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A THEORETICAL ANALYSIS OF ANTICORRUPTION POLICY: MEXICAN CORRUPTION AS A COLLECTIVE ACTION PROBLEM

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Summary

Corruption is one of the central issues in the global agenda: it has countless economic and social costs and is so pervasive that it poses a real threat to development in many countries. Since the 1990s anticorruption policy has been tied to numerous studies about corruption's causes, variants, scope, and optimal solutions. Despite the considerable amount of funding invested and research published, heated debate remains about how the corruption problem should be understood and addressed. This thesis is a literature review of the two main theories in the literature about corruption: principal-agent theory and collective action theory. This is an important endeavor due to the limitations, oversights, and missteps that result from an inaccurate framework not only in theory but also in the design and application of anticorruption policy.

In Mexico, as in many other high-corruption contexts, the problem of corruption has become systemic and has prevailed despite the country's long trajectory of institutional anticorruption reform. This is because the corruption problem has historically been addressed as an agency problem, rather than as what it truly is: a collective action problem. The universal tools prescribed by principal-agent theory, which promote monitoring and sanctioning as the solutions and support mechanisms of transparency, auditing, and accountability; are insufficient to control endemic corruption. Instead, the problem of corruption should be addressed on a case-by-case basis with special consideration placed into how the citizens' expectations and perceptions affect the formation of preferences and behaviors of corruption.

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Introduction

Corruption is an issue that has plagued any and all organized societies throughout history. In its various forms, it has been present since the dawn of civilization; it is mentioned in records from ancient China, to the Roman Empire, to the modern world. As long as the delegation of authority has existed, people have had the opportunity to abuse and promote their own interests. It is only natural that efforts taken to correct this problem have evolved alongside it.[1] Corruption is widely recognized as one of the most important and urgent matters in the international agenda; so pervasive and harmful that it has been likened to some of the most lethal and feared of human diseases (Campos & Pradhan, 2007; Kroeze et al., 2018). Especially in the developing regions of the world it has posed insurmountable obstacles towards development; in Mexico it is considered one of the main issues we face in the XXI century (RRC & CIDE, 2018). While most of this thesis is concerned with a literature review of the two most important theories behind anticorruption policy, its main contribution is to suggest that the approach that has historically been used to control corruption in Mexico, based in principal-agent theory, is not appropriate given the context of the problem in the country. Instead, I suggest that an approach that understands corruption in Mexico as a collective action problem is much better suited to address the issue.

The structure of this thesis is as follows. The first section holds a literature review of the two main theories used to explain (and control) the problem of corruption: principal-agent theory and collective action theory. The theories make use of maximization and game theory frameworks, respectively, to model the problem. For each of the theories, I first present a general model, followed by the application it has had within the corruption and anticorruption literature (including a review of the most relevant authors). The second section is a brief history of the most important anticorruption policies and reforms in Mexico in modern history with a focus on the last five years.

[1] Some of the first recorded examples of anticorruption efforts are found in the Code of Hammurabi (XVIII century BC) and the Arthasastra (II century BC). These writings were part of moral codes (generally religiously prescribed) which denounced bribery. However, these early texts did not in general criticize other actions which are presently considered as corrupt in which a public official made use of their office to obtain private gain such as embezzlement or nepotism.

Finally, I conclude that Mexico's corruption problem can be much better understood and addressed through the framework of collective action theory.

Although there has been a sharp increase in corruption research and anticorruption policy design and implementation in the last decades, limited progress has been made in the matter, particularly in "high-corruption nations" and in domains as critical as public procurement (Dupuy et al., 2018; Marquette & Peiffer, 2015; Persson et al., 2013). Corruption's inherent quality of secrecy poses problems to its understanding, measuring, and correcting. Much has been written about it, yet we still possess incomplete knowledge about the consequences, scale, and optimal strategies to address the issue. While certain theories have extended an argument in favor of corruption, stating that in some situations it may have actually been beneficial to society and improved growth and efficiency, this is generally regarded as false.[2] The consensus is that the costs of corruption greatly outweigh the benefits (Bardhan, 1997).

The harmful effects of corruption, although highly correlated, can generally be divided into social and economic costs. Economically, corruption impedes growth, poverty reduction and investment; negatively affects public service provision, foreign investment and trade; causes losses of efficiency in markets and government contract allocations; concentrates wealth; undermines government revenue; distorts the economy; and presents a heavy tax on private enterprises (López Claros, 2013; Runde et al., 2014).[3] Socially, it negatively affects political stability, development, environmental resolutions, citizen trust in government institutions; encourages secrecy and deceit; provides the elite with illicit means to vie for their interests and positions; and worsens other important issues such as insecurity, health, unemployment, and impunity (RRC & CIDE, 2018; Dupuy et al., 2018; Global Programme Against Corruption, n.d.). Additionally, the costs are not borne equally among countries or groups, as developing countries bear a disproportionate share of

[2] One of the main authors defending this argument was Samuel Huntington, who stated that corruption could in some cases be the much needed grease to the wheels of society, bypassing cumbersome bureaucratic requirements that would impede growth (Huntington, 1968). Corruption may indeed in some cases act as a buffer to the distortions in the economy. However, as Bardhan wisely points out, "quite often these distortions and corruption are caused or at least preserved or aggravated by the same common factors. The distortions are not exogenous to the system and are instead often part of the built-in corrupt practices of a patron-client political system" (Bardhan, 1997, p. 1323).

[3] In corrupt situations Bardhan (1997) mentions a substitution effect in place for investment, where corrupt officials direct investment towards activities in which they are less likely to be detected and which are usually less profitable: for example choosing complex or newer technologies that are more likely to be overvalued and are not necessarily needed. He also mentions that insiders might raise entry barriers to avoid detection from newcomers (Bardhan, 1997, p. 1326).

the burden, and within countries people who are in situations of vulnerability, poverty or hardship are subjected to the highest costs (Persson et al., 2013; Rothstein, 2011, Runde et al., 2014). According to Bardhan (1997), "while corruption in one form or another has always been with us, it has had variegated incidence in different times at different places, with varying degrees of damaging consequences" (p. 1320).[4] In 2013 it was estimated that the costs of corruption were around $1 trillion globally, and in the private-sector alone the cost was estimated to be around $500 billion in developing countries (Runde et al., 2014, p. v).

Moreover, the relevance of investigating the situation of corruption is heightened by the urgency in solving the issue, especially if one takes into account the fact that corruption plays into most if not all of the greatest issues faced by humanity in recent years. Delia Ferreira Rubio, the Chair of Transparency International, is credited with the following phrase:

> "Whether the focus is ending hunger and poverty, ensuring access to health, education, and clean water for all, or protecting marine environments and combating climate change, fighting corruption is an essential prerequisite for advancing the 2030 Agenda. [...] When aid is siphoned off by the corrupt, when politicians come under undue influence from vested interests, or when citizens are unable to hold their governments to account over the delivery of essential services, the entire sustainable development programme is set backwards." (Transparency International, 2019)

Hence, controlling corruption is urgent if we wish to avoid further deterioration of the range of social and economic problems present in Mexico. The Mexican Institute for Competitiveness (IMCO) and other sources estimate that the loss in GDP for Mexico as a result of corruption is between 5-9% (OECD, 2017, p. 3). Furthermore, Mexico has shown little progress in controlling its widespread corruption in the past couple of decades. This is evident in Figures 1 and 2 (see in Appendix B), which show for Mexico both Transparency International's Corruption Perceptions Index (CPI) and the European Research Centre for Anti-Corruption and State-Building's (ERCAS) Index of Public Integrity (IPI); two of the most renowned international measures of corruption. Figure 1 presents both the score and the rank Mexico obtained in the Corruption Perception Index

[4] Taken to the extreme, the effects of corruption are bleak: "Corruption kills" was used to note that 83% of deaths from building collapse since the 1980s happened in countries that are extremely corrupt (Ambraseys and Bilham, 2011, as read in López Claros, 2013, p. 18).

from 1995 to 2020. This composite index is a combination of 13 other external indices, however, it is based on measures of the perception of corruption within a country.[5] As it can be observed, while the CPI score has held somewhat stable at around 33 (reaching a maximum in 2001 at 37 and a minimum in 1997 at 27)[6], the CPI rank has lowered in value as the index surveyed more countries (adjusted for the number of countries, on a scale of 1 to 100 Mexico's position has varied in between being the 90th worst country in terms of corruption (in 1997), and the 40th country (in 2007-2008)).[7] Figure 2 shows the Index of Public Integrity's assessment of the country in 2015, 2017, and 2019. The IPI is another type of composite index that uses proxy indicators of six individual and 'actionable' components that pertain to the institutional framework that fosters public integrity.[8] The Index of Public Integrity shows a slightly different picture of the country; while the improvement in the last 5 years has been modest, Mexico is ranked better on average in the different components.[9] As can be seen in the figure, Mexico showed only a slight improvement from 2015 to 2019; e-citizenship and trade openness climbed a small amount, and the budget transparency score rose markedly. We rose from the 51th percentile in 2015 to the 41th percentile in 2019.

The global stage presents a similar picture; despite the amount of resources directed at controlling and preventing this problem[10], empirical evidence points at the fact that in many countries little progress has been made. In some countries, the problem has even been aggravated as a reaction to the anticorruption policies. In consequence, many academics agree that the "wide-scale failure of anti-corruption programming lies in the inappropriate theoretical foundations that

[5] As it is based on a subjective measure it is considered an indirect method of measuring corruption and thus cannot be taken for a proxy of the levels of corruption. Additionally, it has received a series of criticisms about its design that suggest bias in its methodology (UNODCa, 2019). However, as the secrecy involved in corruption is an impediment to measuring its actual occurrence, this perception-based index continues to be a very valuable tool in understanding and controlling the problem. Moreover, as will be argued later, expectations of corruption play a key role in perpetuating or controlling the problem, therefore an index based on perceptions is very valuable.

[6] The CPI score should be read as 100 representing a 'very clean' country, and 0 representing a 'very corrupt' country.

[7] In 1995 the CPI index analyzed a total of 41 countries, then 183 countries in 2011, and has analyzed 180 countries since 2017.

[8] The IPI's indicators are: judicial independence, administrative burden, trade openness, budget transparency, e-citizenship, and freedom of the press (Mungiu-Pippidi et al., 2017).

[9] For example, on a scale of 1 to 10, in 2019 Mexico scored 9.1, 8.8, and 8.8 in budget transparency, trade openness, and administrative burden, respectively.

[10] Some sources estimate investments in anticorruption reform to range anywhere between hundreds of millions to billions of dollars. This modern influx of funds has even been called the "birth of an 'anti-corruption industry'" (Sampson, 2010; Michael, 2004; Mungiu-Pippidi, 2006 in Marquette & Peiffer, 2015, p. 1).

underpin its design" (Marquette & Peiffer, 2015, p. 1). Therefore, providing a satisfactory theoretical basis for anticorruption policy should remain a central concern for both scholars and policymakers, as inadequate theories are not only theoretical inaccuracies, but are also reflected in ill-advised anticorruption reforms. The next section delves in depth into the two key bases of modern anticorruption policies: principal-agent theory and collective action theory.

Theories of Corruption

Any attempt to tackle the problem of corruption is bound to be a complicated one due to the inherent complexity of the concept of corruption itself. The concept covers such a wide array of wildly different behaviors and attitudes that producing a truthful definition is in itself a challenge. Definitions vary greatly; in some cases they are not even offered or they are incredibly ambiguous.[11] Neither the OECD, the Council of Europe nor the UN Conventions offer a definition. Instead, they present a series of offences that constitute corrupt behavior: bribery of domestic and foreign public officials (including influence peddling, improper exchange of gifts, and bribery to avoid taxes or other costs, in support of fraud, to avoid criminal liability, in support of unfair competition, and to obtain confidential information), theft, embezzlement, extortion, abuse of discretion, favoritism, nepotism, clientelism, fraud, patronage, conduct creating or taking advantage of conflicts of interest, improper political contributions, misuse of authority and power, misappropriation or diversion of property by a public official, obstruction of justice, and others (Global Programme Against Corruption, n.d.; Jain, 1998). The term has also come to consider transactions in the private market. When a definition is offered it usually falls between the lines of "abuse of public power for private gain" or follows a similar structure (Davis, 2012; Ledeneva et al., 2017). Ledeneva et all. (2017) offer a table presenting the general structure of the most common definitions of corruption (see Table 1 in Appendix A), which implicitly understand the problem through a principal-agent framework. While providing a formal definition is not always necessary

[11] According to Jain (1998), some authors even offer tautological definitions of the term "corruption is what is called corruption" (Brasz 1970, p. 43 as seen in Jain 1998, p. 13).

in order to address a problem, in the case of anticorruption literature the definitions are useful in identifying the author's theoretical base.[12]

Principal-agent theory and collective action theory have offered models that analyze why corruption happens, what factors affect it, and how it might be curbed. The theory behind most anticorruption recommendations at a global level has historically been principal-agent theory,[13] whose foundation in the economic theory of agency gave policymakers a strong and defined framework for policy design. In broad terms, according to this theory corruption is the result of agents abusing authority they have been given to achieve some kind of private gain instead of promoting the goal they have been assigned. The problem of corruption can then be solved or at least controlled with an increase or improvement in the monitoring and sanctioning mechanisms applicable to the agent (Marquette & Peiffer, 2015).

As a response to the limited success of this theory, many authors turned to the theory of collective action to explain the persistence of corruption. They argued that one of the main reasons behind the failure of traditional anticorruption policy grounded in principal-agent theory —i.e., policy that follows the framework stated by the good governance perspective—[14] is that it fails to recognize the diversity between countries, and it consequently tries to approach corruption aided by a one-size fits all "tool-kit" that prescribes a series of standardized recommendations in favor of democratization, transparency, and increased measures of monitoring and sanctioning. The problem with this universal approach is that it does not consider the particular dynamics corruption might embody in a particular country or society, therefore overlooking the ways in which certain conventional tools such as increased transparency or accountability might play into such a context. For while in some settings such tools have shown remarkable force in fighting corruption, in others —in particular contexts where corruption has become so pervasive that it affects most interactions

[12] In recent years different definitions of corruption have emerged; many of which implicitly include a collective action perspective (RRC & CIDE, 2018).

[13] A study by Ugur and Dasgupta (2010), noted that of the 115 studies analyzed, all were based on an explicit principal-agent framework of corruption.

[14] Good governance has become a central objective to the international community since the 1990s because of its strong declared link to economic development and better quality of life. It refers to the manner in which public institutions operate and manage resources to promote sustainable development, the rule of law and the guarantee of human rights. According to the United Nations, a country which practices good governance is expected to be participatory, consistent with the rule of law, transparent, responsive consensus oriented, equitable and inclusive, effective and efficient, and accountable. Additionally, the concept is associated with legitimacy, transparency, impartiality, ethical universalism and open-access orders (UNODCb, 2019).

and can be described as systemic and endemic— the tools to control it have instead worsened the problem.[15] Additionally, it is not always reasonable to assume that those in charge of designing and implementing these measures will not also fall prey to the incentives favoring corruption.

With the use of game theory models, the theory of collective action remarks on the key importance of the individuals' expectations and norms of behavior in the formulation of preferences, and how this may result in self-reinforcing dynamics where an undesirable, highly-corrupt equilibrium may prevail. Thus, the theory can shed light into why some countries with effective implementation of formal institutional anticorruption reforms have shown limited or null improvement of corruption. The newest theories propose that while typical anticorruption tools (such as legislative and administrative infrastructure in the matter of control, prevention, and sanction of corruption) are not without value and may be useful if carefully tailored to each context. However, it is of equal importance to understand that corruption is also the consequence of the interactions between individuals in a society, and that the individuals' expectations of external behavior towards corruption play a key role in the spread and permanece of corruption within a society.

Both theories and their corresponding models of corruption are undoubtedly imperfect. Their flaws are visible not only in the theory but are also reflected in the design and consequences of anticorruption policy design. Yet, they still offer valuable insight into corruption theory and anticorruption policy. Following Box and Draper (1987), "Essentially, all models are wrong, but some are useful" (p. 424). In the following pages the principal-agent and collective action theories of corruption are discussed in depth.

[15] For example, in some countries the successful implementation of transparency and accountability programs instead of reducing the incidence of the problem, has resulted in a rise in corruption as it increased the awareness of the problem. More exposure to instances of corruption may inadvertently alter perceptions of corruption in a society, and consequently decrease the individual's incentives against corruption (Bauhr, 2017).

Principal-Agent Theory of Corruption

The first and most prevalent kind of models of corruption are the Principal-Agent Models. These models explain the issue of corruption as the result of an agency problem that exists between a principal and an agent to whom the principal has delegated discretionary authority. Because the agent is assumed to be rational, self-serving, and thus capable of opportunistic behavior, the objectives of the higher authority may be undermined in favor of the agent's interests, thus opening a space for corruption to occur (Rose-Ackerman, 1978, p. 2).

As the name implies, these types of models follow the economic Theory of Agency, which is in turn based on Contract Theory. Even though Agency Theory developed as an academic field in the 1960s and 1970s, relationships of agency have existed for millenia. Ross (1976), points at the fact that "the relationship of agency is one of the oldest and commonest modes of social interaction" (p. 134). Agency relationships are intrinsic to contractual arrangements, whether in a private compromise between people or in the arrangement between the state and its citizens. Situations where problems of moral hazard might arise, that is, when individuals alter their behavior towards risk because the consequences will be borne in part by other entities, also deal implicitly with agency problems. According to Rose-Ackerman (1978), the delegation of decision-making authority is a central organizational technique in both complex modern societies and less developed societies (p. 2). Whenever one individual has ever depended on the actions of another an agency relationship has existed (Pratt & Zeckhauser, 1985, p. 2), but the types of possible relationships become increasingly complicated as the society develops.

The evolution of agency relationships is accompanied by the development of increasingly complex agency problems between the involved parties. According to the theory, the agency problem arises when the principal does not have perfect knowledge of the agent's actions and information. As the agents know more about their actions and objectives than the principal does, an information asymmetry is also present. The principals will therefore attempt to remedy these informational issues. However, the procurement of information implies a cost, as does the alignment of incentives of both the agent and the principal. Consequently, the objective of any agency relationship is to be structured in such a way that these costs, sometimes called *agency costs*, are minimized. Typically, this is done through diverse ways of monitoring or through an alteration of the incentives for the agent. (Pratt & Zeckhauser, 1985, pp. 2-5). According to White

(1985), “although economists may speak of ‘the agency problem’, agency is in fact a solution, a neat kind of social plumbing. The problem is the ancient and ineluctable one of how to attain and maintain control in order to carry out definite, yet varying purposes” (p. 188). The almost universal quality of the agency problem and ensuing widespread applicability of the solution in diverse situations in life make Agency Theory an extremely useful body of knowledge. Panda and Leepsa (2017) declare that because of the marked presence of the agency problem in different types of organizations, the theory has become one of the most relevant to the fields of finance and economics.

The theory originated during the 1960s and early 1970s, when it developed in a parallel course within the fields of economics and political science. While some authors speculate that it initially developed independently in both fields, the economic variant was quickly accepted as part of the main body of theories and subsequently became institutionalized in literature, economic journals and corporate culture. In comparison, agency theory in political science developed at a far more sedate pace, which resulted in its evident foundation in the economic approach rather than a more sociological or traditionally political conception (Ross, 1973; Shapiro, 2005, p. 271). Consequently, “the economics formulation of agency theory is the dominant one and casts a very long shadow over the other social sciences” (Shapiro, 2005, p. 265).

As the economic variant or at least several of its main elements gradually became part of the General Agency Theory, two currents of thought developed: Positivist Agency Theory and Principal-Agent Agency Theory. Both theories share a common focus in the contract celebrated between the principal and agent, as well as in various established assumptions about the agents, organizations and information. Its authors have specified several situations in which the principal and the agent have opposing goals to later prescribe organizational instruments that may limit the agent’s self-serving actions. This current is then more concerned with a descriptive approach of which governance mechanisms are more likely to solve the agency problem; therefore, it identifies two main lines of advice. Firstly, the literature proposes that agents’ exploitative tendencies may be curbed by outcome-based contracts because, as the benefits for both principal and agent depend on the same actions, these types of contracts will align their preferences and therefore reduce the agency problem. Secondly, information systems may also be effective in constraining agent opportunism because they offer the principal more opportunities to verify that the agent is

complying with the contract, limiting the agents' opportunity to swindle the principal. Additionally, positivist literature is almost exclusively concerned with what can be understood as a special case of the principal-agent relationships; that is, it is focused on the agency relationship between shareholders and CEOs of notable businesses in the public sector (Berle & Means, 1932; as read in Eisenhardt, 1989, p. 59-60).

In contrast, Principal-Agent models are chiefly concerned with the creation of a theory that can be applied not only to the special case mentioned previously, but also to principal-agent relationships in general (which may include those between employer-employee and the relationships resulting from the provision of services or goods such as buyer-supplier or lawyer-client) (Harris & Raviv, 1978). While the Positivist Theory of Agency is rather politically inclined, the Principal-Agent theory is more formally defined, involving specific assumptions and mathematical reasoning. Additionally, as it is focused on a wider set of agency relationships, its implications and policy recommendations can be applied to a broader array of situations. Furthermore, the latter theory has produced many more testable implications (Eisenhardt, 1989). However different these two streams may be, they should not be seen as contradicting. Rather, as Eisenhardt (1989) affirms, they should be seen as complementary: "Positivist theory identifies various contract alternatives, and principal-agent theory indicates which contract is the most efficient under varying levels of outcome uncertainty, risk aversion, information and other variables…" (p. 60).

Agency Theory is used widely throughout the social sciences and disciplines such as business, accounting, finance, marketing, and the like.[16] Principal-Agent Models in particular have greatly contributed to anticorruption policy.[17] What now follows is a more formal detailing of

[16] The theory is particularly useful when seen as an aide to organizational theory, as it can be applied to issues such as compensation, acquisition and diversification strategies, board relationships, ownership and financing structures, vertical integration, and innovation (Eisenhardt, 1989).

[17] According to Jain (1998), the Principal-Agent models may be separated even further. Firstly, the majority of the models analyze the relationship between government executives and bureaucrats. According to this first type of models, the agency problem occurs when the principal is unable to monitor or measure the agent's behavior in a clear manner, resulting in an information asymmetry (Rose-Ackerman, 1978). Secondly, there is a small group of authors that recognize that the agency problem can stem not only from informational asymmetries, but also from a lack of control from the principal. This can happen when the principal is unable to replace, effectively lead or exercise control over the agent, leading to situations when the principal is incapable to take action when the agent does not pursue the principal's objectives (Jain, 1998, p. 20). However, this second type of models offer only informal descriptions of the mechanism.

Principal-Agent models; firstly, in a general sense, and secondly, in the particular sense of modeling corruption.

I. General Model

The classic formulation of an agency problem by Ross (1973) offers a clear way to understand a Principal-Agent model. According to Ross, an agency relationship is created between two (or more) parties when one "acts for, on behalf of, or as representative for the other" for a particular set of decision problems (p. 134). That is, the agent has been given authority by the principal over certain decisions.

As Ross follows the most common approach to the Principal-Agent models, the economic one, it includes a number of precise assumptions. Firstly, it assumes that both the agent and the principal have state independent von Neumann-Morgenstern utility functions, and that they will consequently maximize their own expected utility. We will call these functions $G(.)$and $U(.)$, respectively. Assuming both the agent and the principal are subject to situations of uncertainty, the agent may choose an act belonging to a feasible action space, $a \epsilon A$. The random payoff from this act, $w(a, \theta)$, will depend on both the agent's action and the random state of nature, $\theta \epsilon \Omega$, that was unknown to the agent upon making his choice of action. A second assumption is that the agent and the principal have previously agreed on a fee schedule to be paid to the agent as a result of their actions, this agreement is frequently the result of a bargaining problem or a market process. The fee f will depend on both the state of the world $\theta$and the action a. A third assumption is that the only manner in which the action affects the fee is through its effect on the payoff: $f = f(w(a, \theta); \theta)$. The agent selects an act that maximizes his own expected utility, which in turn depends on the fee: $max_a E_\theta\{G[f(w(a, \theta);\ \theta)]\}$. It must be noted that the probability distribution presented by the agent is subjective. The principal will therefore choose a fee according to the following equation: $max_{(f)} E_\theta\{U[w(a(f, \theta)) - f(w(a(f, \theta); \theta)]\}$, constrained by $E_\theta\{G[f(w(a, \theta); \theta]\} \geq k$, which is the minimum expected utility fee by the agent. The arguments of the last equation depend on the principal's knowledge about the relationship of the agent's action with the fee schedules. If the principal does not possess complete information, the argument of a will become a random function, $a(.)$. It is assumed that he does have the information. Additionally, it is assumed for simplicity that both the agent and the principal share the same

subjective beliefs about the state of nature, which allows the fee to only depend on the payoff, and that the principal possesses better information about the states of nature. Therefore we can write $f = f(w(a, \theta))$.

Solving the previous maximizing problem solves the principal's problem, that is, it yields the optimal fee schedule from their perspective. However, this fee schedule will hardly be Pareto-efficient. In other words, the fee schedule might be improved upon to reach the social optimum. The family of Pareto-efficient fee schedules implies cooperation between agent and principal in choosing a schedule that maximizes both their utilities. The maximization problem to obtain it is the following: $max_f E\{U[w - f] + \lambda G[f]\}$, in which $\lambda$is a relative weighting factor. Lastly, the condition necessary to solve the maximization is $U'[w - f] = \lambda G'[f]$ (Ross, 1973, pp. 134-135).

Ross concludes that "the need to motivate agents does not conflict with the attainment of Pareto efficiency", at least for certain utility functions and payoff structures. However, this does not hold true generally, because it would assume perfect information from both the principal and the agent, in particular that the principal is perfectly knowledgeable about the agent's fee-to-act mapping. The problem now is not which functions yield Pareto efficiency, but how to monitor the agent. (Ross, 1973, p. 138). Through this framework, Ross proposes a set of schedules that prompt the agent to maximize the principal's expected utility.

II. Corruption under a Principal-Agent framework

Following the previous logic, corruption can be defined as a "sub-optimal outcome that results from strategic interaction between an agent (usually a government official with a given level of authority and accountability) and a principal (usually a member of the public). The agent abuses public office to secure private gains from the principal, who is unable to hold the agent accountable due to high monitoring costs" (Ugur & Dasgupta, 2011, p. 3).

Several key elements from the previous model can be recovered in the literature about corruption. Firstly, the basic unit of analysis is the agency relationship that establishes a connection in between two actors or more. The roles are clearly outlined: the person or party who takes part in the corrupt act must be acting as an agent for another individual or organization called the principal. The principal has a set of preferences which specify desired outcomes, the agent is then

entrusted to achieve these outcomes. (Rose-Ackerman, 1975, p. 6). Secondly, the corrupt act occurs between two parties: the agent and the briber, or instigator.[18] The classic case explored in the literature is between a private party (frequently an individual), and a government bureaucrat, but several authors have also explored situations where a private party enjoys the benefits of the act or where the interaction happens between government officials. Thirdly, for the agent to become part of a corrupt transaction, they must hold power either due to an institutional position or market imperfections (Rose-Ackerman, 1975, p. 188). The agent is then enticed to abuse this power and place their own interests above those of the principal.

Because both the agent and the third party (previously labeled as briber or instigator) stand to gain from the agent's action, the third party will attempt to influence the agent's behavior by offering them either cash benefit or some other kind of retribution of which the principal is unaware and whose benefits he does not enjoy. Though money is typically exchanged, the reward offered need not be material, as favors or influence may also be traded. Additionally, the payment does not necessarily imply that the principal's objectives have not been met. It may, in specific cases, cause the opposite reaction as the principal's satisfaction with the agent's work may increase.[19] (Rose-Ackerman, 1975). However, analysis of corruption is usually focused on payments that are understood as illegal and only benefit the agent at the detriment of the principal's goals.

The interaction between the third party and the agent is also subjected to moral costs on both parts, as engaging in a corrupt act may trigger in them a sense of guilt or recognition of wrongdoing. This categorization of the act as 'evil' or improper is frequently linked to the formal definition of the act as illegal or criminal, as this legal distinction means that both the agent and third party may be less willing to engage under the threat of expected legal penalty. Similarly, the expected moral costs may lower the prevalence of these kinds of acts. However, as Rose-Ackerman (1973) notes, if the legal consequences and penalties are not commonly enforced, the distinction between legal payments and corruption lessens until the moral cost is the only difference (p. 7).

This literature commonly offers specific examples of positions or people who may act as either agents or principals. More recently, it has been suggested that the principals and the agents may be, in fact, collective bodies of actors. In some cases, often due to the common organizational

[18] *Briber* and *bribee* can be also used.
[19] This could be the case in a situation where a bribe is used to acquire an improved service.

practice of delegation, it has been recognized that one person or actor (or group of actors) may be acting simultaneously as an agent and principal in different contexts or situations. For example, in a democratic society, the legislators are the agents of voters. At the same time, agency heads are the agents of legislators and bureaucrats are the agents of agency heads. Depending on the specific circumstances, who occupies the position of the agent and the principal in the model varies. Other examples of principal-agent relationships are rulers to bureaucrats; and citizens to ruling elites (Persson et al., 2013, p. 4).

While keeping in line with many assumptions, concepts and structures put forth by the principal-agent framework, the principal-agent models of corruption fundamentally differ from the classic economic theory available at the moment of publication. As mentioned earlier, previous work was primarily concerned with the attainment of an efficient fee schedule between the principal and the agent; the fee being a result only from the agent's actions and the state of the world. According to Rose-Ackerman (1975), because of this the works do not capture the issues present in broader institutional design situations. In contrast, works analysing corruption must also consider the existence of outsiders who actively try to influence the agent's behavior, adding complexity to the matter. (Rose-Ackerman, 1975, p. 6).

The main policy instruments suggested by this theory are related to the assumption that corruption will be reduced if the agent's incentives to engage in corruption are also weakened or negatively affected. The general goal of anticorruption policies is to reduce both the agent's incentives and their opportunities for corruption. The theory assumes the existence of an incorruptible, well-meaning principal in the form of ministries, control agencies, and anticorruption bodies, and assistance for good-governance programs has therefore been directed at such institutions (Mungiu-Pippidi, 2006, p. 103). The resulting instruments have been designed to achieve four main objectives. First, the number of transactions over which the agents have discretionary authority should be reduced; second, the amount to be gained from each corrupt transaction and therefore the general value of the bribes should also be reduced; third, an increase in the probability of detection should be achieved; and fourth, the costs of detection (penalties for wrongdoers) should also rise. These objectives may be achieved through a range of strategies that promote a series of institutional reforms. Persson, Rothstein and Teorell list the main anticorruption policies proposed following the Principal-Agent logic: privatization, deregulation,

meritocratic recruitment to reduce discretionary authority of public officials; political and economic competition to reduce monopolies; democratization, increased public awareness, and bureaucratization to increase political and administrative accountability; improvement in public official's salaries to increase the opportunity cost of corruption, improvement in the rule of law to increase effectiveness of prosecution and punishment; and finally decentralization, increased public oversight through parliament, independent media, and civil society watchdogs to encourage increased transparency of government decision makings (Persson et al., 2013, p. 5).

III. Main Authors

Several valuable contributions have been made on the subject of corruption that use the Principal-Agent framework as their central mode of analysis. The authors make use of different definitions of corruption, and the works differ in mathematical rigor, scope and domain where the corruption occurs. Nevertheless, they are bound together by their use of economic instruments to tackle the issue. Particularly relevant are the ones by Susan Rose-Ackerman (1978) and Robert Klitgaard (1988), which are now recognized as classical works on the subject.

One of the first authors to use the Principal-Agent approach to tackle the problem of corruption is Susan Rose-Ackerman. She has published several influential works on the topic since the 70's, including an article titled *The Economics of Corruption,* 1975, and a book called *Corruption: a Study in Political Economy,* 1978. These two publications shaped the approach used in anti-corruption efforts for decades afterward.

Both works explore the struggle between market and nonmarket forces and their relationship with the incidence of corruption in a society. In *The Economics of Corruption*, she considers how they relate specifically to the government contracting process. She then examines whether corruption may be deterred if criminal sanctions and incentives are modified by the use of different contracts and market structures. To do this she presents three cases. In the first case, the government has well-defined preferences and there is competition among firms for the contract. Secondly, she analyzes a case where government preferences are imprecise. Finally, she examines a situation of bilateral monopoly. For each case she considers when corruption is more

likely to occur and proposes incentive structures that might control it.

In this article, Rose-Ackerman characterizes corruption as occurring whenever there is an "illegal or unauthorized transfer of money or an in-kind substitute" between the briber and bribee.[20] She states that, while the analysis is focused on the classical corruption case, where a private individual bribes a government official to obtain a government contract, the analysis can be generalized to situations that include corrupt situations between private parties and between government bureaucrats (Rose-Ackerman, 1975, p. 187). The author diverged from previous studies on crime economics to include in her analysis of corruption the extent to which government programs and different organizations of private markets create incentives for criminal or disruptive behavior (Rose-Ackerman, 1975, p. 187-188). Indeed, one of the conclusions of the article is that bribery could be frequent in the private sector.[21] The analysis follows typical principal-agent framework and suggests that surveillance in certain areas coupled with criminal prosecution are effective in curbing corruption.

In *Corruption: a Study in Political Economy*, she aims to "develop a positive theory of corruption that can aid those concerned with the practical application of political ideals" (Rose-Ackerman, 1973, p. 10). For this purpose, throughout the book, the author explores the incentives and sources of high and low-level corruption.[22] She seeks to explore the way in which wealth and market forces affect the division of roles between market and nonmarket mechanisms in a society's decision making process. She remarks on the fact that "political decisions that are made on the basis of majority preferences may be undermined by wide use of an illegal market as the method of allocation. Legislative decisions may themselves be "for sale" to the highest bidder" (Rose-Ackerman, 1978, p. 2). Therefore, corruption as an illegal market mechanism may be the driving

[20] This definition therefore restricts the analysis of corruption only to acts of bribery, which, as mentioned previously, are a subset of the full spectrum of corrupt acts. Furthermore, Rose-Ackerman notes that the acceptance of a bribe does not imply that the bribee acts differently than they would in the absence of a bribe. For example, a bribed government agent in charge of selecting a company to carry out a specific function might choose the same company than they would had they not been bribed because the company is the most fit to take on the job. Therefore agents may sometimes take bribes to do the very same task they are assigned to do. This discussion relates to Bauhr's distinction of need vs. greed corruption, where need corruption is the type of corruption present when a person cannot access a service to which they are entitled to. See Bauhr (2016).

[21] The 1975 article was written shortly before the establishment of the United States' Foreign Corrupt Practices Act (FCPA) of 1977, whose aim was to attack corruption in the public sector. The act affected companies at an international scale and triggered the creation of several similar anti-bribery laws in other countries.

[22] Some of the relationships explored are between citizens and elected officials; among voters, legislators, and interest groups; between the bureaucracy and legislative choices, etc.

force behind choices which may initially be seen as the result of democratic processes. Furthermore, with the rise of large organizations as societies became increasingly complex, the delegation of decision-making authority has become a commonplace process, opening up the opportunity for corruption to occur.

Rose-Ackerman divides her book into two parts. In the first part, she makes an economic argument in favor of a traditional democratic society that assumes the presence of informed and interested citizens and policy makers with good intentions and committed to the citizenry´s wishes. In the second part she proposes more concrete reforms. She states the three key actions in understanding and addressing corrupt incentives present in lawmaking: firstly, establishing a clear structure for the legal and administrative sanctions for transgressors in both the demand and supply sides; secondly, modelling bureaucratic allocation rules and organizational forms; and lastly, evaluating how the volume and incidence of corruption may be affected by both the specific nature of bureaucratic tasks and the market structure of potential bribers. Accordingly, proposed policy measures may either punish the offenders or a reform may modify the incentives to lower the expected benefits of engaging in bribery.[23]

The author mentions that while her analysis does consider diverse types and scenarios of payments to agents, including those that support the principal's goals and payments that may be considered legal, she only defines as 'corrupt' those payments that are defined as illegal. She also equates corruption with bribery, constricting the analysis to a specific form of exchange and therefore leaving out many of the other forms of interactions that can also be classified as corrupt. Worth remarking is the fact that Rose-Ackerman assumes that "there is no wide divergence between *formally* acceptable practice and the law" (Rose-Ackerman, 1978, p. 7). This narrow assumption leaves out of the analysis societies, such as Mexico, where corruption has become commonplace and even normalized and where certain deviation from the law is practiced.

Rose-Ackerman makes a compelling argument while advocating for the combined use of diverse economic and political science theories to improve on the political economy tradition, specifically in addressing the problem of corruption. Accordingly, her book combines theoretical proof and intuition to propose a series of recommendations to improve the situation of corruption

[23] Her conclusions support the emphasis on the effect of structures on outcome found in market organization and public policy literature.

in certain societies.[24] She states that while both perspectives are important and have made meaningful contributions to the analysis of corruption, the use of one without the other allows only a partial understanding of the understanding of the phenomenon. The economist, while capturing the effects of the rational profit-maximizing behavior on a corrupt individual's actions, will miss the influence political forces and interest groups have in the willingness of a politician or public servant to engage in corrupt practices, and vice versa, as the latter factors cannot be properly analyzed from a competitive theory framework.[25] The author stresses that to fully comprehend the issue of corruption a 'full, positive theory of political economy' must be created; for this the combination of both perspectives is key:

> "In a study of corruption, one can make substantial progress with models that take tastes and values as given and perceive individuals as rational beings attempting to further their own self-interest in a world of scarce resources. Information may be imperfect; risks may abound; but individuals are assumed to do the best they can within the constraints imposed by a finite world." (Rose-Ackerman, 1978, p. 5)

Furthermore, while still considering individual variations in scruples and environments, she places special focus on the structural incentives present within a society, and attempts to isolate the critical structural variables that make large organizations, either political or organizational, more prone to corruption.[26] Her work also differs from previous economics theories because she does not always place Pareto optimality as the ultimate end or benchmark and, while useful, fees are not always available as a controlling mechanism for agents. Additionally, she evaluates some institutional alternatives where competitive pressures are more effective in controlling corruption than hierarchical control (Rose-Ackerman, 1975, p. 6).

Another important contribution based on Agency Theory is economist Robert Klitgaard's *Controlling Corruption*. The book was published in 1988, in a period where the issue of corruption

[24] For this purpose she presents a monopolistic model where an official takes bribe money. Later on she relaxes the assumptions to make the model more applicable to real-life situations.

[25] The author mentions that formal models of political behavior assume that the only objective of politicians is the probability of election and reelection (Schumpeter, 1950; Welch, 1974). Other formal models designate vote maximization (Bartlett, 1973; Downs, 1957; Kramer, 1975) or time in office (Frey, 1974) as the politicians' end goal. More comprehensive accounts of the motives behind political behavior have failed to develop formal frameworks and do not include pecuniary motivations in the analysis.

[26] Individual variations in morality should also be taken into account, however, the general measure of morality may also interact with societal factors and is key in the development of a democratic society.

was garnering increasing international attention. In it he offers a practical study of corruption, arguing that practically oriented examinations of anticorruption policies were scarce. He endeavors to analyze corruption in order to offer policymakers an answer to one of the ills that plagues their societies. In fact, the book is intended for them. In contrast to Rose-Ackerman's work that focused on developed societies and depended on certain restrictive assumptions such as the close distance between normative law and its implementation, Klitgaard places a special emphasis on developing countries where corruption is known to be especially destructive and whose legislative systems as well as the enforcing of resulting laws is more heavily nuanced by cultural particularities.[27] He states that the effects of corruption on such countries are especially disruptive because they are especially vulnerable, especially in terms of governmental corruption, since they frequently have large public sectors. This means little to none alternatives to corrupt public servants and organizations.

The author recognizes that corruption is an unsolvable problem that has been present since the dawn of civilization. However, that does not mean we should give up on the matter altogether, as we can progressively improve on the situation. He admits that he considers the book only as a first step that needs to be improved upon, both theoretically and empirically. Still, he does present the reader with both analytical tools as well as case studies, proposing to "explore illicit activities as problems that can be incompletely but helpfully analyzed with the tools of the economist and the manager." (Klitgaard, 1988, p. 12). He aims to prompt policymakers and students to tackle the issue of corruption, instead of evading it or making excuses; only then can effective solutions be devised.

Klitgaard characterizes corruption as occurring "when an individual illicitly puts personal interests above those of the people and ideals he or she is pledged to serve". (Klitgaard, 1988, p. xi). He offers a list of examples of corruption often present in developing societies: corruption in tax departments, police forces, customs agencies, procurement agencies, food distribution

[27] By no means does he imply that the phenomenon is restricted only to the developing nations. In fact, the Non-Western world was often labeled as a primitive lawless land and associated with corruption. However, the Western countries have historically also been plagued with the ills of corruption. Klitgaard acknowledges this, but his work does consider the incidence of certain characteristics of the developing countries on corruption that other authors do not explore or focus on due to the fact that they are not as present in the developed countries.

organizations, etc. He couples such a list with specific examples of instances where corruption in these areas has been extremely harmful and how it has been corrected.

In order to prove his argument correct, throughout the book he makes use of a Principal-Agent Model in which the principal, agent and client interact. In the formal explanation of agency relationships it is already established that the principal hires an agent to provide a service (to himself or to a client); service over which the agent has certain discretionary authority they may choose to abuse to obtain private gain, harming the principal.[28] Additionally, the information about the agent and the client is asymmetric and costly to obtain for the principal. Klitgaard states that the agent will be corrupt if: the bribe minus the moral cost minus [(the probability of discovery and punishment) times (the penalty for corruption)] is greater than the agent's pay plus the satisfaction of being honest (the absence of moral cost). A simple diagram is proposed to exemplify the agent's decision (see figure 3 in the Appendix) (Klitgaard, 1988, pp. 70-71).

Because in some instances the harmful consequences of corruption may be outweighed by the costs of correction, Klitgaard says, the optimal point of corruption in a society may be greater than zero.[29] Therefore the policy-maker has to implement corrective measures only up to the point where the marginal benefits of reducing corruption equal the marginal costs of corrective measures. Klitgaard then devises the now well-known formula that relates the "ingredients of corruption": $Corruption = Monopoly + Discretion - Accountability$, meaning that illicit activities will increase when agents have monopoly power over their clients, when agents have too much discretion over their actions, and when accountability is weak. (Klitgaard, 1988, pp. 74-75). This model thus allows him and the presumed policy makers reading his book to systematically analyze the five groups of policy measures available to the principal: (a) select the agent for honesty and capability; (b) select the agent's rewards and penalties; (c) obtain information from both agent and client about efforts and outcomes to raise the probability of detection and sanction; (d) structure the agent-client relationship in such a way that the "ingredients of corruption" are not present; and (e) change the agent and the client's attitudes towards corruption, thus affecting their

[28] In much of the principal-agent literature on corruption, it is assumed that the principal is well-meaning, principled. The greater good, and not personal gain of any kind, must be their absolute goal.

[29] This statement was controversial when it was first proposed, but it has gained wide acceptance in the academic world since.

"moral costs" of engaging in it.[30] For each of these five groups of measures, he offers a series of specific normative recommendations to control corruption. For example, agents should be selected for "honesty" and "capability" by a process of screening out the dishonest ones (through tests, past records, and predictors) and exploiting outside resources that may help in assuring the person is honest (such as established and reputed networks).[31] The author hopes the proposed general framework will be useful in both designing control mechanisms and understanding why past efforts have not worked.

Collective Action Theory of Corruption

The second type of models most commonly found in the corruption literature are the Collective Action Models. Collective action can be understood as "a common or shared interest among a group of people". Alternatively, the term can be understood as "any action which provides a collective good" (Oliver, 1993, p. 272).[32] In other words, it is something that people do together with the purpose of benefiting jointly.[33] These models are similarly based on economic theory and understand corruption as a collective action problem that arises when rational self-serving

[30] Admittedly, a principal may not have all of the alternatives at their disposal, but being aware of the full array of options is useful when devising a solution.

[31] Other suggested strategies include, first, by shifting rewards (raising salaries to reduce the need for extra income, rewarding specific actions and agents, using contingent contracts as a way to reward effective agents, and using nonmonetary rewards); second, by penalizing corruption (generally raising formal penalties, increasing the principal's authority over punishment, calculating penalties accordingly to the size of the bribe and expected benefit, and using non formal penalties); third, by raising the chances of detection (improving auditing and management information systems, providing evidence of corruption, assessing the organization's vulnerability to corruption, strengthening of specialized staff and creating environment where staff reports, using external information and making it so that the potentially corrupt have to demonstrate their innocence); fourth, by removing the ingredients for corruption (inducing competition, reducing agent's discretion, rotate agents, changing the organization's philosophy to distance it from corruption, create an anticorruption lobbying force); and fifth, by changing the attitudes about corruption (using training and educational programs, personal examples, codes of ethics, and a new organizational culture).

[32] The development of Olson's Theory on Collective Action is related to the discussion and justification of coercive taxation, as economists argued that rational individuals would not voluntarily contribute money for the State to offer public goods. Similarly, Olson argued that this was the case for all common goals.

[33] Oliver notes that Olson's work provoked a shift in the meaning of the term of 'collective action' from something that people do together to a common interest among a group of people. However, in recent decades the term has recovered its previous meaning (Oliver, 1993, p. 272).

individuals do not act in favor of a collective goal and instead vie for the maximization of their own interests, therefore reaching a less favorable equilibrium than they could have reached, had they all prioritized the achievement of the common goal.[34]

The body of literature that supports these kinds of models is the Collective Action Theory, first developed by Mancur Olson in his 1965 book "The Logic of Collective Action". Olson criticized the existing Theory of Groups that assumed that because individuals will always strive towards the maximization of their own objectives, when a group of individuals share a common goal they will act on behalf of it in the same manner as they do for their personal interests. In other words, the previous belief of group behavior was that the individual's maximizing nature would favorably translate into the successful attainment of the shared goal. The lack of action was formerly explained as either evidence of a lack of a collective interest, or as a consequence of communal deficit or apathy (Olson, 1971). Thus, Olson effectively problematized collective action. That is, he assumed that collective inaction, rather than action, was the norm, and collective action demanded an explanation (Oliver, 1993, p. 273).

Before Olson, the earlier belief of natural collective action was echoed in many social science theories and was implicitly accepted throughout the field.[35] Earl Latham, in his 1952 article titled "The Group Basis of Politics: Notes for a Theory" about Group Theory in Politics wrote that:

> "The conclusion emerges from an inspection of the literature dealing with the structure and the process of groups that, insofar as they are organized groups, they are structures of power. They are structures of power because they concentrate human wit, energy, and

[34] It could be said that in general these models follow the pluralist logic that understands the basic unit of society as a group (Latham, 1952, p. 380). However, this does not mean that the individual element should be ignored: "For social groupings *are* people in connected relationships; the connected relationships do not exist apart from the people. To recognize the group basis of any society and, by inclusion, the group basis of the political and other communities, is not to lose sight of the individual. Far from it—the individual is the center without which the circumference of the group could not form." (Latham, 1952, p. 383).

[35] Group Theory was even present in Marxist theories: the 'classes' are groups of people that share a common consciousness, interact amongst themselves, and behave in similar ways. The Proletariat must organize a revolution to achieve the common objective of establishing capitalism. Olson mentions that political science in the USA was also highly influenced by "a celebrated 'group theory' based on the idea that groups will act when necessary to further their common or group goals" (Olson, 2002, p. 1). However, the problem of Marxist theories is, according to Olson, that the oppressed individuals would not participate in the revolution because they lacked proper incentive.

muscle for the achievement of received purposes. They are of the same genus, although a different species, as the state." (Latham, 1952, p. 382).

With this; Latham reinforces the previously held idea in the social sciences that groups will be successful in reaching their shared objectives. However, this earlier view was replaced by Olson's views of group ineffectiveness in furthering their own goals. Additionally, Latham's metaphor offers insight into the corruption problem. Upon the time of publication of Olson's ideas, the idea that the State provides common benefits or 'goods' and works in favor of its citizen's general welfare had enjoyed more than a century of widespread acceptance (Olson, 2002, p. 98). However, following the theory of collective action one may declare that, in the same manner as how the common interests are not achieved in smaller groups due to the group members self-serving behavior, the interests of the State —i.e. the provision of public goods— may be frustrated by the existence of freeriding and self-serving behavior. In other words, as has been empirically demonstrated, corruption is an obstacle in the path of development.

Assuming that because agents are rational and self-interested, then they will be effective in achieving common goals does not follow inductive reasoning. In fact, the rationality and self-interested characterization of individuals is not a logical premise to state their cooperation. Olson declares that "it does not follow, because all of the individuals in a group would gain if they achieved their group objective, that they would act to achieve that objective, even if they were all rational and self-interested", especially if it is a big group or coercion is not involved, and even if all of the group members agree on the common goal and on how best to achieve it (Olson, 2002, p. 2).[36] He also asserts that in order for a large group to have a 'significant lobbying organization', this group must also be organized for another purpose than the one it aims to promote, making this first purpose a 'by-product' of the second one.[37] These large groups that possess the ability to lobby in favor of their common interests must either be able to exert coercion over their members or are able to offer 'positive inducements' to their members. (Olson, 2002, p. 132). Therefore, these groups will have the capacity to 'mobilize' their individuals with 'selective incentives': "private goods made available to people on the basis of whether they contribute to a collective

[36] Olson notes the possibility of groups of either altruistic or irrational individuals being effective in furthering their goals (Olson, 2002, 2).
[37] Here Olson is referring to lobbying for collective goods.

good".[38] These selective incentives should then trigger group-oriented behavior in rational individuals. (Oliver, 2013, p.1).[39]

Olson's ideas provoked a paradigm shift in collective action literature, and were influential for decades to come, but that doesn't mean they were without fault. Some argue that because the selective incentives have to be paid for, they give rise to a free rider problem just as much as the original collective action problem. Furthermore, interdependence and coordination can be effective in modifying individual behaviour in lieu of incentives. In fact, it was the criticism of Olson's work that gave rise to formal collective action theory (Oliver, 1993, p. 274).

After Mancur Olson, a second work that has since its publication become influential within the field is the 1973 book "The Mathematics of Collective Action" by James Coleman.[40] In it, he attempted to contribute to the development of a theory of collective decisions based on individual preferences with the aid of both game theory and statistical decision theory (Coleman, 2017, p. 31). He starts by explaining the differences between two lines of theory in the study of social action; causal or stimulus-response action and purposive action, that are based on fundamentally different conceptions of man. The former theory understands man's behavior as a response to his environment. In contrast, the latter explains it as a consequence of man's preferences. Man is no longer a subject to his environment, but is instead a conscious individual that selects the action that, in interaction with the environment, will present him with the outcome that he believes most beneficial to him.[41] He then analyzes and elaborates on the concept of rationality to then formulate

[38] Olson takes this as the logical conclusion; because collective action is irrational then selective incentives must be used. However, Oliver (1993) notes that had Olson not been an economist he might have followed this point with a theory on the "nonrational or nonindividualist bases of collective action" (Oliver, 1993, p. 273).

[39] Selective incentives may be used as either punishment to nonparticipants or reward to participants and they may be material, solidary/social, or purposive. Additionally, the concept is central to cost/benefit analysis. By requiring groups to use these kinds of incentives to promote the desired behavior, Olson reduces the chance of a free rider problem being present. However, selective incentives do not 'solve' the collective dilemma because "using incentives entails the second order problem of paying the costs of incentives. Rewards to cooperators have different cost structures from punishment to noncooperators, these varying with the nature of the production function for the level of collective good provided as it depends on the number of contributors." (Oliver, 1980; as read in Oliver, 2013, p. 1).

[40] The book was partly inspired by the critique Coleman made to Talcott Parson´s essay on "The Concept of Influence" in 1963, where Coleman asserted that sociological theory could be aided by the use of a new more mathematical approach that made use of economic tools (Coleman, 1963).

[41] The former theory is present in much of the most recognized sociological work (e.g. Durkheim), and the latter has been followed in the works of acclaimed figures such as Weber and Parsons, and is the basis of orthodox economic theory of rationality. While the mathematical not completely necessary, these two different conceptions of man have generated specific and distinct mathematical approaches.

a mathematical framework for the study of collective decisions based on purposive action theory. He states that:

> "Of the various approaches to a theory of purposive action, the simple approach on which economic theory is based appears to provide the soundest foundation, despite its limitations. I will attempt to build the foundation of a social theory, including power relationships, collective action, and other social phenomena, using this framework and the various extensions of it that have been developed in recent years". (Coleman, 2017, p. 35).

By "this framework", he is referring to game theory, of which he makes heavy use of throughout the book and previous works. Consequently, one of his most important contributions is the development of an educational game to simulate a simple legislature.[42] With this he attempted to study the manner in which the "rational pursuit of interests can lead to the formation of macro patterns" (Smith, 2017, p. xi). He had already created a simplified version of the game before, but developed and formalized it further upon the publication of the book. Moreover, from a mathematical model of legislator's behavior he generalized the game to create a generalized model of actor's behavior, creating a limited theory of collective action.[43]

Coleman recognizes the fact that both of the perspectives he analyzes throughout the book: causal and purposive action, begin at the level of the individual, and notes that they differ from those perspectives, like sociological functionalism, that begin at a collective level (Coleman, 2017, p. 1). However, he does not delve deeper into this issue and mentions it only in a footnote. Coleman´s work, while heavily praised by some due to its thought provoking nature and heavy mathematical analysis and economic logic, has also received criticism. For example, Thomas W. Pullum asserted that "the logit and probit transformations are incorrectly defined, and there is a continued misuse of the term 'rate' for individual level probabilities" (Pullum, 1975, p. 666).

Recent advances in formal collective action theory in recent decades have experienced a shift from a focus on individual decisions to emphasizing group structure and interaction. They

[42] The basis of the simple game was that the players (legislators) had information about a) the constituent's interests for or against particular bills, b) the fact that constituents would re-elect them if their interests were satisfied and vote against them if they were not. The players also had a right to vote in the legislature on those bills.

[43] According to Robert Smith, the implications of Coleman's theory are relevant to simple legislature, concentrated interests, free rider problems, constitution formation, influence in small groups, social exchange, parliamentary systems, the influence of money on power, committee structure, and bureaucratic structure (Smith, 2017, p. xlvi)

have drifted from Coleman's, whose main unit of analysis was the individual, to more contemporary authors who treat 'the collective' as their base. (Oliver, 1993, p. 271).

Pamela E. Oliver makes an enlightening declaration about introductory works to Collective Action Theory when she states that "Titles like *The Logic of Collective Action* (Olson 1965) or *The Mathematics of Collective Action* (Coleman 1973) have been deeply misleading, even though their contents are illuminating" (Oliver, 1993, p. 275).[44] This is because "Collective Action" is a term that encompasses such a wide array of situations and interactions that to make generalizations or attempt to answer too broad questions is to disregard its complexity. According to Oliver, it might be more useful to ask questions such as "When do people free ride?" and "Under what conditions is collective action rational?" rather than "Do people free ride? or "Is collective action rational or irrational?".

It is important to note that both principal-agent and collective action theories incorporate into their models the interplay of social forces. However, they disagree on exactly how such forces affect individual behavior. Principal-agent theory considers social elements (such as the expected social effects of discovery, the moral costs involved, the occurrence of gift-giving, social norms, etc.) insofar as they constrain or shape the agent's behavior, however, the agent's preferences remain unchanged.[45] In contrast, the collective action theory incorporates social forces such as informal institutions and heuristics, perceptions, and expectations directly into the individual's preference functions. This is a crucial difference between the models. Indeed, several authors have argued that "in certain contexts, corruption should instead be viewed as a problem of collective action, and that especially in a context of systemic corruption, viewing corruption as a principal-agent problem 'mischaracterizes' the issue of corruption completely" (Marquette & Peiffer, 2015, p. 2).

[44] Emphasis by the author.

[45] As previously stated, the Principal-Agent framework does consider the fact that both principal and agent may be comprised of groups of agents and not only by a lone individual. However, this consideration is fundamentally different from the one on which the Collective Action perspective is based; under the Principal-Agent perspective instances of individual corruption and instances where agents and/or principals are made up of groups of actors may be analyzed and solved in a fairly similar manner. The root principle of the Collective Action theory is the observation that the rational self-serving behavior exhibited in situations of possible individual gain cannot be translated into the behaviour exhibited in group situations, and therefore different considerations have to be made to consider cases of systemic corruption.

While the literature on Collective Action has been present since the 1960's, only in the past decade has there been a surge in works that analyze the problem of corruption through this particular framework. These authors broke with the previous anticorruption tradition of enacting policies following the Principal-Agent Models. Critical authors have mainly based their arguments on the unsatisfactory results of the principal-agent theory-based anticorruption efforts. Evidence in favor of the effectiveness of existing principal-agent-based anticorruption policies is limited and bound to context. The limited success of these kinds of policies has been linked to a fundamental misunderstanding of the nature of corruption, and to the lack of 'political will' to implement the needed policies exhibited by the principals (Marquette & Peiffer, 2015, p. 2). It is in response to these shortcomings that collective action models have risen as alternatives to the management of the problem.

It is important to note that aside from the points above on the limitations of principal-agent models, another central point of the criticism directed at the Principal-Agent's solutions for corruption is the frequent practice of applying the same measures in every country, disregarding the peculiarities of each context. Persson et. al. (2013) do mention in their article that "at the rhetoric level, much has been said about fitting anticorruption reforms to specific country settings" (p. 3). However, they also affirm that in the international community the most common approach to anticorruption strategies has followed the "one-size fits all" line, prescribing a set of "tool kits" that should be implemented in order to curb the issue.

I. General Model

The theory of collective action is chiefly concerned with the concept of *social dilemma*, which refers to a situation where the way in which individuals elect their actions is affected by external factors to the individual. In other words, it refers to diverse situations in which "individuals make independent choices in an interdependent situation" (Ostrom, 1998, p. 3). A truly coherent formal theory of behavior in collective action problems has not yet been agreed on. Nonetheless, several important contributions have been made on the subject. Particularly relevant have been the Mancur Olson's introductory book "The Logic of Collective Action", and the more recent works of Elinor Ostrom, recipient of the 2009 Nobel Memorial Prize in Economic Sciences.

In order to analyze different kinds of collective action as truthfully as possible, several types of models have been proposed. Oliver (1993) offers a review of the four main types of formal collective action models in use in the last decades of the XX century: single-actor models; models of the interdependent aggregation of individual choices into collective action; models of the collective decisions of individuals with different interests; and dynamic interaction models.[46] The author notes that in the last years of the century, collective action models experienced a significant shift from models which were largely concerned with individual decisions and treated 'group behavior' as given, to models whose unit of analysis are the collectivities and that place a greater focus on group structure and interaction. Models have also shifted away from emphasizing the specific common interest. Rather, they now focus on the social and organizational processes that facilitate action. Thus, although most formal theories of collective action are based on an individual decision by a rational cost-benefit analysis, they are less focused on the fight between individual versus group interest, resulting in cognitive processing or adaptive learning models (Oliver, 1993, p. 276).

Collective action problems have come to be traditionally represented as an n-person prisoner's dilemma game (Ostrom, 2000, p. 137). A general model of the problem of collective action can be understood with the use of the following game. Rationality in individuals is assumed; the payoff structure will incentivize individuals to select strategies in a way in which their short-term material benefits are maximized. This in turn will not yield the highest possible joint outcome. Elinor Ostrom (2007a) explains this phenomenon in a clear manner:

> "A social dilemma can be analyzed as a game where the Nash equilibrium for a single iteration of the game yields less than the socially optimal outcome. The reason that such situations are *dilemmas* is that at least one outcome yields higher results for *all* participants, but rational participants making independent choices are not predicted to achieve this outcome. A better optimal outcome could be achieved if those involved "cooperated" by selecting strategies other than those prescribed by the Nash equilibrium. Since the suboptimal joint outcome is an equilibrium, no one is independently motivated to change their choice, given the predicted choices of all others." (p. 186).

[46] As with any model, some restricting assumptions are to be expected.

Aside from the central assumption of a predicted inefficient equilibrium, Ostrom lists three other common assumptions in models of social dilemmas: (a) decisions about strategies are independent and simultaneous; (b) all players have common knowledge of the exogenously fixed game structure and payoff structure under all possible combinations of strategies and; (c) crucially, there is no external actor (or central authority) that can enforce agreements among participants. Therefore the only enforcing mechanism is the possibility of unfavorable results for the individual in further iterations of the game were he not to comply with the agreement (Ostrom, 2007b, p. 2). Following game theory logic, backwards intuition is to be used to determine the result of a game with more than one iteration. Two cases can occur in the game.

The first is a case where the game is finitely repeated. If complete information can be assumed for all players, then each iteration of the game is expected to reproduce the equilibrium of the constituent game. If, as in a single-iteration game of this structure, non-cooperation is the expected result, then backwards intuition implies that this will also be the result of the last iteration of a finite game, prompting the same equilibrium in the second-to last, then the third-to last; supporting a game of noncooperative equilibria.

A second case is where the game is infinitely repeated, or where the players are uncertain about the number of iterations. This case has two possible subcases whose outcomes depend on the level of rationality exhibited by the players. The first subcase takes place if *some* players do not behave in accordance with full rationality, and therefore do not maximize the expected individual profit but instead behave in ways consistent with an optimal social outcome, then other fully rational players might choose cooperative strategies, at least in the first stages of the game.[47] The second subcase deals with situations in which, in order to eliminate instances of free riding, the players have adopted "grim trigger strategies". This means that they will cooperate as long as all the other players have cooperated in all the previous periods. In any other case, they will play to maximize their own individual gain. Thus, the cooperation is permanently broken once any

[47] This follows what Kreps et. al. found for finitely repeated games of prisoners' dilemma, where they observed that, in contrast with the expected outcome of 'finking' (playing the single-period dominant strategy) at each iteration, some level of cooperation is a common occurrence in practical experiments. They inquired as to whether this result is compatible with the assumption of rational, self-interested behavior. Consequently, the authors demonstrated that reputational effects that result from informational asymmetries can create cooperative behavior. They claim that "with a 'small amount' of the 'right kind' of incomplete information", cooperation can be achieved (Kreps et al., 1982, p. 246).

player deviates from the mutually beneficial strategy. Therefore a credible threat of permanent punishment to defectors is necessary to maintain a 'self-enforcing, positive equilibrium' (Ostrom, 2007b, p. 3).[48]

While the expected outcome of the cooperation game with infinite iterations are more promising, empirical evidence has shown that in real-life situations cooperation is much higher than that predicted by the theory.[49] Moreover, this theory, based on a heavy assumption of complete rationality of players, has been unable to produce clear predictions of the outcomes of collective action situations. Then, what other factors define whether individuals can be incentivized to modify their behavior and shift the equilibria from suboptimal to socially optimal?[50] In other words, how can they be motivated to collaborate instead of freeriding on others´ efforts? According to Ostrom, a good starting place is, first, to identify the variables that affect the likelihood of obtaining either success of failure in efforts of collective action; and second, to recognize that the benefits and harms to those that belong to a group and those who don't depend on the kind of collective action in place in a particular situation.

One of Ostrom's contributions is the consolidation and classification of a series of structural variables that are expected to affect the probability of achieving successful collective action to overcome social dilemmas (Ostrom, 2007, p. 188). These variables have been identified by several authors using theoretical speculation, formal game-theory models, and computer models of evolutionary processes. In general, structural variables that positively affect the likelihood of cooperation are: (a) face-to-face communication, as it helps groups have a more effective communication and persuasion; (b) repeated interaction, in which players learn, gain information about other players, and form reputations; (c) trust and good reputations, since a generalized feeling of trust encourage individuals to act collectively; (d) group interdependence, because the awareness of intricate links of dependence between group members make them more inclined to contribute; (e) voluntary group membership, as it is associated with groups that have higher pre-existing trust levels; (f) long-term horizons, because the achievement of a collective goal

[48] This second result follows the 1986 study of "The folk theorem in repeated games with discounting or with incomplete information" by Fudenberg and Maskin (Fudenberg & Maskin 1986, as read in (Ostrom, 2007, p. 2).
[49] Ostrom notes that some authors have even doubted the human capability for backwards induction.
[50] Ostrom does note that some studies have been able to empirically demonstrate the existence of successful collective action and of situations where individuals consider others' interests, choosing to behave in ways that do not maximize their own material benefit (Shivakumar 2005; Gellar 2005, as seen in Ostrom 2007a).

commonly implies a temporary alteration of preferences to place the group's long-term interests in front of the individual's short-term interests, meaning that an individual with a low discount of future payments is more likely to behave collectively than a short sighted individual; and finally, (g) the salience of the collective good, as group members are more likely to act in a collective manner if the collective good is vital for the group member's survival (Olson, 2002; Ostrom, 2007a, 2007b; Marquette & Peiffer, 2015).

Other variables whose effects on collective action are less clear-cut are group size, group heterogeneity, heuristics and norms, and monitoring and transparency. Firstly, (h) group size: on one hand, large groups have a smaller probability of detecting free riders, coordination is difficult, resource depletion is more common, and members do not feel like their contribution is important. On the other hand, resource mobilization is more challenging for a smaller group.[51] Secondly, (i) group heterogeneity: the debate centers on the fact that some group members who place a greater value on the collective good will be more willing to bear the brunt of others' free riding behavior. At the same time, this heterogeneity will also cause more conflict in negotiation and coordination. Thirdly, (j) the shape of the production function. Fourth, (k) heuristics and norms: personal norms of behavior may affect the individual's strategies either way (towards cooperation or non cooperation). Lastly, (l) monitoring and transparency: increased monitoring may in fact decrease free riding behavior by increasing the fear of the detection, but it may also increase the actor's perception that free riding is the norm and therefore induce deviant behavior (Olson, 2002; Ostrom, 2007a, 2007b; Marquette & Peiffer, 2015).

Based on the fact that rational choice theory does not model human behavior in social dilemmas closely enough to the observed experimental results, and that individuals have been shown to achieve 'better than rational' results with the use of social norms of reciprocity, reputation, and trust; Ostrom advocates for the use of a theory of boundedly rational, norm-based human behavior that includes a model of complete rationality in repetitive and highly competitive situations.[52] A model that makes use of variables such as trust, rules of reciprocity, and reputations

[51] Depending on the author's research and the specific situation, in more complex models positive or negative 'group size effects' are usually assumed.

[52] The author makes an incisive comment on rational choice theory on the context of modelling human behavior. She writes: "We need to recognize that what has come to be called rational choice *theory* is instead one *model* in a family of models useful for conducting formal analyses of human decisions in highly structured settings. It is a thin model of a broader theory of rational behavior. When it is used successfully, the rational choice model is largely dependent for

to induce socially efficient equilibria will be better suited to understand collective action (Ostrom, 2007b).

II. Corruption under a Collective Action Framework

In general terms, the recent surge of research that aims to tackle corruption through a collective action framework is a reaction to the limited success of the principal-agent theory in explaining the problem. Though there have been some cases of success, the empiric evidence generally points to the limited results of this theory. This is especially evident in countries plagued with systemic corruption, as corruption has generally not improved and in some cases has even worsened, even after the implementation of anticorruption reforms. In consequence, collective action theory offers several closely related explanations of why principal-action theory has been inadequate, and declares that a collective action approach that understands corruption as a social trap or social dilemma would be much better suited to address the problem. Another key difference is that while principal-agent models usually analyze the problem through a traditional microeconomic framework of a rational agent maximizing their benefits of corrupt behavior in a certain environment, collective action theory is more inclined towards a game theory perspective where the expectations of other agents' behavior play a key role in determining corrupt behavior.[53]

The theory mainly criticizes three assumptions made in the principal-agent framework. Firstly, that the citizens will mobilize against corruption. As stated by Rothstein (2011), "in a thoroughly corrupt setting, even people that think corruption is morally wrong are usually likely to take part because they see no point in doing otherwise since 'all' other agents take part in the corrupt game" (p. 23), therefore, as has been empirically been observed, mobilization against corruption from discontent citizens will only sometimes take place. Secondly, the theory assumes

its power of explanation on how the structure of the situations involved is modeled [Satz and Ferejohn 1994]. In other words, the context within which individuals face social dilemmas is more important in explaining levels of collective action than relying on a single model of rational behavior as used in classical noncooperative game theory [see Orbell et al. 2004]." (Ostrom, 2007b, p. 13, emphasis by the author). Instead of analyzing individuals as fully rational beings, she proposes humans be understood as adaptive creatures who attempt to do their best within the constraints they face, and that in order to develop a theoretical framework for the analysis of social dilemmas complete rationality should only be one member in a family of rationality models, instead of the sole method to analyze human behavior (Ostrom, 1998, p. 3).

[53] The game is similar in structure to the classic Prisoner's Dilemma game, and has been described as an assurance game which frequently (in a thoroughly corrupt society) takes the form of a "rotten game" (Persson et al., 2013, p. 9).

that principals are willing to enforce anticorruption regulations and will always act in favor of the common or greater good. Principals are not exempt from exposure to the same incentives and rules of behavior than the rest of the actors in a society and should not be assumed to be the 'principled principals' they are believed to be within the principal-agent literature: "insofar as corrupt behavior is the expected behavior, *everyone* should be expected to act corruptly, including both the group of actors to whom the principal-agent framework refers to as "agents" and the group of actors referred to as "principals"" (Persson et al., 2013, p. 8). Finally, principal-agent theory assumes that the strengthening of democratic institutions (such as an ombudsman, audit institutions, specialized anti-corruption agencies, etc.) will reduce corruption. Mungiu-Pippidi (2006) notes that "many of the countries that do a poor job in controlling corruption are electoral democracies" and that, in fact, democratization has frequently produced a new type of regime in which the previous monopolistic rulers have been replaced by "competing political groupings that practice a similarly nonuniversal allocation of public resources based on patronage, nepotism, and the exchange of favors." This is the case when despite the existence or establishment of democratic institutions and political pluralism, "ethical universalism fails to take hold as the main rule of the game" (p. 101).

In addition, a central contribution to anticorruption theory is the idea that corruption should be interpreted not as an agency problem but as a social trap, social dilemma or collective action problem, where the interaction between individuals is key to their decisions in regards to whether or not to engage in corrupt behavior or, conversely, act in an honest manner. Their expectations and perceptions of how others will behave in terms of corruption play a big role in this decision; as they determine not only what is regarded as 'good' or 'bad' behavior and acceptable or unacceptable behavior in a society. In other words, expectations about the bulk of their society or community will determine their actions; presumably, they will act corrupt in a setting where corruption is expected (even if they understand the societal and personal long-term costs of corruption) and they will act virtuously in a society where corruption is the exception.[54] Therefore, corruption can be understood as a self-reinforcing phenomenon, "as incentives to engage in corrupt acts increases as corruption becomes more widespread in the relevant community" (Stevenson, 2020, p. 192).

[54] This is of course a brief and incomplete summary of the plethora of behavior-determining mechanisms described by the authors within the collective action literature.

In line with the emphasis on systemic corruption and on the structural differences between countries (generally between developed and developing countries), is the idea that the kind of corruption varies depending on the context. In other words, developed countries generally experience a different kind of corruption than developing countries which suffer from a less pervasive and harmful brand of corruption, or at least their citizens perceive it as such. Corruption in such contexts is commonly related to what Bauhr & Nasiritousi call 'greed corruption' (where corrupt citizens desire a benefit to which they are not legally entitled to) and not 'need corruption' (where citizens act corruptly to access services or goods to which they are legally entitled to but are unable to access in practice through the legal means available) (Bauhr & Nasiritousi, 2011, p. 7).

Consequently, much of the work on corruption as a collective action problem follows Ostrom's proposal of understanding corruption as the result of several structural variables, and not as the sole result of a typical rational calculation of self-gain maximization comparing only the costs of discovery against the benefits of engaging in the corrupt act. As a result, collective action theory considers historical factors or events which may have affected the effectiveness of specific anticorruption policies as well as the citizen's perception of the situation of corruption in their own society (Kroeze et al., 2018, p. 1). For example, Klitgaard writes about "cultures favoring corruption", where people's values are so different to the typical western society that corruption is less stigmatized and can even become 'part of the mores'.[55]

[55] Interestingly, Klitgaard exemplifies this statement with Mexican culture: "For example, one author attributes widespread corruption in Mexico partly to the greater importance there of personal relationships. If a friend asks you for a favor, you want to do it—even if you happen to be a government official and the favor is against the rules. […] The prevalence in the society of personalism and *amistad*, primary loyalties being directed toward one's family and friends rather than toward government or administrative entity, has an important effect on the level of corruption. Mexicans treat one another as *persons*, with the result that formalized codes of behavior carry little weight in the society. […] In other societies tribal and kinship loyalties may override an agent's obligations to his public duties, again creating a climate conducive to corruption." (Klitgaard, 1988, p. 62). Indeed, many researchers argue that corruption in non-western countries may be understood as an extension of traditional 'gift-giving' social norms and should not be analyzed through a lens so foreign to their cultures. However, Klitgaard declares that the majority of people in nearly all countries, including citizens from such developing countries where these customs are present, recognize the unlawfulness and adverse consequences of most of the actions commonly described as corrupt (bribery, extortion, police corruption, etc) (Klitgaard, 1988, p. 64). Huntington also described several conditions which might increase governmental corruption: a place experiencing a period of rapid growth and modernization; where there is with less social stratification, little class polarization, and diminishing feudal tendencies; where people have more political than economic opportunities; where there is a prevalence of foreign business; and finally a where political parties are less developed (Huntington, 1968; as read in Klitgaard, 1988, p. 66).

This analysis generally follows North's institutional perspective, which states that the quality of a country's institutions will be a determinant of its economic and social development (Rothstein, 2011, p. 3). In consequence, collective action theory emphasizes the importance of the more frequently analyzed *formal* institutions such as monitoring and sanctioning mechanisms and legal framework (which are typically the focus of principal-agent public policy anticorruption efforts), but it focuses even more on the less inspected *informal* institutions present within a society such as mutual expectations, heuristics, and norms of behavior (Rothstein, 2011). The literature states that corruption, and the actors' behavior in general, is mainly a result of a rational relation with their environment: the actors make individual choices within an interrelated world (Ostrom, 2007, p. 186), where their assessment of risk and benefit is determined not only by the formal sanctioning and monitoring mechanisms present, but mainly by their expectations of how others in the society will act in regards to their behavior. Their expectations in turn determine their actions in terms of not only whether they will engage in corruption but also whether they will take part in constructing or enforcing anticorruption policies. In other words, recent studies suggest that a central factor of the actors' willingness to mobilize or participate in collective action "is highly sensitive to evidence that others will do the same" (Bauhr, 2017, p. 2; Ostrom, 1998, 2000; Persson et al., 2013). However, later research has suggested that this is only the case if citizens are committed to the collective goals being pursued, that is, they typically are "conditional cooperators" (Bauhr & Nasiritousi, 2011). While much of the collective action theory posits that the result of a social dilemma would be zero cooperation from all parts, some authors have also found that some individuals are naturally more willing to initiate reciprocity to achieve successful collective action, therefore presenting a more optimistic prediction. This however, presents the question of how potential cooperators might signal each other and design institutions and mechanisms that reinforce conditional cooperation instead of extending the cycle of corruption (Ostrom, 2000, p. 139).

The principal answer offered by collective action theorists is that, in a similar response to the one presented by principal-agent theory, incentives must be improved through institutional changes. However, these incentives in need of modification are not the expectation of costs and benefits which are thought to be affected by increased and better defined monitors and sanctions. Rather, the actors' incentives must be changed through a modification of both formal and informal institutions. More specifically, their expectations of external behavior must be altered, as these

expectations have a direct effect on the actors' choice of action; actors will more likely choose to be corrupt in a society plagued by generalized corruption than on a society where they expect others to behave in a 'fair' manner, and vice versa. The theory then presents a game where a social dilemma has two possible stable equilibria; one where corruption is the norm and one where it is the exception.

It has generally been suggested that the way to exit the collective action trap is to transform the institutions from being 'particularistic-personal-partial' to 'universal-impersonal-impartial' (Persson et al., 2013, pp. 17-18). Because corruption presents the characteristics of a self-reinforcing phenomenon, many authors regard incremental changes as ineffective, since small measures are not likely to convince the agents that corrupt behavior is no longer viable. Thus, there is a general consensus in the literature that the optimal strategy to achieve this is to enact a radical or "big-bang" change whereupon a "tipping point" is overcome and a new (and presumably better) equilibrium can be reached (Persson et al., 2013; Rothstein, 2011). However, recently Stephenson (2020) has argued that this analysis is mistaken; corruption's self-reinforcing quality does not require such a revolutionary change and may be effectively curbed through incremental and committed anticorruption reform.

III. Main Authors

One of the most important articles that follow the Collective Action framework is the 2012 article by Persson, Rothstein and Teorell titled "Why Anticorruption Reforms Fail—Systemic Corruption as a Collective Action Problem". In it the authors briefly review the Principal-Agent framework behind the anticorruption efforts in the international agenda and then go on to argue that at least part of the reason why anticorruption reforms have generally been unsuccessful is that they have been based on 'a theoretical mischaracterization of the problem of systemic corruption' (Persson et al., 2013, P. 1). They point at the fact that 15 years previous to the time of publication, the majority of countries with widespread corruption had in fact implemented anticorruption reforms. In spite of this, most continued to experience severe problems as a result of corruption, and in some countries the situation even worsened. It is important to note that most of these countries belong to the developing world. With the use of a qualitative study conducted in Kenya and Uganda as an illustrative tool, they set out to answer why, in countries where corruption has

become systemic, the issue persists despite large efforts to fight it.

The *theoretical mischaracterization* they write about refers to the affirmation that although contemporary anticorruption reforms have traditionally been based on a principal-agent framework, systemic corruption is better addressed as a collective action problem. They write "As a collective action problem, systemic corruption reveals radically different characteristics than predicted by principal-agent theory. As such, it also demands radically different solutions" (Persson et al., 2013, P. 2). Their main criticism of the principal-agent theory is the fact that it assumes the existence of a 'principled principal', who is willing to monitor and punish or reward agents for their performance. In a context where corruption has become normalized and has become the rule rather than the exception, the decision to participate in corruption (from the agent's part) may depend on more than just the costs of detection versus the benefits of the acts. Instead, in such a society, the rewards of engaging in unscrupulous behavior depend on the number of other people in the society that can be expected to act in a similar manner: "to the extent that corruption is the expected behavior, at least the short-term benefits of corruption are likely to outweigh the costs" (Persson et al., 2013, p. 2). This in turn will affect not only the agents' willingness to conduct themselves corruptly, but it will have a significant effect on the principals willingness to either enforce the necessary reform or to condone corrupt behavior.[56] Therefore, assuming the existence of a well-meaning 'principled principal' may not be a realistic assumption to make. As there are no actors willing to enforce anticorruption regulation, public policy instruments that follow principal-agent logic are rendered ineffective.[57]

Thus, the authors affirm that the general consensus over why anticorruption reforms have failed is that there is a lack of principals willing to enforce them. They write that in real life, "rather than reporting and punishing corrupt behavior, political leaders, as well as citizens, seem to at least passively maintain the corrupt system" by engaging in it while at the same time accusing the general populace and the elites for benefiting from it (Persson et al., 2013, p. 6). Politicians also

[56] The authors note that the behavior of the elites seems to be the main heuristics for other groups in society. As elites have comparatively more to gain from corruption than the poorer sectors of society since their absolute benefits are greater, then they can be presumed to influence the rest of the society and perpetuate the vicious cycle of corruption. The authors describe this situation as one in which the "fish rots from the head down", making the elites the "winners" of the corruption game (Rothstein, 2011; as read in (Persson et al., 2013, p. 14).

[57] The authors note that this statement holds true even if perfect information is assumed and all of the members of the society are aware of the potential benefits of a corruption free environment.

vilify their predecessors but rarely exhibit lasting genuine commitment to fixing the issue.

A final point that explains the pervasiveness of corruption is that "despite the fact the majority of individuals living in thoroughly corrupt settings are not inherently corrupt, they still seem to be what Miller, Grødeland and Koshechkina (2001) and Miller (2006) refer to as "corruptible"" (Persson et al., 2013, p. 8). That is, people living in corrupt environments typically choose not to punish corrupt behavior, perpetuating the system. This is due to the collective nature of the problem. The problem is, specifically, a coordination problem whose equilibrium depends on shared expectations about others' behavior. Because of this, the implementation of anticorruption reforms becomes a collective action problem of the "second order" in the sense proposed by Ostrom (1998) (Oliver, 1993, p. 8): "all the actors may well understand that they would stand to gain from erasing corruption, but because they cannot trust that most other actors will refrain from corrupt practices, they have no reason to refrain from paying or demanding bribes" (Persson et al., 2013, p. 9).[58] The situation can be analyzed as a "rotten game" of a society where corruption is the norm and the short-term costs of being honest are relatively high.[59] The players, unable or unwilling to bear the costs, will continue to choose corruption. The preference relation is as follows: all players would prefer a corruption-free society over a corruption-prone society, but they all prefer a corruption-prone society in which they act corruptly over a corruption-prone society where only they act honestly. In other words, the worst outcome possible is being the sole "(honest) sucker" in a corrupt game. Therefore, the game will always have a suboptimal outcome. Accordingly, the authors predict that as long as corruption is the expected behavior, everyone should be expected to act corruptly as well (including the individuals categorized as agents and principals in an agent-principal framework), even assuming that the majority morally condemn these behaviors. This negates the positive results of monitoring devices and punishment regimes, some of the main tools proposed by the principal-agent perspective (Persson et al., 2013,

[58] A second-order social dilemma is the dilemma that occurs when individuals are incentivized to free ride on the very mechanism that is put in place in an effort to guarantee the efficient provision of a public good causing it to fail, since the mechanism itself is a kind of public good (Ostrom, 1998; Okada, 2008).

[59] While the costs of fair behavior in a corrupt society are generally great (a sense of meaninglessness, hopelessness, ridicule, stigmatization, social exclusion, loss of jobs, and threats), the benefits of corruption in a corrupt society differ greatly among players. For example, in the poor segments of society, corruption is usually pragmatically accepted rather than actively supported. In contrast, people in higher positions in terms of power enjoy greater absolute benefits (Persson et al., 2013, p. 12).

p. 9).[60]

Finally, the authors call for a different type of anticorruption strategy to be used in the fight against systemic corruption. Instead of fixing the incentives, they argue that what should be done is to change the actor's beliefs about what others in the society will do. Specifically, actors' beliefs should be modified so that they expect most others to act fairly. They suggest that in order for societies plagued by endemic and systemic corruption to shift to a new reduced corruption equilibrium to happen, a "big push" is needed in the form of a revolutionary change involving all major political, economic, and social institutions. The society has to break from the "social trap" that is corruption. The equilibrium needs to shift from "particularistic-personal-partial" to "universal-impersonal-impartial".[61] The resulting game should then be characterized by a combination of control mechanisms involving the formal monitoring and sanctioning mechanisms as well as the informal mechanisms of reciprocity and trust. As to how this revolutionary change should be achieved, they offer little advice other than to suggest that further research should be made on the topic of the origins of high-quality institutions. Until then, it is the duty of the international community to act as an "external principal", and as principal-agent theory would have it, exhibit a genuine and lasting effort to correct the issue of corruption (Persson et al., 2013, pp. 17-18).

This conclusion is related to Rothstein's (2011) earlier article. He attempts to synthesize insights relevant for the fight against corruption from varied theoretical perspectives: new institutional economics, evolutionary game theory, and historical institutionalism, and in line with collective action theory declares that corruption should not be addressed through a principal-agent framework. He too believes that corruption, as an informal institution, is likely to be driven by "agents' beliefs about other agents' beliefs" (Rothstein, 2011, p. 3), and is therefore the holder of an *interactive* quality. In a society where corruption is deeply embedded, people "interpret life in

[60] The main objective of these tools proposed by the principal-agent theory is to 'fix the incentives'. However, the authors warn against misguided attempts to fix them, since they could backfire: they could invoke a sense of cynicism among the population by making them believe they live within a game where they cannot win (Collier, 2000; Mungiu-Pippidi, 2006; Karlins, 2005; as read in Persson et al., 2013, p. 16). Alternatively, they could increase the actor's awareness of existing corruption, thus increasing their perception of belonging to a corrupt society and increasing their incentives of behaving corruptly.

[61] What is meant by particular-personal-partial is that in a particularistic political culture the government treats citizens according to their status in society: they do not expect fair treatment but do expect the same treatment for everyone in the same position (Mungiu-Pippidi, 2006, p. 88).

terms of corruption" and thus form a "*deeply held system of beliefs about what can be expected of other agents*". Moreover, these beliefs are the result of the historical institutional context of the agents (Rothstein, 2011, p. 9).[62] Therefore, a certain institutional inertia or path-dependence is inherent in corrupt systems suggesting a self-reinforcing quality of corruption. The favored policy suggestion is then the design of a "critical juncture" or "formative moment" where institutional change will provoke a progressive positive change which may correct the problem. However, Rothstein asserts that systems may frequently 'self-correct' to return to the corrupt equilibrium if a corrective policy is erroneously implemented, especially if it is oriented by an incremental change, critical juncture approach.

In the article he emphasized the importance of the previously ignored informal institutions within public policy. Additionally, he decried the international community's "good governance" regime where the endorsed policy against corruption was directed at provoking an incremental change in the institutions, therefore creating a "virtues circle", as he believes these types of policies are likely to worsen the problem. Rothstein instead declared that small institutional devices would probably be ineffective in countries with systemic corruption, as small changes are bound to be incapable of modifying the agents' expectations about the government's intention and commitment to anticorruption reform. He suggests that indirect reforms directed at the general framework of political institutions are more likely to be effective in curbing corruption over reforms specifically designed to affect corrupt practices. In accordance with Persson et al. (2013), he stresses the importance of structural (formal and informal) institutional reform; asking not only what structural reforms are necessary, but also which types of processes are more likely to be successful in the reforms' implementation.[63] Rothstein focuses on *the incentives for the incentives.*[64] Consequently, he argued in favor of what he calls the 'Indirect "big-bang" Approach' to establish a new beneficial equilibrium, where a comprehensive institutional reform is decisively carried out.

However, Stephenson has recently argued that while corruption may indeed be "self-reinforcing" in some instances (an individual is more prone to engage in corruption in a corrupt

[62] Emphasis by original author.
[63] This second question is related to the statement by Persson et al. (2013) about corruption becoming a social dilemma of the second-order.
[64] It is this second critical point where research on corruption has largely remained silent. Here Rothstein bridges the gap between the principal-agent and collective action perspectives by stating that questions about agency are central to carry out effective institutional reform: identification of agents' roles and interests is key.

context), it may also be "self-limiting" in others (the individual incentive for corruption may decrease with an increase in corrupt behavior).[65] Furthermore, the author states that a "big-bang" approach is not needed in order to effectively fight corruption. Instead he argues in favor of "sustained, cumulative incremental anticorruption reforms" (Stephenson, 2020, p. 192).

Another important contribution to the collective action literature on corruption is the work of Monika Bauhr who criticizes the implicit assumption in anticorruption policy reform that citizens will expose corrupt institutions and mobilize for a better government. She suggests that current anticorruption policies have obtained limited results because they have placed an excessive emphasis on the scale of corruption rather than on the type of corruption. The author establishes a typology of corruption where the acts are differentiated on the basis of the agents' motivation to act in such a manner, which vary depending on the situation. Bauhr then suggests that "mobilization may be contingent on the type of corruption" (Bauhr, 2017, p. 1). This is an important contribution to the literature since there is a lack of studies that emphasize the effect of the agent's motives on their willingness to participate in anticorruption reform.

Two main types are discussed: *need corruption* and *greed corruption*. Instances of bribery can be therefore distinguished between whether the citizen acted corruptly to access a service to which they are legally entitled to and that have been (culturally) conditioned upon the payment of a bribe ("need"), or the citizen paid the bribe to receive advantages that they are not legally entitled to ("greed") (Bauhr & Nasiritousi, 2011, p. 4).[66] Therefore, the author suggests that "there is a

[65] Schelling's binary choice model to explain the variation in corruption level across societies offers a more formal framework of the way in which expectations of corrupt behavior in others alter individual behavior (see Figure 4). In line with collective action theory, Schelling suggested that the expected profitability of corruption depends on its prevalence. He presents a diagram where the x axis represents the proportion of officials or transactions that is known to be corrupt. The y axis represents the utility of the net value of the transaction. Therefore, the curves represent the marginal benefit for a non corrupt (NC curve) and corrupt individual (C curve). The main contribution is a diagram that illustrates the existence of multiple equilibria and a tipping point. As can be observed from the diagram, being an honest agent is profitable as long as few others are corrupt; as the proportion of corrupt officials increases, so does the profitability of being corrupt (and by implication the utility of being honest decreases). However, the system reaches a point where the marginal utility of being corrupt decreases as the number (or proportion) of corrupt officials keeps increasing due to several reasons (for example, because the bribe price has to become competitive). The system may then reach two stable equilibriums X or Z, or the unstable equilibrium Y, where officials are indifferent between both types of behaviors. Therefore, the model highlights the importance of initial conditions. (Bardhan, 1997, p. 1332). For further discussion on the application of Schelling's model on corruption see Bardhan (1997), and Andvig, (1991). For an in depth analysis of Schelling's static model in an intertemporal setting see Caulkins et al., (2014).

[66] This is related to the distinction between collusive and extortive corruption (Klitgaard, 1988), and other typologies of corruption. However, Bauhr notes that while other typologies are usually focused on the scale, type of action, type of actor, moral acceptability (Heidenheimer, 2002), or profitability of corruption (Uslaner, 2008), the distinction between need and greed corruption emphasizes the basic *motivation* for corruption, about which little has been written.

difference between paying a bribe if it is the only way in which a service, such as health care or education, can be received, or whether corruption is used to receive a cheaper service" (Bauhr, 2017, p. 4).[67] Examples of need corruption are, for example, when a bribe is necessary to obtain legal documents (such as a birth certificate or a diploma), or the access of services (health care, legal advice, adequate treatment by police forces) (Bauhr & Nasiritousi, 2011, p. 3). Persson et al., in their account of the corrupt context in Kenya and Uganda through the eyes of the informants, offer several examples of corrupt acts that can be classified according to Bauhr's typology. Even the informants are subconsciously differentiating between the two types of corruption: ". . . most people will be doing it involuntarily, because if you look at the institutions which are taking the bribes, it's the police which means they are in a situation where they are threatened with some sort of punishment or some sort of pain if they do not pay the bribes. There's a little bit of coercion in it, but there's also the element that people are trying to maybe skip the queue or save time or whatever by paying bribes…" (Persson et al., 2013, p. 13).

While need corruption is generally illegal, greed corruption may not necessarily be illegal (ibid., p. 6). Therefore, depending on the cultural and legal context some countries accept certain actions which fall under Bauhr's categorization of greed corruption; gift-giving, for example, is not illegal in some regions.[68] Moreover, different measures of corruption may capture one type more than the other (this is especially the case for measures that capture one single dimension of corruption such as the frequency of bribes, that capture need corruption more than greed corruption). Additionally, one type or the other may be more present in one country or context (the author mentions that Sweden experiences greed corruption but practically no need corruption) (Bauhr & Nasiritousi, 2011, p. 7).

Furthermore, evaluating corruption in relation to its scale or profitability, that is, in evaluating it in terms of the absolute amount of money, is that such analysis cannot adequately capture its true impact, as the costs and profits are relative to the actors' income. (Bauhr & Nasiritousi, 2011).

[67] The author notes that the distinction should be seen as a continuum, where need and greed corruption are positioned at either extreme, and some acts are more easily placed at either end of it. She also acknowledges the fact that other motivations for corruption (e.j. love or loyalty) may coexist with need and greed. (Bauhr, 2017, p. 4) Despite this, she effectively treats the distinction as a dichotomy and does not include any other motivations in her later analysis (Bauhr & Nasiritousi, 2011). Similarly, she offers no insight into how the following situation might be categorized: a citizen bribes not because it is the only way to obtain a service, but because they believe that the legal price at which the good or service can be obtained is excessive and unfair. Additionally, she notes that neither greed nor need corruption are more morally defensible, as both may cause others to incur harm.

[68] Examples of this would be an entrepreneur or lobby group inviting an important politician to a luxury resort (Bauhr & Nasiritousi, 2011, p. 6).

This distinction is crucial because the relationship between actors is different for each kind: "need corruption builds on coercion and extortion, greed corruption on collusion for mutual benefits", therefore greed corruption is less likely to be detected (Bauhr & Nasiritousi, 2011, p. 3). It can also help explain the varying levels of mobilization against corruption and the related effectiveness of policy initiatives (Bauhr, 2017, p. 5). The author suggests that being exposed or coerced into need corruption (however expected it may be) leads to negative reactions such as indignation, thus inciting the citizens to mobilize and engage against it, given that they believe that others will mobilize as well. Contrarily, greed corruption involves a sense of camaraderie and mutual benefits, therefore it leads to secrecy and demobilization:

> "In other words, those involved in greed corruption are typically not "conditional cooperators" and are instead more likely to be determined defectors or "free riders", as they can reap the long-term collective benefits of most others' abstention from, and engagement against, corruption, while not having to face the short-term costs of exposing their corrupt networks and changing their own well-concealed corrupt behavior." (Bauhr, 2017, p. 2).

Therefore, greed corruption is more 'sticky' and persists in societies with traditional and functioning democratic institutions. In consequence, the success of policies that attempt to engage citizens in the fight against corruption through norms of reciprocity, the media, civil society, or increased democratic accountability is not universal, as they may only affect mobilization against need corruption.

Based on the analysis of the two types of corruption, through cross country data and a case study of Sweden (a country with ´low corruption´), Bauhr develops three propositions about how corruption interacts with institutional trust and the implications of this in public policy: (a) greed corruption can coexist with high institutional trust (contradicting the observed and expected negative relationship between corruption and institutional trust); (b) greed corruption may not cause civic engagement or some kind of anticorruption mobilization; and (c) in environments where need corruption abounds, increased transparency will not necessarily lower corruption because it may also have the effect of altering expectations in a detrimental manner. Accordingly, the effectiveness of 'traditional policy measures' in a society, that is, of policy measures guided by the principal-agent theory such as increased accountability and transparency, is determined by the balance between need and greed corruption. Additionally, the value of this insight is not limited

to societies plagued with systemic corruption, as it can also be extended to 'low-corruption' countries (Bauhr & Nasiritousi, 2011, p. 2).

Anticorruption Policy in Mexico

This section is organized as follows. First, I present a brief summary of the history of anticorruption institutions and policies in Mexico. This background is useful in understanding Mexico's trajectory in the matter of anticorruption efforts. Next, I explain the main anticorruption reforms in place currently in Mexico with special focus on the reforms implemented during the last presidential term, as they represent a break with previous efforts on the matter. Then, I attempt to shed light on the fact that anticorruption efforts in Mexico have so far been heavily influenced by principal-agent theory. Finally, I propose that perhaps instead of being addressed as an agency problem corruption in Mexico should be analyzed as a problem of collective action.

What now follows is a brief summary of key events in anticorruption reform in Mexico since the start of the XX century in order to understand the main strategies used in the fight against corruption.[69] I have identified four key periods in the modern history of Mexican Anticorruption Policy. The first period began with the institutional reform efforts following the publication of the Constitution of 1917 and lasted for half a century. A second key period took place in the 1980s and 1990s. It is related to the surge of corruption during the economic boom during president José López Portillo's term and the ensuing necessary anticorruption reform that took place in the following president's term. The third period corresponds to the alternation of political power that started with the XXI century. The high expectations that resulted from the change in regime prompted efforts of administrative reform; special focus was placed in those policies which would

[69] Valverde (2018) offers a review of the most important institutional anticorruption mechanisms and reforms in Mexico in modern history. The author follows the anticorruption agenda with a tight link to presidential terms and key political events. This is relevant because oftentimes the nations' anticorruption magenta is tightly related to the president's project. Additionally, in recent decades and especially with the rise of political alternation, it has frequently been used to discredit or delegitimize the previous administration, while at the same time lacking real commitment. Therefore, the anticorruption agenda in Mexico has generally lacked continuity and civilian trust.

reduce corruption, as this would aid in the legitimization of the new president. The fourth and last period with the presidential term of Enrique Peña Nieto, during which several corruption scandals of high-level officials and prominent figures led to the establishment of the National Anticorruption and National Transparency Systems (SNA and SNT, respectively) and a rise in the expectations of effective anticorruption reform which has so far not been consolidated.

The first period of more formal anticorruption policy that can be identified in Mexico began with the publication of the 1917 Constitution and lasted until the extinction of the developmentalist model in the early 1970s. The first formal anticorruption efforts in Mexico can be traced back to the creation of the centralized National Office of the Comptroller General to achieve a more effective and scrupulous administration of state resources[70] (Valverde, 2018). Before the creation of this office, certain state departments had performed functions related to controlling corruption, but this was the first instance where a specialized force was assigned such a function.[71] These first efforts have an explicit strong moral directive. While the main function of The Office of the Comptroller General was preventive, it was also tasked with the verification of accounts and control mechanisms, the improvement of public administration, the recording of the officials who handled state funds and national property, and the investigation and allocation of civil and penal responsibilities (Valverde, 2018, p. 288). In the following decades, offices and departments tasked with the nation's anticorruption efforts came and went, and laws were passed and amended, but the original premise perdured; to avoid the abuse of the state's resources and power by its public officials.[72] However, it must be noted that since 1930 Mexico had been de facto ruled by the Institutional Revolutionary Party's authoritative regime, where corruption and other actions outside of the law were used as tools to preserve the party's position of power. This first period of reform then ended with the presidential term of José López Portillo (1976-1982), who coined the now infamous term "administración la abundancia" (the administration of abundance). The

[70] Departamento de Contraloría General de la Nación.

[71] For example, before 1917, anticorruption measures such as the supervision of the state accounts were assigned to the Department of Treasury. However, because this department depended on the Legislative Branch the supervision was considered inadequate, therefore the National Office of the Comptroller General was created to centralize the financial accounting into the Executive branch; more specifically, into the president's direction. This political move was related to Mexico's new constitution, which was passed in 1917 and sought to consolidate the Executive's power over the Legislative branch. (Valverde, 2018).

[72] In general, in the mid XX century, as a consequence of illegal corrupt behavior public officers were expected to be stripped from their position and be subjected to a trial in front of a federal jury. At that time public officers were also expected to issue a statement of their assets at the beginning and the end of office (Valverde, 2018, p. 291).

beginning of López Portillo's term was marked by a marked effort of administrative reform; many of the changes implemented were aimed at fighting corruption.[73] However, despite reforms, there was a widespread spread of corruption, nepotism and abuse throughout the government and even spreading to the president and high-level officials; hurting the citizens' trust in government institutions. "Corruption was no longer "functional" to the system and had become a problem that threatened its [the government's] legitimacy" (Valverde, 2018, p. 293). The dire situation in which the State found itself demanded an increase in efficiency and a reduction of the corruption-related costs in the private sector, as well as regaining the citizen's trust.

According to Nieto (2020), several institution-building and anticorruption efforts have taken place since at least the 1980s (p. 688). Therefore, a second period in the country's anticorruption history (which represented a more serious impulse in institution-building and anticorruption reform) lasted from the start of the 1980s until the end of the XX century. The beginning can be identified with the presidential term of Miguel de la Madrid Hurtado (1982-1988), who led Mexico's first neoliberal government. In 1982 with the change in incumbent, as a consequence of the rampant corruption in previous years, while the Treasury Department continued possessing the control of the *external* administration a new comptrollership organ was created to control the *internal* administration in the hopes that it would exercise the 'autocontrol' the government lacked (Valverde, 2018, p. 294). This organ is now called the Ministry of Public Service (SFP).[74] The organ was tasked with the functions of control, monitoring and evaluation of the federal public administration, and was expected to execute a program that would 'morally revive the society', again imbuing a quality of morality to the problem of corruption.[75] In the same year, the 4th article of the Constitution was amended to include a special focus on the administration and handling of federal resources and funds, and the Federal Law of Civil Service

[73] One example was the issue of the Law for the Responsibilities of the Public Officials, High-ranking Officials, and the Workers of the State and Federal District (Ley de Responsabilidades de los Funcionarios y Empleados de la Federación, del Distrito Federal y de los Altos Funcionarios de los Estados), which distinguished between minor offences and perjury against the public interest. Unexplained riches were severely punished and public officials did not yet enjoy immunity. Additionally, the statement of assets and public budgets was mandatory (Valverde, 2018).

[74] At its creation in December 1982, the organ was called the Secretaría de la Contraloría General de la Federación, from 1994 until 2003 it was the Secretaría de Contraloría y Desarrollo Administrativo, and has since been known as the Secretaría de la Función Pública (SFP).

[75] The project directly mentioned the need for scrupulous law enforcement, the intransigence in the face of public or private immorality, and the timely reaction to corruption at its root.

Responsibility was passed.[76] As a result of this reform, Congress and the states specified the different political, civil, penal and administrative responsibilities and established the procedures for a political trial. Specific policies and procedures were defined in regards to influence peddling, conflict of interest, and gift-receiving. In the following years, several financial and parastatal institutions and were privatised; the Bank of Mexico became autonomous; and the National Human Rights Commission and the Federal Electoral Institute were created "to protect these rights from the authorities and to give certainty and reliability to the federal electoral processes" (Valverde, 2018, p. 297). In 1982 the Social Controllership was created to foster citizen participation in the control and surveillance of public servants; the public was to become a 'social auditor'. The complaints were processed through the National System of Complaints and Citizen Services.[77] In 1992 the Federal Law of Public Servant Accountability was reformed to further define criminal acts and their corresponding sanctions. Additionally, systems were implemented to increase the transparency in government contracts and patrimonial declarations. In 1996, the Public Administration Modernization Program (PROMAP) was instituted. Lastly, in 1999 the Federal Superior Auditors (ASF) took over the functions of the previous accounting body.[78] However, several obstacles and limitations (including the delays and lack of capacity in the investigations) prevented the reforms from being successful, and corruption continued to be one of the key problems in public administration.

The third period of particular importance in Mexican anticorruption history took place during the terms of Vicente Fox (2000-2006) and Felipe Calderón (2006-2012) and was characterized by a stronger focus on public integrity and the creation of new institutions for regulatory improvement. For the first time in over 70 years, Mexico had a president who did not belong to the Institutional Revolutionary Party (PRI). This alternation of power generated high expectations for change: corruption was framed as a symbol of the old authoritarian regime and therefore especially important to combat. In the first years of the XXI century, the president issued the National Program of Anticorruption and Promotion of Transparency and Administrative Development as part of the National Development Plan 2001-2006.[79] The year 2002 gave rise to

[76] Ley Federal de Responsabilidades de los Servidores Públicos.
[77] Sistema Nacional de Quejas, Denuncias y Atención Ciudadana.
[78] Auditoría Superior de la Federación (ASF) took the place of the Contaduría Mayor de Hacienda.
[79] Programa Nacional de Combate a la Corrupción y Fomento a la Transparencia y el Desarrollo Administrativo 2001-2006.

two important anticorruption instruments: the Law for Transparency and Access to Public Government Information and the Federal Institute for Access of Information (IFAI).[80] These instruments aimed at establishing a new relationship between citizens and the government, in which transparency and accountability were emphasized and the margin for discretion was reduced. However, a new law was also passed that classified several corruption-related offences as non-serious, which meant offenders could walk under bail. In 2003, the program became integrated to the Good Governance Program, inspired by the New Public Management concepts that had gained international acceptance and implied a greater citizen participation in public issues resolution.[81] Additionally, a new law that regulated public service was passed: its aim was to subject public service to merit criteria instead of loyalty to the regime or other partial or personal factors. In the following years, the main improvements were concerned with the establishment of goals and the follow-up of indicators. Furthermore, in 2006, the constitutional reform of the 6th article was aimed at strengthening transparency and accountability. Additionally, a new program for the improvement of management was passed (Nieto Morales, 2020, p. 688). [82] Similarly, in 2008, the National Program for Accountability, Transparency and the fight against corruption was proposed with a preventive intent.

Lastly, the fourth key moment in anticorruption reform began during the presidential term of Enrique Peña Nieto (2012-2018), and has represented a new direction for anticorruption policies to follow. The beginning of Peña Nieto's term was marked by a series of high-profile corruption scandals.[83] The conflicts were never fully resolved and the measures that were taken were regarded by the public and the media as insufficient and insincere effort to recover the president's tarnished image. As a consequence of this and of the upcoming midterm elections, the government conceded

[80] Ley Federal de Transparencia y Acceso a la Información Pública, passed in 2002.
[81] This concept vouched for the application of private administration tools to state administration.
[82] Programa Especial de Mejora de la Gestión 2008-2012.
[83] In both Calderon's and Peña Nieto's terms the opposition in the Council prevented the executive from implementing some reforms and projects. For example, president Enrique Peña Nieto's office presented a proposal to create the National Anticorruption Commission. It was to be complemented by the National Council of Public Ethics, headed by the president himself and tasked with coordinating strategic action to strengthen the society's ethical behavior. However, the proposal was heavily criticized as the Commission was bound to be incapable of handling the cases and it had direct links to the executive. President Peña's efforts fell under further scrutiny upon the discovery of various high-end residences that belonged to the president's wife and a few high-level public officers. The president's insignia project, the Mexico City-Querétro High-Speed Railway, was also later cancelled due to an unlawfully obtained government contract. Additionally, the forced disappearance of 43 students in 2014 further delegitimized the president's regime.

key points to its critics in the matter of anticorruption reform. This led to the creation of the National Transparency System (SNT) and the National Anticorruption System (SNA) in 2015. The former sought the coordination and standardisation of the policies and procedures in the three levels of government and proposed the creation of local advisory boards with citizen participation. The latter resulted from the input of several CSOs, academics and policymakers; it devised the creation of the Committee of Citizen Participation (a branch of the Coordinating Committee "which has an integrated perspective that involves the society and designs the citizenry as a jointly responsible in the fight against corruption"), that would coordinate the relevant authorities in charge of corruption at all levels of government in charge of prevention, investigation and sanction (Valverde, 2018, p. 306). Private individuals and enterprises are also held accountable to this behavior and may incur in sanctions, and a declaration of assets and interests is mandatory for public servants. Additionally, the Federal Tribunal of Administrative Justice (an independent entity from the executive branch) was created to sanction major offences, and the principal auditing body (ASF) was strengthened. Because the reformist momentum that took place during the last decade has been so important in Mexican anticorruption policy, it is analyzed more in depth in the following paragraphs. Special focus is given to the new bet in the fight against corruption: The National Anticorruption System (SNA).

The National Anticorruption System was a consequence of the interaction between several factors: (a) the high expectations for a new and improved PRI; (b) a series of corruption scandals in which several high-ranking officers and members of the elite were implicated; (c) the increasing awareness of the scale of the problems of corruption and impunity in Mexico or, alternatively, the rising perception of the problems within the country; (d) the increasing pressure by a group of academics, activists, and CSOs to address the problem, and (e) an existing precedent of related reforms, especially the previously enacted reforms in the matter of transparency (Nieto Morales, 2020, p. 686).

The system is mainly a mechanism of inter institutional coordination in charge of coordinating policy between the three branches and at the three levels of government. It is tasked with establishing "standards, general principles, public policies and procedures for the coordination" (Cámara de Diputados del H. Congreso de la Unión, 2016, p. Art. 6). It was created in February of 2015, with further legislation being passed in the following months and years. The

legal framework behind the SNA can be found in 7 laws (3 already existing ones which have been modified and 4 new ones) (Ethos Laboratorio de Políticas Públicas, 2018).[84] The system is made up of four main organs: The Coordinating Committee (CC), the Citizen Participation Committee (CPC), the Steering Committee of the National Auditing System (SNF), and the representatives of the Local Anticorruption Systems (SLA) (Cámara de Diputados del H. Congreso de la Unión, 2016, Art. 7).[85] Additionally, an independent state organ was created to assist the CC and CPC in technical matters, policy design, benchmark drafting, and impact evaluation; the Executive Office of the National Anticorruption System (SESNA) (RRC & CIDE, 2018).

The SNA sought to change the paradigm in institutional coordination in Mexico by establishing close links and communication channels between institutions tasked with fighting corruption and improving the country's administrative management (RRC & CIDE, 2018). Several important contributions may be recognized, including the cataloguing of corruption related acts in both the public and private spheres; the specification of the sanctions and correct administrative and penal institutions to investigate, choose, and enforce them;[86] the clarification of the public

[84] The new laws are the Ley General del SNA, Ley General de Responsabilidades Administrativas, Ley Orgánica del Tribunal Federal de Justicia Administrativa, and Ley de Fiscalización y Rendición de Cuentas de la Federación. The reformed laws are Ley Orgánica de la Administración Pública Federal, Ley Orgánica de la Procuraduría General de la República, and Código Penal Federal (Ethos Laboratorio de Políticas Públicas, 2018, p 6-7).

[85] The first organ, the Coordinating Committee is formed by 7 members from different institutions: the Federal Superior Auditors (ASF); the Federal Court of Administrative Justice (TFJA); the Special Prosecuting Office Against Corruption (FECC); the Ministry of Public Administration (SFP); the Federal Council of the Judiciary (SCJN); the National Institute of Transparency, Information Access, and Protection of Personal Data (INAI); and the Citizen Participation Committee (CPC). The president of the CPC also presides the Coordinating Committee. The presence of a commissioner from the INAI also guarantees communication with the National Transparency System (Nieto Morales, 2020, p. 701). The second organ, the Citizen Participation Committee is made up of 5 citizens who have shown an outstanding honest behavior and career path, and have demonstrated a great commitment to transparency, accountability and the fight against corruption.# The main functions assigned to the CPC are to preside the SNA and supervise its performance; propose national policies to fight corruption and control public resources to the CC; and foster communication between the SNA and the academia and CSOs. The third organ, the Steering Committee of the National Auditing System, is in charge of establishing actions and coordination mechanisms between the Federal Superior Auditors and the Ministry of Public Administration at the federal and local levels in order to promote the exchange of information, ideas and experiences to improve the auditing of public resources. Its main task is to establish coherence and consistency in the subject of audit within both institutions. It is also in charge of publishing reports in an accessible language for the citizens.# The last organ is the group of Local Anticorruption Systems, which are theoretically reproductions of the SNA at the local level, however, several obstacles have prevented the effective realization of this last organ.

[86] Offences may be classified as administrative, criminal, or both. Administrative offences are classified between not serious, serious, and committed by particulars; and may be sanctioned with a warning, suspension, destitution, disablement and economic sanctions. The criminal offences are listed as illicit exercise of public service, forced disappearance of persons, coalition of public servants, illicit use of powers and powers, bribery of foreign public officials, concussion, intimidation, abusive exercise of functions, influence traffic, authority abuse, bribery,

servants' duties; and the distinction between serious and non-serious offences. Similarly, sanctions were also specified for the offences committed in private institutions. Furthermore, the system increased the severity of the sanctions for criminal offences (especially for senior officials of the Federal Government, legislators and entrepreneurs);[87] equipped the auditing bodies to investigate serious offences; and stipulated the creation of a Specialized Anticorruption Prosecutor, which may exercise criminal proceedings in court (Ethos Laboratorio de Políticas Públicas, 2018). However, some may say that the most important contributions of the system are related to the permanent link between the citizens and the institutional fight against corruption (RRC & CIDE, 2018): first, the continued involvement of the citizens, academics and CSOs; and second, the creation of the National Digital Platform (PDN), a platform that will collect (and publish) the data gathered by the SNA about patrimonial declarations, audits, a list of sanctioned public officers, and the names of the officers involved in government contracts.[88]

As shown in the previous historical summary, Mexico has a long trajectory of institutional anticorruption policy reform that began in the first half of the XX century but has gained momentum in the last two decades with the alternation in political power and the renewed efforts for administrative improvement and anticorruption reform. In general, anticorruption policies in Mexico have argued in favor of strengthening accountability, transparency, and monitoring technologies; creating specialized anticorruption and auditing agencies; classifying offences; determining sanctions; in other words, their aim is to establish an institutional framework through which anticorruption reform can be enacted without a hitch. In short, the policies are directed at designing better regulations, improving monitoring, and developing and carrying out correct sanctions. They are still mainly concerned with devising the correct incentives to draw agents away from the temptations of corrupt behavior; be it by increasing the costs and probabilities of detection or by raising the benefits of honest behavior.

Unsurprisingly, and in line with the international trends in the matter, these recommendations closely follow solutions grounded in principal-agent theory, which places a

peculation, and illicit enrichment; and may be sanctioned with confiscation, dismissal, disablement, fines and prison (Ethos Laboratorio de Políticas Públicas, 2018, p. 18).

[87] The sanctions for criminal offences include less forgiving verdicts of impounding, impeachment and destitution (Ethos Laboratorio de Políticas Públicas, 2018).

[88] The platform is still in its early stages of construction.

great weight on the use of a series of tools that are likely to reduce the incidence of corruption. The United Nations' Global Programme Against Corruption prescribes a series of tools for policymakers to aid in the fight against corruption. Some of the tools are reflected in Mexico's anticorruption policies include the creation of specialized anticorruption agencies, audit institutions, civil service reform, codes and standards of conduct, national anticorruption commissions and similar bodies, disclosure of assets and liabilities by public officials, authority to monitor sector contracts, reducing procedural complexity, reducing and structuring discretion, access to information, awareness-raising measures, public complaints mechanisms, financial investigations, and more (Global Programme Against Corruption, n.d.). Therefore, Mexico has institutionally implemented most of the recognized tools to assist in the fight against corruption. Why is it that, although Mexico has followed the recommendations of internationally recognized authorities in the matter such as the United Nations and the World Bank, the performance of the country in the fight against corruption (as observed in indexes concerned with corruption) has been so limited?[89]

One factor that could explain the limited success of such policies would be the characterization of Mexico as not only a high-corruption context, but as a country where corruption has become normalized and therefore evolved into a situation of endemic corruption. Especially in such a context, individuals' expectations of external behavior could come to play a key role in the perpetuation of corruption. The criticisms of the principal-agent models of corruption made from a collective action framework become worthy of analysis in the Mexican case. By conceptualizing principals (who may be citizens, agencies, high-officials, agents who delegate to other agents, etc.) as entities that inherently promote the common good above all else, principal-agent theory does not account for the possibility of 'principals' who may not wish for or act in support of the implementation of corruption policies.

A second criticism of the principal-agent-based anticorruption policy in Mexico is that it does not consider the role of expectations in the formation of preferences and behaviors. In high-corruption contexts such as Mexico it is reasonable to assume that the citizens understand the pervasive effects of corruption at least at an intuitive level. They may also agree that taking part

[89] The United Nations have in fact published a document titled the Anti-Corruption toolkit, which contains a series of intermingled tools and case studies. The toolkit contains a total of 44 specific tools and is intended for the use of policymakers to be of aid in the design of national anti-corruption strategies.

in such behaviors is illegal or 'wrong'. However, corruption still prevails: citizens either actively engage in it, are coerced into it, or passively observe it; yet they rarely report it. These behaviors may be explained through the role of expectations: if citizens believe that 'everybody else' engages in corruption, then they will be unwilling to miss the benefits it could bring. In other cases abstaining from corruption or reporting it could have negative consequences for the whistleblower, as the parties involved may wish to act in revenge or the corrupt organization may wish to perpetuate corrupt behavior instead of correcting it. Additionally, as is frequently the case in Mexico, the impunity is so widespread that the citizens expect no results to come from reporting unlawful behavior: "the main reason why around half of the surveyed population does not report corruption is the impunity" (*Política Nacional Anticorrupción*, n.d., p. 45).

Moreover, the way in which some of the previous policies which have been implemented affect the levels of corruption in our society through the roles expectations and perceptions of corruption play in determining the citizens' preferences and behavior. For example, one unintended consequence of policies that promote transparency and awareness-raising measures is that if they do not simultaneously achieve the elusive task of transmitting that along with corruption discovery the problem is also being controlled, they may end up only distorting the citizens perceptions of corruption in their society. I argue that some of the dynamics discussed in collective action theory are present in Mexico: the development of such institutions and policies such as the SNT and with the wide coverage of high-profile corruption cases has raised the citizen's awareness of corruption in the country. However, as the parallel success of such measures in discovering and punishing instances of corruption has not been properly communicated, such efforts have succeeded in raising citizens' perception of corruption within our country, sometimes even to levels that greatly differ from the true extent of corruption. This may result in the spread of corruption as a normalized and expected behavior, discontent and distrust of the authorities, and cynicism. These effects may in turn alter the citizens' preferences for corruption and provoke a rise in the true levels of corruption within Mexico.

Additionally, principal-agent theory assumes that transparency and awareness-raising mechanisms will also incite citizens to mobilize against the problem they are now aware plagues their society. Following Bauhr (2011, 2017), Mexico has high levels of both 'greed' and 'need' corruption, and while mobilization may be expected in the face of generalized need corruption; the

mutual benefits, complicity and secrecy associated with greed corruption often prevent the mobilization of the involved parties, as they prefer to enjoy the long-term benefits of others' efforts to curb the problem while also experiencing the gains from being involved in corruption at present.

Furthermore, collective action theory also asserts that corruption may only be controlled through genuine and persevering efforts from the authorities. Generally, in Mexico anticorruption reform has been accused of being rigid, reactive, and uncoordinated (RRC & CIDE, 2018; Nieto Morales, 2020). Additionally, in the XXI century the frequent changes in regime have represented an obstacle to enduring anticorruption reforms, as the continuity and support for the projects is frequently lost.

It is noteworthy that in January of 2020 the National Anticorruption System's Coordinating Committee approved the National Anticorruption Policy (PNA), whose aim is to define the strategic path the fight against corruption must follow (*Política Nacional Anticorrupción*, n.d.). The PNA's preliminary and summary documents contain lengthy discussions in which a collective action approach is supported. (RRC & CIDE, 2018; *Política Nacional Anticorrupción*, n.d.). For example, it is mentioned that the traditional initiatives are based on a framework that suggests that corruption may be dissuaded exclusively through measures of control, monitoring and sanctioning, However, such strategies "based on an individual focus of control, monitoring and sanctioning, as well as the expectation of their correct implementation, may result in a limited effectivity in high-corruption contexts…" (*Política Nacional Anticorrupción*, n.d., p. 44). This points to the fact that policymakers may be beginning to analyze Mexico's corruption framework through a collective action lens. While important steps have been taken to (in the matter of coordination and citizen engagement, for example), anticorruption reform has a long way to go before it is truly effective in controlling corruption in Mexico.

Conclusion

This thesis presented a review of the two main theories in the corruption literature under the idea that the collective action theory has risen in popularity against the traditionally used principal-agent theory as a consequence of the latter theory's theoretical oversights and empirical shortcomings in the improvement of the problem. Additionally, it is argued that collective action theory, while limited, has also contributed key insights to the fight against corruption that may be more effective in addressing the problem in high-corruption contexts than the traditional tools provided by principal-agent theory.

As shown previously, Mexico has a significant trajectory of institutional reform on the subject of anticorruption. During the last 5 years, significant advances have been conducted on the subject with the formulation of a system that both coordinates and standardizes all of the national authorities, laws and programs that pertain to anticorruption prevention, investigation and sanction; and creates a permanent link between the citizens (especially, NGOs and scholars) and the organisms in charge of anticorruption reform. The system has been described as paradigmatic due to its innovative nature and particular origin. However, this system and related policies have been unable to cement themselves as a functioning and trusted system within Mexican society. Thus, the reform has so far not had the expected positive effects. However, recent documents on Mexico´s newly passed National Anticorruption Policy do contain implicit assumptions of a collective action framework to address the problem of corruption in the country.

This paper concludes by arguing in favor of the continuation of the latest proposals in anticorruption policy in Mexico. Because corruption in Mexico is systemic and has therefore become normalized, the success of typical anticorruption tools may be limited. I propose, following collective action theory, that in order to better comprehend and consequently better control the corruption problem in Mexico it should be analyzed not as an agency problem but instead as a social trap or collective action problem. While the existing principal-agent theory-based anticorruption policies should not be discarded, they demand a careful revision through a collective action lens, as this may offer key insight for Mexico's particular situation. In a problem as complex and all-encompassing as corruption, these two theories have jointly much to offer.

Appendix A. Tables

Definitions of Corruption

TURN'	OF		FOR	
Betrayal	Public	Office/duty	Private	Gain
Diversion	Common	Good/trust	Personal	Interest
Ab(mis)use	Communal	Funds/resources	Individual	Benefit
Manipulation	Administrative	Barriers/influence	Unauthorized	Advantage
Exploitation	Institutional	Position/power	Group	Profit
Bending	Formal	Rules/regulations	Informal	Goal

Table 1.Definitions of Corruption. From Ledeneva et al., 2017, p. 3.

Appendix B. Figures

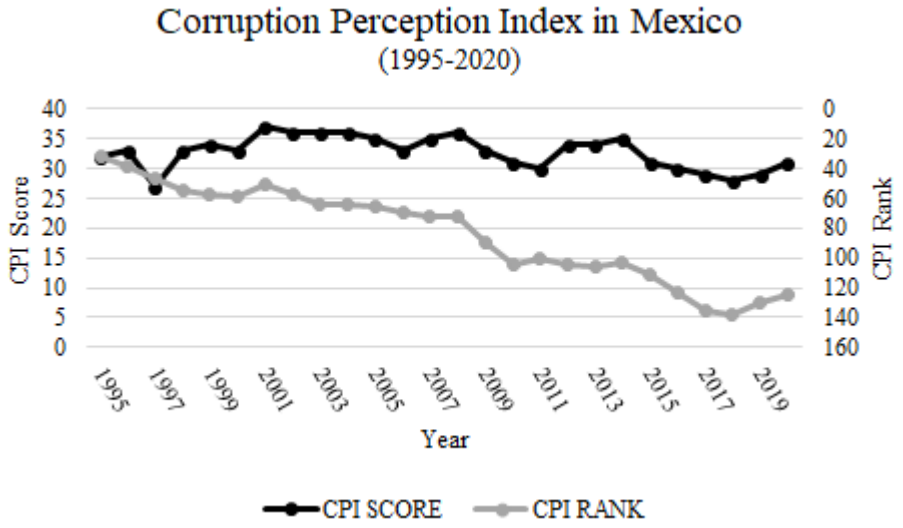
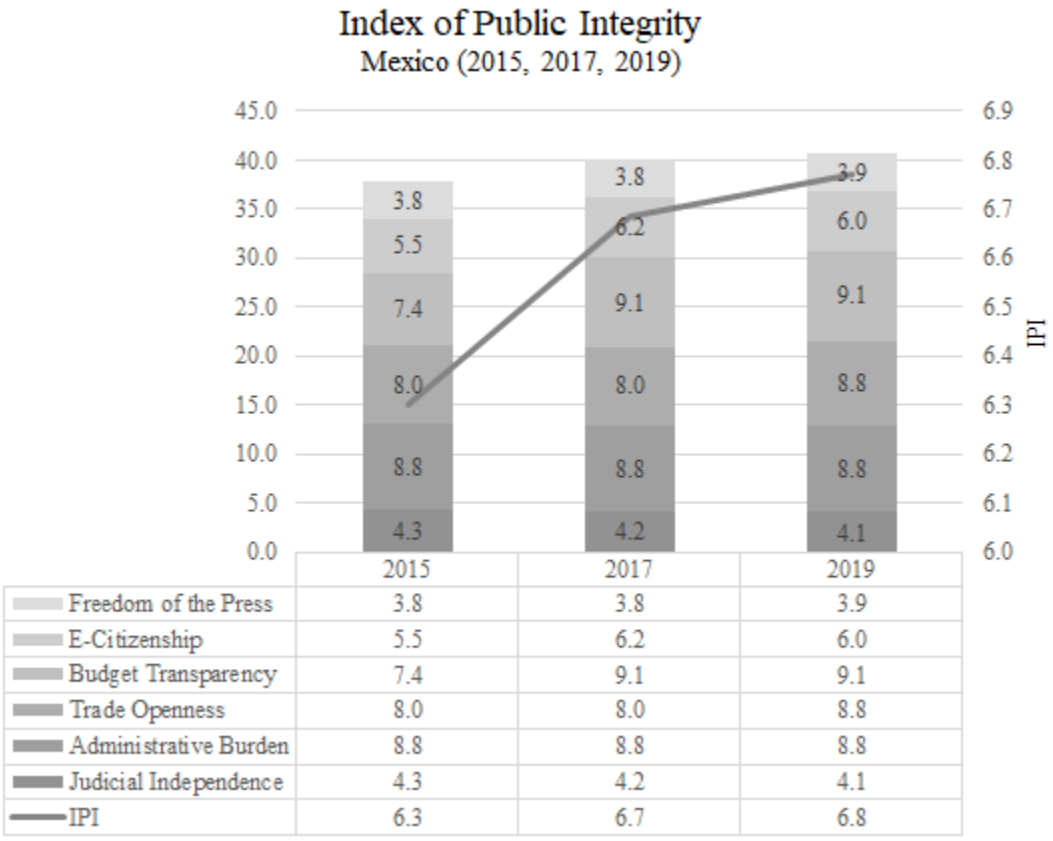


Figure 1. Corruption Perception Index in Mexico (1995-2020). Self-made with data from the CPI.



	2015	2017	2019
Freedom of the Press	3.8	3.8	3.9
E-Citizenship	5.5	6.2	6.0
Budget Transparency	7.4	9.1	9.1
Trade Openness	8.0	8.0	8.8
Administrative Burden	8.8	8.8	8.8
Judicial Independence	4.3	4.2	4.1
IPI	6.3	6.7	6.8

Figure 2. Index of Public Integrity: Mexico (2015, 2017, 2019). Self-made with data from IPI.

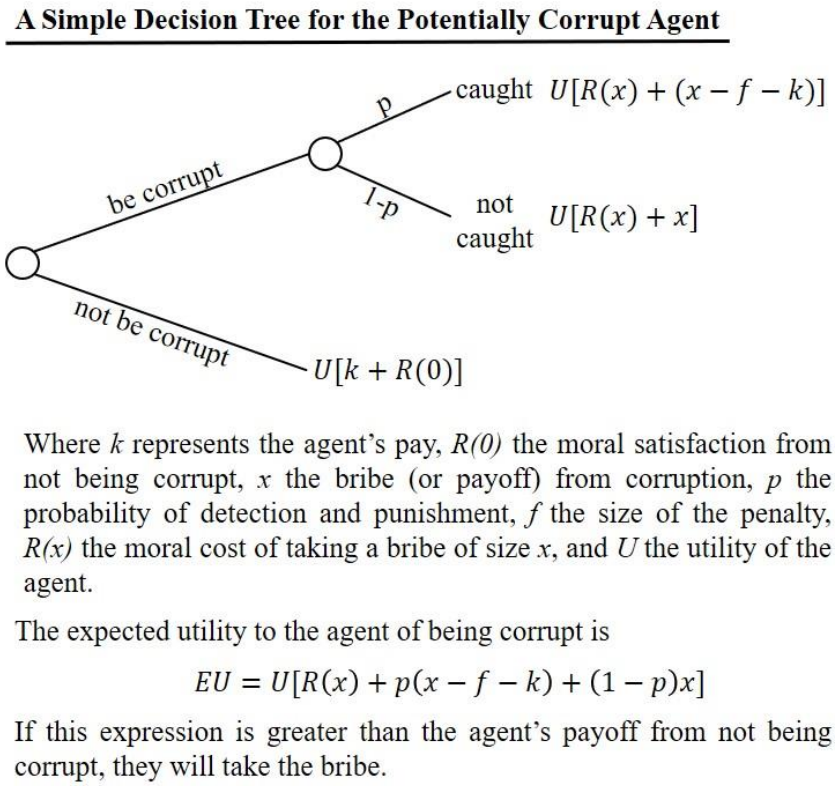


Figure 3. A Simple Decision Tree for the Potentially Corrupt Agent. Adapted from Klitgaard, 1988, p. 71.

The Schelling Diagram

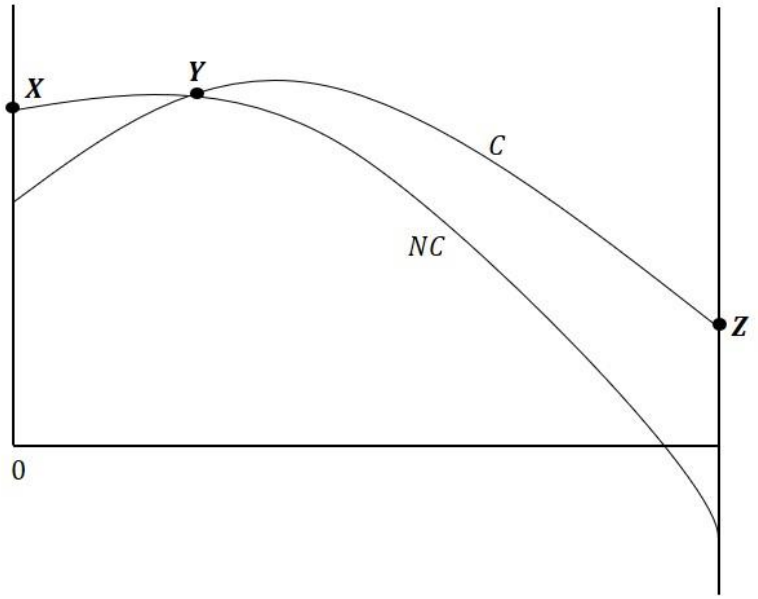


Figure 4. The Schelling Diagram. Adapted from Bardhan, 1997, p. 1332

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