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# An Economic and Jurimetric Analysis of Official Corruption in the Courts



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An Economic and Jurimetric Analysis of Official Corruption in the Courts: a Governance-based Approach [*]

**Abstract**

The scientific approach to the study of public sector corruption needs empirically verifiable methodologies in order to develop reliable anti-corruption prescriptions. This paper presents empirical results while proposing the use of six objective explanatory variables to capture the effects of corrupt practices in the courts. The article also proposes an empirical model, which incorporates substantive-procedural, market-related, and organizational explanatory variables tested within the judicial sectors of Argentina, Ecuador, and Venezuela.

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# I.   INTRODUCTION

For a long time, economists have focused their attention on the effects that well-functioning legal and judicial systems have on economic efficiency and development. Adam Smith states in his *Lectures on Jurisprudence* that a factor that "greatly retarded commerce was the imperfection of the law and the uncertainty in its application...." (Smith, p. 528). Judicial corruption hampers economic development by undermining the stability and predictability in the interpretation and enforcement of the law (Buscaglia, 1997 and 1999).

Rose-Ackerman (1997, p. 5) states that "widespread corruption is a symptom that the state is functioning poorly". In fact, the entrenched characteristic of official corrupt practices is rooted in poor governance practices within a state agency coupled by the  lack of alternative channels to secure a service through either the private or public sector (Buscaglia, 1997, p. 277). Many scholars have provided path-breaking contributions to the economic analysis of corruption. Studies focusing on describing corrupt practices and on analyzing the impact of corruption on economic development are abundant. Low compensation and weak monitoring systems are traditionally considered to be the main causes of corruption (Becker and Stigler, 1974; and Klitgaard,1991). In Becker-Stigler (1974) and Klitgaard (1991), official corruption through bribery reduces expected punishment and thus deterrence. In this context, increasing the salaries of public enforcers and/or paying private enforcement agencies for performance will improve the quality of enforcement.

Rose-Ackerman (1978), Macrae (1982), Shleifer and Vishny (1993), Maoro (1995), and Buscaglia et al (2000) provide alternative approaches to the institutional analysis of corruption. In these studies, corruption is considered to be a behavioral phenomenon occurring between the state and the market domains, or in the case of Buscaglia et al (2000), corruption is the symptom of dysfunctional governance within the public sector. In all cases, economic models assume that people and firms respond to incentives by taking into account the probability of apprehension and conviction, and the severity of punishment (Becker, 1993, pp. 234-237). Of course, in all these studies, ethical attitudes matter and the "temptation threshold" is subject to the individual's moral foundation. However, all economic models of corruption stress that, to a lesser or greater degree, people respond to incentives. In all these theories, changes in corrupt activities occur if the marginal returns from crime exceed the marginal returns from legal occupation by more than the expected value of the penalty.

Other work has pointed at how the existence of official corruption distorts the market and implicit price mechanisms by introducing uncertainty in the marketplace (Andvig 1991, p. 59) and the most recent wave of scholarship brings market failures into the analysis of corruption (Acemoglu and Verdier, 2000).

In any case, official corruption is an essential input for the growth of organized criminal activities with the capacity to pose a significant international security threat to social and political stability through the illicit traffic of, among others, narcotics, nuclear, chemical, and biological materials, alien smuggling, and international money laundering operations (Leiken, 1996, p. 56; Marselli and Vannini, 1997; and Langseth, 2000).

The literature mentioned above has been providing a good comprehensive overview of the consequences of entrenched corruption. But an economic theory of corruption must contain more than just an account of the allocative consequences and of the environment surrounding corrupt practices. Therefore, it is necessary to go beyond symptomatic and consequential analyses of official corruption and focus much more on the search for empirically tested

causes of official corruption. This piece advances a framework of analysis within which the causes of court-related corruption can be first identified in order to later develop public policy recommendations for an anticorruption program.

An economic analysis of corrupt activities within the judicial sector in developing civil law systems is proposed below. A rigorous public policy approach to the study of corruption must be empirically verifiable if we are to develop reliable public policy prescriptions in the fight against official corruption. At the same time, an economic theory of corruption must recognize that court-related corruption is a significant source of institutional inertia in recent judicial reforms in developing countries. An account of the private costs and benefits of state reforms as perceived by court officials must also be considered (Buscaglia 1997; and Buscaglia and Dakolias, 1999).

## II. EMPIRICAL FACTS ABOUT JUDICIAL CORRUPTION IN DEVELOPING COUNTRIES

Judicial corruption is defined here as the use of public authority for the private benefit of court personnel when this use undermines the rules and procedures to be applied in the provision of court services. Judicial corruption in most developing countries takes many forms. We can classify them into two types. Within the following two corruption types we can include many well-known corrupt practices:

*Administrative corruption* occurs when court administrative employees violate formal or informal administrative procedures for their private benefit. Examples of administrative corruption include cases where court users pay bribes to administrative employees in order to alter the legally-determined treatment of files and discovery material, or cases where court users pay court employees to accelerate or delay a case by illegally altering the order in which the case is to be attended by the judge, or even cases where court employees commit fraud and embezzle public property or private property in court custody. These cases include procedural and administrative irregularities.

The second type of abusive practices involves cases of *operational corruption* that are usually part of grand corruption schemes where political and/or considerable economic interests are at stake. This second type of corruption usually involves politically-motivated court rulings and/or undue changes of venue where judges stand to gain economically and career-wise as a result of their corrupt act. These cases involve substantive irregularities affecting judicial decision-making.

It is interesting to note here that all countries, where judicial corruption is perceived as a public policy priority, experience a mix of both types of corruption (Langseth and Stolpe, 2001). That is, usually the existence of administrative court corruption fosters the growth of operational corruption and vice versa.

Due to their secretive nature, corrupt practices cannot be directly measured through objective indicators. Yet, it is always possible to assess the perceptions of all of those individuals interacting within the court system (i.e. judges, court personnel, litigators, and court users). The existence of the aforementioned two types of corruption can be measured through surveys of judges, court employees, litigants' lawyers, and businesses with a record of supplying and demanding court services. If these three groups of interviewees were asked to describe irregularities and one could find significant correlations among the perceptional patterns of the three groups, then this would represent a significant step in the measurement of a policy variable. The survey questions must then be designed in such a way as to measure the perceived relative frequency of having encountered each type of corrupt behavior within the operational and administrative spheres.

This study includes an account of relative frequencies of administrative and operational corruption that includes instances of fraud, embezzlement, court-related political clientelism, politically or financially-motivated changes in rulings, politically or financially-motivated changes of venue, speed money, and extortion. The questions in all surveys intend to capture the frequency of occurrence of each of these corrupt practices within a sample of 450 commercial cases in 27 pilot courts. The data analysis below show the results of conducting annual surveys during the period 1991-99 focusing on the occurrence of court-related corruption practices in Argentina, Ecuador, and Venezuela. The courts examined were part of pilot programs containing well known and common policy prescriptions implemented in the three countries between 1993 and 1995. The annual surveys were first conducted in 1991 just

before and after the courts examined in this study were subject to key reforms to be explained below.

In Argentina, 10 judges in 10 pilot courts were surveyed between 1991 and 1999. These courts were later subject to administrative and organizational reforms (to be explained below) in 1995. In addition to these judges, 250 lawyers and 400 firms were also interviewed in order to assess the frequencies of corrupt practices. These firms and their lawyers were all litigating before these same courts during the period 1991-99.

In Ecuador, 7 judges in 7 pilot courts, later subject to administrative and organizational reforms, were surveyed jointly with 100 lawyers and 200 firms all bringing cases before these same courts.

In Venezuela, 10 judges in 10 pilot courts, also later subject to administrative and organizational reforms, were surveyed jointly with 160 lawyers and 300 firms all bringing cases before these same courts.

The samples for each of the three countries are stratified by the size of the litigating firms (small-medium, and large size) conveying a 95 percent confidence level for our estimates. Each interviewee was asked to provide a first hand account of the relative frequency of administrative corruption (e.g. "speed money", fraud, and embezzlement) and operational corruption (that include buying/selling of court rulings, court-related political clientelism, politically-motivated changes in rulings, politically-motivated changes of venue, and extortion). The following tables show the proportions of the total sample of commercial cases coming before the courts (200 in Argentina, 150 in Venezuela, and 100 in Ecuador) where each of the types of corrupt practices specified above occurred according to the responses given by judges, litigant firms, and their lawyers). The numbers in parenthesis show Spearman correlation coefficients. The first coefficient corresponds to the correlation between judges' and lawyers' revealed frequencies of occurrence of corrupt acts while the second coefficient corresponds to the correlation between judges' and firms' revealed frequencies.

## TABLE 1

### ARGENTINA (%)

(Percentage of the sampled commercial cases where there was first hand knowledge of the following corrupt practices )

|  | Operational Corruption | Administrative Corruption | Abuse Discretion |
|---|---|---|---|
|  | (0.72; 0.86) | (0.93; 0.63) | (0.71; 0.56) |
| Judges | 13 | 23 | 72 |
| Lawyers | 21 | 37 |  |
| Firms | 3 | 26 |  |

### ECUADOR (%)

(Percentage of the sampled commercial cases where there was first hand knowledge of the following corrupt practices )

|  | Operational Corruption | Administrative Corruption | Abuse Discretion |
|---|---|---|---|
|  | (0.79; 0.64)) | (0.87; 0.71)) | (0.59; 0.61) |
| Judges | 15 | 24 | 82 |
| Lawyers | 36 | 51 |  |
| Firms | 29 | 40 |  |

### VENEZUELA (%)

(Percentage of the sampled commercial cases where there was first hand knowledge of the following corrupt practices )

|  | Operational Corruption | Administrative Corruption | Abuse Discretio |
|---|---|---|---|
|  | (0.81; 0.57) | (0.92; 0.74) | (0.79; 0.58) |
| Judges | 23 | 40 | 93 |
| Lawyers | 25 | 61 |  |
| Firms | 19 | 32 |  |

We can see from the charts above that the most frequent occurrences of corruption in the three countries appear within the administrative domain. Operational (or substantive) corruption (where politically motivated changes in ruling or/and politically motivated changes of venue are the most common practices) follow in all three countries. We obtain high reliability of these perceptions in the three countries, by identifying a very high, positive, and significant correlations among the perceptions revealed by the three groups of respondents (judges, lawyers, and firms). The Spearman correlations for each country (shown in parenthesis in Table 1), are all significant and positive at a 1 percent level for both types of corruption.  This shows that the compatible perceptions among the three groups, with different interests at stake, all point at a common pattern of abuse of public authority in its different versions explained above.  That is, the frequencies of corruption perceived by judges are highly correlated with the same frequencies perceived by litigators and litigant firms.

Additionally, the close examination of sampled files in  each country also reveal a large proportion of cases where either substantive or procedural abuse of judicial discretion occurred.  It's noteworthy that our measures of abuse of judicial discretion represent an objective variable captured by identifying the presence of specific occurrences after a careful examination of the ruling and other case file material.  Within the samples of cases described above,  95 percent of the occurrences of abuse of discretion consisted in either judges' violations of procedural guidelines (e.g. procedural times or discovery rules) or judges' rulings founded on repealed legislation or the application of the wrong laws to the case. For example, we find that 72 percent of all case files were subject to abuse of substantive or procedural discretion in Argentina. This same type of abusive judicial practices occurred in 82 and 93 percent of the sampled cases in Ecuador and Venezuela respectively. One can claim that in these kind of institutional environments within which abuse of discretion is the norm, the abuse of public office for private benefit is more likely and more difficult to detect. In fact, if one examines Table 1 above, it is interesting to note that the subjective frecuencies of cases where either administrative or operational corruption is perceived by judges and lawyers are highly correlated with the objective measures of abuse of judicial discretion measured (e.g. in Argentina,  0.71 and 0.56 correlations between frecuencies of perceived corruption and abuse of discretion for judges and lawyers respectively)

This data summarized in Table 1 will be later used in Part III to compute the annual percentage changes in the relative frequencies of corrupt acts for each pilot court between 1991 (i.e. before the reforms) and 1999 (i.e. after the introduction of key reforms). This indicator will be used as the dependant variable in a jurimetric model presented below where the effects of key policy variables affecting corrupt practices will be identified and explained.

# III. OFFICIAL CORRUPTION AND ITS MAIN CAUSES: AN EMPIRICAL MODEL

Scholars have already recognized the advantages of going beyond the macroeconomic findings found in Maoro (1995) by stating the urgent need to isolate the structural features that create corrupt incentives (Rose-Ackerman, 1997). For example, in a recent paper, Cooter and Garoupa (2000) correctly state that "a necessary element when approaching deterrence and elimination of corruption is the institutional design. The structure of institutions and the decision process are important determinants of the level of corruption."

Yet, only general descriptions and analyses within which corruption may arise within the court system have been identified in the literature and they are clearly insufficient to develop court-specific anticorruption policy prescriptions. In all past judicial corruption studies, a rigorous analysis of the corruption-enhancing factors related to the procedural, substantive, organizational, and governance aspects within which courts operate are all left unexplored (Buscaglia, 1999 and 1997). The need to develop an empirically-testable model, within which specific types of corrupt behavior in well-defined situations can be explained, is a necessary condition for the application of the economic analysis of corruption to judicial policies in developing countries.

More specifically, organizational structures coupled with procedural and administrative patterns make judiciaries prone to the uncontrollable spread of systemic corrupt practices at every level. For example, courts provide internal organizational incentives given by an unchecked abuse of substantive, procedural, and administrative discretion, that make corrupt practices, as measured above, more likely. An economic model of corruption should be able to detect these sources of corrupt incentives.

Our main hypotheses state that court officials' capacity to engage in the corrupt practices described above will be enhanced by: **(i)** the lack of transparency and limited predictability in the allocation of internal organizational roles to court employees. In this organizational environment, adjudicational roles and administrative functions are subject to unchecked discretion (e.g. judges concentrating a larger number of administrative tasks within their domain without following written procedural or formal guidelines); **(ii)** the added number and complexity of the procedural steps coupled with unchecked procedural discretion and arcane administrative procedures (e.g. judges and court personnel not complying with procedural times as established in the code); **(iii)** the lack of judicial knowledge about the prevailing jurisprudence, doctrines, laws, and regulations due to defective court information systems and antiquated technology coupled with the lack of information technology aimed at enhancing the transparency of court proceedings (e.g. terminals aimed at providing users with online anonymous corruption reporting channels); and **(iv)** fewer alternative sources of dispute resolution mechanisms reflected in a low price elasticity of court services.

All else equal, the enhanced capacity of a court official to extract illicit rents will depend on the higher concentration, widespread informality, and unpredictability in the allocation of administrative tasks to court personnel within each court. The concentration and allocation of administrative tasks is captured through an indicator that measures the proportion of all administrative tasks in the procedural life of a case that are randomly performed by administrative personnel without written guidelines and in an unsupervised manner. A high indicator would represent an environment where it's easier for lawyers to pick any court employee in the hope that he would perform an unmonitored task in exchange for an illicit fee with a low probability of being sanctioned.

Buscaglia (1998) has demonstrated the clear relationship between procedural complexity and corruption. A recent study on Ecuador's judiciary (Buscaglia and Merino Dirani, 2000) has also proven the link between the systemic presence of abuse of judicial discretion in court rulings (e.g. rulings founded on laws that have been repealed by Congress) and a general perception of corruption jointly expressed by three groups: lawyers, judges, and litigants. Therefore, we should also expect here that the enhanced capacity of a court official to extract illicit rents will also depend on the higher degree of abuse of substantive/procedural discretion coupled with the presence of added procedural complexity.

And, finally, a greater availability of mechanisms to resolve disputes through mediation or arbitration reduces the monopolistic nature of state-sponsored court services within commercial subject matters. In this scenario, a higher price elasticity of demand for court services, due to the greater availability of alternative mechanisms to resolve disputes, would reduce the capacity of court personnel to extract illicit rents.

In this context, we will next focus on the jurimetric explanation of the perceived frequencies of corrupt acts by giving account of the administrative, procedural, substantive, and alternative dispute resolution variables explained in the previous paragraphs.

## IV.   EMPIRICAL ANALYSIS

Starting in 1994, 10 pilot commercial courts in Argentina introduced less complex oral procedures and administrative reforms that included the use of manual-based verifiable administrative procedures among court personnel. In this context, 250 lawyers and 400 firms all bringing cases before these same courts were surveyed three years before and three years after these reforms were implemented. Additionally, an anonymous  corruption reporting system was installed online so users could send their written complaints simultaneously to Congress and the Supreme Court through terminals located outside the courthouse. In Ecuador, judges and their personnel in 7 pilot commercial courts, were later subject to the same kind of administrative and procedural reforms, and were also surveyed jointly with 100 lawyers and 200 firms all bringing cases before these same courts. In Venezuela, 10 judges in pilot courts were surveyed jointly with 160 lawyers and 300 firms all bringing cases before the surveyed  courts. In both these cases, Ecuador and Venezuela, surveys of judges and attorneys were conducted four years before and three years after the implementation of reforms.

The survey measures the frequency of the types of corruption mentioned above in Table 1 according to the separate perception of judges, attorneys, and litigant firms in the most common types of commercial cases: bankruptcy, debt collection, and breach of business contracts.

It is noteworthy that, within each country and during the period under consideration, the sample of courts did not experience significant changes in backlogs and our analysis controls for per capita  budgetary allocations. All these courts were under the same judge during the period under consideration: 1990-99. At the same time, the courts sampled here showed no changes in the number and functional structure of their personnel during the period 1990-98 in Argentina, 1990-99 in Ecuador, and the period 1990-98 in Venezuela.

As part of these reforms, most administrative tasks were taken away from each court and allocated to an Administrative Support Office (ASO) shared by the pilot courts in each country.  These ASO took away all budget and service–related money transactions from court personnel. At the same time, legal procedures were streamlined and orally-based; external control and disciplinary measures and inspections were for the first time  introduced through regional judicial councils.

A jurimetric study of corruption within the judiciary can provide a good ground for testing the five hypotheses stated above. The period under consideration has been divided into two sub-periods separated by the enactment of a landmark administrative and procedural pilot reforms of the judiciaries in 1994-95 in Argentina and Venezuela and in 1992-94 in Ecuador. The first sub period running between 1990 and 1994 in Argentina and Venezuela, occurs under an older and more complex procedural civil code and with a complete absence of administrative written guidelines and supervision. This first period in the three countries under consideration is characterized by highly decentralized administrative practices with the handling of all procedures in the hands of each court (and sometimes just in the hands of a law clerk with complete and unchecked administrative and adjudicational discretion). During the first sub period before reforms were implemented, the judge and/or law clerk had extreme discretion over all administrative functions (operational budget, strategic planning, personnel management, supply requests, simple and complex archival tasks, and the handling of court fees) and were not subject to or expected any outside inspections. This initial period is also

characterized by the relative lack of alternative dispute resolution mechanisms applied to commercial cases in both countries.

In contrast, during the period 1995-99 we observe that these pilot courts were all subject to new rules and to structural changes brought by a new and a much more simplified oral-based procedural code, coupled with a more centralized management of the court system where a specialized type of "court managers" in charge of personnel and budget-related administrative duties were allowed to work within Administrative Support Offices (ASOs) shared by 5 to 10 courts (the number of courts sharing these services depends on the subject matter and country involved). Additionally, computer-based online corruption reporting systems were first introduced, thus generating distrust between potentially corrupt court personnel and those offering bribes. In this context, whistleblowers are for the first time protected by law and publicly portrayed as "model citizens" before the press.[1]

Therefore, this new period brought an enhanced predictability and transparency before the public in the performance and supervision of administrative functions. Moreover, the internal administration of the courts were for the first time under the joint monitoring of three agencies: the judicial councils, the legislature's judicial subcommittees, and the executive's anticorruption office. These internal administrative tasks included potential irregularities related with the management of archives, delivery of court notifications, and the management of court fees and personnel. In this way, judges and their clerks could focus their attention on their adjudicational duties.

Moreover, during this second period running from 1994 to 1999 we also observe a relative increase in the number of alternative dispute resolution mechanisms available to court users in commercial case types and the unprecedented overlap of legal and geographical jurisdictions in commercial cases. One could claim that this increase in the number and variety of dispute resolution mechanisms would cause an expected increase in the price elasticity of demand for court services experienced by the court users we surveyed that, in turn, would also hamper the courts' capacity to extract illicit fees from the public.

In Argentina, these administrative, procedural, and legal reforms occurred in 1994-95 and were examined through a pilot test of 200 cases (each case represents a statistical observation) in 10 courts. In Ecuador, the organizational, procedural, and legal reforms were implemented during the period 1992-93 in the 7 pilot courts examined here. The impact of these reforms was assessed through 100 commercial cases (each case represents a statistical observation) brought before these 7 pilot courts. In Venezuela, the organizational, procedural, and legal reforms were introduced in 1995 and were examined through a pilot test of 150 cases in 10 courts. In all these pilot courts, surveys were administered to judges, law clerks, litigators, and firms with cases before these courts. The perceptions of frequencies of corrupt practices were captured in seven annual surveys, during a period of four years before and during a period of three years after the reforms were implemented. The relative frequencies of corrupt practices described in Table 1 above provide the basis of an impact indicator of these reforms that will be used as a dependant variable. Let's test our hypothesis.

The objective now is to assess empirically the relevance of court-related frequencies of perceived corruption and verify the influence of six objective variables related to administrative, technological, procedural, and mediation factors. The 6 explanatory variables

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[1] Law 23904 in Argentina, Law 2895-A in Ecuador, and Anticorruption Presidential Decree 239 in Venezuela. Please note that the introduction of "distrust" in potential corrupt transactions as a deterrence factor is mentioned by Cooter and Garoupa (2000).

chosen here are designed to capture the effects on a dependant variable measured in terms of the compatible subjective probabilities of corrupt practices captured on a survey of lawyers, judges, and litigants.

The first objective variable (COMPUTER) is a discrete factor ranging from 1 to 6 measuring the use of court-related information technology in the pilot courts of all three countries. The computer systems accounted for here can perform the following six functions: (i) jurisprudence/legal data base; (ii) backlog/ court statistics; (iii) case-tracking and monitoring; (iv) word processing used for sentencing; (v) accounting of cash flows monitored by external auditors within the judiciary including the existence of a computer network containing professional and financial information about each court's personnel; and (vi) software and terminals provided to court users who choose to report corrupt practices. This online system would also increase the transparency of court proceedings by providing users with an additional channel to report corruption anonymously. Anonymous reporting would also tend to undermine the implicit cooperation required for any corrupt transaction to take place.

The lack of this type of information systems can usually be linked to the inconsistencies found in the application of jurisprudence and to the lack of judicial transparency of court procedures. These inconsistencies coupled with the lack of internal monitoring and external transparency all provide judges and court personnel with the capacity to abuse their discretion at a low expected cost and, therefore, creates an environment within which corrupt practices are more likely to emerge (Buscaglia, 1996). We would therefore expect an inverse relationship between the number of information software systems and the degree of corruption surveyed within each court.

From a procedural standpoint, ex-parte communication is still *de facto* permitted and common practice in most Latin American countries where judges usually spend a good part of their day meeting lawyers and parties separately. Buscaglia, Dakolias, and Ratliff (1995, p. 34) estimate that the proportion of the judge's day dedicated to these activities range on average between 20 and 35 percent of their working time. Such ex-parte communication creates incentives for corrupt behavior due to the lack of transparency and accountability within the courts.

Another procedural element contributing to the existence of corruption has to do with the lack of enforceable standards applied to the times to disposition experienced by each type of commercial case (Buscaglia and Dakolias, 1996, p 12). Lack of procedural time standards coupled with court delay allow court personnel to "charge a higher price" for speeding the procedure (Buscaglia and Dakolias 1996, p. 25). Within our study, the second objective variable (NUMPROC) measures the number of procedural and administrative steps followed in each of the 450 cases sampled. The third objective variable included in our jurimetric assessment (PROCTIME) measures the times to disposition for each of the 450 commercial cases sampled from the pilot courts. We would expect a positive association between these two procedural variables and the perceived frequency of corruption found within the courts. That is, we observe that higher and unjustified variations in times to disposition of the same types of commercial cases tend to go hand in hand with higher frequencies of corruption.

Traditionally, in most Latin American and, specifically, in most Argentine, Venezuelan, and Ecuadorian courts, the judge has been responsible for strategic planning, managing personnel, administering resources, budgetary control and planning, and, of course, for adjudicating cases. In this context, the high concentration of tacit and informal administrative and jurisdictional roles in the hands of very few and unmonitored court officials allow judges and their secretaries to impose their own organizational tacit rules. In this context, corruption can spread in an easier fashion within each court where the judge and law clerk control everything

from promotions and vacation time, to budgetary issues and strategic planning. In this context, "whistleblowers" are less likely to emerge.

From an organizational perspective, the uncertainty and informality in the allocation of court-related tasks to employees and the multiple and informal administrative roles adopted by a typical judge create incentives for corrupt behavior. This used to occur during the first sub period in all three countries as a result of the lack of external monitoring coupled with the lack of enforcement of administrative procedural manuals.

In Venezuela and in Ecuador this high concentration and informality in the allocation of administrative roles has been diminished in the sampled pilot courts since 1994 and 1995 respectively (Buscaglia, 1997, p.7). In Argentina, the modification in this area became part of a pilot court reform program since 1995. We must therefore link the high informality and discretionality in the allocation of administrative and adjudicative tasks with the enhanced capacity of judges and law clerks to extract rents and impose an organizational "tolerance" for corrupt practices among their court personnel. In this context, the fourth variable identified here as ORGROLE measures the proportion of all administrative and jurisdictional tasks concentrated in the hands of each court employee that have been allocated through "informal" mechanisms. This includes administrative tasks where there are no formal and/or written guidelines describing performance and functions or where the current allocation of court-related tasks contradict written guidelines. An index measuring organizational informality in the allocation of tasks (ORGROLE) is here developed where the index equals the sum of the squares of the proportions of all "informal" administrative and adjudicational tasks assigned to each employee (each of the squares of the proportions corresponds to one employee).

Finally, we need to consider the growth of alternative dispute resolution (ADR) channels providing firms with a range of choices where they can demand mediation, arbitration, conciliation, and legal advice. This clearly increases the firms' elasticity of demand for court services and therefore, reduces the capacity of the government's courts to extract illicit rents (Buscaglia, 1995, p. A13). Along this line, our fifth variable (ADR) measures the number of alternative public and private dispute resolution channels found within the legal jurisdictions and subject matters relevant to the samples of pilot courts and of commercial cases selected.

Finally, a sixth variable measures the weighted average of real incomes of judges, law clerks, and court personnel (REAL INCOME) capturing an additional element commonly associated with public sector corruption (i.e. low compensations).

In the three graphs below, our dependent variable on the vertical axis measures the percentage change in the average frequencies of perceived corruption (i.e. court-specific annual average percentage change in the frequencies of corruption during the period 1991-99). Each year on the horizontal axis corresponds to a box containing all the observations. The observations in each box measure the average percentage changes in the frequencies of corruption for all pilot courts. The middle line in each box shows the median change (each of the asterisks represent an outlier court).

In Argentina, for example, we observe that the median percentage change in the frequency of corruption starts to drop in a significant manner just after the pilot courts are subject to the procedural and organizational reforms mentioned above reaching an unprecedented low level in 1999. As we can see below on Graphs 2 and 3, the same trends occur in Ecuador in Venezuela starting in 1994 right after pilot court reforms are implemented.
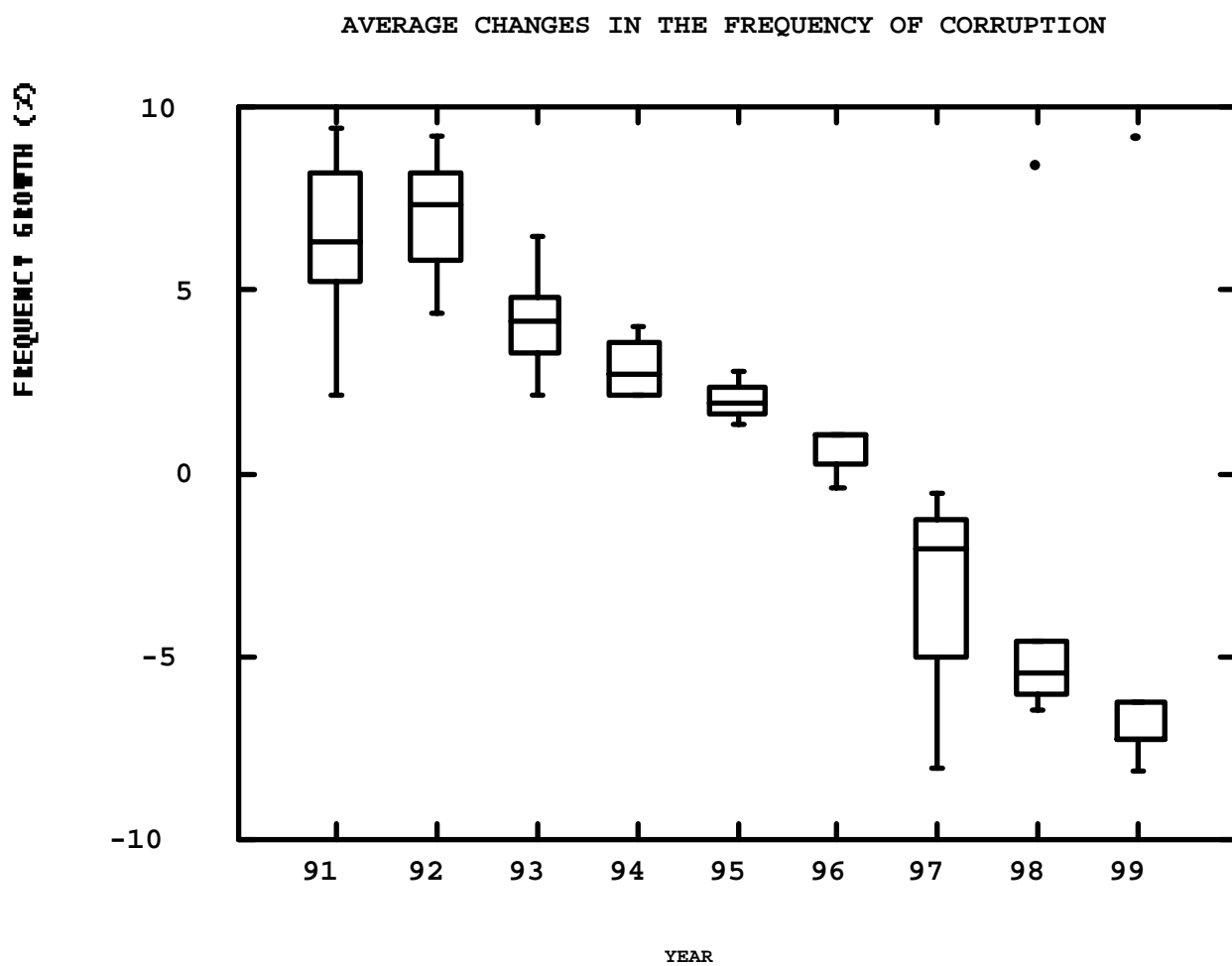
**GRAPH 1**

**Impact of Reforms on the Reports of Corruption in Argentina**

AVERAGE CHANGES IN THE FREQUENCY OF CORRUPTION
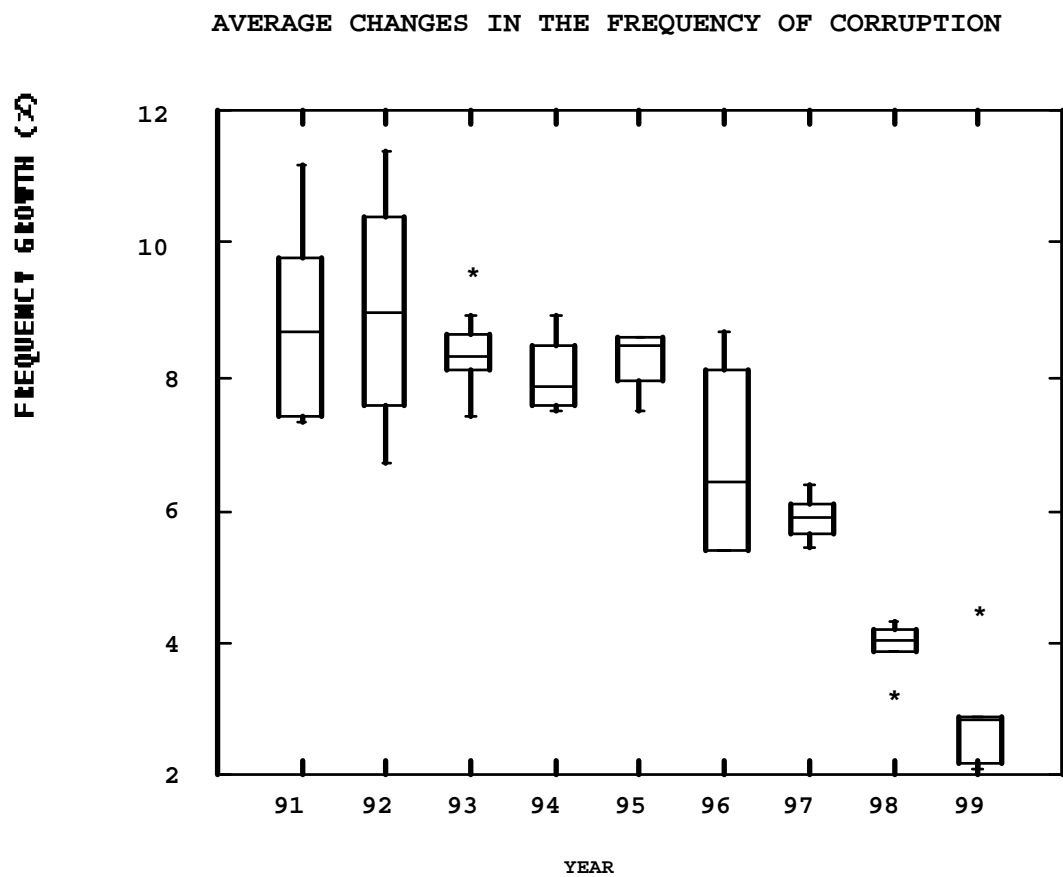
**GRAPH 2**

**Impact of Reforms on the Reports of Corruption in Venezuela**

AVERAGE CHANGES IN THE FREQUENCY OF CORRUPTION

**GRAPH 3**

**Impact of Reforms on the Reports of Corruption in Ecuador**

AVERAGE CHANGES IN THE FREQUENCY OF CORRUPTION
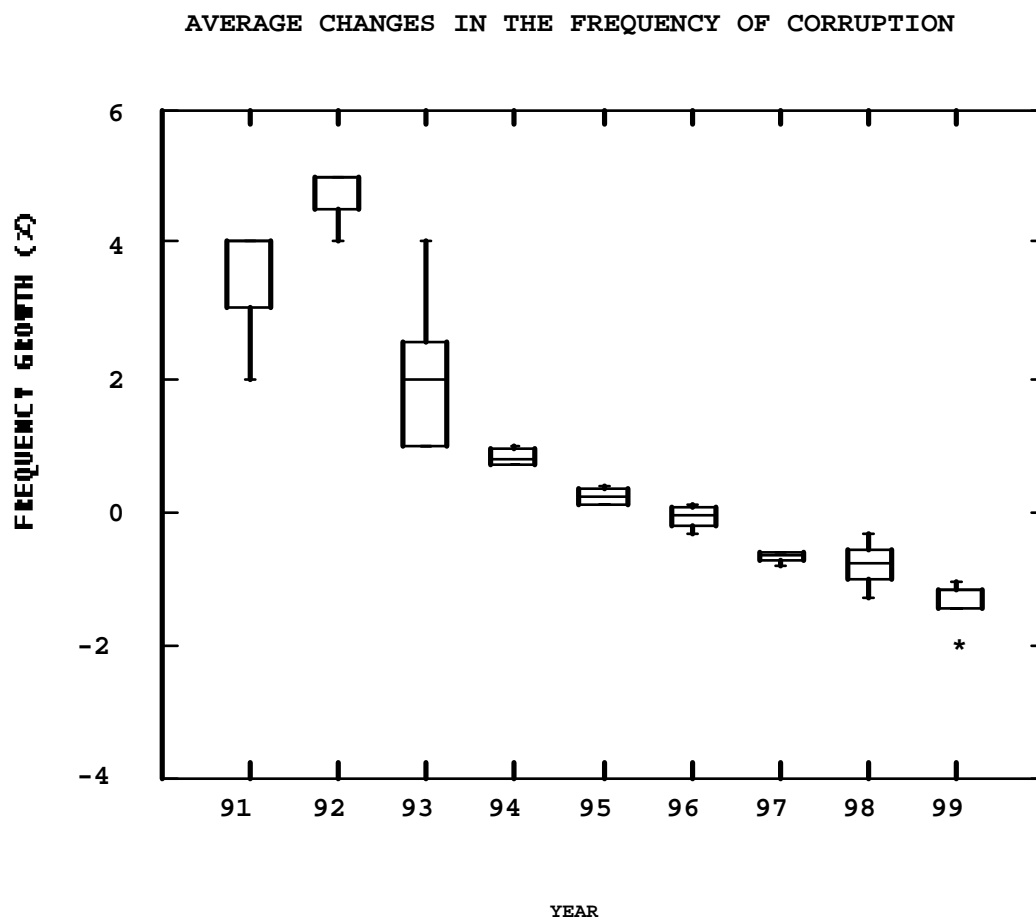
The dependent variable has been statistically adjusted for economic growth and for changes in the number of employees and backlogs. Let us note that the aim of this model is not to explain the absolute level of corruption. Our dependent variable aims at capturing the perceived frequencies of corrupt activities within those courts observed by judges, litigators, and litigant firms. In contrast, the dependent variable is designed to identify significant *changes* in the behavioral patterns of the perceived frequencies of corruption after the 1993-95 legal, administrative, and organizational related reforms introduced in the three Latin American judicial systems.

We can also observe, in the three graphs above, that the behavior of our dependent variable (annual percentage change in the perceived frequencies of corruption per sampled court) goes through a significant decrease beginning in 1994-96, the period when, in accordance with the explanation given above, the aforementioned organizational, procedural, and substantive reforms reduced the capacity of the Argentine, Venezuelan and Ecuadorian court officials to extract illicit rents from users. We can also observe from the length of each of the boxes, that the pilot courts also show a decrease in the spread or standard deviation of the frequencies of perceived corruption. This decrease in the standard deviation signals an improvement in the predictability and expected integrity in the judicial environment in each of the countries.

## TABLE 2

### DEPENDENT VARIABLE: AVERAGE PERCEIVED FREQUENCY OF CORRUPTION

| | VENEZUELA | | ECUADOR | | ARGENTINA | |
|---|---|---|---|---|---|---|
| VARIABLE | ADJ R-SQUARE= 0.510 | | ADJ R-SQUARE = 0.493 | | ADJ R-SQUARE = 0.411 | |
| | OLS | P | OLS | P | OLS | P |
| ORGROLE | 0.249 | 0.00 | 2.961 | 0.01 | 0.235 | 0.07 |
| PROCTIME | 0.991 | 0.00 | 0.771 | 0.02 | 0.671 | 0.04 |
| NUMPROC | 0.295 | 0.01 | 4.903 | 0.00 | 2.993 | 0.04 |
| COMPUTER | -2.683 | -0.02 | -0.651 | -0.03 | -1.293 | -0.11 |
| REPORT | 0.917 | 0.01 | 1.233 | 0.00 | 0.192 | 0.00 |
| REAL INCOME | -0.810 | -0.58 | 4.006 | 0.13 | -0.810 | -0.45 |
| ADR | -2.001 | -0.00 | -3.910 | -0.00 | -6.935 | -0.08 |

Table 2 contains the OLS regression results for the year to year changes in the perceived frequencies of corruption. Note that the adjusted R squares are quite reasonable for models of this type (0.51 for Venezuela, 0.493 for Ecuador, and 0.411 for Argentina). The results were tested for multicollinearity and met the basic required assumptions in for these types of models.

The results of the regression analysis in the three countries are consistent and the coefficients are significant and show the expected signs, with the exception of REAL INCOME (average real compensation computed in terms of the basic basket of goods and services).

Our OLS model in Table 2 shows that a an increase in ORGROLE index, measuring the proportion of all administrative and adjudiciational tasks allocated to court personnel (i.e. judge, law clerk, and administrative personnel) in an informal and unpredictable manner, causes increases in the yearly changes in the frequencies of corruption per court in Venezuela, in Ecuador, and, in a less significant manner, in Argentina.

We can also observe that larger variations in procedural times to disposition (PROCTIME), that occur above the code-specified deadline, do also cause significant increases in the perceived frequencies of corruption in Argentina, Ecuador, and Venezuela. This confirms many reports of "speed money-related corruption". It is common knowledge among litigators that procedural times are used as a strategic tool by court employees to extract larger illicit rents from court users. Our findings tend to confirm these views.

Moreover, we observe from Table 2 that an increase in the number of administrative and procedural steps followed in each of the sampled commercial cases (NUMPROC), also comes with significant increases in the frequencies of perceived corruption in Argentina, Ecuador, and in Venezuela. In all cases, the coefficients show significance at a 1 or 5 percent levels. This adds credence to the claim that unjustified procedural complexity is usually associated to corrupt practices.

On the other hand, as stated above, information technology performing the following six functions also has a significant impact on the perceived frequencies of corruption. Information technology includes (i) the use of a jurisprudence/legal data base online; (ii) accessible backlog/court statistics online; (iii) case-tracking and monitoring system; (iv) word processing used to draft rulings; (v) the online accounting of budget transactions and financial cash flows monitored by external auditors and the judicial councils including the existence of a computer network containing professional and financial information about each employee; and (vi) the presence of computer terminals to be used by court users who choose to report corrupt practices online. Note that the discrete variable "COMPUTER" ranges from 0 to 6, with 0 meaning the complete absence of information technology and 6 signifying the use of the six systems described above.

A separate variable "REPORT" measures the number of reports channeled through the terminals outside each pilot court. As we can see from Table 2, REPORT is significant at a 1 percent level in all three countries. This confirms that a higher frequency of corruption reports also explain the more frequent perceptions of corrupt practices.

Best practices worldwide show that the presence of this bundle of information technology would tend to enhance the consistency in the application of doctrines, jurisprudence, laws, and regulations and would also increase the transparency of court proceedings while also providing users with an additional channel to report corruption anonymously. Anonymous reporting would also tend to undermine the implicit cooperation required for the performance of any corrupt transaction. In this context, one would expect that increases in the application of these systems to case and court management would also cause a decrease in the frequencies of perceived corrupt practices in Argentina, Venezuela, and Ecuador.

With respect to the introduction and legalization of alternative dispute resolution (ADR), we observe from Table 2 the significance of introducing private sector-provided commercial mediation and arbitration centers within each sampled jurisdiction. We can observe that ADR causes a significant reduction in the perceived frequencies of corrupt practices.

Finally, the lack of statistical significance related to the impact of monetary compensations on judicial corruption is also noted. It is clear from our jurimetric analysis that changes in the real compensations of judges and law clerks do not affect the perceived frequency of corruption during the entire period 1991-99 within which court personnel experienced a 78, 89. and 130 percent increases in real incomes in Venezuela, Ecuador, and Argentina respectively. It is noteworthy that these increases in compensations experienced by the three court systems during the period 1991-99 were granted across the board in each of the court systems and therefore were not associated to merit or performance.

## V.   CONCLUSION

Scholars have observed that corrupt practices may sometimes be welfare improving when individuals, who are *willing and able* to pay a bribe, bypass a rule that is not welfare-enhancing (Macrae, 1982; and Lui, 1985). Nevertheless, one could argue that the widespread effects of corruption on the overall social system of developing countries always have a pernicious effect on efficiency in the long run when a vast majority of the population is not able to offer illicit payoffs to government officials, even when they are willing to do so (Buscaglia 1997). Those members of society who are neither able nor willing to supply illicit incentives will be excluded from the provision of a "public good" (e.g., court services) or unable to bypass a welfare-hampering norm. In these cases, corruption may only allow those who are able and willing to pay the bribe to bypass a welfare hampering rule.

Moreover, a sense of relative inequitable treatment among the vast majority of the population has a long term effect on social interaction where systemic official corruption promotes an allocation of resources perceived to be weakly correlated to generally accepted rights, obligations, and productivity. The average citizen, whose access to a public good is hampered by his inability to pay the illegal fee, then seeks alternative community-based mechanisms to obtain the public service (e.g. alternative dispute resolution mechanisms such as neighborhood councils). These community-based alternative private mechanisms, however, are limited in their supplying and enforcement ability. Hernando de Soto's account of these community-based institutions in Peru attest to the loss in a country's production capabilities due to the high transaction costs of access to public services (de Soto 1989, pp. 34-67) and to the constraints in scale and scope faced by local institutional arrangements.

We must also take into account not only the societal present and future costs and benefits of eradicating corruption in general, but also the changes in present and future individual benefits (rents) as perceived by public officials whose illicit rents will tend to diminish due to anticorruption public policies. Previous studies argue that institutional inertia in enacting reform stems from the long term nature of the benefits of reform, such as added economic growth or investment (Buscaglia, 1999). These benefits cannot be directly captured in the short term by potential reformers within the government. Contrast the long term nature of these benefits with the short term nature of the main costs of reform, notably a perceived decrease in rents to the state officials (e.g. explicit payoffs and other informal inducements provided to court officers). This asymmetry between short term costs and long term benefits tends to block policy initiatives to get rid of welfare-hampering laws and regulations.

Within the judicial domain, previous studies of judicial reforms in Latin America argued that the institutional inertia in enacting anticorruption reform stems from the long term nature of the benefits of reform, such as increasing job stability, judicial independence, and professional prestige. These benefits cannot be directly captured in the short term by potential reformers within specific courts. Contrast the long term nature of these benefits with the short term nature of the main costs of reform, notably a perceived decrease in illicit rents to judges and law clerks (e.g. explicit payoffs and other informal inducements provided to court officers). This asymmetry between short term costs and long term benefits has proven to block judicial reforms and explains why court and legal reforms, which eventually would benefit most segments of society, are often resisted and delayed (Buscaglia, Dakolias, and Ratliff 1995). In this context, court reforms promoting uniformity, transparency, and accountability in the process of enforcing laws, would necessarily diminish the court-personnel's capacity to seek extra-contractual rents, in the form of payments from the private sector. Reform sequencing, then, must ensure that short term benefits compensate for loss of

illicit rents previously received by court officers responsible for implementing the changes. That is, initial reforms should focus on the public officials' short term benefits. In turn, court reform proposals generating longer term benefits need to be implemented in later stages of the reform process.

This study has shown how the joint effects of organizational, procedural, economic, and legal factors are able to significantly explain the yearly changes in the frequencies of corruption within Argentina's, Venezuela's and Ecuador's first instance pilot commercial courts. For the development of reliable policy recommendations, this study also stresses the need to develop theories of corruption containing objective and well-defined indicators of corrupt activities and an account of factors that are able to capture the institutional characteristics that affect a public officials' willingness and ability to extract illicit rents.

# VI.  REFERENCES

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