: state capture, and Influence in transition economies. *Journal of Comparative Economics*, 31, 751--773.

of candidate officials declined with major transfers. Therefore, the predictions of the theory are consistent with the results of the empirical study.

Last but not least, studies which used the C.P.I. index and the WGI Index provided by the World Bank to measure corruption, found that higher perceived corruption is correlated with lower economic development levels.<sup>113</sup> Furthermore, other studies which also used those measures of corruption concluded that low inflation is associated with lower perceived corruption<sup>114</sup>. Fisman and Gatti (2002)<sup>115</sup> found that based on the aforementioned measures of corruption, perceived corruption is lower in countries with lower fiscal decentralization. Treisman (2014)<sup>116</sup> involved several explanatory variables for the period 2004-2010 in order to explain the variability in the reporting bribes, based on the G.C.B. survey. The results showed that in all cases, higher economic development leads to lower percentage of bribes paid, whilst inflation and openness to trade did not have any statistically significant impact on the percentage of bribes paid.

Corruption is present due to government intervention. Therefore, its causes are mostly economic and most of the variables that affect corruption are related and determined by government policy. Clements, Hugounenq and Schwartz (1995)<sup>117</sup>, Ades and Di Tella (1999)<sup>118</sup> and Mauro (1995)<sup>119</sup> have discussed the role of

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<sup>114</sup> BrauN M, Di Tella R. 2004. Inflation, inflation variability, and corruption. *Ecs. & Pols.* 16(1):77-100.

<sup>115</sup> Fisman R, Gatti R. 2002. Decentralization and corruption: evidence across countries. *J. Pub. Ecs.* 83:325--45.

<sup>116</sup> Treisman, D. (2014). *What does cross-national empirical research reveal about the causes of corruption?* Routledge Handbook of Political Corruption. Routledge.

<sup>117</sup>. Clements, B., Hugounenq, R. & Schwartz, G. 1995. *Government Subsidies: Concepts, International Trends and Reform Options*. IMF Working Papers 95/91. Washington, DC: International Monetary Fund.

<sup>118</sup> Ades A, Di Tella R. 1999. Rents, competition, and corruption. *Am. Ec. Rev.* 89(4):982--93

government subsidies in corruption. The main idea on how government subsidies are related to corruption, is that they are a source that may generate rent-seeking behavior in the economy, i.e that firms may use their influence to the government to have access to subsidies, which leads to redistribution of wealth and does not create new wealth for the economy. In the same vein, more recently, Brollo et al. (2010)<sup>120</sup> studied the effect of government spending and transfers in general on political corruption. Their research concerned Brazil and their results showed that the larger the transfers by the government, the higher political corruption and quality of the candidates for mayor.

Another determinant of corruption that is related to government policy is the existence of price controls. Price controls may lead to bribery, because they stimulate rent-seeking behavior. Firms in their effort to provide inputs at levels below the market price may bribe government officials<sup>121</sup>. Another possible determinant that leads to rent-seeking behavior and corruption in the form of government is the use of multiple exchange rate schemes and practices. Firms, in order to have the necessary exchange rate to import inputs they may bribe government officials<sup>122</sup>. Last but not least, the wages set in the public sector are also a determinant of corruption. Specifically, if wages in the public sector are low, this may lead to extensive bribery of public sector employees<sup>123124</sup>.

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<sup>119</sup> Mauro, P. 1995. Corruption and Growth. *Quarterly Journal of Economics* CX, no. 3 (August): 681-712.

<sup>120</sup> Brollo, F., Nannicini, T., Perotti, R. & Tabellini, G. (2010). *The Political Resource Curse*. IZA DP No. 4706

<sup>121</sup> Mauro, P. 1995. Corruption and Growth. *Quarterly Journal of Economics* CX, no. 3 (August): 681-712.

<sup>122</sup> Mauro, P. 1995. Corruption and Growth. *Quarterly Journal of Economics* CX, no. 3 (August): 681-712.

<sup>123</sup> Kraay, Aart, and Van Rijckeghem, Caroline, 1995, "Employment and Wages in the Public Sector--A Cross-Country Study." IMF Working Papers 95/70. Washington, DC: International Monetary Fund.

## 2.4.2 Religion

Another factor affecting corruption activities in bodies of the state includes religion. This factor may affect corruption levels in different ways. Initially, each religion accepts and adopts the concept of the hierarchy in society in many different ways. For example in religions like Christianity, hierarchy is a concept that is taken into account<sup>125</sup>. Therefore, religious individuals tend to embrace their principles of their religion and to respect hierarchy in society and in particular in the public sector, including all its departments. Consequently, the civil servants may be involved in corruption activities, without having to expect any social control by the community.

However, in religions such as Protestantism, where no such importance is attributed to hierarchy, citizens are less tolerating towards activities of corruption and tend to criticize those transactions. This fact acts as a determining factor in the development of corruption. Also, the importance attributed to ties, such as the concept of family varies across different religions<sup>126</sup>. For example, Protestantism is a religion that does not consider such institutions important, resulting in fewer activities of nepotism that are evident in religions that support these institutions, as well as governmental authority. In fact, protestant tradition has been found that leads to lower perceived corruption according to previous researches<sup>127128129</sup>.

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<sup>124</sup> Haque, Nadeem Ul, and Ratna Sahay, 1996, "Do Government Wage Cuts Close Budget Deficits?" IMF Working Papers 96/19. Washington, DC: International Monetary Fund.

<sup>125</sup> Lowery, D. (2005). "Self-Reflexivity: A Place for Religion and Spirituality in Public Administration." *Public Administration Review* 65(3): 324-34.

<sup>126</sup> *ibid*

<sup>127</sup> La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W., 1999. The quality of government. *Journal of Economics, Law and Organization* 15 (1), 222-279.

<sup>128</sup> Treisman D. 2000. The causes of corruption: a cross-national study. *Journal of Public Economics* 76(3):399--458.

<sup>129</sup> Treisman, D. 2014. *What does cross-national empirical research reveal about the causes of corruption?* Routledge Handbook of Political Corruption. Routledge.

### 2.4.3 Legal system

At this point, a distinction should be made between judicial and economic and cultural systems in relation to political systems. Although the political system determines the relations between citizens and institutions, including elements of the above systems, is not totally identical to those systems and it is possible for a system to operate on its own<sup>130</sup>.

- ❖ Legislative system: the legislative authority is a part of the political system. In the history of peoples, however, there are cases where a body of laws was set up to organize and determine the relations of citizens, without forming an integrated political system because they did not define the way in which authority was to be exercised.
- ❖ Economic System: the economic system is the set of financial rules regulating the production and distribution of goods and services. Thus, capitalism (the economic system that supports production and capital management by private initiative and the definition of free market transactions) is one economic system that can be applied to several political systems.
- ❖ Cultural system: Local culture (customs, traditions, religion) may be self-existent or even influence political systems, while in extreme cases it may be an integral part of the political system itself.

According to the aforementioned, it is reasonable to conclude that the greater the volume of a system, the more it will require to circumvent procedures aimed at assisting the citizen. This, however, provides a senior official the ability to withdraw initiatives, which has the effect of creating informal citizens - employees' collaborations in order to overcome each bureaucratic obstacle. But this leads citizens to provide something in exchange, which is usually irregular<sup>131</sup>. The larger the size of

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<sup>130</sup> *ibid*

<sup>131</sup> Lederman, D., Loayza, N.V. and Soares, R.R. (2005). Accountability and corruption: Political institutions matter. *Economics & Politics*, vol. 17, No. 1, pp. 1-35.



an economy and its processes, the greater the development of corruption will be. Finally, the more complicated a state, the weaker is its legal system since its rigidity is an essential component, resulting in the spread of corruption inevitably.

The quality of the legal system depends directly on the political status of a country. In many occasions, these two systems are pursuing the same objectives, favoring those who hold authority. Then a new system is formed where clientelism features and corruption are enhanced<sup>132</sup>. Needless to recall several cases, when criminal acts of individuals in authority were covered up by the judicial-legal system which led to non-disclosure to the public.

However, if the institutions of the system were operating impartially and independently, with frequent and strict controls, the result would include reduced corruption-related activities. Therefore, severe penalties would be a disincentive and the efficient operation of the judiciary agencies, without government interventions, would significantly infringe any violations<sup>133</sup>. Unfortunately, this is not always the case, and every time the government changes, senior officials of the judiciary system are also replaced in order to work towards the interest of the governing party. This implies that the protection of private property depends on the legal framework of a country, as well as the possibility of appealing to the competent judicial authorities.

As for the legal system, an intrusive regulation from the part of the state leads to higher perceived corruption. The latter is related also to state intervention in general, as the more a government interferes with the private sector and imposes strict regulations, this leaves space for rent-seeking behavior which leads to corruption<sup>134</sup>.

In general, two dominant legal traditions stand out, id est common law and civil law, while several subtraditions are acknowledged within civil law (French,

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<sup>132</sup> Hauser, C. and Hogenacker, J. (2014). Do Firms Proactively Take Measures to Prevent Corruption in Their International Operations? *European Management Review*, 11: 223–237.

<sup>133</sup> *ibid*

<sup>134</sup> Treisman, Daniel. 2007. “What have we learned about the causes of corruption from ten years of crossnational empirical research?” *Annual Review of Political Science* 10, pp.211-244.

German, socialist, and Scandinavian). Occasionally, countries adopt some laws from one legal tradition and other laws from another, however a particular tradition dominates in each country.

What is more, the research of Treisman<sup>135</sup> concluded that civil law is associated with a heavier hand of government ownership and regulation than common law, leading to adverse impacts on markets, such as greater corruption, larger unofficial economy, and higher unemployment, yet other studies, illustrated that common law is associated with lower formalism of judicial procedures and greater judicial independence than civil law.

#### 2.4.4 Democracy and institutions

The political system refers to the set of rules and institutions that define the overall function of the state. The political system defines various aspects of citizen - state institutions<sup>136</sup>:

- main freedom and citizens' rights,
- governance, types and forms of government authorities,
- selection of governors and representatives,
- the state's obligations towards the citizens,
- the basic obligations of the citizen towards the state and the other citizens.

Previous researches have established a significant relationship with some of the aforementioned dimensions of democracy and institutions. As for democracy, it has been found that more democratic government and press freedom lead to lower

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<sup>135</sup> LaPorta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer. 2008. "The Economic Consequences of Legal Origins" *Journal of Economic Literature* 46 (2): 285-332.

<sup>136</sup> LaloUNtas, D.A., Manolas, G.A. and Vavouras, I.S. (2011). Corruption, globalization and development: How are these three phenomena related? *Journal of Policy Modeling*, vol. 33, pp. 636-648.

perceived corruption<sup>137138139140</sup>. Institutions play also a significant role in corruption, as previous studies found that parliamentary constitutions compared to presidential lead to lower perceived corruption levels<sup>141142143144</sup>. Moreover, the type of electoral system is an important institution that may lead to lower perceived corruption if it is for a plurality rather than proportional electoral system<sup>145146</sup>. In open-list electoral systems specifically, it has been found that the division in smaller districts leads to lower perceived corruption<sup>147</sup>. Finally, a centralized political system compared to a federal one has been found to lead to lower perceived corruption<sup>148149150151</sup>. However,

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<sup>137</sup> Treisman D. 2000. The causes of corruption: a cross-national study. *Journal of Public Economics* 76(3):399--458.

<sup>138</sup> Montinola G, Jackman R. 2002. Sources of corruption: a cross-country study, *B.J.Pol.S.* 32:147--70

<sup>139</sup> Brunetti A, Weder B. 2003. A free press is bad news for corruption," *J. Pub. Ecs.* 87(7-8):1801-24.

<sup>140</sup> Adsera A, Boix C, Payne M. 2003. Are you being served? Political accountability and the quality of government. *J. Law, Ecs., & Org.* 19(2):445--90.

<sup>141</sup> Panizza U. 2001. Electoral rules, political systems, and institutional quality, *Ecs. & Pols.* 13(3):311--42.

<sup>142</sup> Gerring J, Thacker S. 2004. Political institutions and corruption: the role of unitarism and parliamentarism. *B.J.Pol.S.* 34(2):295--330.

<sup>143</sup> Lederman D, Loayza NV, Soares RR. 2005. Accountability and corruption: political institutions matter. *Ecs. & Pols.* 17(1):1--35.

<sup>144</sup> Kunicová J, Rose-Ackerman S. 2005. Electoral rules and constitutional structure as constraints on corruption. *B.J.Pol.S* 35:573--606.

<sup>145</sup> Persson T, Tabellini G, Trebbi F. 2003. Electoral rules and corruption. *J. Eur. Ec. Assoc.* 1(4):958--89.

<sup>146</sup> Kunicová J, Rose-Ackerman S. 2005. Electoral rules and constitutional structure as constraints on corruption. *B.J.Pol.S* 35:573--606.

<sup>147</sup> *ibid*

<sup>148</sup> Goldsmith AA. 1999. Slapping the grasping hand: correlates of political corruption in emerging markets. *Am. J. Ecs. & Soc.* 58(4):865--83.

<sup>149</sup> Treisman D. 2000. The causes of corruption: a cross-national study. *Journal of Public Economics* 76(3):399--458.

<sup>150</sup> Kunicová J, Rose-Ackerman S. 2005. Electoral rules and constitutional structure as constraints on corruption. *B.J.Pol.S* 35:573--606.

it should be noted that the results vary according to the indicator of corruption used. The studies mentioned previously used indicators of perceived corruption, namely the C.P.I. index and the World Bank's measure of corruption that is involved in the World Governance Indicators. When Treisman (2014)<sup>152</sup> used the G.C.B. indicator and specifically the reported bribes, he found that indeed democracy can reduce reported bribes (more democratic government, press freedom), but the type of constitution does not seem to play a significant role. As for institutions, only direct elections seem to play an important role in reducing corruption.

#### 2.4.5 State intervention

Intense state interventionism, combined with the reduced state investment freedom, create favorable conditions for the development of corruption policies. Bureaucracy poses obstacles to every effort of private entities, making those efforts more expensive due to possible illegal remunerations<sup>153</sup>. Typically, it is stated that in countries such as Mozambique, require 19 procedures and a high price for the start of a new venture.

On the other hand, the total lack of state interventionism makes the limits of general interests inconspicuous, resulting in opportunities to generate corruption. Numerous opportunities for corruption are generated through the transfer of resources between parties due to governmental interventions. However, governments will attempt to prevent corruption, since the objective of governmental interventions is often undermined by corruption. Consequently, the government may increase the extent of bureaucracy, misallocate resources or impose rents on bureaucrats<sup>154</sup>.

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<sup>151</sup> Gerring J, Thacker S. 2004. Political institutions and corruption: the role of unitarism and parliamentarism. *B.J.Pol.S.* 34(2):295--330.

<sup>152</sup> Treisman, D. (2014). *What does cross-national empirical research reveal about the causes of corruption?* Routledge Handbook of Political Corruption. Routledge.

<sup>153</sup> Rontos, K. and Vavouras, I. (2013). Socioeconomic and political development: Their measurement and connections. *Global Journal of Human Social Science*, vol. 13, issue 5, pp. 51-65.

<sup>154</sup> Gopinath, C. (2008). Recognizing and Justifying Private Corruption. *Journal of Business Ethics*, 82: 747-754.

However, since the prevention of corruption is a very costly set of procedures, one intervention against corruption includes certain bribe-accepting bureaucrats. When higher salaries in the public sector, as well as an increased number of bureaucrats are evident, the prevention of corruption may present higher levels of difficulty. Additionally, non-monotonic measures in income levels may be a feature of optimal degree of governmental interventions<sup>155</sup>.

#### **2.4.6 Political stability**

The existence of political stability may contribute to a great extent to the fight against corruption, by setting rules, control mechanisms and structures to protect public interests. However, political stability does not have always the same effect on corruption. Specifically, in economies where political stability implies one or two parties that govern the country, political stability may lead to higher corruption, as the parties compete each other in order to win the elections<sup>156</sup>.

#### **2.4.7 Regulation of entry**

In their study, Pinto et al. (2008)<sup>157</sup> provide data for 85 countries regarding the regulation of start-up companies' entry. The required data in order for legal and registered operation of the start-up companies include the following: official cost, number of processes of registration and official time.

In most countries, the official registration costs of start-up companies are very high. Countries with strict entry regulations are observed to present higher levels of corruption, along with increased unofficial entry times, however, the quality of private and public goods remains low. In contrast, light entry regulations for start-up companies are observed in countries with limited and democratic governments. Interest regulation theories are consistent with these results; however the public

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<sup>155</sup> Kühlmann, T. M. (2009). Why or why not? Rationalizing corruption in organizations. *Cross Cultural Management: An International Journal*, 16: 268 – 286.

<sup>156</sup> *ibid*

<sup>157</sup> Pinto, J., Leana, C. R., and Pil, F. K. (2008). Corrupt organizations or organizations of corrupt individuals? Two types of organization-level corruption. *Academy of Management Review*, 33: 685– 709.

opinion that entry regulation is more beneficial to bureaucrats and politicians is evident<sup>158</sup>.

In the same vein, Djankov et al. (2002)<sup>159</sup> examined whether regulation of entry concerning start-up companies affects corruption in 85 countries. The results showed that in countries with higher regulation of entry, higher corruption levels were reported. Furthermore, countries with stricter regulation tend to have large unofficial economies, as well as worse quality of both private and public goods. Stricter regulation of entry leads to rent-seeking behavior from the part of the firms, which may bribe government officials in order to enter each market. Last but not least, Treisman et al. (2014)<sup>160</sup> found also that the cost of starting a business positively and significantly affects the reported bribes in officials.

#### 2.4.8 Education and culture

The level of education and intellectual development of citizens is defined inversely depending on whether or not corruption is adopted. Educated citizens have the ability to perceive, acts that constitute corruption more easily, avoid them, but also to report those transactions<sup>161</sup>. This case, however, is not absolute, since education systems are not autonomous, but are directly affected by the political system, which defines the methods and the means of teaching.

Additionally, the culture of a state plays an important role in the education of citizens. In very poor countries, such as India, children experience transactions

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<sup>158</sup> *ibid*

<sup>159</sup> Djankov, Simeon, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer, (2002). "The Regulation of Entry," *Quarterly Journal of Economics*, 117 (2002), 1–37.

<sup>160</sup> Treisman, D. (2014). *What does cross-national empirical research reveal about the causes of corruption?* Routledge Handbook of Political Corruption. Routledge.

<sup>161</sup> Aguilera, R. V. and Vadera, A. K. (2008). The Dark Side of Authority: Antecedents, Mechanisms, and Outcomes of Organizational Corruption. *Journal of Business Ethics*. 77:431–449.

through controlled corruption systems at an early age and education plays a secondary role, since it ultimately helps them develop within a framework of corruption<sup>162</sup>.

#### 2.4.9 Other determinants of corruption

Another determinant of corruption that has been examined in previous studies is the colonial history. Treisman (2000)<sup>163</sup> reported that a history of British colonial history is associated with lower perceived corruption levels. Treisman et al. (2014)<sup>164</sup> concluded that French colonial history in a country leads to higher reported bribes, which suggests that corruption is higher. Furthermore, low ethnolinguistic fractionalization has been found to lead to lower perceived corruption, as reported by LaPorta et al. (1999)<sup>165</sup> as well as Treisman et al. (2014)<sup>166</sup>.

In the same vein, the studies of Shleifer and Vishny (1993)<sup>167</sup> and Mauro (1995)<sup>168</sup>, found also that the index of ethnolinguistic fractionalization has significant impact on corruption. Tanzi (1994)<sup>169</sup> believe that this relationship is due to the fact that government officials may favour their relatives in countries where family ties are considered important.

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<sup>162</sup> *ibid*

<sup>163</sup> Treisman D. 2000. The causes of corruption: a cross-national study. *Journal of Public Economics* 76(3):399--458.

<sup>164</sup> Treisman, D. (2014). *What does cross-national empirical research reveal about the causes of corruption?* Routledge Handbook of Political Corruption. Routledge.

<sup>165</sup> La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W., 1999. The quality of government. *Journal of Economics, Law and Organization* 15 (1), 222-279.

<sup>166</sup> Treisman, D. (2014). *What does cross-national empirical research reveal about the causes of corruption?* Routledge Handbook of Political Corruption. Routledge.

<sup>167</sup> Shleifer, Andrei, and Robert Vishny, 1993, "Corruption." *Quarterly Journal of Economics* CIX: 599-617

<sup>168</sup> Mauro, P. 1995. Corruption and Growth. *Quarterly Journal of Economics* CX, no. 3 (August): 681-712.

<sup>169</sup> Tanzi, Vito, 1994, "Corruption, Governmental Activities and Markets." IMF Working Papers 94/99. Washington, DC: International Monetary Fund.

## 2.5 The effect of corruption on Growth

As it was mentioned in the previous section, economic growth plays an important role in corruption. It has been reported that countries with high economic growth have lower corruption levels. However, there is also the opposite relationship, since the existence of corruption impact significantly on economies. In one of the first studies on the impact of corruption on economic growth and investment, Arnold et al. (2012)<sup>170</sup>, using data for a total of 67 countries, with relative data on Corruption Index of Business International (BI) for the period 1980-1983, documented a statistically significant negative relationship between the level of corruption and the average annual rate of economic growth over the course of the period 1960-1985. In particular, empirical data showed that an improvement over a standard deviation of the corruption index leads to increased investment by 5% of G.D.P. and an increase in the annual growth rate of G.D.P. per capita by 50 basis points (0.5%).

Another study is that of Hauser & Hogenacker (2014), including a sample of 106 countries<sup>171</sup>. Hauser & Hogenacker used the two corruption indices in his study, namely the International Country Risk Guide (ICRG), which refers to the average figures of the 1982-1995 period (and is available for over 100 countries), and the BI corruption index conducted by the Economist Intelligence Unit, which refers to the average figures of the 1980-83 period (and is available for 67 countries). Both corruption indices range from 0 for countries with the largest corruption levels, to 10 for countries with the lowest corruption levels.

In order to examine the impact of corruption on economic growth and investment levels, the researchers used the for each country growth rate of G.D.P. per capita and the average investment rate as dependent variables for the period 1960-

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<sup>170</sup> Arnold, U., Neubauer, J., and Schoenherr, T. (2012). Explicating factors for companies' inclination towards corruption in Operations and supply chain management: An exploratory study in Germany. *International Journal of Production Economics*, 138: 136–147.

<sup>171</sup> Hauser, C. and Hogenacker, J. (2014). Do Firms Proactively Take Measures to Prevent Corruption in Their International Operations? *European Management Review*, 11: 223–237.



85<sup>172</sup>. The results showed that the improvement of the value of a country's corruption index by a standard deviation was associated with a larger than 4 percentage points increase rate of investment and more than half of its G.D.P. per capita growth.

Johannsen & Pedersen (2011) examined the results of government interventions in economic activities and corruption in economic growth<sup>173</sup>. The study was based on cross - sectional and longitudinal data for 152 countries for the period of 1960-1992, and it was found that the greater the state's intervention in the economy and the higher the level of corruption, the lower the rate of economic growth. Furthermore, the influence of corruption and the size of the public sector on economic growth are lower in developed countries. In other words, it can be stated that the relationship between corruption, size of the public sector and economic growth is non-linear in relation to the stage of economic development in a country.

Seker & Yang (2012)<sup>174</sup>, using cross-sectional and longitudinal data for the period 1960-1985, found that corruption reduces the level of human capital and rate of private investment in the economy, while also causing political instability. All of the above factors ultimately lead to a reduction in economic growth. According to Seker & Yang (2012), the most important factor, based on which corruption affects the economic growth is that of political instability, which accounts for about 53% of the total impact (corruption on economic growth). The importance of human capital and private investment as factors of transmission of the negative effects on the difference of the economic growth was about 14.8% and 21.4%, respectively. Therefore, the direct impact of corruption on economic growth amounted to 11.8%, with the remaining percentage amount being attributed to political instability and the reduced level human capital and private investment rates<sup>175</sup>.

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<sup>172</sup> ibid

<sup>173</sup> Johannsen, L. and Pedersen, K. H. (2011). The Institutional Roots of Anti-Corruptions Policies: Comparing the Three Baltic States. *Journal of Baltic Studies*, 42: 329–346.

<sup>174</sup> Seker, M. and Yang, J.S. (2012). How bribery distorts firm growth: Differences by firm attributes, *Policy Research Working Paper Series 6046*, World Bank.

<sup>175</sup> ibid

Lederman et al. (2005) studied the impact of corruption on economic growth in 54 developing and developed countries for the period 1960-1995<sup>176</sup>. In order for the researcher to assess the impact of corruption on economic growth, the econometric model used had as explanatory variables corruption, the per capita G.D.P. in the beginning of the period under examination (1960) and the country's corruption index (for this variable, the average of the International Risk Guide's (ICRG) corruption index was used for the period 1982-95. The index range starts from 0 (maximum corruption) to 10 (no corruption)). The dependent variable of the model was the average growth of per capita G.D.P. over the total period under examination (1960-1995)<sup>177</sup>. According to the theory of convergence (as a result of traditional growth theories), the estimate for the first parameter must be negative (as countries with a high income per capita should have a lower growth rate of G.D.P. per capita in relation to poorer countries)<sup>178</sup>.

Control variables included human capital, state contribution in G.D.P. (i.e. the average size of public expenditure as a percentage of G.D.P. for the period 1960-1995), the average annual population growth, the ratio of gross domestic investment in G.D.P. (the average of the variable in the 1970-1995 period), macroeconomic stability (inflation rate over the period 1960-1995 was used in order to measure this element), and a dummy variable for the whether the country originates from Africa<sup>179</sup>. In order to measure the amount of inventory in human capital, the child enrollment rate in secondary education was used, while recording its quantity the student /

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<sup>176</sup> Lederman, D., Loayza, N.V. and Soares, R.R. (2005). Accountability and corruption: Political institutions matter. *Economics & Politics*, vol. 17, No. 1, pp. 1-35.

<sup>177</sup> *ibid*

<sup>178</sup> Gopinath, C. (2008). Recognizing and Justifying Private Corruption. *Journal of Business Ethics*, 82: 747–754.

<sup>179</sup> Osamwonyi, I.O., Tafamel E.A. (2013), Firm Performance and Board Political Connection: Evidence from Nigeria. *European Journal of Business and Management* 5(26), 83-96.

teacher ratio was used<sup>180</sup>. The results showed that there is a statistically significant negative relationship between corruption and economic growth.

De Vaal & Ebben (2011)<sup>181</sup> suggested that the lower the quality of governance in a country, the worse the effects of corruption on investment and economic development. The aforementioned researchers used the existence of a rule of law and effects of political violence as representative variables in order to measure the quality of governance in a country. Campos et al. (2010)<sup>182</sup> examined the relationship between the average annual growth rate per capita G.D.P. at stable values for the period 1999-2004 and the change in the value of the Corruption Perceptions Index (C.P.I.) and found that, for all countries on average an increase by one UNit of the C.P.I. will lead to an increase in its average annual growth rate of G.D.P. per capita of 1.7%. For 21 European economies in the transition phase, the corresponding impact of a similar increase in the C.P.I. was 2.4%, while for 39 European countries no statistically significant impact of the C.P.I. on the average annual rate of change in G.D.P. was observed.

The above researchers also analyzed the relationship between direct foreign investments and the level of corruption. In particular, Campos et al. (2010)<sup>183</sup> have calculated the average per capita level of foreign direct investment inflows into for each country during the period of 1999-2004. They concluded that the least corrupt countries receive, on average, more foreign investment per capita than the most corrupt countries.

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<sup>180</sup> *ibid*

<sup>181</sup> De Vaal, A. and Ebben, W. (2011). Institutions and the relations between corruption and economic growth. *Review of Development Economics*, vol. 15, No. 1, pp. 108-123.

<sup>182</sup> Campos, N, Estrin, S. and Proto, E. (2010). Corruption as a barrier to entry: theory and evidence, CEPR *Discussion Paper* 8061.

<sup>183</sup> *ibid*

However, other researchers<sup>184</sup> suggest that corruption may in some cases yield benefit for economic growth. Additionally, corruption can function as a tool available to individuals developing business activity in order to overcome the penetrating and extremely inefficient bureaucratic processes that basically pose many obstacles in a bureaucratic economy. Also, in terms of relation to economic growth, the only aspect worse than a society with rigid, over-centralized and inefficient bureaucracy, is a society with a rigid, ultra-centralized but honest bureaucracy.

The impact of corruption on growth depends on the consequences of corruption on the following factors<sup>185</sup>:

- State revenues are reduced (which leads to development Funding limitation)
- Expenditure: restructuring of expenditure for non-productive (military equipment) or large-scale capital intensive projects versus small-scale projects and social infrastructure of works. (therefore, the reduction / increase of development depends on the specific projects)
- Public Sector Reforms: resistance to reforms (which leads to growth rate reduction)
- Shadow economy increases the inability to evaluate and design development procedures. (which leads to growth rate reduction)
- Distribution of income: this implies uneven distribution, therefore reforms in consumer spending in favor of luxury products, thus affecting imports, production and investments. (which leads to growth rate reduction)
- Investments are reduced unless bribes are predictable. (which leads to growth rate reduction)

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<sup>184</sup> De Rosa, D., Gooroochurn, N. and Görg, H. (2010). Corruption and productivity: firm-level evidence from the BEEPS Survey, *Policy Research Working Paper Series 5348*, World Bank.

<sup>185</sup> Paldam, M. (2002). The cross-country pattern of corruption. Economics, culture and the seesaw dynamics. *European Journal of Political Economy*, vol. 18, pp. 215-240.

- Trade: in a closed economy, a reduction in commercial transactions, combined with an increase of corruption levels is observed (which leads to growth rate reduction)

However, growth also depends on other factors so there is no clear empirical evidence indicating a causal relationship between the extent of corruption and the growth rate of G.D.P.<sup>186</sup>. It is assumed that corruption in cases of low-quality governance may improve the inadequacies of public administration by limiting anchorages, overcoming bureaucratic and anti-development policies and, in general, upgrading the quality of public services<sup>187</sup>. This case is known as "greasing the wheels" of economic growth. However, corruption may yield benefits for growth when the quality of governance is low but may also, in the same circumstances, cause additional costs. The existence of such costs poses obstacles to growth, also defined as "sand on the wheels" of economic growth<sup>188</sup>.

According to the "greasing the wheels" hypothesis, bribes speed up procedures, reduce downtime and improve the quality civil servants (by attracting competent staff). It constitutes a barrier or overturns the expression of ideological objections and facilitates the selection of participants in the decision making process, especially when there is lack of evidence in order for the competent managers to form an opinion<sup>189</sup>.

While the above may apply at an individual level, such transactions pose significant obstacles that may worsen the quality of governance. Bribery only

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<sup>186</sup> *ibid*

<sup>187</sup> Johannsen, L., and Pedersen, K. H. (2012). How to Combat Corruption: Assessing Anti-Corruption Measures from a Civil Servants's Perspective. *Halduskultuur – Administrative Culture*, 13: 130–146.

<sup>188</sup> Kühlmann, T. M. (2009). Why or why not? Rationalizing corruption in organizations. *Cross Cultural Management: An International Journal*, 16: 268 – 286.

<sup>189</sup> Tyler, T. R. (2014). "Reducing Corporate Criminality: The Role of Values", *American Criminal Law Review*, vol. 51:267, 267-291.

facilitates an individual case<sup>190</sup>. At an overall level, however, it creates incentives for greater corruption and further delays. Large bribes create an incentive to isolate new employees. When profitability of a project is uncertain, a selection based on bribery may simply lead to choosing the most optimistic bidder without necessarily possessing all the skills required by a project<sup>191</sup>.

Another determinant that affects directly the long-run growth and to an extent corruption in an economy is the allocation of talent and reward structures. Specifically, as Mauro (1995)<sup>192</sup> implies, if rent-seeking behavior provides more opportunities than productive work, then allocation of talent may deteriorate. Specifically, in such economies, the most talented individuals may choose to engage in rent-seeking behavior and not in productive work. As rent-seeking behavior is associated with corruption, it is evident that this implies a negative impact on the long-run growth of the economy. The latter is also supported by Acemoglu (1995)<sup>193</sup> who found that reward structures in an economy affect directly allocation of talent, as the economy may reach a rent-seeking long-run equilibrium, in which the talented individuals find more profitable to engage in rent-seeking activities, rather than in productive work.

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<sup>190</sup> Lange, D. (2008). A multidimensional conceptualization of organizational corruption control. *Academy of Management Review*, 33: 710–729.

<sup>191</sup> Ashforth, B. E. and Anand, V. (2003). The normalization of corruption in organizations. *Research in organizational behavior*, 25, 1-52.

<sup>192</sup> Mauro, P. 1995. Corruption and Growth. *Quarterly Journal of Economics* CX, no. 3 (August): 681-712.

<sup>193</sup> Acemoglu, Daron, (1995). “Reward Structures the Allocation of Talent,” *European Economic Review*, 39, 17-33

### **3. Empirical Analysis**

Given the formed theoretical framework explanatory of the causes of corruption on different levels across the European Union, statistical analysis was conducted to examine the link between corruption, G.D.P. per capita, legal origin, religion and Eurozone membership, among a wider range of determinants of corruption, aforementioned at a previous point along this study, all in an effort to assess the significance and determine the real impact of a series of factors that are directly linked to corruption activities.

#### **3.1. Introduction to the regression model and variables**

Henceforth, the main objective of this empirical research is to establish and explain, via a linear regression model, the relationship between a series of independent, or predictor, variables, id est G.D.P. per capita estimated in current prices in US dollars, legal origin, religion status and Eurozone membership and a dependent variable that is the scale of corruption level as measured by the Corruption Perceptions Index.

With regard to the indicators concerning legal origin and Eurozone membership, it is worth mentioning that they have been handled in the form of a dummy variable, where the first one divides country observations into UK legal origin and other legal systems, while the second one signifies Eurozone membership or non-membership.

Furthermore, in order to highlight the elements that vary between countries, a cross-sectional approach is adopted, whereas the countries being examined in this study are now all members of the Eurozone. What is more, the data for the regressions address two specific time lines, that is years 2007 and 2017, chosen likewise due to the fact that year 2007 appears to be a threshold year prior to financial crisis while year 2017 reflects the time period providing the most recent update, granting a perfect opportunity for comparative analysis.

All things considered, an establishment of the perceived level of corruption index (C.P.I.) as a dependent variable and placing G.D.P. per capita estimated in current

prices in US dollars, legal origin, religion status and Eurozone membership as independent variables constructs a regression model illustrated as follows:

$$CPI_i = \beta_0 + \beta_1 GDP_i + \beta_2 legor\_uk + \beta_3 EZ + \beta_4 prot00 + u_i \quad (1)$$

### 3.2. Explanation of variables and expected signs

**CPI**= Corruption Perceptions Index

**EZ**= Binary value, where 1 is signifying Eurozone membership

**GDP**= G.D.P. per capita growth estimated in current prices in US dollars

**Legor\_uk**= Indicator variable coded 1 if the legal system is of UK origin

**Prot00**= Percentage of Protestants in the Population in 2000

**u** = Error term

#### C.P.I. index

The Corruption Perceptions Index (C.P.I.), ranks 180 countries and territories by their perceived levels of public sector corruption according to experts and business people, uses a scale of zero to 100, where zero is highly corrupt and 100 is very clean. Although the level of corruption activities in a country could be measured by several indicators, aforementioned in the literal review, the study is based on the CPI Index which is by far the most frequently used in empirical research, whereas relative data used is published by Transparency International.<sup>194</sup>

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<sup>194</sup> Transparency International, (2007-2017). "Corruption Perceptions Index". Available at: [http://www.transparency.org/policy\\_research/surveys\\_indices/cpi](http://www.transparency.org/policy_research/surveys_indices/cpi)



### **G.D.P. per capita growth**

Gross Domestic Product, closely associated with economic performance, provides an estimate of the total value of goods and services produced in a country, in an effort to capture the true monetary value of its economy. Per capita G.D.P. is sometimes used as an indicator of standard of living, with higher per capita G.D.P. equating to a higher standard of living and is especially useful when comparing one country to another, because it shows the relative performance of the countries.<sup>195</sup>

We used G.D.P. per capita estimated in current prices in US dollars as an independent variable in order to include the national income growth in our regression model. Data on this independent variable was generated for the specific set of countries using the World Economic Outlook Database.<sup>196</sup>

### **Legal Origin**

As for the legal system, in accordance to previous literal review, which implies that countries with common law exhibit lower levels of corruption, our regression model examines the different impact of the Legal System in terms of its origin. For this purpose a dummy variable is designed (legor\_uk) in order to divide country observations into those of UK legal origin and other legal systems, while data for the analysis was collected from “The Economic Consequences of Legal Origins.” *Journal of Economic Literature* 46 (2): 285-332 by LaPorta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer released in 2008.<sup>197</sup>

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<sup>195</sup> Khan, M. 2014. What does GDP really tell us about economic growth? Available at: [www.telegraph.co.uk/finance/economics/11159277/What-does-GDP-really-tell-us-about-economic-growth.html](http://www.telegraph.co.uk/finance/economics/11159277/What-does-GDP-really-tell-us-about-economic-growth.html)

<sup>196</sup> International Monetary Fund. 2017. World Economic Outlook Database. Available at: [www.imf.org/external/pubs/ft/weo/2017/01/weodata/weoselgr.aspx](http://www.imf.org/external/pubs/ft/weo/2017/01/weodata/weoselgr.aspx)

<sup>197</sup> LaPorta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer. 2008. “The Economic Consequences of Legal Origins” *Journal of Economic Literature* 46 (2): 285-332. Available at: <https://scholar.harvard.edu/shleifer>

### **Religion Status**

Additional determining factor in the development of corruption activities in society, taken into consideration for the empirical research, proves to be religion, as each one accepts and adopts the concept of hierarchy and family ties at a different level. For example in Christianity, hierarchy is a concept that is taken seriously into account, however, in religions such as Protestantism, where no such importance is attributed, citizens are less tolerant towards activities of corruption. In like manner Protestantism as a religion does not consider the concept of family ties important, resulting in fewer activities of nepotism that are evident in religions that support these institutions, as well as governmental authority. Relative data was collected from Robert Barro's publication.<sup>198</sup>

### **Eurozone Membership**

This is a binary value that represents Eurozone membership as 1 or 0, where 1 is signifying Eurozone membership and 0 is indicating non-membership. Whilst all 28 member states take part in the economic union, some countries have taken integration further and adopted the euro, making up the Eurozone or officially called the Euro area.<sup>199</sup>

The Eurozone consists of Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia and Spain and is expected to signal international competitiveness and guarantee a certain level of economic stability, making it a significant determinant of the level of corruption in these countries. Meanwhile, our

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<sup>198</sup>Barro R. 2003. Religion Adherence data. Available at: [www.scholar.harvard.edu/barro/publications](http://www.scholar.harvard.edu/barro/publications)

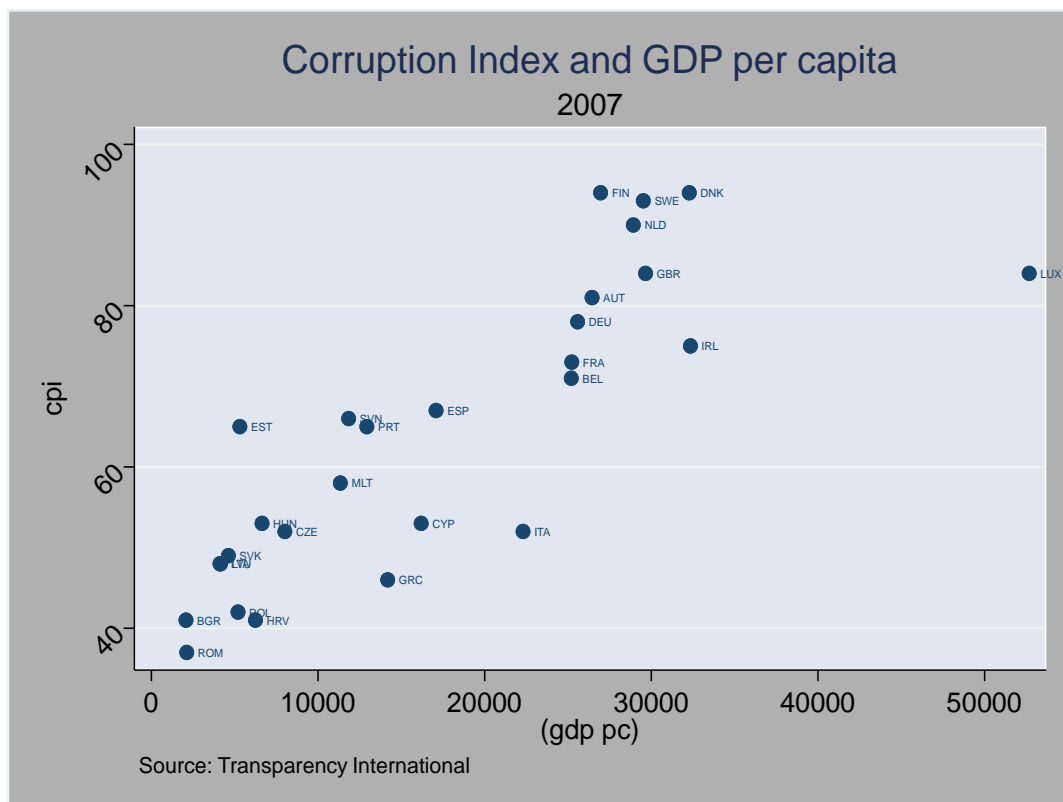
<sup>199</sup> "Economic and Monetary Union takes the EU one step further in its process of economic integration, which started in 1957 when it was founded. Economic integration brings the benefits of greater size, internal efficiency and robustness to the EU economy as a whole and to the economies of the individual Member States. This, in turn, offers opportunities for economic stability, higher growth and more employment – outcomes of direct benefit to EU citizens": European Commission. What is Economic and Monetary Union? Available at: [https://ec.europa.eu/info/index\\_en](https://ec.europa.eu/info/index_en)

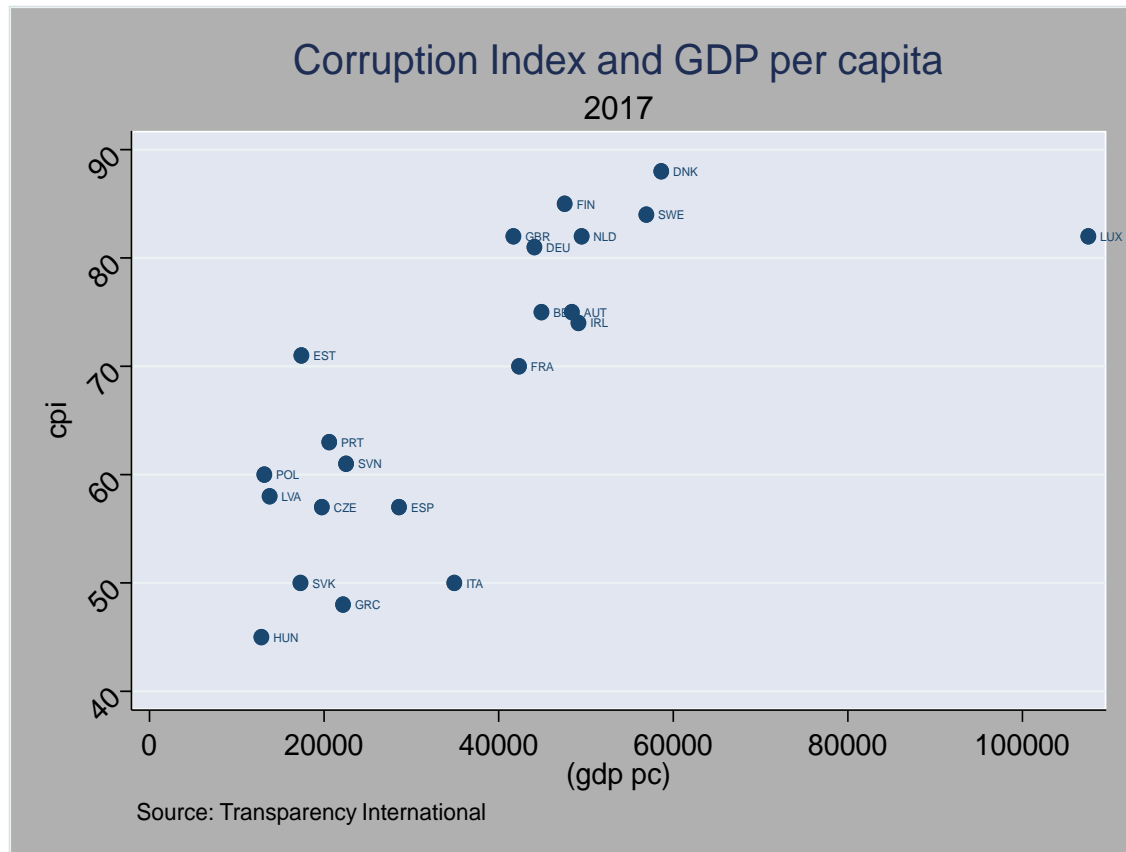
first OLS estimation includes data relative to the all current Eurozone members except for Cyprus and Malta that were admitted in 2008, Slovakia (2009), Estonia (2011), Latvia (2014) and Lithuania that was accepted in 2015, while the second includes data relative to all of them.

### 3.3. Descriptive Analysis

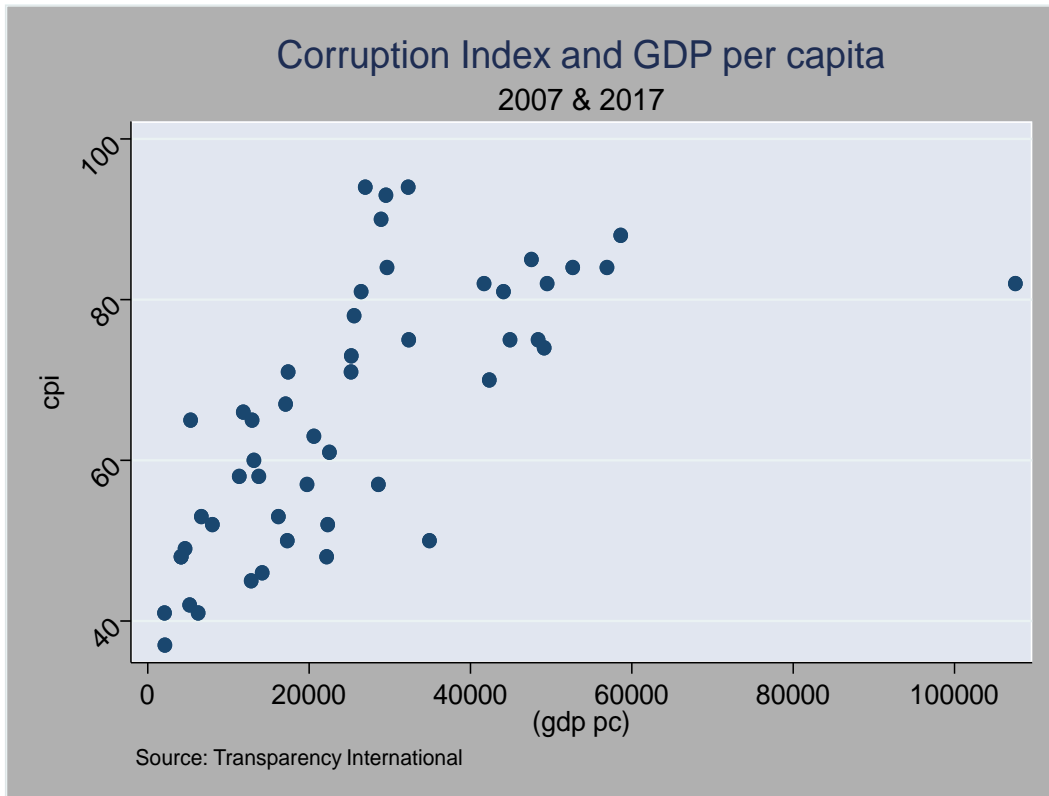
Before moving to the regression analysis, it is necessary to look at the underlying relationships between the key variables. The first way to do this is through graphical analysis. The scatter diagrams below show a clear pattern when it comes to the correlation of the level of economic development and the corruption perception index. Separating the data into two year cohorts, one can note that higher values of GDP per capita are associated with higher score in fighting corruption.

**Graph I: GDP per capita vs. corruption level [2007]**



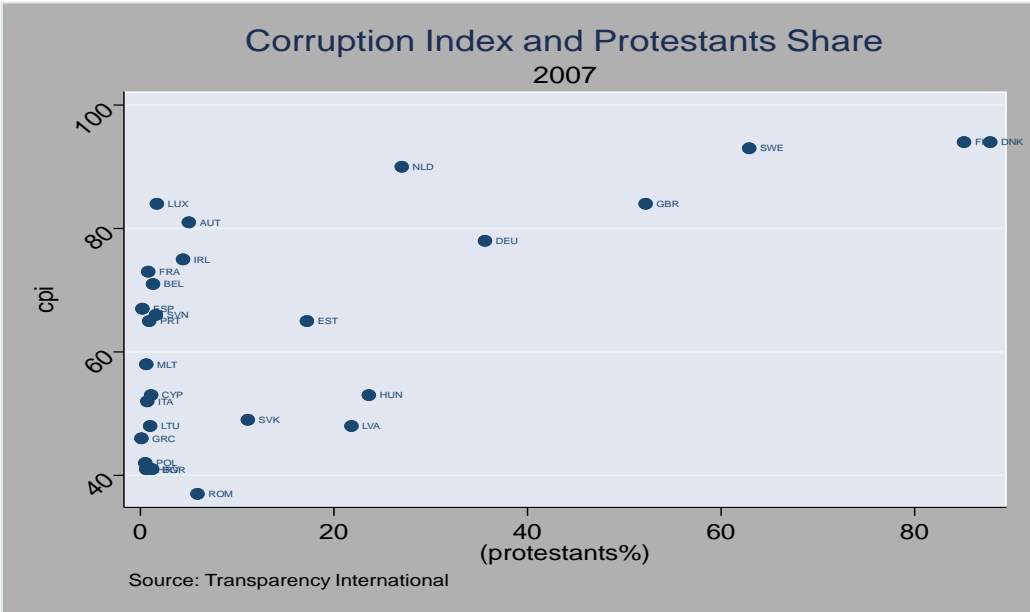
**Graph II: GDP per capita vs. level of corruption [2017]**

The same conclusion is drawn when we pool data for both 2007 and 2017 at the same graph (Graph III). The labels next to the dots on the scatterplot reveal the actual position of specific countries. For example, Luxembourg is a clear outlier in terms of GDP per capita, whereas Estonia exhibits a high level for the Corruption index relative to its rather low GDP per capita. Overall, the positive association looks strong but we have to validate this evidence through the use of statistical analysis.

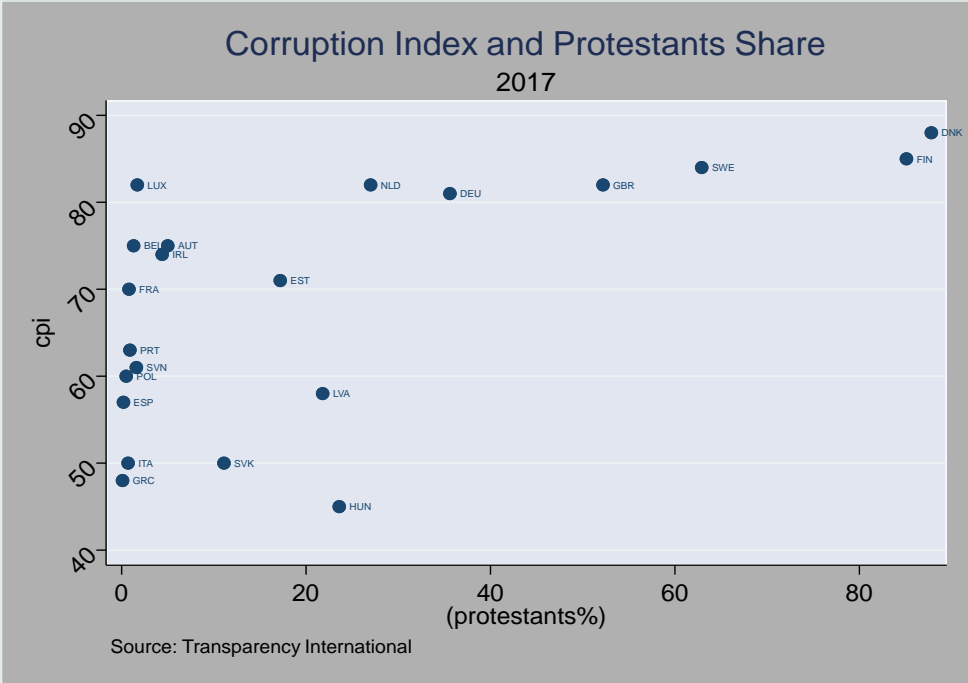
**Graph III: GDP per capita vs. level of corruption [2007 & 2017]**

Afterwards, on the grounds that protestant tradition has been found to lead to lower perceived corruption levels according to previous researches (see Section 2) the impact of the Religion Status in terms of Protestants' share is examined whereas the results are depicted at Graph IV & V respectively.

Graph IV: Protestants' share vs. level of corruption [2007]



Graph V: Protestants' share vs. level of corruption [2017]



The next step is to assess the variables that enter the analysis. To this end, the Table of descriptive statistics is presented below.

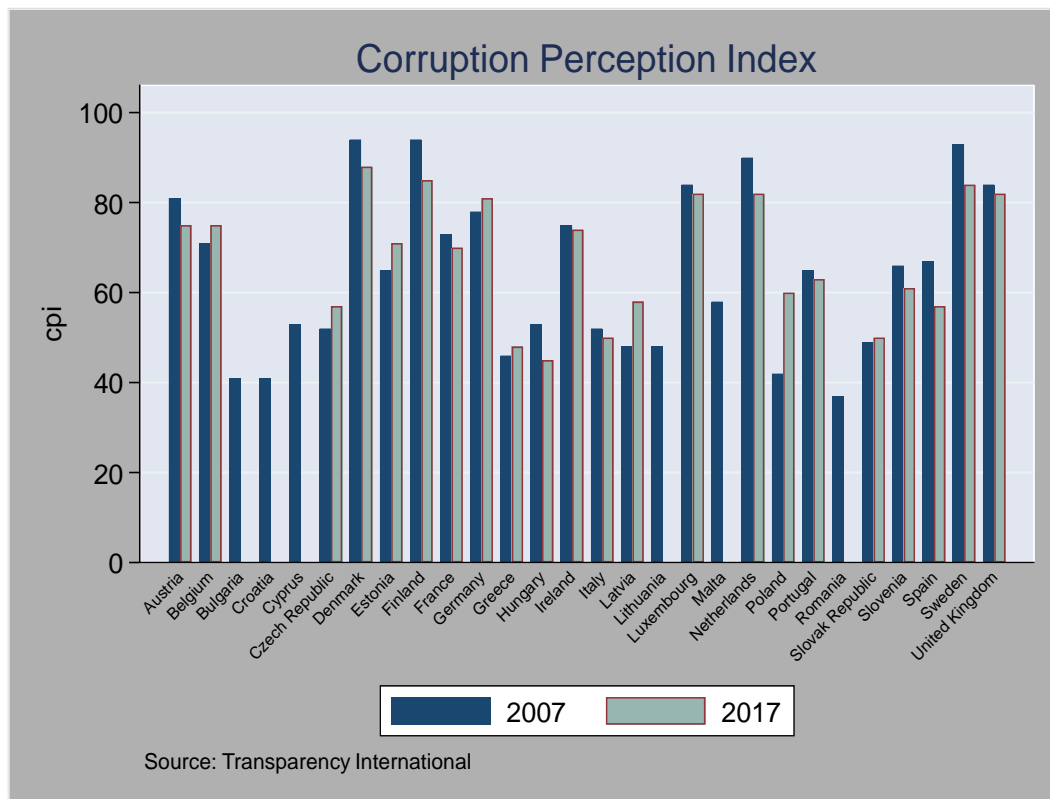
**Table 1: Descriptive Statistics**

|          | Mean     | Median  | Sd       | Min   | max    | skewness | Kurtosis |
|----------|----------|---------|----------|-------|--------|----------|----------|
| Cpi      | 65,96    | 65,5    | 16,19267 | 37    | 94     | 0,03894  | 1,811683 |
| Gdp      | 24807,43 | 21487,5 | 19021,35 | 2074  | 107540 | 1,689031 | 7,585034 |
| legal_uk | 0,107143 | 0       | 0,312094 | 0     | 1      | 2,540341 | 7,453333 |
| Ez       | 0,607143 | 1       | 0,492805 | 0     | 1      | -0,43876 | 1,192513 |
| prot00   | 0,16737  | 0,017   | 0,257778 | 0,001 | 0,878  | 1,709249 | 4,750191 |

Our main variable of interest, CPI shows an improvement on average during the ten years between 2007 and 2017. Despite the financial crisis, countries show evidence of improvement in their effort to diminish corruption. The volatility among countries has declined too as revealed from the lower value of the standard deviation and the more narrow range. The extreme values have also been less pronounced in 2017. The distribution of the CPI is rather symmetric with the mean and median value not showing great difference in both years. On the other hand, the increase in GDP per capita on average has been coupled with a greater divergence as increased standard deviation for 2012 reveals. Finally, the share of protestants (calculated in 2000) varies significantly within the sample ranging from 0,1% of the population to 87,8%.

The Graph below (Graph VI) shows the evolution of the CPI beyond the average values in Table 1, as we can see the two values for each country individually. The change in CPI varies with countries like Greece, Latvia and Poland recording substantial improvements while countries with high values in 2007 showed slowing signs in their fight against corruption (Denmark, Finland, Netherlands). This could point to the detrimental effect of the financial crisis, if we posit that CPI increases with economic growth.

Graph VI: Evolution of the Corruption Perception Index [2007 &amp; 2017]



### 3.4. Regression Results

At this point we want to establish a causal relationship between our independent variables and the corruption index. Before turning to econometric estimations, we present simple pair-wise correlations between all variables. The Pearson correlation coefficients are summarized in table 2 below, with the respective p-values below. The first column underscores the high degree of correlation between CPI and GDP per capita ( $r = 0,67$ ), which is significant at 1% ( $p\text{-value} = 0,00$ ). A similar conclusion is drawn as we look at the coefficient for CPI and the percentage of protestants in the population ( $r=0,63$ ,  $p\text{-value}=0,00$ ). There are some indication of correlation between the independent variables, for example the level of Protestants and the legal origin which could potentially lead to multicollinearity in the regressions.



**Table 2: Correlation Matrix**

|          | CPI            | GDP            | legor_uk        | ez              | prot00 |
|----------|----------------|----------------|-----------------|-----------------|--------|
| CPI      | 1.00           |                |                 |                 |        |
| GDP      | 0.67<br>(0.00) | 1.00           |                 |                 |        |
| legor_uk | 0.16<br>(0.27) | 0.13<br>(0.36) | 1.00            |                 |        |
| Ez       | 0.22<br>(0.13) | 0.32<br>(0.02) | -0.08<br>(0.58) | 1.00            |        |
| prot00   | 0.63<br>(0.00) | 0.31<br>(0.02) | 0.03<br>(0.80)  | -0.28<br>(0.04) | 1.00   |

Finally, we estimate two separate cross-sectional regressions, one for each year as described in equation (1). The methodology for both regressions is Ordinary Least Squares (OLS) and reveals that the coefficient for GDP per capita is positive. This implies that increases in the level of economic development result in higher levels of the corruption perception index. It has to be noted that GDP per capita is measured in thousands for these estimations. Having said that, data from 2007 show that a thousand euro increase in GDP per capita would imply a rise in the CPI but more than one unit. The relationship remains positive and significant for the 2017 estimation, however the magnitude of the effect is much smaller. The accompanying p values indicate that this result is significant at the 1% level of significance.

**Table 3: Regressions for years 2007 and 2017**

| TIME FRAME                     | 2007                 | 2017                 |
|--------------------------------|----------------------|----------------------|
| VARIABLES                      | CPI                  | CPI                  |
| GDPpc                          | 0.815***<br>(0.000)  | 0.351***<br>(0.001)  |
| legor_uk                       | -2.828<br>(0.549)    | 6.351<br>(0.296)     |
| EZ                             | 6.568*<br>(0.096)    | 3.517<br>(0.418)     |
| prot_00                        | 0.348***<br>(0.000)  | 0.244***<br>(0.003)  |
| Constant                       | 41.176***<br>(0.000) | 47.035***<br>(0.000) |
| Observations                   | 28                   | 22                   |
| R-squared                      | 0.858                | 0.738                |
| pval in parentheses            |                      |                      |
| *** p<0.01, ** p<0.05, * p<0.1 |                      |                      |

What is more, the level of Protestants evidently has a positive impact on the efficiency of anti-corruption policy. The coefficient is positive and statistically significant in both specifications. This result shows that cultural and religious aspects also matter for anti-corruption policy and not just economic variables.

Similarly, Euro-zone membership appears to pose a strong positive coefficient in the first column; however the significance disappears if we consider data for 2017. This could be explained by the decreased variation in the variable, as more countries adopted the common currency during these ten years. The estimations for 2007 suggest that, on average, countries in the currency area score 6.5 points higher in the CPI than non-participants but cannot be conclusive.

Remarkably, on the other hand, regression results reveal that the existence of a legal system of UK origin cannot be perceived as an indicator of importance, contrary to the hypothesis demonstrated in literal review that placed the concept of legal origin as a predictor variable to a country's corruption level.

Ultimately, the coefficient of determination  $R^2$  is high in both regressions, showing that the fit of the model is satisfactory in both cases. Overall, more than 70% of the variation in CPI is explained by our model of choice.

**Table 4: Heteroscedasticity Tests**

| Test          |           | 2007  | 2017  |
|---------------|-----------|-------|-------|
| Breusch Pagan | Statistic | 0     | 1,97  |
|               | P-Value   | 0,985 | 0,161 |
| White         | Statistic | 4,51  | 9,57  |
|               | P-Value   | 0,953 | 0,485 |

One should not neglect the distribution and behavior of the residuals to check for potential violation of the classical hypotheses. To this end, we deploy the White test and the Breusch-Pagan (BP) test for heteroscedasticity and present the results in Table 4. Both test have homoscedastic variance as the null hypothesis, hence a rejection of the null implies the existence of heteroscedasticity. As can be viewed in the Table the null hypothesis cannot be rejected at any known level of significance. The conclusion is that we need not worry about heteroscedasticity.

**Table 5: Variance Inflation Factor 2007**

| Variable | VIF  | 1/VIF |
|----------|------|-------|
| prot_00  | 1.58 | 0.631 |
| legor_uk | 1.07 | 0.932 |
| GDPpc    | 2.14 | 0.468 |
| Ez       | 1.84 | 0.543 |

An extra test is the test for multicollinearity. Having observed the correlations in Table 2 it is necessary to report the Variance Inflation Factor (VIF). Values of the indicator that exceed 10 raise suspicions for the existence of multicollinearity. As can be induced by the test results in Table 5 & 6 there is no indication of multicollinearity

in either of the time cohorts. A value of VIF greater than ten is not observed for any of the variables in Tables 5 or Table 6.

**Table 6: Variance Inflation Factor 2017**

| Variable | VIF  | 1/VIF |
|----------|------|-------|
| prot_00  | 1.35 | 0.739 |
| legor_uk | 1.05 | 0.954 |
| GDPpc    | 1.16 | 0.864 |
| Ez       | 1.30 | 0.768 |
|          |      |       |

## **Discussion and concluding remarks**

Unfortunately, corruption prevails in various social contexts and financial systems all over the world, from time immemorial. This study intends to determine the real impact of a series of factors that are associated with corruption activities, *id est* economic growth, legal origin, religion and Eurozone membership, among a wider range of determinants of corruption examined in literature review, in an attempt to assess their significance.

For this purpose, aside from the theoretical approach, empirical research is being conducted via two separate cross-sectional regressions in an effort to establish a causal relationship between the independent variables and the Corruption Perceptions Index. The methodology for both regressions is Ordinary Least Squares (OLS) and the empirical results, notably, revealed that the existence of a common law system is not associated with a country's corruption levels, challenging Treisman's study, aforementioned in literature review, who argued that corruption level is lower in a country with common law system.

Likewise, Eurozone membership exhibits strong positive coefficient in year 2007. This could be explained by the decreased variation in the variable, as more countries adopted the common currency during these ten years. The estimations for 2007 suggest that, on average, countries in the currency area score 6.5 points higher in the CPI than non-participants but cannot be conclusive as the significance disappears when data for year 2017 is considered.

Further on, statistical analysis reveals that the coefficient for GDP per capita is positive, implying that increases in the level of economic development result in higher levels of the corruption perception index and lower levels of corruption respectively corroborating the theories perfectly.

Finally, the religion status, in fact the level of Protestants, appears to have a positive impact on the efficiency of anti-corruption policy as the coefficient is positive and statistically significant in both specifications, illustrating the case that cultural and religious aspects bear equally high significance along with the economic variables, claim that is totally supported by previous theoretical framework.

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