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ESSAYS ON TRUST IN THE JUDICIAL SYSTEM: EVIDENCE FROM BRAZIL

**ENSAIOS SOBRE CONFIANÇA NO SISTEMA JUDICIÁRIO: EVIDÊNCIAS PARA
O BRASIL**

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O BRASIL**

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**To my family,
in honor of Joilvo Sampaio (*in memoriam*)**

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**“To distrust the judiciary marks the beginning of the end of society. Smash
the present patterns of the institution, rebuild it on a different basis ...
but don't stop believing in it.”**

Honore Balzac

ABSTRACT

A factor that crucially affects the development of a country is the ability of its judiciary to present itself as a legitimate instance for resolving the disputes that arise in social and economic affairs. One way to approach this topic is to study the reasons that lead citizens to trust or to distrust the judiciary.

Thus, this thesis analyzes the determinants of public trust in the judicial system in Brazil; it also attempts to determine the drivers that lead people to trust or to distrust it. Chapter 2 addresses the relationship between trust in the judicial system and economic and demographic variables such as race, income, age, gender, education, previous experience with the judicial system, and knowledge about the legal system. The Brazilian Confidence in Justice Index (BCJI) was built as a trust measure. The BCJI is a measure of perception which reveals the opinion of the population regarding Brazil's judiciary system.

The results indicate that race and gender are important predictors, once controlled for other respondent characteristics. Black persons have a slightly lower level of trust in the judiciary than do non-black persons. Women also express less trust than men. Finally, the results indicate that poorer people also have lower levels of trust in the judicial system.

Although there is a substantial literature that relates the determinants of trust in the judicial system and use of the judiciary, the causal relationship between these two variables is unclear. The purpose of Chapter 3 is to examine this causal relationship in Brazil.

The results indicate that trust in the judicial system has a positive impact on use of the judiciary. That is, individuals who have higher levels of trust in the judicial system have a greater propensity to seek the judiciary. There is also a statically significant relationship between trust in the judicial system and use of the judiciary for some economic and demographic variables, such as income, education, age, and race.

There is a widespread belief that the police is the government's first-line representative, responsible for controlling the social order. Policy-makers and members of the public have long been concerned about the number of police officers who are effectively deployed to reduce crime. Chapter 4 analyzes the relationship between crime rates and trust in the police. For example, do regions with higher crime rates display lower trust in the police? It is in this sense that this Chapter studies the motivations that lead citizens to trust or to distrust the police. The results indicate that in general there is a negative relationship between an increase on the crime rate and trust in the police. Such results are even stronger for some less common crimes such as drug dealing and rape. The results also indicate that those who have had previous experience with the police do not seem to associate police work with crime rates, in contrast with those who have never had a previous experience.

Finally, Chapter 5 summarizes all of the findings from the previous Chapters and discusses possible future directions of research.

RESUMO

Um problema que afeta o desenvolvimento econômico e social de um país é a habilidade que o judiciário se apresenta como uma instância legítima para resolver os conflitos que surgem nas esferas social e de negócios. Um caminho para medir isto é a legitimidade das motivações que levam os cidadãos a confiarem ou não no judiciário.

Sendo assim, esta tese busca analisar os determinantes da confiança pública no sistema judiciário no Brasil e também entender quais são as motivações que levam as pessoas a confiarem ou não no judiciário brasileiro. O capítulo 2 busca analisar a relação entre a confiança no sistema judiciário e algumas variáveis econômicas e demográficas, tais como: raça, renda, idade, gênero, experiência com o sistema judiciário e conhecimento do judiciário. Foi utilizado o Índice de Confiança na Justiça no Brasil (ICJB) como uma medida de confiança. O ICJB é uma medida de percepção, na qual mostra a opinião das pessoas sobre o judiciário no Brasil.

Os resultados indicam que raça e gênero são importantes preditores de confiança no judiciário, uma vez controlado para as características dos entrevistados. Negros apresentam um nível de confiança menor comparado aos não negros. Mulheres também apresentam um nível de confiança inferior aos homens. Finalmente, os resultados indicam que pessoas com menos renda apresentam níveis de confiança no judiciário inferior aos com maior renda.

Embora haja uma literatura que relaciona os determinantes de confiança no sistema judiciário e sua utilização, há uma lacuna sobre a relação causal entre essas duas variáveis. O capítulo 3 dessa tese busca analisar o impacto de confiança no sistema judiciário sobre a utilização do judiciário. Sendo assim, o propósito do capítulo 3 é examinar a relação causal entre confiança no sistema judiciário e utilização do judiciário no Brasil.

Os resultados indicam que há um impacto positivo de confiança no sistema judiciário sobre a sua utilização. Pessoas com maior nível de confiança no sistema judiciário apresentam maior propensão a procurá-lo. Finalmente, os resultados também indicam que há uma relação estatisticamente significativa entre confiança no sistema judiciário e utilização do judiciário para algumas variáveis demográficas e econômicas, tais como: renda, anos de estudo, idade e raça.

O capítulo 4 busca analisar a relação entre taxas de crime e confiança na polícia. Nesse sentido, esse capítulo busca analisar a legitimidade das motivações que levam as pessoas a confiarem ou não na polícia. Algumas pessoas acreditam que a polícia é a representante linha de frente do governo, responsável pelo controle da ordem social. Os decisores políticos e membros do público têm se preocupado muito com o número de policiais empregados para diminuir o crime. Em outras palavras, regiões com maiores índices de criminalidade possuem menor nível de confiança na polícia? Os resultados indicam que em geral, existe uma relação negativa entre o aumento no índice de criminalidade e a confiança na polícia. Tais resultados são ainda maiores para crimes menos numerosos, como o tráfico de drogas e estupro. Os resultados também indicam que quem já teve experiência com a polícia, parece não associar o trabalho dela com os índices de criminalidade, comparado com quem nunca teve experiência.

Finalmente, o capítulo 5 sumariza todos os resultados encontrados nos capítulos anteriores e discute alguns novos caminhos de pesquisa que podem ser seguidos.

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LIST OF ABBREVIATIONS, INITIALS, AND ACRONYMS

BCJI: Brazilian Confidence in Justice Index

FEA: *Faculdade de Economia, Administração e Contabilidade* (School of Economics, Business and Accounting)

FGV: *Fundação Getúlio Vargas* (Getúlio Vargas Foundation)

GDP: Gross Domestic Product

IBGE: *Instituto Brasileiro de Geografia e Estatística* (Brazilian Institute of Geography and Statistics)

IC: *Intervalo de Confiança* (Confidence Interval)

IV: The Instrumental Variable

MLE: Maximum-likelihood Estimation/Estimator

MW: Minimum Wage

NHSS: The National Household Sample Survey

OLS: Ordinary Least Square

2 SLS: Two Stage Least Square Regression

PDF: Probability Density Function.

PNAD: *Pesquisa Nacional por Amostra de Domicílios* (National Household Sample Survey)

USP: *Universidade de São Paulo* (University of São Paulo)

1. INTRODUCTION

The economic and social development enjoyed by any country is deeply affected by how much its people trust the government and its institutions. One way to measure this is through the legitimacy of the motivations that lead citizens to rely (or not to rely) on these institutions. The judiciary and the police are among the most important institutions in Brazil.

The Brazilian judiciary has undergone considerable change since the beginning of the 1980's, with the transition to democracy and the corresponding demands for citizen rights. Among the main changes, we can cite the 1988 Federal Constitution, which consolidated several of these transformations; the creation of the Small Claims Court in 1984; the emergence of class actions in 1985; the strengthening of the Public Prosecutor's office; and most importantly, the principle that all civil, political and social rights emanate from the Constitution. This principle strengthened the formal rights outlined in the Constitution, allowing any kind of legal dispute to be taken to court. Combined, these changes brought the judiciary and the judicial system as a whole to the political center stage, not just as a public service provider but also as an important political player in deciding public policies and defining moral guidelines.

The role that the Brazilian judiciary has taken since the 1988 Constitution has also raised much attention regarding its response capabilities in the face of the exponentially growing demands brought to it as well as its legitimacy as a political actor. Therefore identifying the determinants of public trust in the judicial system in Brazil is essential for understanding the drivers that lead people to resort, or not to resort, to the Brazilian judiciary. This thesis analyzes these drivers of public trust in the judicial system by studying correlations between trust in the judicial system and some demographic and economic variables such as race, income, age, gender, schooling years, previous experience with the judicial system, and knowledge about the judiciary. This thesis is also an attempt to fill a gap in the Brazilian literature concerning the relationship between trust in the judicial system and its utilization. It attempts to determine whether and how trust in the judicial system affects the use of the judiciary. This question is very relevant in the Brazilian scenario because individuals with low levels of trust in the judicial system may hesitate to go to the judiciary to resolve their disputes.

It is commonly held that the police is the government's first-line representative, responsible for maintaining social order. Policy-makers and members of the public have long been concerned about the number of police officers who are effectively working to reduce crime. But it is far from clear whether there is any established relationship between crime rates and the degree of public trust in the police. In other words, could one unarguably state that regions facing higher crime rates have lower trust in the police?

This thesis intends to contribute to the literature by addressing the following questions:

- 1) What are the principal determinants of public trust in the judicial system in Brazil?
- 2) Do people who trust more the judicial system tend to seek the judiciary to resolve their disputes more frequently?
- 3) Do local crime rates affect trust in the police?

Answering these questions not only contributes to the current literature on the determinants of trust in the judicial system and in the police, but might also further inform public policy, with the goal of raising the levels of trust in these institutions.

1.1. The Judiciary and its Organization in Brazil

The organization and structure of the judiciary power affect public perceptions of the courts' activities. Since the 1988 Constitution, the Brazilian judiciary has been divided into two main layers: the State judiciary and the Federal judiciary. The State judiciary is organized into twenty-seven State Courts, according to the number of federate units, and is constituted by the Regular and the Small Claim Courts. Regular Courts, which include the Jury Courts, are responsible for hearing civil, family, commercial, criminal cases. The Small Claim Courts are responsible for hearing cases involving less complex claims. The Federal judiciary is constituted by the Federal Courts, the Labor Courts, the Electoral Courts, and the Military Courts. The Federal Courts, which also comprise the Federal Small Claim Court, deal with all lawsuits to which the Union is a party. The Labor Courts hear all cases involving labor relations and services characterized as work contracts. The Electoral Courts are responsible for cases relative to elections, to political parties, and to democratic representative offices in the Executive and Legislative branches. The Military Courts deal with all cases involving military career officials and on-duty military police forces. The Brazilian judiciary also is formed by the Federal Supreme Court, which is responsible for judicial review, and by the Superior Justice Tribunal, which is a court of appeal.

In general, the judiciary performs two activities: it resolves disputes between individuals (Montesquieu, 1793) and it oversees the other branches of government, in a system of checks and balances. In both activities the judiciary provides essential public services, namely law enforcement, judicial review, and mediating relations between the legislative and executive branches through the use of the Constitution as a political charter and a list of rights.

In some countries the most prominent role of the judiciary is to resolve disputes between individuals, while the constitutional control function is designated for a special court which is not normally part of the judiciary and has original jurisdiction. In other countries, following the U.S. model, the roles of resolving disputes between individuals and of constitutional control are performed by judicial institutions, and the constitutional court is part of the structure of the judiciary. In the Brazilian case, the Federal Constitution promulgated in 1988 followed previous constitutions in their adoption of the American model, according to which the constitutional court is part of the structure of the judiciary and has original jurisdiction for constitutional revision. This model encourages the judicialization of politics and hence strengthens the role of the judiciary in the political arena.

According to Sadek (2009) the return to democracy and the Constitution of 1988 strengthened the Judiciary and the justice system as a whole. Judicial institutions have become more visible and accessible to both political actors and to the general population. Politicians seek the Judiciary in its authority to invalidate government policies and overrule majority legislative decisions. Citizens seek the judiciary to resolve disputes and also to ensure a wide range of rights. It is therefore important to understand the drivers of public trust in the judicial system in Brazil.

1.2. Chapter Layout

This thesis is subdivided into 5 Chapters. The first Chapter introduces the topics to be discussed in this study. The second Chapter grapples with the determinants of public trust in the Brazilian judicial system. Based on data from eleven waves of a survey conducted by the São Paulo Law School of Fundação Getulio Vargas¹, it examines the correlations between trust in the judicial system and some demographic and economic variables such as race,

¹ Index of Trust in Justice (ICJBrasil), measured by FGV's São Paulo Law School (DIREITO SP.) The ICJBrasil interviewed people from 8 federative units (Amazonas, Pernambuco, Bahia, Minas Gerais, Rio de Janeiro, São Paulo, Rio Grande do Sul and the Distrito Federal). According to data from the 2010 Census, this sample represents 60% of the Brazilian population aged 18 or higher.

income, age, gender, schooling years, previous experience with the judicial system, and knowledge about the judiciary.

Chapter 3 analyzes the relationship between trust in the judicial system and demand for its services. It uses an instrumental variable approach in order to reveal the channels through which trust in the judicial system affects the use of the judiciary.

Chapter 4 addresses the relationship between concern about local crime and trust in the police. Furthermore, it examines whether regions that have higher crime rates have lower trust in the police. Poverty in Brazilian metropolitan regions is widespread and has a multidimensional character in terms of public services, access to education, and income. If poverty is an important factor in the study of crime, then an analysis of the Brazilian case might be very relevant.

Finally, Chapter 5 summarizes all of the findings from the previous Chapters and discusses possible future directions of research.

2. TRUST IN THE JUDICIAL SYSTEM: EVIDENCE FROM BRAZIL

2.1 Introduction

A crucial factor in the economic and social development of a country is the ability of the judiciary to present itself as a legitimate instance for the resolution of social and economic disputes. One way to measure this is through legitimacy of the motivations that lead citizens to trust or to distrust the judiciary.

Institutions matter when transactions are costly (Coase, 1960); they provide structures through which individuals can make transactions despite uncertainty (North, 1990: 3). For North, individuals act with bounded rationality rather than the instrumental rationality. Economic agents make their choices based on incomplete information or with limited computational capacities to process information. This occurs because individuals cannot perfectly predict the circumstances under which the transactions will take place. That is, human interaction is uncertain and costly, which hampers cooperation and economic exchanges. Thus, institutions exist to reduce uncertainty as well as transaction costs “by establishing a stable structure to human interactions” (North, 1990: 6). Some institutions, however, are more efficient than others in reducing transaction costs. Institutions are not necessarily or even usually created to be socially efficient; rather they, or at least the formal rules, are created to serve the interests of those with the bargaining power to devise new rules (North, 1990: 16). Among what North calls “formal institutions”, the legal institutions provide a set of rules and procedures that protect property rights and ensure economic exchanges.

The institutional infrastructure therefore fundamentally affects the political system of a country in which the rule of law exists. The judiciary is among the most important institutions in achieving and maintaining this condition (Buscaglia and Domingo, 1997). The judiciary has been a vital part of the emergence and consolidation of democracy in most Latin American countries as they moved from military and authoritarian regimes to democracy over the last two decades, mediating and resolving the disputes that arise in society, business, economy, and politics. Trust in the judiciary creates legitimacy and consolidates the rule of law (Levasseur, 2002). Measuring judicial performance is in this sense a way of measuring the effectiveness of the rule of law in a country. It is an indicator of the quality of a country’s democracy (O’Donnell, 1998).

Notwithstanding an extensive literature examining trust in the judiciary in developed countries, scant attention has been devoted to emerging countries. The purpose of this study is to understand some of the determinants of public trust in the judicial system in Brazil, using a survey carried out in seven Brazilian states. It explores correlations between trust in the judicial system and a pool of demographic and economic variables such as race, income, age, gender, schooling years, previous experience with the judicial system, and knowledge about the judiciary.

We developed a measure of judicial performance in Brazil based on the motivations that drive people to trust or to distrust the country's judicial system. The result is an index of trust in the Brazilian justice, presented as a statistical summary carried out in seven Brazilian states and based on a representative sample of the population of these states. We used eleven waves of a survey via telephone interviews conducted by the São Paulo Law School of the Fundação Getulio Vargas. The sample consists of 4,685 respondents in 2010, 6,213 respondents in 2011, and 6,049 respondents in 2012.

One problem in describing public trust in the judiciary is that it is multifaceted. According to Staats, Hiskey and Bowler (2005), judicial performance is a multidimensional concept. The authors built a measure based on five dimensions: the extent of independence, accountability, efficiency, effectiveness, and accessibility. They surveyed 17 Latin American countries, interviewed legal experts, and developed a composite measure based on these five dimensions.

We approach the same problem in a different way: we assess judicial performance via the factors that lead people to trust or to distrust the judicial system. We are interested in effectiveness in terms of expediency in deciding disputes; competence to resolve disputes (responsiveness); impartiality as a measure of accountability; independence from external political influence; and ease of use and costs as measures of access to justice. We created the Brazilian Confidence in Justice Index (BCJI) as our trust measure. The BCJI is a measure of perception; it reflects the opinion of the respondents about Brazil's judiciary.

In Brazil, the judiciary has a dual role. Sadek (2004) sees the Brazilian judiciary as both a state power and a public service provider. It acts as a state power when judging whether or not policies and actions of the executive and legislative branches of government comply with the Constitution, and it acts as a public service provider when adjudicating disputes and

guaranteeing individual rights. We focus on the public service provider role of the judiciary: that is, on how effective it is in guaranteeing "justice" for individuals and business.

The results indicate that people with greater knowledge of the judicial system present higher levels of trust in the Brazilian judicial system. This conclusion, however, may in some contexts be related with the knowledge of the laws themselves rather than of the actual procedures of the judiciary. Another finding is that individuals with more schooling years (e.g., college-level education) also have a slightly higher level of trust in the judicial system. Compared to less-educated individuals, they tend to think that justice is cheaper, easier to access, more independent, honest, and competent. Our results also stress that race and gender are important predictors, once controlled for other characteristics of the respondents. Black persons have a slightly lower level of trust in the judicial system than do non-black persons, which can be explained in part by their perception that the judicial system is more expensive for and less fair to them. Compared to men, women think on one hand that the judiciary is faster, but on the other that it is less honest, accessible, inept at dispute resolution, and only somewhat independent. We find that people who have had previous experience with the judicial system report lower levels of trust. They believe that justice is more expensive and slower than do inexperienced individuals.

Finally, we analyzed the relationship between trust in the judicial system and propensity to seek the judiciary in some hypothetical situations; this may be seen as a measure of realization of such trust in terms of actually demanding the services of the judiciary. We show that there is a positive and strong relationship between trust in the judicial system and propensity to rely on the courts. This result indicates that although the judiciary has lower levels of trust according depending on some demographic and economic characteristics, people nevertheless generally see it as a legitimate way to seek solution to their problems and do not hesitate to go to court in order to resolve the disputes which arise in their daily lives.

This Chapter is organized as follows: Section 2.2 discusses the empirical literature related to trust in the judicial system; Section 2.3 describes our methodology and our sample; Section 2.4 presents the results; and finally Section 2.5 presents the conclusions.

2.2 Literature Review

The literature indicates that a variety of factors -- including gender, race, income, years of formal schooling, and previous experience with the judiciary -- influence public trust in the

courts. Lawrence (2002) presents evidence that in the United States women rely less on justice compared to men. In general, these results seem to be related with perceived violence and discrimination against women. Nomura (2010) and Brown, Moon and Zoloth (1980), for instance, show that gender-based wage discrimination is very significant in the United States labor market.

Lovell (2000) argues that women and black persons who work in São Paulo experience greater discrimination when compared to their counterparts in Bahia. In addition, Waiselfisz (2012) shows that among 84 countries Brazil has the seventh highest female murder rate. Given all this, we expect that there are significant differences in terms of trust in the judicial system between men and women in Brazil.

Another question that emerges is whether skin color matters in terms of trust in the judicial system. Sherman (2002) presents evidence that in the United States there are clear racial divisions of opinion about the criminal justice system's component institutions, though not about the system as a whole. He shows that non-black persons have twice as much trust in their local court systems than do black persons. DeLisi and Regoli (1999) show that black persons in the United States are arrested, prosecuted, convicted, and incarcerated in numbers disproportionate to their percentage of the population. For them, one explanation of this is that racial discrimination against black persons pervades the American of criminal justice system. In Brazil, black persons are more severely punished than non-black persons counterparts for committing crimes of equal or comparable severity (Adorno, 1995). Bailey, Loveman and Muniz (2013) find that racial disparities in Brazil are most severe at the upper end of the income distribution and that racial disparities in earnings are larger when race is determined by interviewers rather than self-identified.

Bennack (1999) shows that in the United States people with higher incomes and more years of formal schooling report greater trust in most of the institutions examined. Trust in the criminal justice system is generally more prevalent among younger people, those who are better educated, and those with higher incomes (Jones, Weatherburn, and McFarlane, 2008). Furthermore, people who know more about the courts are more likely to feel confident in them, as are people who have higher education levels (Benesh, 2006). In the Brazilian context, we also expect that people with higher incomes and more years of formal schooling will exhibit higher levels of trust in the Brazilian judicial system.

Salzman and Ramsey (2013) find that in Latin America previous experience with the judicial system is likely to cause more awareness of the court's deficiencies and hence probably leads to lower levels of trust in the judicial system. They also show that even in situations where a litigant achieves success in the courts, the experience with the imperfect process in a Latin American judicial system may still result in lower levels of trust relative to the inexperienced position from which the litigant began. Thus, people who have had previous experience with the judiciary may present lower levels of the trust in the judicial system when compared to people who have had no previous experience with the Brazilian judiciary.

Knowledge about the judicial system has a significant relationship with trust in the courts (Gibson et al., 1998; Benesh, 2006). In emerging economies, individuals who are better informed about the judicial system will recognize its inadequacies, which leads to lower levels of trust (Salzman and Ramsey, 2013). In this context, we expect that there is a difference between people with and people without knowledge of judiciary procedures in terms of trust in the Brazilian judicial system.

2.3 Methodology and Sample

Our results are based on eleven waves of a survey conducted in 2010, 2011 and 2012. This survey was performed via telephone interviews over a period of thirty-three months. The population of the survey is comprised of people distributed across the following states: Minas Gerais, Pernambuco, Rio Grande do Sul, Bahia, Rio de Janeiro, São Paulo, and the Distrito Federal, which combined represent approximately 60% of the population, according to the 2010 census conducted by the Instituto Brasileiro de Geografia e Estatística (IBGE). The respondent is an individual who represents the selected household, of any gender (male or female) and aged 18 or higher.

We use a method of proportional quota sampling, using the following quotas: gender, household income, education, age, and economic status (i.e., economically active or not). The groups (strata) were proportionally distributed according to the 2010 Census and the 2009 National Household Sample Survey². Our sample consists of 4,685 respondents in 2010, 6,213 respondents in 2011, and 6,049 respondents in 2012. Table 2.1 provides an overview of the sample.

² Pesquisa Nacional por Amostra de Domicílios (PNAD), is a national household sample survey that investigates every year - and on a continuous basis -- overall population characteristics, education, labor, income and housing, among others, for different periods of time and according to the need of information about the country. Other topics such as migration, fertility are also covered.

Table 2.1 Sample Description

The sample is distributed through 7 states, which according to 2010 census data together correspond to approximately 60% of the country's population. The sample size was determined by the number of inhabitants in each state. The sampling frame was constructed so as to have a range of 95% and an absolute sampling error of 2.5%.

<i>States</i>	<i>Population</i>	<i>Sample</i>		
		<i>2010</i>	<i>2011</i>	<i>2012</i>
São Paulo	41.262.199	1694	2252	1614
Minas Gerais	19.597.330	810	1089	1164
Rio de Janeiro	15.989.929	662	867	818
Bahia	14.016.906	599	793	792
Rio Grande do Sul	10.693.929	463	609	607
Pernambuco	8.796.448	362	476	572
Distrito Federal	2.570.160	95	127	482
Total	112.926.901	4,685	6,213	6,049

Source: BCJI – São Paulo Law School – Fundação Getulio Vargas (FGV)

Table 2.2 details the variables that control for individual's heterogeneity.

Table 2.2 - Definitions of Principal Variables

Woman	Dummy variable that takes value one when the respondent is female, and zero otherwise;
Black	Dummy variable that takes value one when the respondent is black, and zero otherwise;
0 to 1 Minimum Wages	Dummy variable that takes value one when the respondent's salary is between 0 and 1 minimum wages, and zero otherwise;
1 to 4 Minimum Wages	Dummy variable that takes value one when the respondent's salary is between 1 and 4 minimum wages, and zero otherwise;
4 to 8 Minimum Wages	Dummy variable that takes value one when the respondent's salary is between 4 and 8 minimum wages, and zero otherwise;
8 Minimum Wages	Dummy variable that takes value one when the respondent's salary higher than 8 minimum wages, and zero otherwise;
Age	is the respondent's age in years;
Schooling Years	is the respondent's education in years;
Had Previous Experience with the Judiciary	Dummy variable that takes value one when the respondent has had any previous experience with the judiciary, and zero otherwise;
Knowledge of the Judiciary	Dummy variable that takes value one when the respondent has knowledge of the judiciary, and zero otherwise;

Table 2.3 displays descriptive statistics for covariates. We have that 38% of respondents claim to trust the Federal Government and 39% of respondents have had previous experience with the judiciary. Our sample is similar to Brazilian demographic data in terms of gender and race.

In our sample, 52% of respondents are female and 10% are black. The overall Brazilian population is 8% black and 51% female according to the 2010 Census. Our sample diverges somewhat from the 2010 Census in terms of income. The number of households with monthly per capita income between 0 and 1 minimum wages represents 46% of our sample. For the Brazilian population as a whole the corresponding share is 54%. In our sample households with monthly per capita income between 1 and 4 minimum wages represent 37% of population. In Brazil the corresponding share is 31%. These differences can be partly explained by the fact that our sample includes some of the richest Brazilian states: São Paulo, Rio de Janeiro, Minas Gerais, and Rio Grande do Sul. Appendix A.2.4 displays these statistics by state.

Our sample is representative, however, for the following seven states: Minas Gerais, Pernambuco, Rio Grande do Sul, Bahia, Rio de Janeiro, São Paulo, and the Distrito Federal. Our sample data is generally similar to demographic data for these states in terms of gender and race. In terms of income, the starkest divergences occur in the cases of Bahia and Pernambuco. Households with monthly per capita income between 0 and 1 minimum wages represent 74% and 73% of the population in Bahia and Pernambuco, respectively. In our sample, these numbers are 53% and 52%, respectively.

Table 2.3 Descriptive Statistics for Covariates

The upper figures denote the sample average of each variable. The lower figures denote the standard deviation. Wages are measured in terms of the 2012 Minimum Wage, which corresponds to 334 dollars.

Variables	Mean (Standard Deviation)
Trust in the Federal Government	0.388 (0.487)
Woman	0.527 (0.499)
Black	0.102 (0.151)
Age	42.040 (15.637)
0 to 1 Minimum Wages	0.462 (0.213)
1 to 4 Minimum Wages	0.375 (0.408)
4 to 8 Minimum Wages	0.101 (0.482)
8 or more Minimum Wages	0.021 (0.158)
Schooling years	9.356 (5.341)
Had Previous Experience with the Judiciary	0.491 (0.50)
Knowledge of the judiciary	0.796 (0.403)
Observations	16,867

The BCJI is calculated as the average from a set of nine questions covering the main aspects of confidence in the judicial system. The respondent must issue his opinion on the judicial system regarding: confidence; speed in solving conflict; cost access; ease of access; political independence; honesty; ability to solve conflicts; panorama of the last 5 years and expectation for the next 5 years. Appendix A.2.1 presents details regarding questionnaire used by the FGV Survey.

For each question, we use the weighted average of responses. For example, in order to compute the weighted average of the first question about trust in the judicial system, we use four response categories that include: 1 = not at all confident, 2 = not very confident, 3 = fairly confident, and 4 = very confident. In order for each question to have the same weight in the index, we normalize each question so that's its value ranges from 0 to 10. The normalization is given by the ratio between the value of the response to each question and

its maximum possible value. This ratio is then multiplied by 10. Thus, to compute the BCJI, we first sum the responses to all 9 questions, and then divide by 9. As each question ranges from 0 to 10, it follows that the BCJI will also range between 0 and 10. Appendix A.2.2 presents details regarding index construction. [Table 2.4](#) describes the BCJI and its components.

Table 2.4 Description of the BCJI and its Components.

The questions that constitute the questionnaire admit either four or five responses. Each question is identified by assigning an index *n* to its response, which also corresponds to a value assigned to that response. Thus, the first response, i.e., the answer 0, is assigned the value 0. To the last response is assigned the maximum value, which can be either 3 or 4 depending on whether the question has four or five possible responses. The values are first normalized so as to range between 0 and 10, and then weighted according to the proportion of each question. To compute the BCJI, we first sum the weighted responses for all 9 questions, and then divide by 9.

<i>BCJI</i>	<i>Weighted Average</i>			
	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>All Years</i>
P1 Trust	4.10	4.61	4.38	4.38
P2 Speed in Resolving Disputes	1.99	1.99	1.91	1.96
P3 Access Costs	4.62	4.61	4.80	4.68
P4 Ease of Access	2.18	2.27	2.25	2.24
P5 Political Independence	3.40	3.55	3.65	3.54
P6 Honesty	4.10	4.01	4.16	4.09
P7 Ability to Resolve Disputes	4.22	4.43	4.46	4.38
P8 Panorama of the Last 5 Years	5.91	5.86	5.85	5.87
P9 Expectation for the Next 5 Years	7.22	7.52	7.30	7.26

Source: BCJI – São Paulo Law School – Fundação Getulio Vargas (FGV)

[Table 2.5](#) displays the basic statistics of the BCJI for each year. Overall, the BCJI has been fairly stable between 2010 and 2012. This is natural insofar as institutional change is generally incremental rather than sudden, an accumulation of many small changes rather than occasional large changes. Institutional change over time is path-dependent because individuals learn, organizations develop, and ideologies form in the context of a particular set of formal and informal rules (North, 1990).

Although the BCJI has not dramatically changed over time, there are have occurred some significant fluctuations in some demographic and economic characteristics of respondents such as race, income, age, gender, schooling years, previous experience with the justice, and knowledge about the judiciary.

Table 2.5 Descriptive Statistics for the BCJI

Descriptive statistics for BCJI in 2010, 2011 and 2012. The BCJI is the average of a set of nine questions covering the main aspects of trust in justice: trust (P1); speed in resolving disputes (P2); access cost (P3); ease of access (P4); political independence (P5); honesty (P6); ability to resolve disputes (P7); panorama of the last 5 years (P8); and expectation for the next 5 years (P9).

<i>Weighted Average</i>	<i>Std. Dev.</i>	<i>Min.</i>	<i>Max.</i>
<i>2010</i>			
4.19	1.24	0.25	8.70
<i>2011</i>			
4.29	1.31	0.25	9.07
<i>2012</i>			
4.31	1.30	0.25	9.35
<i>All Years</i>			
4.27	1.29	0.25	9.35

Source: BCJI – São Paulo Law School – Fundação Getulio Vargas (FGV)

Figure 2.1 is a histogram showing the overall variation in trust in the judicial system for the 16,867 respondents in our sample. As can be seen, the distribution of BCJI scores is reasonably symmetric and close to normal.

Figure 2.1 Distribution of the BCJI

This histogram shows the fraction of respondents with Brazilian Confidence in Justice Index (BCJI) scores in the shown ranges. Sample = 16,867 respondents. Mean = 4.27, standard deviation = 1.29, and median = 4.25.

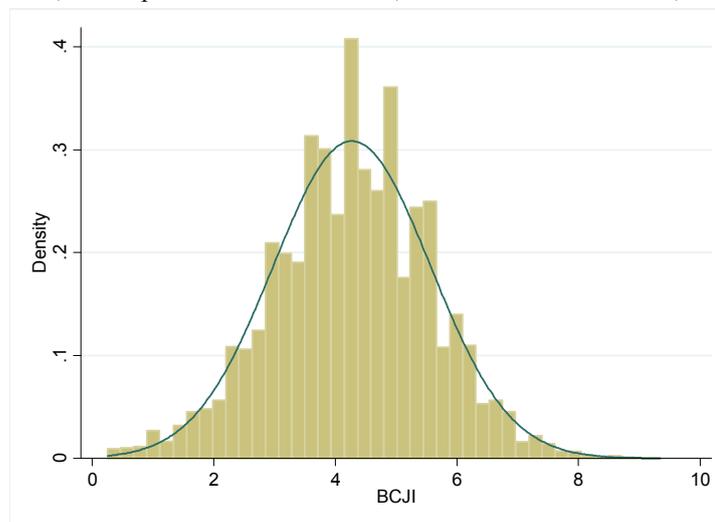


Table 2.6 provides Pearson correlation coefficients between the BCJI and its component questions. In all sample years, the BCJI correlates positively with each question, with coefficients ranging from 0.41 to 0.64. Part of this correlation is by construction, because each question is a part of the BCJI. The correlations between questions are generally positive and statistically significant but moderate. The correlation is high for some questions like trust, access cost, and honesty, but only moderate -- between -0.02 and 0.35 - for the other questions. This suggests that, except for trust, access cost, and honesty,

colinearity between the questions and the BCJI should not be a big problem.

Table 2.6 Correlations

Correlations between the Brazilian Confidence in Justice Index (BCJI) and its components for all three years. Significant coefficients, at 5% or less, are in **boldface**.

	<i>BCJI</i>	<i>P1</i>	<i>P2</i>	<i>P3</i>	<i>P4</i>	<i>P5</i>	<i>P6</i>	<i>P7</i>	<i>P8</i>
BCJI	1								
P1	0.64***	1							
P2	0.45***	0.24***	1						
P3	0.63***	0.45***	0.22***	1					
P4	0.41***	0.14***	0.14***	0.13***	1				
P5	0.52***	0.21***	0.15***	0.22***	0.24***	1			
P6	0.62***	0.43***	0.19***	0.43***	0.13***	0.20***	1		
P7	0.44***	0.16***	0.10***	0.16***	0.04***	0.10***	0.20***	1	
P8	0.58***	0.28***	0.19***	0.29***	0.11***	0.18***	0.27***	0.12***	1
P9	0.49***	0.20***	0.11***	0.19***	0.06***	0.10***	0.18***	0.10***	0.35***

To shed some light on the drivers for individual trust in the judicial system we adjusted a model including demographic and economic variables by running Pooled Ordinary Least Squares (Pooled OLS) regressions. The BCJI for respondent i in period t ($BCJI_{i,t}$) is modeled as:

$$\begin{aligned}
 BCJI_{i,t} = & \beta_0 + \beta_1 \text{Trust in the Federal Government}_{i,t} + \beta_2 \text{gender}_i + \beta_3 \text{race}_i + \beta_4 \text{age}_{i,t} \\
 & + \beta_5 \text{age}^2_{i,t} + \beta_6 \text{income}_{i,t} + \beta_7 \text{schooling years}_{i,t} + \beta_8 \text{experience}_{i,t} \\
 & + \beta_9 \text{knowledge}_{i,t} + \delta' x'_{i,t} + \varepsilon_{i,t} \quad (1)
 \end{aligned}$$

Many personal characteristics are potentially associated with trust in the judiciary. We therefore included also an additional set of control variables, such as state, quarter, employment, and marital status dummies (included in $x'_{i,t}$, which is a column vector of control variables).

In order to examine the relationship between these features and the questions of BCJI, we ran Pooled OLS *for each question*.

$$\begin{aligned}
P1_{i,t} = & \gamma_0 + \gamma_1 \text{Trust in the Federal Government}_{i,t} + \gamma_2 \text{gender}_i + \gamma_3 * \text{race}_i + \gamma_4 \text{age}_{i,t} \\
& + \gamma_5 \text{age}^2_{i,t} + \gamma_6 \text{income}_{i,t} + \gamma_7 \text{schooling years}_{i,t} + \gamma_8 \text{experience}_{i,t} \\
& + \gamma_9 \text{knowledge}_{i,t} + \gamma'_{10} x'_{i,t} + \varepsilon_{i,t} \quad (2)
\end{aligned}$$

$$\begin{aligned}
P2_{i,t} = & \delta_0 + \delta_1 \text{Trust in the Federal Government}_{i,t} + \delta_2 \text{gender}_i + \delta_3 \text{race}_i + \delta_4 \text{age}_{i,t} \\
& + \delta_5 \text{age}^2_{i,t} + \delta_6 \text{income}_{i,t} + \delta_7 \text{schooling years}_{i,t} + \delta_8 \text{experience}_{i,t} \\
& + \delta_9 \text{knowledge}_{i,t} + \delta'_{10} x'_{i,t} + \varepsilon_{i,t} \quad (3)
\end{aligned}$$

⋮

$$\begin{aligned}
P9_{i,t} = & \alpha_0 + \alpha_1 \text{Trust in the Federal Government}_{i,t} + \alpha_2 \text{gender}_i + \alpha_3 * \text{race}_i \\
& + \alpha_4 \text{age}_{i,t} + \alpha_5 \text{age}^2_{i,t} + \alpha_6 \text{income}_{i,t} + \alpha_7 \text{schooling years}_{i,t} \\
& + \alpha_8 \text{experience}_{i,t} + \alpha_9 \text{knowledge}_{i,t} + \alpha'_{10} x'_{i,t} + \varepsilon_{i,t} \quad (4)
\end{aligned}$$

Where $P1, P2, P3, \dots, P9$ represent each question of the BCJI.

2.4 Empirical Results

2.4.1 Trust in the Judicial System

Regression analysis was used to examine the influence of gender, race, income, schooling years, previous experience with the judiciary, and knowledge about the judiciary on public trust in the judicial system.

Table 2.7 shows that trust in the judicial system varies widely among these groups. Women trust the judiciary less than men do. The results obtained via Pooled OLS indicate that the levels of trust in the judiciary of women are 12 basis points lower (with significance at the 1% level) than those of men. Compared to men, they see the judiciary as less honest, faster, only somewhat independent, more difficult to access, and less effective little in resolving disputes.

These results are similar to Lawrence (2002) and may be explained in part by two aspects: discrimination and violence against women. Brazil has the seventh highest female murder rate among the 84 countries examined by Waiselfisz (2012). He shows that the murder rate in Brazil was roughly 4.4 victims for every 100,000 women. Physical violence is prevalent, comprising 44.2% of cases. The share of psychological or moral harassment is higher than 20%, and 12.2% of victims are sexually assaulted. Some studies also show that significant discrimination exists within the Brazilian labor market. Lovell (2000) argues that women and

black persons who work in São Paulo experience greater discrimination than their counterparts in Bahia.

Race is also an important predictor of citizens' trust in the judicial system. We find that black persons have lower levels of trust in the judicial system than do non-black persons. The results indicate that the levels of trust of black persons in the judiciary are 4.8 basis points lower than those of non-black persons (with significance at the 10% level). Compared to non-black persons, black persons see the judiciary as more expensive and less honest.

The regression outputs also are consistent with the literature that documents these racial disparities. Some studies show that minority group members are more distrustful and less confident in the police and the courts (Huang and Vaughn, 1996; Lasley, 1994; Schumann, Steeh, Bobo, and Krysan, 1997). These minority concerns are largely fueled by issues of racial profiling (Cole, 1999; Kennedy, 1997).

One way to interpret these results is that they reflect black persons' perception of the legitimacy of the laws. That is, they tend to have seen the rules themselves as biased. Additionally, some studies show that black Brazilians suffer significant discrimination. Twine (1998), Reichmann (1999), Burdick (1998), Sheriff (2000), and Bailey, Loveman and Muniz (2013) have provided some evidence of racism experienced by black Brazilians. Furthermore, according to the MNDH (Movimento Nacional de Direitos Humanos) the federal police apparatus killed three times more black persons than non-black persons in 1997.

The BCJI results regarding the question of trust in the judiciary show that people with high incomes have higher levels of trust in the judicial system. They regard Brazilian justice as more politically independent, less expensive, and easier to access than do lower-income Brazilians. These results are consistent with the literature that suggests that richer or more powerful individuals are treated differently than those without such resources (Bennack, 1999).

We also obtained evidence that people with more years of formal schooling exhibit higher levels of trust in the judicial system. The coefficient implies that a one year of additional formal schooling predicts a 0.71 basis point increase (statistically significant at the 1% level) in the BCJI. Our results suggest that as schooling increases, then so do the perceptions of legal costs, political independence, and honesty of the judiciary, although the perception of its ability to resolve disputes decreases. Jones, Weatherburn, and McFarlane (2008) present evidence that trust in the criminal justice system is generally more prevalent among younger

people, among those who are better educated, and among those with higher incomes. They also found that respondents who earned higher annual incomes were more confident that the judicial system is effective in bringing people to the courts, meeting the needs of victims, respecting the rights of the accused, and treating the accused fairly. Benesh (2006) also shows that people who reported that they knew more about the courts were more likely to trust them, as were people who had higher levels of schooling.

In terms of experience with the judiciary, our results indicate that people who have had previous experience present levels of trust 11.07 basis points lower than people who have had no previous experience with the judiciary (with significance at the 1% level). For these respondents, although the judiciary is more politically independent and easily accessible, it is also slower and more expensive when compared to people who have had no previous experience with the judiciary. These results are similar to those of Salzman and Ramsey (2013).

Finally, we found that people with greater knowledge of the judiciary trust it more. These results indicate that people with knowledge about the judiciary present 17.36 basis points higher levels of trust (with significance at the 10% level). Nonetheless, these findings may relate to knowledge of the law itself, as opposed to of the *procedures* of the judicial system. Furthermore, these results are consistent with Gibson et al. (1998) and Benesh (2006), who present evidence that knowledge about the judicial system has a significant relationship with trust in the courts.

Table 2.7 Determinants of the BCJI - Pooled OLS Regression

In column (1) the dependent variable is the BCJI, which has a range between 0 and 10. It is the average of a set of nine questions covering the main aspects of trust in the judicial system. In columns (2), (3), ..., (10), we set out the questions used in the BCJI, where the respondent is required to issue his or her opinion on the judicial system regarding: trust (2) ; speed in resolving disputes (3); access cost (4); ease of access (5); political independence (6); honesty (7); ability to resolve disputes (8); panorama of the last 5 years (9); and expectation for the next 5 years (10).

	<i>Questions used in the BCJI</i>									
	<i>BCJI</i>	<i>Trust</i>	<i>Speed in Resolving Disputes</i>	<i>Access Costs</i>	<i>Ease of Access</i>	<i>Political Independence</i>	<i>Honesty</i>	<i>Ability to Resolve Disputes</i>	<i>Panorama of the Last 5 Years</i>	<i>Expectation for the Next 5 Years</i>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Trust in the Federal Government	0.7870*** (40.58)	0.3504*** (32.35)	0.1992*** (15.87)	0.3054*** (28.50)	0.0627*** (5.22)	0.1671*** (12.47)	0.3531*** (30.98)	0.1814*** (12.97)	0.3865*** (25.05)	0.3507*** (22.09)
Woman	-0.1205*** (-6.15)	-0.0365*** (-3.34)	0.0466*** (3.70)	-0.0133 (-1.23)	-0.1210*** (-9.94)	-0.0794*** (-5.92)	-0.0505*** (-4.42)	-0.0605*** (-4.25)	-0.0981*** (-6.32)	0.0505*** (3.07)
Black	-0.0482* (-1.68)	-0.0386** (-2.40)	-0.0200 (-1.13)	-0.0413*** (-2.62)	0.0035 (0.20)	0.0054 (0.28)	-0.0480*** (-2.87)	-0.0156 (-0.74)	0.0432* (1.86)	0.0094 (0.39)
Age	-0.0224*** (-6.29)	-0.0044** (-2.14)	-0.0148*** (-6.30)	-0.0088*** (-4.45)	-0.0109*** (-5.13)	-0.0203*** (-8.52)	0.0043** (2.07)	-0.0051** (-1.99)	-0.0070** (-2.47)	0.0064** (2.12)
Age Squared	0.0002*** (3.89)	0.0000 (1.06)	0.0001*** (3.68)	0.0001*** (3.70)	0.0000** (2.11)	0.0001*** (4.84)	-0.0000* (-1.85)	0.0000 (1.06)	0.0000 (0.72)	-0.0001*** (-2.85)
1 to 4 Minimum Wages	-0.0284 (-0.66)	0.0291 (1.15)	0.0060 (0.21)	0.0054 (0.21)	0.0226 (0.84)	0.0199 (0.69)	-0.0379 (-1.41)	-0.0418 (-1.28)	0.0386 (1.08)	-0.0362 (-0.97)
4 to 8 Minimum Wages	0.0103 (0.24)	0.0573** (2.32)	-0.0116 (-0.41)	0.0373 (1.52)	0.0652** (2.46)	0.0723** (2.53)	-0.0262 (-1.00)	-0.0488 (-1.54)	0.0272 (0.78)	-0.0234 (-0.64)
8 or More Minimum Wages	0.0378 (0.86)	0.0780*** (3.05)	-0.0235 (-0.81)	0.0616** (2.41)	0.0648** (2.37)	0.0779*** (2.61)	-0.0105 (-0.39)	-0.0520 (-1.58)	0.0372 (1.03)	-0.0794** (-2.10)
Schooling Years	0.0071*** (3.49)	0.0123*** (11.04)	-0.0042*** (-3.30)	0.0093*** (8.30)	0.0020 (1.60)	0.0031** (2.25)	0.0076*** (6.57)	-0.0063*** (-4.38)	0.0012 (0.72)	-0.0051*** (-2.99)
Previous Experience with the Judiciary	-0.1107*** (-5.76)	-0.0291*** (-2.74)	-0.1187*** (-9.73)	-0.0610*** (-5.78)	0.0813*** (6.86)	0.0731*** (5.59)	-0.0142 (-1.28)	0.0015 (0.10)	-0.0838*** (-5.46)	-0.0715*** (-4.42)
Knowledge of the Judiciary	0.1736*** (7.05)	0.0939*** (6.58)	-0.0017 (-0.11)	0.0696*** (4.86)	0.1044*** (6.95)	0.1525*** (9.08)	0.0750*** (5.05)	0.0673*** (3.67)	0.0790*** (3.96)	0.0695*** (3.24)
Constant	4.7446*** (52.15)	2.1892*** (42.55)	2.2934*** (38.20)	2.4445*** (48.33)	1.7842*** (32.16)	2.5472*** (41.50)	2.0722*** (38.62)	2.3672*** (36.05)	3.4497*** (48.48)	3.6477*** (48.81)
Observations	16,867	16,867	16,867	16,867	16,867	16,867	16,867	16,867	16,867	16,867
Adjusted R-squared	0.1154	0.1020	0.0356	0.0653	0.0415	0.0625	0.0695	0.0163	0.0534	0.0342

Notes: 1) The control variables are state, quarter dummies, formal contract work and marital state. 2) T-statistics (heteroskedasticity-consistent for cross-sectional OLS) are in parentheses. *, **, and *** respectively indicate significance levels at the 10%, 5%, and 1% levels. Significant results (at 10% level or better) are in boldface.

2.4.2 Confidence in the Judicial System and Propensity to seek the Judiciary

We also assessed the relationship between trust in the judicial system and propensity to resort to the judiciary in six hypothetical situations. The ensuing behavior index was based on a set of questions whereby respondents stated how likely it is that they would resort to the judiciary to resolve a hypothetical dispute or problem. The possible answers to those questions being: (i) definitely not, (ii) probably not, (iii) probably yes, and (iv) definitely yes. The behavior index is thus a measure of the population's perception of their own propensity to use the court system. Appendix A.2.3 presents details regarding index construction.

The index is built on cases concerning family issues (C1), provision of service issues (C2), consumer issues (C3), neighborhood issues (C4), labor disputes (C5), and a case involving the government (C6). We also took into account situations in which people from very different income levels and social groups share the same experience, as well as hypothetical scenarios in which the respondents were asked to imagine themselves on different sides in the dispute. At one juncture, for instance, the respondent plays the role of the consumer, with a weaker position, whereas in another scenario the interviewee is the service provider, having thus a stronger position.

Analogously to equation (1), we adjusted a model including demographic and economic variables to shed some light on drivers for the Behavior Index. We ran Pooled Ordinary Least Squares (Pooled OLS) regressions. The Behavior Index for the respondent i that was surveyed in the period t (*Behavior Index* _{i,t}) is modeled as:

$$\begin{aligned} \text{Behavior Index}_{i,t} = & \beta_0 + \beta_1 \text{BCJI}_{i,t} + \beta_2 \text{Trust in the Federal Government}_{i,t} + \\ & \beta_3 \text{gender}_i + \beta_4 \text{race}_i + \beta_5 \text{age}_{i,t} + \beta_6 \text{age}^2_{i,t} + \beta_7 \text{income}_{i,t} + \beta_8 \text{schooling years}_{i,t} + \\ & \beta_9 \text{experience}_{i,t} + \beta_{10} \text{knowledge}_{i,t} + \delta' x'_{i,t} + \varepsilon_{i,t} \quad (5) \end{aligned}$$

We included also an additional set of control variables, such as state, quarter, employment, and marital status dummies (included in $x'_{i,t}$, which is a column vector of control variables).

Table 2.8 shows a positive relationship between trust in the judicial system and the behavior index, in clear support of our hypothesis that people with higher levels of trust in the judicial system have a higher propensity to resort to the judiciary. Hence, our behavior index is more adequately termed the “trust realization index”. The Pooled OLS coefficient implies that a one unit increase in the BCJI predicts a 7.8 basis point increase in the behavior index (with

significance at the 1% level). In general, people have a higher propensity to seek the judiciary in cases concerning family issues, neighborhood issues, labor disputes, and cases involving the government. Underlying this result is the fact that the respondents see the justice system as a legitimate stage for the resolution of their disputes.

Our results also show that there is a positive and statically significant correlation between the behavior index and some demographic and economic variables such as being female, being black, age, schooling years, previous experience with the judiciary, and knowledge about the justice court system. Our estimations indicate that although the judiciary has lower levels of the trust for some demographic and economic variables, most Brazilians perceive it as a legitimate way to seek solutions to their problems and would not hesitate to go to court to solve them. For example, although women generally have lower levels of trust in the judicial system than men, they are more likely to seek the judiciary for family, labor, and service issues, but less likely to seek it for consumer issues. We find similar results regarding age and previous experience with the judiciary. These results are statistically significant at the 1% level.

Lambsdorff (1999) argues that the keys to less corruption and greater trust are an effective system of property rights and the rule of law. If the law is enforced on fair grounds, then people will be more likely to obey the law and to trust the judicial system. In contrast, if people feel that they are treated unfairly, then they will rely less on the courts and will be less likely to obey the laws. Higher-trusting societies have better governance and faster economic growth. They also spend more on redistribution and have greater respect for the law (Uslaner, 2002).

Table 2.8 Determinants of the Behavior Index – Pooled OLS Regression

In column (1) the dependent variable is the Behavior Index, which ranges between 0 and 10. It is based on a set of six questions whereby respondents stated how likely they would be to resort to the judiciary to resolve a dispute or problem, the possible answers to those questions being: (i) definitely not, (ii) probably not, (iii) probably yes, and (iv) definitely yes. The behavior index is thus a measure of the population's perception of its own propensity to go to court to resolve disputes. In columns (2), (3), ..., (7), we set out the hypothetical questions used in the Behavior Index, such as cases concerning family issues (2), provision of service (3), consumer issues (4), neighborhood issues (5), labor disputes (6) and a case involving the government (7).

	Behavior Index	Questions used in the Behavior Index					
		Family Issues	Provision of Service	Consumer Issues	Neighborhood	Labor	Government
		(2)	(3)	(4)	(5)	(6)	(7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
BCJI	0.0780*** (7.20)	0.0446*** (7.75)	0.0099 (1.53)	0.0110 (1.09)	0.0328*** (5.06)	0.0240*** (3.85)	0.0256*** (4.78)
Trust in the Government	0.0239 (0.92)	0.0090 (0.64)	0.0067 (0.41)	0.0307 (1.09)	0.0239 (1.45)	0.0061 (0.39)	0.0096 (0.74)
Female	0.1930*** (7.69)	0.3818*** (27.86)	0.0819*** (5.19)	0.0241 (0.93)	-0.0576*** (-3.67)	-0.0411*** (-2.72)	-0.0163 (-1.30)
Black	0.0949*** (2.62)	-0.0049 (-0.25)	0.0400* (1.77)	0.0507 (1.02)	0.0867*** (3.91)	0.0013 (0.06)	0.0393** (2.18)
Age	0.0256*** (5.24)	0.0072*** (2.73)	0.0152*** (5.13)	0.0137*** (4.84)	0.0176*** (5.95)	0.0014 (0.48)	0.0060** (2.52)
Age Squared	-0.0004*** (-6.99)	-0.0002*** (-5.31)	-0.0002*** (-6.82)	-0.0002*** (-5.22)	-0.0002*** (-6.21)	-0.0000 (-1.32)	-0.0001*** (-3.39)
1 to 4 Minimum Wages	0.0738 (1.17)	0.0551* (1.65)	0.0168 (0.44)	0.0505* (1.75)	0.0359 (0.91)	0.0090 (0.24)	0.0188 (0.59)
4 to 8 Minimum Wages	0.1351** (2.21)	0.1036*** (3.21)	0.0322 (0.87)	0.0650* (1.67)	0.0348 (0.91)	0.0139 (0.38)	0.0655** (2.12)
More than 8 Minimum wages	0.0979 (1.55)	0.1085*** (3.27)	-0.0160 (-0.42)	0.0583 (1.29)	0.0226 (0.57)	0.0306 (0.82)	0.0339 (1.06)
Schooling Years	0.0114*** (4.58)	0.0094*** (7.20)	-0.0010 (-0.61)	-0.0016 (-0.92)	0.0039** (2.47)	0.0065*** (4.29)	0.0016 (1.27)
Previous Experience with the Judiciary	0.1644*** (6.83)	0.0610*** (4.69)	0.0174 (1.13)	0.0204 (0.86)	0.0892*** (5.80)	0.0887*** (6.01)	0.0446*** (3.69)
Knowledge of the Judiciary	0.2197*** (6.32)	0.1059*** (5.56)	0.0570*** (2.71)	0.0559*** (2.59)	0.0950*** (4.42)	0.0951*** (4.53)	0.0546*** (3.17)
Constant	5.8826*** (45.81)	3.0057*** (43.78)	2.9872*** (37.29)	3.2713*** (45.18)	2.7576*** (34.25)	3.3194*** (43.50)	3.3899*** (52.81)
Observations	16,867	16,867	16,867	16,867	16,867	16,867	16,867
Adjusted R-squared	0.0445	0.0883	0.0183	0.0023	0.0149	0.0223	0.0124

Notes: 1) The table shows the coefficients of the pooled OLS for indicated regressions of hypothetical situations of disputes on personal features and control variables. 2) The control variables are state, year, formal contract work dummy, and marital state dummy. 3) T-statistics are in parentheses. *, **, and *** respectively indicate significance levels at the 10%, 5%, and 1% levels. 4) Significant results (at 10% level or better) are in **boldface**.

Finally, we also studied the connection between trust in the judicial system and willingness to go to court by applying pseudo-panel techniques to available cross-sectional data. Recently pseudo-panel methods have been used to overcome some of the known limitations of cross sectional data; they allow for example to control for unobservable characteristics of survey respondents.

Our pseudo-panel builds on the same waves of the survey conducted in 2010, 2011 and 2012. We draw largely on the methodology set forth by Verbeek and Vella (2005) and Verbeek (2007) to determine the sizes of the cohorts as well as the variables chosen to construct the cohorts. Our cohorts are based on the ages and the years of education of the respondents. Verbeek (2007) argues that suitably choosing these variables is essential for maintaining the asymptotic properties of the pseudo-panel. Our cohorts partition the ages of the respondents into five-year intervals, including only individuals aged between 18 and 72. We select the following 7 groups according to schooling years: 0-3 years, 4 years, 5-7 years, 8 years, 9-10 years, 11 years, and 12 years or more. After defining the cohorts, a set of other variables is combined into the dataset, including a pool of demographic and economic variables such as race, income, age, gender, schooling years, and all questions related to the main aspects of trust in the judicial system. Based on this data structure we generate the pseudo-panels by averaging all variables at the cohort level.

Our pseudo-panel is formed creating synthetic observations obtained from averaging real observations with similar characteristics in a sequence of repeated cross sectional data sets. In this way, the synthetic units of observations can be thought as being “followed” over time. The model then requires an appropriate modification:

$$\overline{Behavior\ Index}_{c,t} = \bar{\alpha}_c + \beta_1 * \overline{BCJI}_{c,t} + \delta' * \bar{x}'_{c,t} + \bar{u}_{c,t}, \quad c=1,\dots,C, \quad t=1,\dots,T. \quad (6)$$

where the individual index, i , has been replaced by a cohort index, c and $\bar{\alpha}_c$ is the fixed effect parameter. Analogously to equation (5), the slope β_1 is the parameter of interest and $\bar{x}'_{c,t}$ is a vector of control variables.

Figure 2.2 shows the cohort sizes. We have 77 cohorts with an average of 219 and a median of 189 observations per cohort. The minimum and maximum cohort values are 21 and 921, respectively.

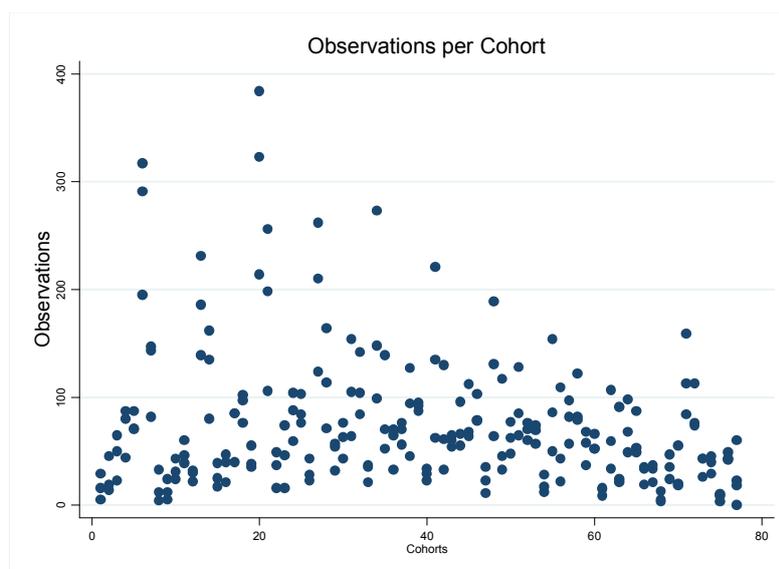


Figure 2.2 Cohort Sizes

Table 2.9 lays out the basic descriptive statistics of the pseudo-panel for all questions and demographic and economic variables of the constructed cohorts. The average BCJI in 2010 was 4.17. It jumped to 4.28 in 2011 and then slightly increased to 4.31 in 2012. So overall the BCJI has not changed much over time. This result is due to the low variation among the answers to the questions that constitute the index. Something similar happened with the behavior index: its average in 2010 was 6.95, then increased to 7.08 in 2011, and then decreased to 7.00 in 2012.

Table 2.9 Descriptive Statistics of the Variables in the Pseudo-Panel

Variables	2010		2011		2012	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
BCJI	4.17	0.21	4.28	0.20	4.31	0.31
Trust	4.08	0.44	4.63	0.46	4.30	0.51
Speed in Resolving Disputes	1.93	0.38	1.97	0.36	1.95	0.44
Access Costs	4.58	0.41	4.58	0.37	4.81	0.55
Ease of Access	2.12	0.47	2.21	0.45	2.14	0.49
Political Independence	3.33	0.56	3.49	0.54	3.55	0.69
Honesty	4.11	0.39	4.12	0.63	4.21	0.48
Ability to Resolve Disputes	4.24	0.42	4.49	0.63	4.64	0.54
Panorama of the Last 5 Years	5.90	0.32	5.82	0.37	5.89	0.59
Expectation for the Next 5 Years	7.24	0.37	7.25	0.37	7.35	0.60
Behavior Index	6.95	0.38	7.08	0.29	7.00	0.34
Family Issues	8.59	0.75	8.75	0.58	8.57	0.76
Provision of Service	7.93	0.68	8.09	0.65	8.03	0.63
Consumer Issues	0.28	0.03	0.27	0.02	0.27	0.01
Neighborhood Issues	7.84	0.60	8.15	0.62	8.08	0.71
Labor Disputes	8.28	0.56	8.35	0.50	8.25	0.59
Government Issues	8.78	0.47	8.86	0.39	8.80	0.42

Table 2.10 reinforces our previous findings as to a positive connection between trust and its practical realization. The coefficient of the BCJI is positive and statistically strong. The RE coefficient implies that a one unit increase in the BCJI predicts a 30 basis point increase in the behavior index (with significance at the 1% level). When controlled for unobserved effects of each cohort (FE) this coefficient is lower, but still statistically significant at the 5% level.

Table 2.10 Determinants of the Behavior Index: Pseudo-Panel

	Random Effects				Fixed Effects			
BCJI	0.317*** (0.08)	0.322*** (0.07)	0.310*** (0.08)	0.300*** (0.08)	0.234** (0.09)	0.258*** (0.09)	0.235** (0.10)	0.236** (0.10)
Covariates	Y	Y	Y	Y	Y	Y	Y	Y
Year Dummies		Y		Y		Y		Y
State Dummies			Y	Y			Y	Y
Constant	4.908*** (0.54)	4.648*** (0.58)	3.605*** (0.69)	3.658*** (0.70)	5.093*** (0.69)	4.565*** (0.73)	4.624*** (0.93)	4.670*** (0.91)
Observations	231	231	231	231	231	231	231	231
Median RE λ	0.41	0.38	0.30	0.31				
R-squared					0.192	0.237	0.254	0.270

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

2.5 Conclusion

This Chapter relies on a series of waves of the FGV survey to provide further insight into the determinants of the various degrees of trust in the judicial system in Brazil over 2010-2012, as well as into their implications in terms of actual resort to the judicial system. We develop a measure of judicial performance in Brazil that is based on the motivations behind people's trust or distrust on the country's judicial system. The resulting index performs well as a measure of the population's views on the reliability of the Brazilian justice system.

Our findings support the view that race and gender are important predictors once controlled for other characteristics of respondents. Black persons and women have a slightly lower level of trust in the judicial system. People who have had previous experience with the judiciary also tend to trust the judicial system less. On the other hand, better-educated individuals and individuals better acquainted with the judicial system trust it more. In particular, our results show that a highly educated individual with some understanding of the judicial system – and consequently heightened deference towards governmental institutions – will have the highest levels of trust in the judicial system. On the other extreme, the lowest levels of trust are exhibited by persons who have been less exposed to formal education, who are female, who are black, and who are skeptical about government institutions. These results are quite

intuitive and confirm some interesting notions about what drives trust in the judicial system. In present days it is essential that the judicial system consider carefully what drives support for its institutions.

In addition to the abovementioned conclusions, we also found evidence of a positive relationship between trust in the judicial system and the behavior index (the “trust realization index”), the latter being a measure of people’s perception about their propensity to actually go to court to resolve their disputes. That is, people who have higher levels of trust in the judicial system are more likely to use its services. We determined furthermore that being female, being black, being older, being better educated, having previous experience with the judiciary, and being knowledgeable about the court system are all positively correlated with the trust realization index. Somewhat surprisingly, although these people have lower levels of trust in the judiciary, they are more likely to seek the judiciary in some hypothetical situations such as cases concerning family issues, provision of service issues, consumer issues, neighborhood issues, labor disputes, and cases involving the government. Despite their misgivings about the judicial system these people do perceive it as a legitimate venue for seeking solutions to their problems and do not hesitate to go to court in order to solve disputes.

Finally, our findings point to other important implications of trust in the judicial system. Given that black persons and women exhibit lower levels of the trust, efforts should be made to reduce costs of judicial services, thus entailing greater access to the judicial system as well as a greater sense of fairness. Our findings also show that people with low income have lower levels of the trust in the judicial system. Nonetheless, our results should be viewed as provisory conclusions of an empirical analysis on some of the determinants of trust in the Brazilian judicial system. Further and more accurate estimates and measures of trust institutional are needed if we truly want to better tackle the influence of other aspects on trust in the judicial system.

3. DOES TRUST IN THE JUDICIAL SYSTEM AFFECT ITS UTILIZATION?

3.1 Introduction

Well-functioning public institutions play an important role in economic development and social cohesion. A key variable in the effectiveness and legitimacy of public institutions is the trust that they inspire in those whom they serve. Sadly, in some nations trust in government, in the judicial system, and in other institutions has declined over time. A low level of trust in the judicial system may discourage people from seeking its courts, leading them instead to resort to other, informal means of dispute resolution.

A considerable amount of literature has addressed the connection between the level of exposition to the judiciary services and the levels of trust in the judicial system. Benesh (2006) examines the potential effects of previous experience, views on procedures, and institutional infrastructure on trust. He shows that a highly educated individual who has previous experience as a juror, has a strong understanding of the court system, has a high level of baseline trust in government institutions, and lives in a state where judges are appointed and crime is low will exhibit the highest levels of trust in state courts. On the other extreme, an individual without much formal education who had been a defendant at least once in his or her life, considers him or herself to be poorly informed about courts, and happens to live in a state with elected judges and a high crime rate will have the lowest levels of trust. Benesh and Howell (2001) also maintain that people who actually use the courts believe that they do a good job, in contrast with those who have never actually used them. The findings pertaining to non-users can be related to other, more general aspects, less intrinsic to the judicial system itself. It follows that those who have had a concrete previous experience with the judiciary tend to have a more objective view of its functioning.

When the judiciary enjoys public trust its legitimacy enables the consolidation of the rule of law (Levasseur, 2002). It is reasonable to assume that when people trust the judicial system, they become more prone to rely on it in order to seek legitimate resolutions for their problems. In this study we attempt to verify whether trust in the judicial system actually affects the use of the judiciary. This question is fundamental in the Brazilian context, because people with low levels of trust in the judicial system may hesitate to resort to the judiciary to resolve their disputes.

We use the Brazilian Confidence in Justice Index (BCJI) as our trust measure. The BCJI is a measure of perception; it reveals the opinion of people regarding the trustworthiness of the judicial system. In order to examine how trust in the judicial system affects use of the judiciary, we use the instrumental variable approach; specifically, we employ the two-stage least squares technique (henceforth termed 2SLS). The instrumental variable data is drawn from front-page news on corruption, whereas trust in the judicial system is the instrumentalized variable. We construct measures of news on government corruption reported by the main newspapers during the 2010-2013 period in the following states: Minas Gerais, Pernambuco, Rio Grande do Sul, Rio de Janeiro, São Paulo, and the Distrito Federal. We focus on news about corruption because the media plays an important role in modern democracies by providing a significant share of the information consumed by their citizens.

Note that in this Chapter we are analyzing the impact of trust on the judicial system on the demand for services rendered by the judiciary by using data collected from respondents who have had previous experience with the judicial system, whereas the results presented in Chapter 2 tested the respondents' reactions to a set of *hypothetical* situations designed to measure the propensity to demand judicial services.

The main results show that as expected trust in the judicial system has a positive impact on demand for judiciary services. We also find a statistically significant relationship between trust in the judicial system and use of the judiciary for some demographic and economic variables, such as income, schooling years, age, and race. We furthermore performed the same tests using only one of the questions of the Brazilian Confidence in Justice Index (BCJI), specifically the question about trust in the judicial system. The advantage of using this single question is that it is a direct measure of trust in the judicial system, while the BCJI index as a whole is the average of a set of nine questions covering the main aspects of trust in the judicial system. We again find that trust in the judicial system has a positive impact on the use of the judiciary. One possible explanation for these results is that the more the people trust the judicial system, they more come to see it as a legitimate way to seek solutions to their problems.

This Chapter proceeds as follows: Section 3.2 reviews the literature about trust in the judicial system and perceptions of corruption; Section 3.3 describes the data set; Section 3.4 describes the methodology; Section 3.5 discusses our results; and Section 3.6 discusses the conclusions.

3.2 Literature Review

3.2.1 Trust in the Judicial System and Perceptions of Corruption

There is a vast literature which explores the relationship between the variation in perceptions of corruption of public institutions and the trust enjoyed by the latter. Societies with more trust and less corruption have better governance, exhibit faster economic growth, spend more on redistribution, and have greater respect for the law among the citizenry (Uslaner, 2002). On the other hand, Pharr (2000) has argued that low levels of trust in the judicial system over time are caused in part by corruption scandals relentlessly covered in the media, thereby generating distrust in public institutions.

Stulhofer (2004) has found that perceptions of corruption in Croatia have a negative correlation with general trust. Seligson (2002) used survey data from four Latin American countries to test the effects of corruption experiences on perceptions of the legitimacy of the political system at the individual level. He found that exposure to corruption erodes belief in the political system and reduces interpersonal trust. Clausen, Kraay and Nyiri (2011) showed that individuals who experience corruption and who report that corruption is widespread also tend to trust public institutions less. They further proved that this correlation is robust to the inclusion of a large body of questions intended to capture the respondent's tendency to complain or to report more negatively on corruption and trust than might otherwise occur, by using a set of variables to control for respondent-level characteristics, including a number of objectively warranted proxies. Rothstein (2000) argues that people are not likely to lose faith in others just because they see politicians as venal. Even so, the proposition that when the legal system consistently fails to punish transgressors then the people will no longer be very trusting of their fellow citizens seems quite reasonable.

Corruption is a significant problem in the Brazilian political system, with instances of corrupt behavior readily apparent at the federal, state, and municipal levels, and across all government branches. The democratization process in Brazil created optimism for the prospects of resolving problems such as chronic inflation and corruption. To put it mildly, however, recent history shows that democracy did not eliminate chronic corruption (Silva, 1999). On the contrary, corruption has damaged some fundamental democratic institutions such as the Presidency and the Congress. In this sense, understanding how the perception of corruption affects trust in the Brazilian judicial system is very relevant.

Perhaps respondents' perceptions of the prevalence of trust in the judicial system drive their propensity to use the judiciary, but just as plausibly the inverse could be true: individuals who lack propensity to use the judicial might, as a result, express low levels of trust in the judicial system. Our claim of a plausible causal effect running from trust in the judicial system to propensity to use the judiciary, however, remains strongly significant. Hellman and Kaufmann (2004) show that firms who perceive a great deal of crony bias in policymaking trust less the judicial system, are less likely to use courts, are more likely to pay bribes, and are more likely to cheat on their taxes. Levasseur (2002) argues that when the judiciary has the public trust it acquires the legitimacy to consolidate the rule of law. Examples of corruption scandals involving public officials are shown daily in modern mass media (Ackerman, 1999). In this Chapter, we use these news stories to address concerns about endogeneity.

3.3 Data

3.3.1 The Brazilian Confidence Justice Index (BCJI)

Our results are based on fourteen waves of a survey conducted along 2010, 2011, 2012 and 2013. This survey was conducted via telephone calls over a period of forty-two months. Our sample consists of 4,685 respondents in 2010; 6,213 respondents in 2011; 6,049 respondents in 2012; and 4,525 respondents in 2013. Table 3.1 provides an overview of the sample.

Table 3.1 Sample Description

The sample is distributed through 7 states, which according to 2010 census data together represent approximately 60% of the country's population. The sample size was determined by the number of inhabitants in each state. The sampling frame was constructed so as to have a 95% confidence interval and an absolute sampling error of 2.5%. Interviews were conducted via telephone.

States	Population	Sample			
		2010	2011	2012	2013
São Paulo	41.262.199	1691	2252	1614	1052
Minas Gerais	19.597.330	810	1089	1164	898
Rio de Janeiro	15.989.929	662	867	818	599
Bahia	14.016.906	599	793	792	603
Rio Grande do Sul	10.693.929	463	609	607	462
Pernambuco	8.796.448	362	476	572	453
Distrito Federal	2.570.160	95	127	482	458
Total	112.926.901	4682	6213	6049	4525

Source: BCJI – São Paulo Law School – Fundação Getulio Vargas (FGV)

Table 3.2 details the variables that control for individual heterogeneity.

Table 3.2 - Definitions for Principal Variables

Woman	Dummy variable that takes value one when the respondent is female, and zero otherwise;
Black	Dummy variable that takes value one when the respondent is black, and zero otherwise;
0 to 1 Minimum Wages	Dummy variable that takes value one when the respondent's salary is from 0 to 1 minimum wages, and zero otherwise;
1 to 4 Minimum Wages	Dummy variable that takes value one when the respondent's salary is from 1 to 4 minimum wages, and zero otherwise;
4 to 8 Minimum Wages	Dummy variable that takes value one when the respondent's salary is from 4 to 8 minimum wages, and zero otherwise;
8 Minimum Wages	Dummy variable that takes value one when the respondent's salary is higher than 8 minimum wages, and zero otherwise;
Age	is the respondent's age in years;
Schooling Years	is the respondent's education in years;
Had Previous Experience with the Judiciary	Dummy variable that takes value one when the respondent has had any previous experience with the judiciary, and zero otherwise;
Knowledge of the Judiciary	Dummy variable that takes value one when the respondent has knowledge of the judiciary, and zero otherwise;

Finally, we also observe a difference in terms of schooling years. According to the 2010 Census, the mean number of years of formal schooling is 7.9 for people who are older than 18 years old. In our sample, the mean number of years of formal schooling is 9.4. Our sample, however, is representative only of the following 7 states: Minas Gerais, Pernambuco, Rio Grande do Sul, Bahia, Rio de Janeiro, São Paulo, and the Distrito Federal. In general, our sample is similar in terms of gender and race to the demographic data for these states.

Table 3.3 displays descriptive statistics for covariates. Note that 38% of respondents claim to trust the Federal Government and 49% have had previous experience with the judiciary. Our sample is again similar to overall Brazilian demographic data in terms of gender and race. In our sample, 53% of respondents are female and 12% are black. In terms of income, we have a difference relative to the 2010 Census. In our sample the share of households with monthly per capita income between 0 and 1 minimum wages is 45%. For the Brazilian population as a whole, this share is 54%. In our sample the share of households with monthly per capita income between 1 and 4 minimum is 38%. For the Brazilian population as a whole, this share

is 31%. As in Chapter 2, this difference is explained by the fact that our sample include the richest Brazilian states, namely São Paulo, Rio de Janeiro, Minas Gerais, and Rio Grande do Sul.

Finally, we also observe a difference in terms of schooling years. According to the 2010 Census, the mean number of years of formal schooling is 7.9 for people who are older than 18 years old. In our sample, the mean number of years of formal schooling is 9.4. Our sample, however, is representative only of the following 7 states: Minas Gerais, Pernambuco, Rio Grande do Sul, Bahia, Rio de Janeiro, São Paulo, and the Distrito Federal. In general, our sample is similar in terms of gender and race to the demographic data for these states.

Table 3.3 Descriptive Statistics for Covariates

The upper line of each variable on the table is the sample average for the variable. The bottom line reports the standard deviation. Wages are measured in terms of the 2012 Minimum Wage, which corresponds to US\$ 334.

Variables	Mean (Standard Deviation)
Trust in the Federal Government	0.383 (0.486)
Female	0.532 (0.499)
Black	0.112 (0.184)
Age	42.068 (15.627)
0 to 1 Minimum Wages	0.455 (0.201)
1 to 4 Minimum Wages	0.382 (0.412)
4 to 8 Minimum Wages	0.114 (0.457)
8 or More Minimum Wages	0.032 (0.176)
Schooling Years	9.411 (5.148)
Had Previous Experience with the Judiciary	0.494 (0.52)
Knowledge of the Judiciary	0.803 (0.41)

Source: BCJI – São Paulo Law School – Fundação Getulio Vargas (FGV)

The BCJI is the average of the results of a set of nine questions covering the main aspects of trust in justice. The respondent must issue his or her opinion on justice regarding trust, speed in resolving disputes, access cost, ease of access, political independence, honesty, ability to resolve disputes, the panorama of the last 5 years, and the expectation for the next 5 years.

Initially, each question has the same weight within the index. Table 3.4 describes the BCJI and its components.

Table 3.4 The BCJI and its components.

The questions that constitute the questionnaire admit four or five responses. Each question is identified by assigning an index n to its response, which corresponds also to a value assigned to that response. Thus, the first response, i.e., the answer 0, is assigned the value 0. To the last response is assigned the maximum value, which can be either 3 or 4 depending on whether the question has four or five possible responses. Values are then weighted according to the proportion of each question. To compute the BCJI, we first sum the weighted responses for all 9 questions, and then divide by 9.

BCJI	Weighted Average				All Years
	2010	2011	2012	2013	
P1 Trust	4.10	4.61	4.38	4.11	4.33
P2 Speed in Resolving Disputes	1.99	1.99	1.91	1.87	1.94
P3 Access Costs	4.62	4.61	4.80	4.57	4.66
P4 Ease of Access	2.18	2.27	2.25	2.25	2.24
P5 Political independence	3.40	3.55	3.65	3.40	3.51
P6 Honesty	4.10	4.01	4.16	3.95	4.06
P7 Ability to Resolve Disputes	4.22	4.43	4.46	4.18	4.34
P8 Panorama of the Last 5 Years	5.91	5.86	5.85	5.58	5.81
P9 Expectation for the Next 5 Years	7.22	7.52	7.30	7.27	7.26

Source: BCJI – São Paulo Law School – Fundação Getulio Vargas (FGV)

Table 3.5 displays the basic statistics of the BCJI for each year. Overall the BCJI has not changed much between 2010 and 2013. Although the BCJI has remained fairly stable over time, there are important oscillations and some demographic and economic characteristics of respondents such as race, income, age, gender, schooling years, previous experience with the justice, and knowledge about the judiciary.

Table 3.5 Descriptive Statistics for the BCJI

Descriptive statistics for BCJI in 2010, 2011, 2012 and 2013. The BCJI is the average of a set of nine questions covering the main aspects of trust in justice: trust (P1); speed in resolving disputes (P2); access cost (P3); ease of access (P4); political independence (P5); honesty (P6); ability to resolve disputes (P7); panorama of the last 5 years (P8); and expectation for the next 5 years (P9).

Weighted Average	Std. Dev.	Min.	Max.
2010			
4.19	1.24	0.25	8.70
2011			
4.29	1.31	0.25	9.07
2012			
4.31	1.30	0.25	9.35
2013			
4.13	1.32	0.25	9.07
All Years			
4.23	1.30	0.25	9.35

Source: BCJI – São Paulo Law School – Fundação Getulio Vargas (FGV)

3.4.2 News of Corruption

News stories on corruption were classified into two categories, namely: “good” news are those related to arrest, condemnation, or dismissal of corrupt individuals, whereas “bad” news report impunity, corruption scandals, and fraud.

As for the quality of data, in some states we were unable to access news on corruption dating far back. We therefore have obtained information for different periods in each state. Specifically, we were unable to obtain news data from the state of Bahia; we have news between 2011 and 2013 for Rio de Janeiro state and the Distrito Federal; as for São Paulo, Rio Grande do Sul and Pernambuco, we have news for the entire period; and for Minas Gerais, we have news only for 2012 and 2013.

Unavoidable overlaps between “good” and “bad” news on corruption in the same newspaper on the same day led us to develop three measures of the intensity of coverage of corruption scandals by newspapers. The “bad news” variable was constructed using the total amount of front-page space devoted to covering corruption cases in month t , in newspaper m . We performed the same calculation for the “good news” variable. The sample of the BCJI was collected on a quarterly basis; hence, we added the corruption news quarterly. Finally, due to the overlap of good and bad news, we created a new variable that is the difference between “bad” and “good” news. The volume of corruption news was calculated according to the formula below:

$$Volume\ of\ Corruption\ News_{m,T} = \sum_{\substack{day\ d\ is\ in \\ quarter\ T}} \frac{News\ Area_{m,d}}{Total\ Area_{m,d}}$$

Where,

Volume of Corruption News_{m,T} is the area occupied by news on corruption covered by newspaper “m” until the period “T”. (Here the sub-index “T” corresponds to a three-month period);

News Area_{m,d} corresponds to the surface area of the news piece, measured in square centimeters;

Total Area_{m,d} is the size of the front page of the newspaper, also measured in square centimeters;

We used two measures of effective demand for the judiciary’s services: (1) we considered all individuals who have had previous experience with the judiciary; and (2) we examined a range of disputes in which people often are involved, but they have a choice whether to go to court or not. We considered only the cases in which people voluntarily sought the judicial system, thereby excluding situations in which the parties involved are not free to decide whether to seek a judicial solution. For example, a person accused of perpetrating a homicide is not entitled to decide whether or not to seek the judicial system. Defining both of these measures is important because in some cases people need to use the judiciary regardless of their level of trust in the judicial system. Let us now turn to the data.

Figure 3.1 illustrates how front-page statistics were constructed. Their construction involves adding for a particular newspaper and for a particular month the fraction of each front page devoted to covering corruption scandals. Here, we considered area in squared centimeters of (News Area) / (Total Area) as the contribution of May 19th to the measurement of front-pages of the “O Globo” newspaper on May 2011. Our corruption measure is the sum of these fractions over three months by newspaper and state. We used three months to have the same periodicity as the waves of the FGV-Survey.

Figure 3.1 Front Page of “O Globo” on May 19th, 2011.

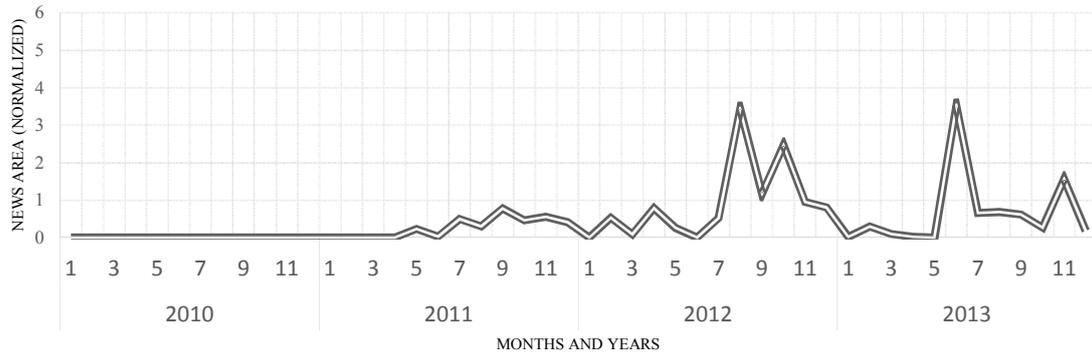
Our construction of front page statistics involves adding, for a particular newspaper and for a particular month, the percentage of each front page’s area during that month that is devoted to covering corruption scandals. In the example below, we considered Area (News) / (Total Area) as the contribution of May 19th to the front page statistics for “O Globo” in May 2011.



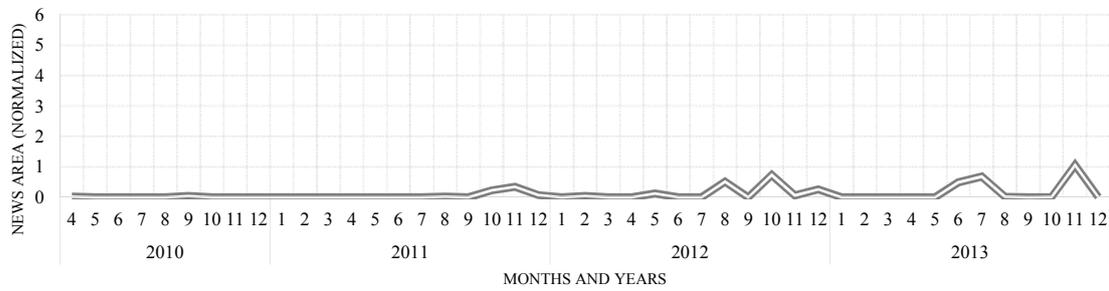
The government worked hard yesterday to prevent at all costs the summoning of Chief of Staff Antônio Palocci to testify about his growing personal wealth.

$$\frac{\text{News Area}}{\text{Total Area}} = \frac{19.86\text{cm} \times 11.31\text{cm}}{4.84\text{cm} \times 9.13\text{cm}} = \frac{224.62\text{ cm}^2}{44.19\text{ cm}^2} = 0.20$$

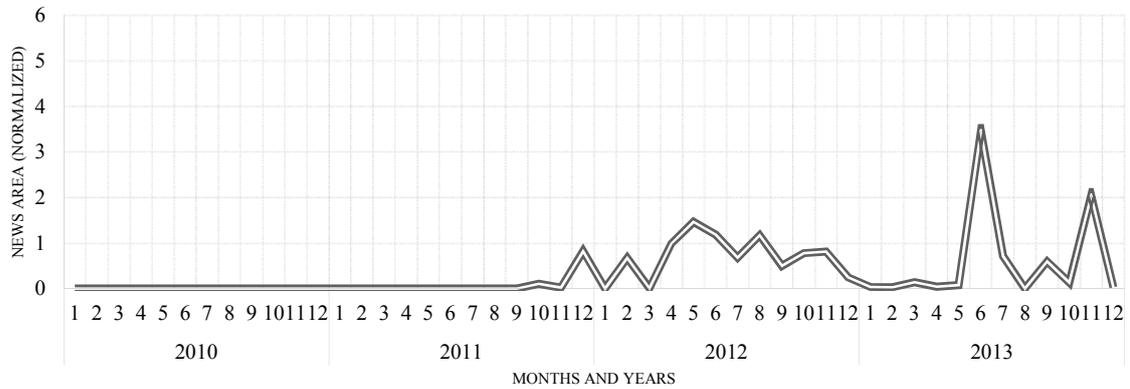
RIO DE JANEIRO - GOOD NEWS

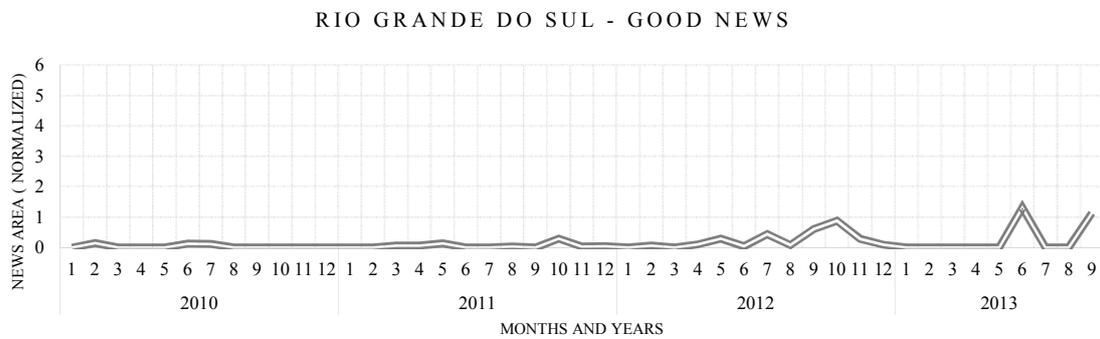
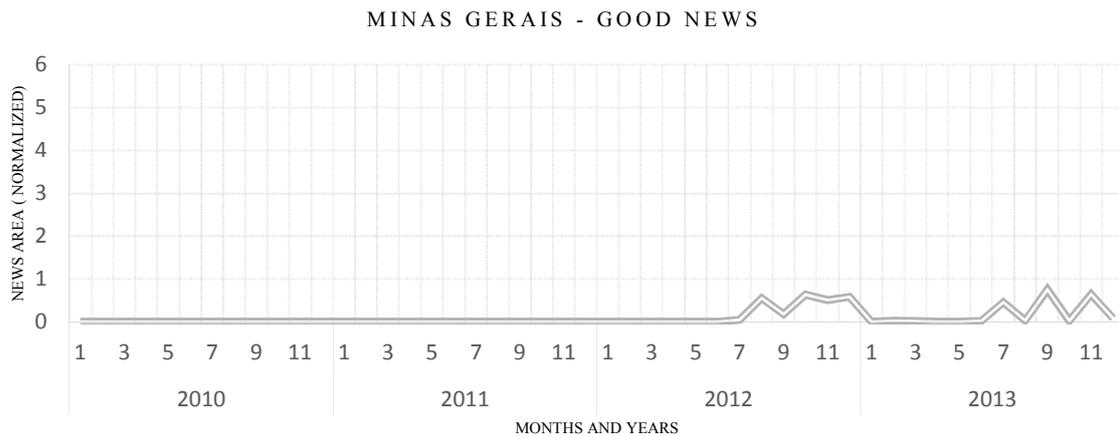


PERNAMBUCO - GOOD NEWS



DISTRITO FEDERAL - GOOD NEWS





shows the evolution of “bad” news on corruption. We defined news as “bad” if related to impunity of corrupt people, to corruption scandals, and to fraud. In general, most news on corruption are connected with “bad” news, which is a significant problem in the Brazilian political system. There are many cases at the federal, state, and municipal levels. In general, the level of “bad” news on corruption is higher than that of “good” news on corruption; newspapers naturally give more prominence to bad news.

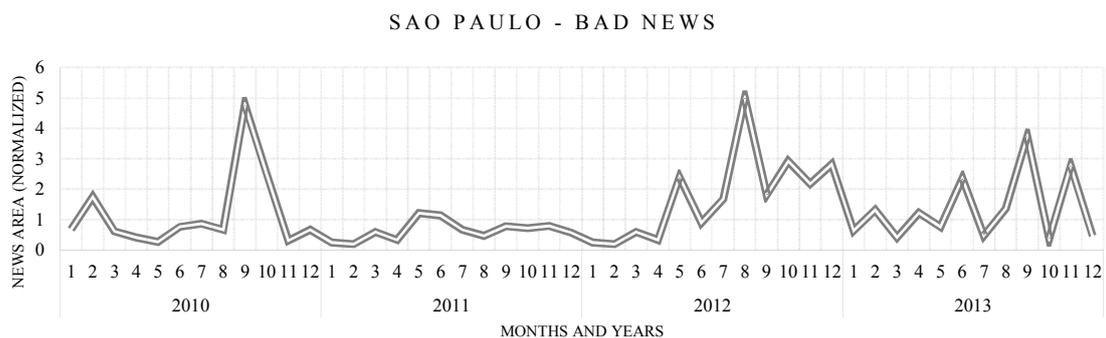
Booth and Seligson (2009) show that perceptions of corruption are strongly and negatively related to regime legitimacy. One way to measure this is by studying the legitimacy of the motivations that lead citizens to trust or to distrust the judicial system. We expect that there is a negative impact of “bad” news on corruption on trust in the judicial system.

Figure 3.3 shows the evolution of “bad” news on corruption. We defined news as “bad” if related to impunity of corrupt people, to corruption scandals, and to fraud. In general, most news on corruption are connected with “bad” news, which is a significant problem in the Brazilian political system. There are many cases at the federal, state, and municipal levels. In general, the level of “bad” news on corruption is higher than that of “good” news on corruption; newspapers naturally give more prominence to bad news.

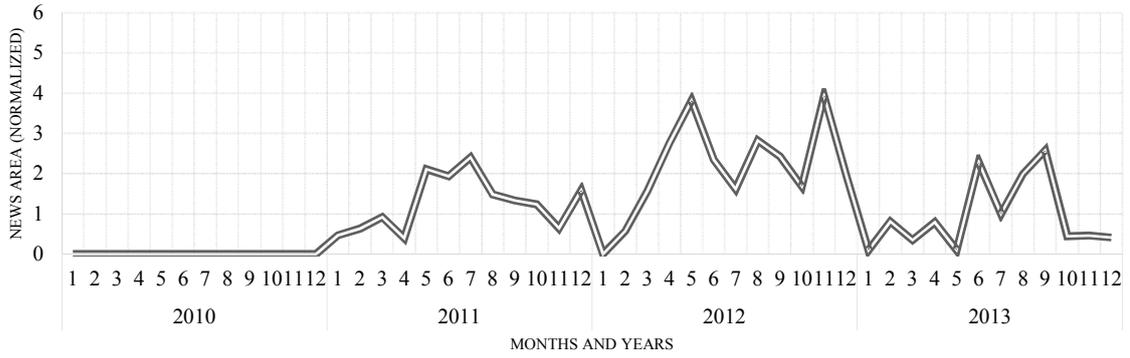
Booth and Seligson (2009) show that perceptions of corruption are strongly and negatively related to regime legitimacy. One way to measure this is by studying the legitimacy of the motivations that lead citizens to trust or to distrust the judicial system. We expect that there is a negative impact of “bad” news on corruption on trust in the judicial system.

Figure 3.3 Evolution of “Bad” News on Corruption

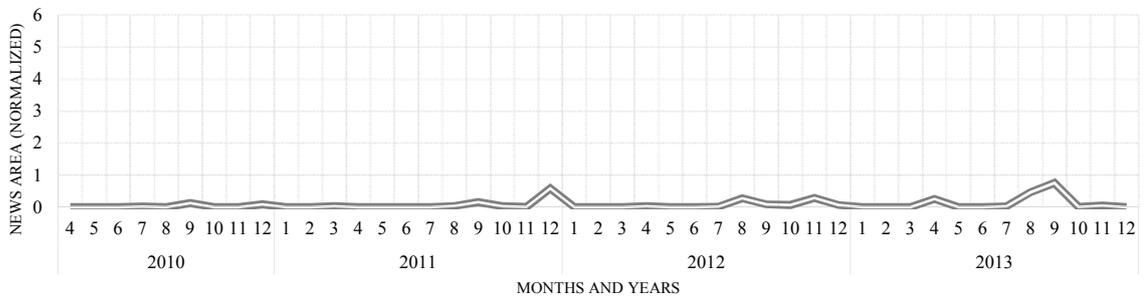
It the states of São Paulo, Rio de Janeiro, Pernambuco, Distrito Federal, Minas Gerais, and Rio Grande do Sul. The graphs show the volume of “bad” news on corruption in the period analyzed.



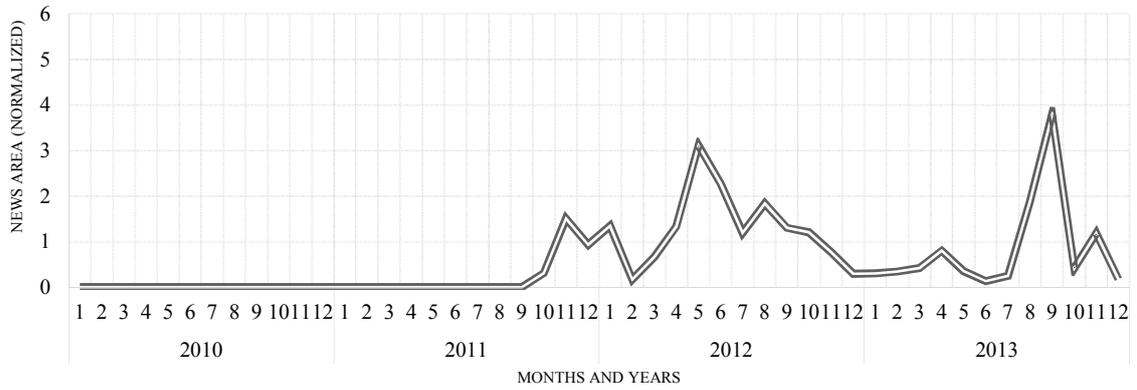
RIO DE JANEIRO - BAD NEWS



PERNAMBUCO - BAD NEWS



DISTRITO FEDERAL - BAD NEWS



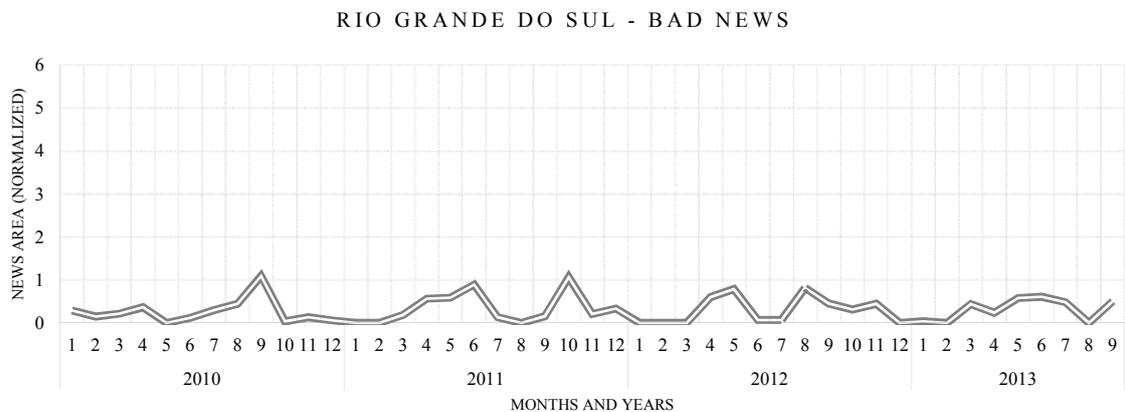
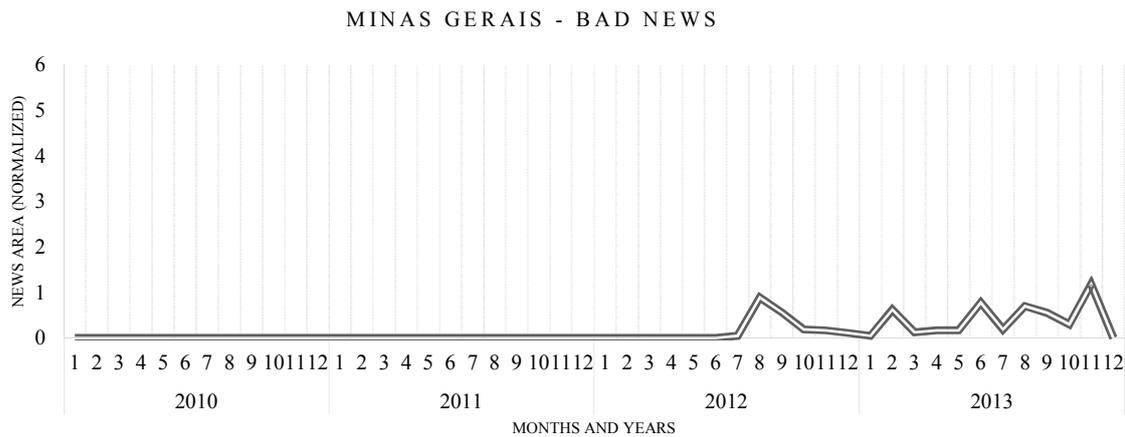


Table 3.6 displays descriptive statistics relative to “good and “bad” news. It shows that the mean for “bad” news is greater than that of “good” news on corruption. There are 2,251 news in our front-page dataset, of which 568 are “good” news items and 1,683 are “bad” news items. In addition, there is a difference between the volumes of news among the states. São Paulo has the highest number of corruption news, possibly because the biggest newspaper in Brazil (the “Estado de São Paulo”) is based there. The number of “good” news items in São Paulo newspapers is 214, versus 801 “bad” news items. However, some news are not just local news, but instead news at the national level; we can mention for example the aforementioned “mensalão” scandal. In addition to São Paulo, the newspapers based in Rio de Janeiro and in the Distrito Federal also report a large number of news items on corruption. The per month means of “good” news are 0.43, 0.62, and 0.62 for each state, respectively. On the other hand, the per month means of “bad” news are 1.22, 1.44, and 1.05, respectively.

Table 3.6 Descriptive Statistics for Good and Bad News on corruption

Descriptive statistics for “good” news on corruption, reported by newspaper front pages during the period 2010-2013 in the following states: Minas Gerais, Pernambuco, Rio Grande do Sul, Rio de Janeiro, São Paulo and the Distrito Federal.

Panel A. "Good" News on Corruption						
	Obs. (#)	Mean	Median	Std. Dev.	Min.	Max.
São Paulo	214	0.43	0.14	0.63	0.00	2.17
Rio de Janeiro	118	0.62	0.35	0.87	0.00	3.51
Pernambuco	33	0.11	0.00	0.23	0.00	1.06
Distrito Federal	113	0.62	0.50	0.78	0.00	3.45
Minas Gerais	47	0.25	0.06	0.29	0.00	0.75
Rio Grande do Sul	43	0.14	0.00	0.29	0.00	1.30
Panel B. "Bad" News on Corruption						
São Paulo	801	1.22	0.74	1.16	0.19	5.00
Rio de Janeiro	359	1.44	1.41	1.03	0.00	3.93
Pernambuco	41	0.08	0.00	0.16	0.00	0.76
Distrito Federal	267	1.05	0.80	0.92	0.14	3.79
Minas Gerais	86	0.38	0.19	0.34	0.01	1.19
Rio Grande do Sul	129	0.31	0.22	0.30	0.00	1.09

3.4 Empirical Approach

3.4.1 Identification Strategy

To address the endogeneity issue, similarly to Di Tella and Franceschelli (2011), we constructed measures of corruption using newspaper reports on government corruption during the period 2010-2013 in the states of Minas Gerais, Pernambuco, Rio Grande do Sul, Rio de Janeiro, São Paulo, and the Distrito Federal. We used the instrumental variable approach to examine how trust in the judicial system affects the use of the courts; the instrument used was front-page coverage of corruption. Trust in the judicial system (as measured by the BCJI) is the instrumentalized variable. If the part of the BCJI that is due to news on corruption (or to the lack thereof) predicts higher level of use of the judiciary, then this cannot reflect signaling or endogeneity. This is the reason why we chose news on corruption as the instrument for the BCJI.

In other words, to find a causal effect we must have that the only way that the news on corruption can affect the use of judiciary is through the channel of affecting the level of trust in the judicial system. Our argument is that the news does not directly affect the use of the judiciary, because they relate to institutional problems that are distant from the particular specific of the respondents. However, these news may affect the confidence of the respondents in public institutions in general and in the judicial system in particular. Thus, our

exogeneity hypothesis is that news on corruption affects the use of the judiciary *only* through trust in the judicial system.

One particularity of using an instrumental variable approach is that our results must be interpreted as local estimators (Angrist & Pischke, 2009). That is, under the hypothesis we described above we are estimating the causal effect of trust in the judicial system on use of judiciary *only for the population subsample whose trust in the judicial system is affected somehow by the news on corruption*.

3.4.2 Econometric Specification

We next want to test whether the use of the judiciary is affected by changes in the level of trust in the judicial system. Ideally, we would like to measure the impact of trust in the judicial system on the use of the judiciary. However, doing this with absolute precision is impossible (Holland, 1986), because even if we run an OLS regression of use of the judiciary on trust in the judicial system we would not obtain an unbiased estimator; there is the classic problem of ‘simultaneity bias’ (Wooldridge, 2010).

This bias comes from the fact that respondents’ perceptions of the trust in the judicial system might drive their propensity to use the judiciary, but just as plausibly the inverse might be true: individuals who lack propensity to use the judiciary might, as a result, express low levels of trust in the judicial system.

As OLS incurs in biased estimators, we ran Two Stage Least Square Regression (2SLS), as defined in Hayashi (2000), using news on corruption as the instrument for trust in the judicial system. We argue that news reports are correlated to trust in the judicial system but not correlated to the error term in the regression that explains the use of the judiciary.

The estimation can be described in two stages:

$$BCJI_{i,t} = \beta_0 + \beta_1 \text{News of Corruption}_{i,t} + \boldsymbol{\beta}' \mathbf{x}'_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$\text{Utilization of Judiciary}_{i,t} = \delta_0 + \delta_1 \widehat{BCJI}_{i,t} + \boldsymbol{\delta}' \mathbf{x}'_{i,t} + \eta_{i,t} \quad (2),$$

Where equation (1) is the first stage **distributed by the states**, equation (2) is the second stage, and $\widehat{BCJI}_{i,t}$ the predict values of equation (1). Here δ_1 is the coefficient that measures

the relationship between the use of the judiciary and trust in the judicial system which we want to test and $x'_{i,t}$ is the vector of covariates that we use as control variables on regressions.

The control variables are trust in the federal government, income, gender, race, age, schooling years, knowledge of the justice system, state, and quarter dummies.

We control for trust in the federal government because respondent's general feelings toward government may exert influence over social trust (Brehm and Rahn, 1997). Given that our data is clustered by states, any effect arising from state-level clustering can be corrected by way of robust standard errors.

3.5 Empirical Results

Table 3.7 presents the results related to trust in the judicial system and use of the judiciary. In column (1) the dependent variable is the use of the judiciary; it is a binary variable that takes value 1 if the respondent has already had previous experience with the judiciary, and 0 otherwise. In column (2) we use the same specification, but now the dependent variable considers only cases where people voluntarily sought the courts. Thus, cases in which people had to go to court by necessity were disregarded. Examples of such cases include contested divorces; personal interdictions; health- and disability-related retirement requests; burglaries; property embargoes; fatal car accidents; evictions; litigious dissolutions of companies; contestation of certificates; and document rectification.

In columns (1) and (2) we use “bad” news on corruption as the instrument. We use also the Brazilian Confidence in Justice Index (BCJI) as our trust measure. The results show that trust in the judicial system has a positive impact on the use of the judiciary. In column (1) the result is statistically significant at the 1% level. In column (2), where we use only the cases in which people sought the judicial system by option, the result is statistically significant at the 5% level. The advantage of column (2) is that the dependent variable is a more clear-cut measure of demands for services offered by the judiciary, because we consider only cases where people voluntarily sought the courts. The results for the first stage are also statistically significant at the 5% level.

In columns (3) and (4) we performed the same tests using “good” news about corruption as the instrument. In column (3) the result is statistically significant, but in column (4) it is not. Although the negative results of “good” news in the first stage has an unexpected sign, it is important to note that “good” and “bad” news on corruption are sometimes overlapping. That

is, a newspaper may report “good” and “bad” news on corruption on the same day. The negative result of the variable “good” news on corruption may be related to the volume of “bad” news that appeared in the same period. [Table 3.6](#) shows that the volume of “bad” news on corruption is greater than that of “good” news. The average volume for bad news is 0.75, versus 0.36 for “good” news. Column (3), however, does show that there is a positive relationship between trust in the judicial system and use of the judiciary.

In columns (5) and (6) we use “bad” and “good” news on corruption as the instrument. Although in column (5) the result is statistically significant at the 1% level, in column (6), where we use only the cases in which people voluntarily sought the judicial system, the result is statistically significant at the 10% level. This difference might be explained by the smaller number of people who voluntarily seek the judiciary. In our sample, 52% of respondents had experience with the judiciary, and among these 41% used the judiciary voluntarily.

Finally, we used the balance of “bad” news minus “good” news on corruption as the instrument, but we do not report these results in [Table 5](#) because they were not statistically significant; this is due perhaps to the overlap over time between “good” and “bad” news.

We have thus been able to lay out evidence for the positive impact of trust in the judicial system on the use of the judiciary using corruption-related news stories as the instrument. We can then now review of the analytical implications of these findings. For instance, if the trust in the judicial system increases about one unit then the probability of using the judiciary increases by 45 basis points (with significance at the 1% level). The result was similar when we use only the cases in which people voluntarily sought (column 2). However, the magnitude of the coefficient in column (2) was lower (26 basis points), probably because we excluded cases in which people were forced to use the judiciary.

Our study may contribute to the literature addressing the relationship between previous experience with the judicial system and trust in public institutions. It is particularly relevant for Brazil because it shows that people who trust more the judicial system tend to seek it more often. We find similar results when we use “bad” and “good” news coverage of corruption as the instrument. In that case, if trust in the judicial system increases by about one unit then the probability of using the judiciary increases by 20 basis points (with significance at the 1% level).

Similarly to Chapter 2, we find also a positive relationship between trust in the judicial system and use of the judiciary for some economic and demographic variables such as income, education, age, and race. For example, although black persons have lower levels of confidence in the judicial system than non-blacks, they are more likely to use the judiciary to resolve conflicts. The results for women, by contrast, are different than those presented in Chapter 2. Our estimates indicate that women are less likely to use the judiciary than men. This result is statistically significant only when we consider cases where people voluntarily sought the courts. This difference may be explained in part by the fact in this chapter we are analyzing the impact of confidence in the judicial system on the demand for services rendered by the judiciary relying on data collected from respondents who have had experience with the judicial system, whereas the results presented in Chapter 2 tested the respondents' reactions to a set of hypothetical situations aimed at measuring the propensity to demand judicial services.

As a robustness check, we eliminated all of the news on corruption that relate to other institutions but **not** to the judiciary, such as news related to the federal police. We thus present news on corruption that relates *only* to the judiciary. Even though our results are somewhat weakened, the results on the trust in the judicial system remain qualitatively the same. Appendix A.3.1 and Appendix A.3.2 present details regarding these results. We note that if the trust in the judicial system increases by one unit then the probability of using the judiciary increases by 29 basis points (with significance at the 5% level).

Table 3.7 - 2SLS Regressions for Utilization of the Judiciary

In column (1) the dependent variable is the use of the judiciary. In column (2) we use the same specification, but now the dependent variable considers only cases where people voluntarily sought the courts. In columns (1) and (2) we use “bad” news on corruption as the instrument. In columns (3) and (4) we performed the same tests using “good” news on corruption as the instrument. Finally, we use “bad” and “good” news on corruption as the instruments in columns (5) and (6). We use also the Brazilian Confidence in Justice Index (BCJI) as our trust measure. Our control variables used in the first stage are news on corruption, trust in the federal government, income, gender, race, age, schooling years, knowledge of the justice system, state, and quarter dummies.

	Total (1)	By Option (2)	Total (3)	By Option (4)	Total (5)	By Option (6)
BCJI	0.4571*** (2.76)	0.2603** (2.29)	0.1253** (2.10)	0.0621 (1.53)	0.2046*** (4.25)	0.0133* (1.88)
Trust in the Federal Government	-0.3959*** (-3.02)	-0.2367*** (-2.88)	-0.1299** (-2.57)	-0.0238 (-0.55)	-0.1932*** (-4.52)	-0.0385 (-0.65)
Female	0.0146 (0.75)	-0.0360*** (-2.80)	-0.0094 (-0.82)	-0.0579*** (-6.33)	-0.0044 (-0.35)	-0.0546*** (-5.62)
Black	0.0452** (2.49)	0.0338** (2.37)	0.0322*** (6.60)	0.0212*** (2.84)	0.0379*** (4.66)	0.0266** (2.24)
Age	0.0258*** (13.57)	0.0196*** (8.47)	0.0195*** (15.56)	0.0133*** (7.17)	0.0212*** (14.20)	0.0151*** (6.02)
Age Squared	-0.0002*** (-20.30)	-0.0002*** (-10.30)	-0.0002*** (-12.91)	-0.0001*** (-7.12)	-0.0002*** (-12.48)	-0.0001*** (-6.55)
1 to 4 Minimum Wages	-0.0030 (-0.17)	0.0136 (0.95)	0.0056 (0.64)	0.0227*** (4.83)	0.0066 (0.62)	0.0229*** (3.62)
4 to 8 Minimum Wages	0.0487** (2.30)	0.0614*** (4.99)	0.0573*** (4.48)	0.0714*** (9.02)	0.0567*** (4.46)	0.0692*** (12.79)
More than 8 Minimum Wages	0.0520*** (2.62)	0.0905*** (4.88)	0.0669*** (4.62)	0.1074*** (7.63)	0.0654*** (4.51)	0.1037*** (7.56)
Schooling years	0.0070*** (7.31)	0.0092*** (4.43)	0.0097*** (6.13)	0.0116*** (4.84)	0.0090*** (5.52)	0.0112*** (4.31)
Knowledge of the Judiciary	-0.0495 (-1.00)	-0.0148 (-0.60)	0.0232 (1.20)	0.0544*** (5.13)	0.0065 (0.36)	0.0399*** (3.60)
R-squared	0.0539	0.0421	0.0387	0.0315	0.0493	0.0485
Observations	13,413	13,413	13,413	13,413	13,413	13,413
First Stage IV Results						
Bad News	-0.0321** (-2.13)	-0.0321** (-2.13)			-0.0255** (-2.05)	-0.0255** (-2.05)
Good News			-0.0225*** (-2.76)	-0.0225*** (-2.76)	-0.0189** (-2.61)	-0.0189** (-2.61)
F - Statistic:	14.56**	14.56**	13.95**	13.95**	15.69***	15.69***

Notes: *, **, and *** respectively indicate significance levels at the 10%, 5%, and 1% levels. Significant results (at 10% level or better) are in **boldface**.

One problem in describing public trust in the judicial system is that it is a multifaceted phenomenon. We used two measures of trust in the judicial system in order to give more robustness to our results. [Table 3.7](#) presents the results using the BCJI as our trust measure. [Table 3.8](#) displays similar results but uses the aforementioned questions about trust in the judicial system instead of the Brazilian Confidence Justice Index (BCJI). The results reinforce

our previous findings that trust in the judicial system has a positive impact on use of the courts. In both columns (1) and (2) the parameters are statistically significant at the 1% level. The results for the first stage are also statistically significant. We also can observe that “bad” news on corruption have a negative relationship with trust in the judicial system in the first stage.

In column (3) the estimated values are also statistically significant, but in column (4) they are not. We again find a negative impact of variable “good” news on corruption on trust in the judicial system in the first stage. Finally, we examine the impact of trust in the judicial system on the use of the judiciary using as instruments the volumes of “bad” and “good” news on corruption. Although in column (5) the result is statistically significant at the 1% level, in column (6), where we use only the cases in which people voluntarily sought to judicial system, the result is statistically significant at the 10% level. Once again this difference may be related to the lower number of people who voluntarily seek the judiciary.

The results using news on corruption as the instrumental variable can be explained on two factors. First, the judicial system is one of a very few options that people have to resolve their disputes, so that trust in the judicial system should have a marginal effect on the likelihood of using the judiciary. Second, news reports relate to events with which people are not necessarily connected to or familiarized with, such as news on corruption. People do have firm opinions on public services even before having used these services. This perception can grow out of for the information transmitted by the media as well as by what the public knows about a given service. Despite these caveats, our study contributes to the literature by revealing the positive impact of trust in the judicial system on the likelihood of using the judiciary. It is important to emphasize that, under the set of hypotheses just described above, we are estimating a causal effect of trust in the judicial system on effective demand for the judiciary’s services only for the population subsample whose trust in the judicial system is somehow affected by the news on corruption.

Table 3.8 - 2SLS Regressions for Utilization of the Judiciary

In column (1) the dependent variable is the use of the judiciary. In column (2) we use the same specification, but now the dependent variable considers only cases where people sought the courts by option. In columns (1) and (2) we use “bad” news on corruption as the instrument. In columns (3) and (4) we performed the same tests using “good” news on corruption as the instrument. Finally, we use “bad” and “good” news on corruption as the instruments in columns (5) and (6). We use the question of trust in the judicial system instead the Brazilian Confidence Justice Index (BCJI) as our trust measure. Our control variables used in the first stage are news on corruption, trust in the federal government, income, gender, race, age, schooling years, knowledge of the justice system, state, and quarter dummies.

	Total (1)	By Option (2)	Total (3)	By Option (4)	Total (5)	By Option (6)
Trust in the Judicial System	0.1723*** (3.06)	0.0982*** (3.66)	0.0489** (2.04)	0.0244 (0.93)	0.0779*** (3.47)	0.0540* (1.92)
Trust in the Federal Government	-0.2322*** (-3.55)	-0.1435*** (-6.15)	-0.0862*** (-3.20)	0.0026 (0.08)	-0.1208*** (-4.83)	-0.0341 (-1.06)
Female	-0.0112 (-1.05)	-0.0507*** (-7.05)	-0.0164** (-2.00)	-0.0545*** (-8.07)	-0.0160* (-1.82)	-0.0554*** (-8.02)
Black	0.0538*** (8.52)	0.0387*** (3.21)	0.0345*** (4.93)	0.0199** (2.07)	0.0418*** (10.05)	0.0268** (2.19)
Age	0.0201*** (12.10)	0.0163*** (8.16)	0.0178*** (12.59)	0.0141*** (8.26)	0.0187*** (10.68)	0.0149*** (7.23)
Age Squared	-0.0002*** (-11.07)	-0.0002*** (-7.83)	-0.0002*** (-10.94)	-0.0001*** (-7.30)	-0.0002*** (-9.80)	-0.0001*** (-6.80)
1 to 4 Minimum Wages	-0.0053 (-0.61)	0.0123 (1.32)	0.0035 (0.46)	0.0239*** (4.55)	0.0055 (0.73)	0.0229*** (3.84)
4 to 8 Minimum Wages	0.0536*** (4.98)	0.0641*** (11.61)	0.0570*** (4.32)	0.0715*** (10.10)	0.0588*** (4.95)	0.0693*** (12.70)
More than 8 Minimum Wages	0.0548*** (5.03)	0.0922*** (6.62)	0.0663*** (4.57)	0.1077*** (7.77)	0.0666*** (4.65)	0.1037*** (7.50)
Schooling Years	0.0028 (1.53)	0.0068*** (3.86)	0.0084*** (6.68)	0.0123*** (4.01)	0.0071*** (6.20)	0.0110*** (3.55)
Knowledge of the Judiciary	0.0012 (0.06)	0.0141 (1.23)	0.0352*** (3.13)	0.0486*** (4.76)	0.0290*** (2.83)	0.0414*** (6.50)
R-squared	0.0754	0.0685	0.0647	0.0588	0.0827	0.0814
Observations	13,413	13,413	13,413	13,413	13,413	13,413
First Stage IV Results						
Bad News	-0.0621** (-2.09)	-0.0621** (-2.09)			-0.0556* (-1.98)	-0.0556* (-1.98)
Good News			-0.0575** (-2.13)	-0.0575** (-2.13)	-0.0494** (-2.06)	-0.0494** (-2.06)
F - Statistic:	14.87**	14.87**	14.53**	14.53**	16.35**	16.35**

Notes: *, **, and *** respectively indicate significance levels at the 10%, 5%, and 1% levels. Significant results (at 10% level or better) are in **boldface**.

3.6 Conclusion

Although there is a vast literature relating trust in the judicial system and the demand for its public services, there is a gap on the relationship between these two variables. The purpose of

this study was to examine this causal relationship. To address this problem, we built the Brazilian Confidence in Justice Index (BCJI) as our trust measure and front-page news coverage of corruption as the instrumental variable. We constructed measures of the extent to which the main newspapers report government corruption in their front page during the period 2010-2013 in the following states: Minas Gerais, Pernambuco, Rio Grande do Sul, Rio de Janeiro, São Paulo, and the Distrito Federal.

We found that trust in the judicial system has a positive impact on the use of the judiciary. Individuals who have higher levels of trust in the judicial system have a greater probability to use its services. We also found that there is a statistically significant relationship between trust in the judicial system and use of the judiciary for some demographic variables such as income, education, age and race. Furthermore, we performed the same tests using the question of trust in the judicial system instead of the BCJI index. The results were similar.

A possible explanation for these results is the fact that the judicial system is one of the very few alternatives that people have to resolve their disputes, so that trust in the judicial system should have a marginal effect on propensity to use the judiciary. Our results have important implications for trust in the judicial system and the use of the judiciary. Efforts to improve the drivers of trust in the judicial system are therefore highly desirable. In order to assess the influence of other aspects on the use of the judiciary, more precise estimates and measures of institutional trust are needed.

4. DOES THE CONCERN ABOUT LOCAL CRIME AFFECT TRUST IN THE POLICE?

4.1 Introduction

The police is the state's first-line representative with respect to citizens. Hence its legitimacy amongst the latter is of paramount importance in maintaining social order. Determining what determines citizens' motives for trusting or not trusting the police constitutes, therefore, a highly relevant subject in terms of public policy. Potential risk factors for violence encompass conditions at various levels: individual, family, community, and society at large.

Generally speaking, emerging countries are poorer than developed countries and also have large populations of young men. Leaving all other factors aside, these features are associated with higher crime rates than those found in developed countries. Becker (1968) models the objective function of an offender having as inputs the return on committing the crime, the probability of receiving punishment, and the severity of the punishment itself. It is therefore important to measure the determinants of trust in police, since this could create a variety of incentives related to obeying the law.

A brief review of the literature on the subject reveals an empirical ambiguity regarding the causal relationship between concern about local crime and trust in police. Some studies adopt the level of trust in the police as the dependent variable, and are therefore subject to influences by local conditions such as crime rates. These studies argue that people hold police accountable for local crime, disorder, and lack of public safety (Reisig and Parks, 2000; Sampson and Jeglum-Bartusch, 1998). Other studies have examined crime rates as being determined, in part, by the extent of trust in the police (Povey, 2001; Reisig and Parks, 2004).

Our work reverses causation, treating crime rates as a dependent variable and examining its impact on trust in the police. This causal ordering is present in several studies that conclude that where residents perceive higher crime rates, and where fear of crime is high, trust in the police is consequently lower. Communities whose residents believe, for instance, that their neighborhood is afflicted by drug dealing and gangs are less likely to trust the police (Jesilow, Meyer, and Namazzi, 1995).

Although public assessments of police have become the chief concern of a substantial amount of research, only a small set of studies has analyzed public trust in development countries.

This study analyzes the relationship between concern about local crime and trust in the police in the Brazilian setting and thus seeks to contribute to the literature by examining whether regions that have higher crime rates have lower trust in the police.

The application of this analysis to the state of São Paulo offers other possibilities. Poverty in Brazilian metropolitan regions like São Paulo is rampant and has a multidimensional character in terms of public services, access to education, and income. Additionally, Brazil has a peculiar public security system in that its police forces are subdivided into two classes: civil and military. The military police is more overt -- it carries out most on-the-ground operations -- whereas the civil police plays a more investigative role. This model tends to produce different perceptions by the population. Another of our contributions is to separately analyze different types of crimes, such as property-violating crimes, life-threatening crimes, drug dealing, and sexual offenses, each of which affects the population's trust in the police in a distinct manner. This study is therefore relevant to establishing some explanations for public perceptions about the police. Understanding the population's views on the trustworthiness of the police may help the police managers to improve public participation in crime prevention programs as well as broader police-community relations in Brazil.

We use data collected by the Trust in Justice Survey conducted by São Paulo Law School of Getulio Vargas Foundation along 2013 and 2014. To address the problem of simultaneity bias due to the correlation between trust on police and crime rates, we apply a Two Least Square approach using as the instrumental variable the distance of each respondent to their closest police station.

Our results show that an increase of 1% on total crime per capita rate reduces trust on the police by about 450 basis points. This impact is even more dramatic in the special cases of rape and drug dealing. It is only significant, however, for black persons and for people who have never had previous experience with the police.

This Chapter is organized as follows: Section 4.2 discusses the empirical literature related to crime and trust on police and shows the institutional background of police work in Brazil; Section 4.3 describes our database; Section 4.4 describes our methodology and the identification strategy; Section 4.5 displays our main results; Section 4.6 opens a discussion about some subsamples of interest; and finally Section 4.7 concludes the discussion.

4.2 Literature Review

4.2.1 Does Concern about Crime Affect Trust in the Police?

In this study we analyze the impact of crime rates on trust in the police. Citizen evaluations of the police are a critical issue for police administrators during the information technology era, as locality-based crime prevention and fighting strategies become integral parts of a new policing model mainly driven by data and technology (Rosenbaum, 2007). Jesilow, Meyer and Namazzi (1995) show that communities whose residents believe, for instance, that their neighborhood is afflicted by drug dealing and gangs are more likely to be critical of the police than residents of other areas. The same is true for those who believe that crime is a serious problem in their neighborhood (Weitzer and Tuch, 2004a, 2004b; Weitzer, Tuch and Skogan, 2008) and for those who report that a violent crime occurred in their neighborhood in the past year (Weitzer and Tuch, 2002).

Our study is very similar in that it has adopted the accountability model. We embed survey respondents in their neighborhood context, which includes crime rates. Sampson and Jeglum-Bartusch (1998) and Reisig and Parks (2000) both show that variations in neighborhood homicide rates are related to differences in assessments of the police. Their results are robust even when controlling for important neighborhood characteristics such as poverty and also for individual factors like race and previous experience with police. In this study our independent variables are different: we use life-threatening crimes, property-violation crimes, drug traffic and sexual offenses. The homicide rate, for example, is included in the life-threatening crime category. The idea is to analyze the difference between these variables in terms of their importance for trust in the police.

Sampson and Jeglum-Bartusch (1998) show that cynicism about the law and dissatisfaction with the police are a routine part of life in places that have high crime rates. People living in such areas are rooted in experiential differences associated with their neighborhood context. There is a theoretical school that consists of variations on the claim that people hold the police directly or indirectly responsible for neighborhood conditions. According to this approach, social conditions, including fear and helplessness, are important variables in explaining the trust or the distrust in the police. Consistent with this view, Xu, Fiedler and Flaming (2005) conclude that fear undermines satisfaction with police. From their standpoint, fearful people, who disproportionately live in high crime, disorderly, low-quality-of-life neighborhoods, believe their neighborhoods are unsafe because the police are unable or unwilling to help them.

High levels of social disorder signal to residents that law enforcement has lost its grip and that police protection is not to be trusted (Ren; Cao; Lovrich; Gaffney, 2005). Reisig and Parks (2000) and Velez (2001) show that residents of higher crime areas are more likely to report that officers perform poorly in maintaining order and fighting crime, that the police treat crime victims unsatisfactorily, and that the police are unresponsive to local issues.

Likewise, our study analyzes whether the public's perception of trust in the police changes when the crime rates change. There is the problem of a potential endogeneity between trust in the police and crime rates. Simultaneity issues are also likely to be present because people who have lower levels of trust in the police may disobey the law more often than other people. Respondents under such conditions may be naturally averse to the police. To put it another way, respondents whose neighborhoods are afflicted by drug dealing and gangs are more likely to distrust the police. We will treat this problem via an instrumental variable approach, to be presented and discussed in the next section.

4.2.2 Institutional Background

In Brazil there are three police jurisdictions: Federal, Civil and Military. The Federal Police is a judicial force charged with investigating all crimes that may interest the federal government. Their responsibilities are mainly investigative, namely: illegal international drugs and arms trade, terrorism, human smuggling, and any other crimes directed against the federal government or federal officers; their role is analogous to that of the US Federal Bureau of Investigation. Apart from typical criminal investigation works, the Federal Police Department also has many administrative police tasks, acting in particular as the chief Brazilian immigration authority. It additionally oversees the National Arms Control System (SINARM) and represents the National Central Authority as the liaison between Brazil and Interpol.

The Civil Police is the investigative state-level police force. Each of the 26 Brazilian states has its own Civil Police department, as does the Distrito Federal. Its role is to carry out detective work, forensics, and criminal investigation; it acts as a state bureau of investigation. Its main responsibilities are criminal investigation, vehicle registrations, support to judicial system, and issuance of the national identification card and of driver licenses. The Military Police also is subdivided by states. Deployed solely to act as a deterrent against criminal acts, they do not conduct criminal investigations. Their main responsibilities are uniformed patrol and crime prevention work, as well as civilian emergencies, which are dealt with by the

Military Fire Fighters. The state Military Police Forces evolved from the former State Public Forces, and were originally inspired by the U.S. National Guards as actual Army Units designed for territorial defense. The Military Police are charged with investigating their own members' criminal misdeeds in cases subject both to the Civilian or to the Military Criminal Courts.

4.3 Data

Our database covers the quarterly Trust in Justice Survey conducted along 2013 and 2014 by the Getulio Vargas Foundation. These surveys were obtained via telephone calls over a period of twenty-one months. The population of the survey is constituted by persons who live in São Paulo state. Each respondent is an individual who represents a selected household, is of any gender and is over 18 years old. Our sample consists of 721 respondents in 2013 and 284 respondents in 2014.

The question on trust in the police admits four response categories: 1 = not at all confident, 2 = not very confident, 3 = fairly confident, and 4 = very confident. The trust in the police variable is a dummy which takes value one when the response is very confident or fairly confident, and zero otherwise. We created a dummy variable that takes value one when respondent i responds 3 or 4, and zero otherwise.

We use five per capita crime-related variables, namely total crimes, life-threatening crimes, property-violation crimes, drug trafficking, and sexual offenses. Life-threatening crimes include homicide, robbery, kidnapping, and physical aggression. Property-violation crimes include robbery and theft. For each category, we have the per month number of crimes reported by police departments in the state of São Paulo from 2013 to 2014.

Our data on crime numbers come from the São Paulo Public Security Secretary (*Secretaria de Segurança Pública do Estado de São Paulo*) and only reflect reported crimes and victim information such as intentional homicide, rapes, drug trafficking, and armed robbery. Victim statistics are probably the most reliable source for violence-related data in São Paulo, because the São Paulo state law enforcement agencies compile of statistics for these types of crime. The police departments are heterogeneous in terms of size. Because of this, we constructed the per capita crimes variables using populations from sector censuses of the police stations in São Paulo.

Table 4.1 describes the main characteristics of per capita crime variables, our trust in police variables, and distance to police stations. As can be seen, 32% of respondents declare that they trust the police, and the average number of per capita total registered crimes is 0.37. The most common type of crime are property-violation crimes, with a rate of 0.297.

Table 4.1 Descriptive Statistics for Trust and Crime Variables

	Full Sample	Previous Experience with the Police		Good Previous Experience with the Police		Race	
		Yes	No	Yes	No	Blacks	Non-Blacks
Trust in the Police	0.320 (0.467)	0.315 (0.465)	0.324 (0.468)	0.336 (0.473)	0.252 (0.435)	0.235 (0.425)	0.383 (0.486)
Per capita Crimes							
Total	0.379 (0.726)	0.365 (0.758)	0.389 (0.703)	0.372 (0.94)	0.377 (0.352)	0.386 (0.353)	0.374 (0.907)
Property-Violating Crimes	0.297 (0.628)	0.286 (0.654)	0.306 (0.608)	0.292 (0.812)	0.298 (0.299)	0.303 (0.298)	0.293 (0.786)
Life-threatening Crimes	0.070 (0.09)	0.068 (0.094)	0.071 (0.088)	0.068 (0.111)	0.068 (0.06)	0.071 (0.059)	0.070 (0.108)
Drug Traffic	0.003 (0.005)	0.003 (0.005)	0.003 (0.005)	0.003 (0.006)	0.003 (0.003)	0.003 (0.004)	0.003 (0.006)
Sexual Offenses	0.009 (0.017)	0.009 (0.018)	0.009 (0.016)	0.009 (0.021)	0.008 (0.012)	0.009 (0.012)	0.009 (0.02)
Total Respondents	1005	422	583	253	169	425	580

Notes: 1) Data on trust on police come from the Brazilian Confidence in Justice Survey coordinated by Getulio Vargas Foundation, with 1005 respondents. 2) The upper lines on table show the sample average of each variable. The lower lines report the standard deviation and the bottom line shows the number of observations. 3) 'Per capita' means that we divided the number of crimes registered at the police departments by the 2010 total population of its Sector Census. 4) By 'Crimes in the Neighborhood' we mean the average per capita crimes of the two closest police stations excluding the nearest one. This average is weighted by the distance of each police station to each individual.

Table 4.2 details the variables that control for individual heterogeneity.

Table 4.2 - Definitions for the Principal Variables

Woman	Dummy variable that takes value one when the respondent is female, and zero otherwise;
Black	Dummy variable that takes value one when the respondent is black, and zero otherwise;
0 to 1 Minimum Wages	Dummy variable that takes value one when the respondent's salary is from 0 to 1 minimum wages, and zero otherwise;
1 to 4 Minimum Wages	Dummy variable that takes value one when the respondent's salary is from 1 to 4 minimum wages, and zero otherwise;
4 to 8 Minimum Wages	Dummy variable that takes value one when the respondent's salary is from 4 to 8 minimum wages, and zero otherwise;
8 Minimum Wages	Dummy variable that takes value one when the respondent's salary is higher than 8 minimum wages, and zero otherwise;
Formal Contract Work	Dummy variable that takes value one when the respondent has a formal job, and zero otherwise;
Occupied	Dummy variable that takes value one when the respondent has a formal or informal job, and zero otherwise;
Age	is the respondent's age in years;
Schooling Years	is the respondent's education in years;
Married	Dummy variable that takes value one when the respondent is married, and zero otherwise;
Had Previous Experience with the Police	Dummy variable that takes value one when the respondent called the police for help, and zero otherwise;
Positive View of Police Performance	Dummy variable that takes value one when the respondent that called the police for help was satisfied with the service provided, and zero otherwise;

Table 4.3 displays descriptive statistics for covariates. It shows that 42% of respondents have had previous experience with the police and that 25% among these think that the police had performed well. Of those who have had previous experience with the police, 54% are female and 48% are black. As for women who have had previous experience with the police, 53% of

them stated that the police had done a good job. However, only 45% of black persons who have had previous experience with the police stated that the police had performed well.

Our sample is similar to overall São Paulo demographic data in terms of gender and race. In our sample, 51% of respondents are female and 7% are black. According to the 2010 census the black share of the São Paulo population is 6% and the female share of the population is 52%. Households with monthly per capita income between 0 and 1 minimum wages account for 43% of households. For the São Paulo population as a whole this share is 42%. Households with monthly per capita income between 1 and 4 minimum wages account for 40% of population. In our sample the corresponding share is 38%.

Table 4.3 Descriptive Statistics for the Covariates

	Full Sample	Previous Experience with the Police		Good Previous Experience with the Police		Race	
		Yes	No	Yes	No	Blacks	Non-Blacks
Female	0.515 (0.5)	0.543 (0.499)	0.496 (0.5)	0.538 (0.5)	0.523 (0.501)	0.456 (0.499)	0.559 (0.497)
Black	0.075 (0.132)	0.487 (0.491)	0.521 (0.496)	0.458 (0.488)	0.562 (0.545)		
0 to 1 Minimum Wages	0.431 (0.213)	0.414 (0.166)	0.451 (0.241)	0.421 (0.186)	0.401 (0.14)	0.061 (0.24)	0.038 (0.191)
1 to 4 Minimum Wages	0.382 (0.5)	0.436 (0.496)	0.501 (0.5)	0.502 (0.501)	0.371 (0.485)	0.506 (0.501)	0.450 (0.498)
4 to 8 Minimum Wages	0.101 (0.462)	0.339 (0.474)	0.285 (0.452)	0.324 (0.469)	0.404 (0.492)	0.296 (0.457)	0.316 (0.465)
8 or more Minimum Wages	0.016 (0.331)	0.156 (0.364)	0.103 (0.304)	0.138 (0.346)	0.205 (0.405)	0.096 (0.296)	0.147 (0.354)
Formal Contract Work	0.322 (0.468)	0.351 (0.478)	0.302 (0.459)	0.364 (0.482)	0.364 (0.483)	0.341 (0.475)	0.309 (0.462)
Occupied	0.713 (0.452)	0.773 (0.42)	0.671 (0.47)	0.739 (0.44)	0.828 (0.379)	0.732 (0.444)	0.700 (0.459)
Age	41.755 (15.228)	39.969 (13.882)	43.048 (16.02)	40.826 (14.486)	38.470 (12.923)	38.671 (14.553)	44.016 (15.327)
Schooling Years	9.746 (3.735)	10.590 (3.394)	9.136 (3.852)	10.273 (3.515)	11.185 (3.153)	9.148 (3.452)	10.184 (3.873)
Married	0.550 (0.498)	0.536 (0.499)	0.561 (0.497)	0.510 (0.501)	0.550 (0.499)	0.506 (0.501)	0.583 (0.494)
Capital	0.260 (0.439)	0.230 (0.421)	0.281 (0.45)	0.206 (0.405)	0.298 (0.459)	0.344 (0.475)	0.198 (0.399)
Had Previous Experience with the Police	0.420 (0.494)					0.400 (0.49)	0.434 (0.496)
Positive View of Police Experience	0.252 (0.434)	0.600 (0.491)	0.400 (0.475)			0.231 (0.422)	0.267 (0.443)

Notes: 1) Data about trust on the police come from the Brazilian Confidence in Justice Survey coordinated by Getulio Vargas Foundation, with 1005 respondents. 2) The upper lines on the table are the sample averages for each variable. The bottom lines reports the standard deviation. 3) Wages are measured in terms of the 2014 Minimum Wage, which corresponds to 306 dollars.

4.4 Empirical Approach

4.4.1 Identification Strategy

There is a well-known debate about the roles of geography versus institutions in explaining the long-term development of countries. For example, Acemoglu, Johnson, and Robinson (2001) argue that geographic conditions, particularly high disease burdens, affected European settlement patterns, which in turn led to extractive institutions in non-settler economies and development-friendly institutions in settler economies. It is nevertheless worthwhile to

consider the institutions and the provision of public services at the micro level within a country, as this allows one to examine in detail what kind of institutions matter and moreover how they are viewed by society in terms of trust.

Geography can have an indirect effect on the levels of trust in institutions, including in the police department. Rodrik, Subramanian, and Trebbi (2002) show that the distance and the integration between geographic regions explain the emergence of some regional elites as well as the quality of some institutions. According to them regions that are distant from major economic centers tend to exhibit lower rates of economic and social development. They also show that geographically distant regions exhibit the greatest social inequalities and are the most socially vulnerable. Glaeser (2005) provides evidence that when inequality rises the returns to crime increase for the poor, because (1) victims become richer, and (2) the opportunity costs of crime decrease as the poor become poorer. He also shows that the rich tend to desire a legal system focused on protecting property while the poor tend to be more concerned with preventing interpersonal violence. These divergent goals diminish the societal willingness to invest in a mutually beneficial legal system. On the whole, poorer areas tend to have fewer public services when compared to less poor areas. Although this study does not analyze the effects of economic inequality, it does use the distance between the respondent's home and the nearest police department as an instrument for crime rate.

Some studies show that trust in the police is lower in places where residents perceive higher crime rates. Communities whose residents believe, for instance, that their neighborhood is afflicted by drug dealing and gangs are more likely than residents of other areas to be critical of the police (Jesilow; Meyer; and Namazzi, 1995). The same is true for those who believe that crime is a serious problem in their neighborhood (Weitzer and Tuch, 2004a, 2004b; Weitzer; Tuch; and Skogan, 2008) and for those who report that a violent crime occurred in their neighborhood in the past year (Weitzer and Tuch, 2002).

We use the euclidean distance from a respondent's home to the nearest police department as the instrumental variable for crime rates. In order to find a causal effect we must have that the only way the distance of an individual to the police station can affect trust in police is via the channel of affecting his or her neighborhood's crime rate.

Our argument is that the distance between the respondent's home and the nearest police department does not affect directly the trust in police, because the choice of where to live is

not directly associated with the level of trust that people have in police, but it is strongly related to household income. Thus, our exogeneity hypothesis is that the distance between the respondent's home and the nearest police department affects the trust in police only through crime rate.

One specificity found in the instrumental variable approach is that our results must be interpreted as local estimators (Angrist and Pischke, 2009). This means that, under the hypotheses described above, we are estimating the causal effect of crime rates changes on trust in police *only for the subsample of the population whose perceived crime rates in their neighborhood are somehow affected by distance to the police station*. Otherwise our estimators no longer would not infer a causal relationship.

4.4.2 Econometric Specification

In this study we test the hypothesis that trust in the police is affected by changes in crime rates. Assuming that different types of crimes can have distinct relationships to the populations' perception of safety, we run regressions for four kinds of crime life-threatening crimes, property-violation crimes, drug trafficking, and sexual offenses.

Ideally, our experiment would involve observing and comparing the same individual's trust in police in two distinct situations: one where he or she would be exposed to average crime rates, and another where he or she would have contact with a slightly higher crime rate. Given the impossibility of such a task (Holland, 1986), even if we ran an OLS regression of trust in police on crime rate we would not obtain an unbiased estimator due to the classic problem of 'bias of simultaneity' (Wooldridge, 2010). This problem consists of the fact that at the same time that changes in crime rates affects trust in the police, variations in trust in the police can change crime rates.

In order to understand the second relationship, assume that in a region where people trust less the police they are more likely to commit crimes. As OLS incurs in biased estimators, we ran Two Stage Least Square Regression (2SLS) as defined in Hayashi (2000). Our idea here was to find an instrumental variable that is at the same time correlated to crime rates but *not* correlated to the deviation term in the regression. We adopted the distance of the individual to the closest police station as the instrumental variable for crime rates. The estimation can be described in two stages:

$$\text{Per capita Crime Rate}_{i,t} = \beta_0 + \beta_1 \text{Distance to Pol. St.}_i + \boldsymbol{\beta}' \mathbf{x}'_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$\text{Confidence in the Police}_{i,t} = \pi_0 + \pi_1 \widehat{\text{Per capita Crimes Rates}}_{i,t} + \boldsymbol{\pi}' \mathbf{x}'_{i,t} + \sigma_{i,t} \quad (2)$$

where equation (1) represents the first stage and equation 2 the second stage, π_1 is the coefficient that measures the relationship between trust in police and crime rate that we want to test, and $\mathbf{x}'_{i,t}$ is a vector of covariates that we use as control variables on regressions. The control variables are income dummy, gender dummy, race dummy, marital status dummy, schooling years, formal contract status dummy, employment dummy, and quarter dummies.

4.5 Empirical Results

Table 4.4 presents Two Stage Least Square results as described by equations (1) and (2). We note that for all kinds of crimes an increase in crime rates is negatively related to trust in the police. For instance, if the total per capita crime increases about 1% then trust in the police decreases by 4.5 percentage points.

The effects of property-violation crime rate changes are quite similar to those of the total crime rate because, as pointed out on Table 4.1, most of total registered crimes relate to private property. In the same way, drug dealing and sexual offenses have a much greater impact on police trust because their statistical incidence is smaller. Increases in drug dealing and sexual offenses draw much more attention from public opinion than private property crimes.

Our evidence corroborates the existing literature that uses surveyed data to identify variables associated with citizen satisfaction relative police. Reported concerns about public trust and trust in the police rely on the assumption that trust shapes public cooperation. Measures of public satisfaction with the police are also important because perceptions of the police affect citizen cooperation (Weitzer, 1999). This result suggests that government should have the police engage in trust-building activities in order to increase public approval of its services.

Table 4.4 - 2SLS Regressions for Trust in the Police and Crime Rates Measures

	Total per Capita Crimes	Per Capita Private Property Crimes	Drug Traffic Incidence	Per Capita Homicides	Per capita Rape Incidence
π_1	-0.045* (-1.79)	-0.041* (-1.77)	-0.139* (-1.92)	-0.161* (-1.80)	-0.160* (-1.84)
Woman	-0.052 (-1.60)	-0.057 (-1.61)	-0.065* (-1.81)	-0.048 (-1.54)	-0.064* (-1.87)
Black	-0.131*** (-4.39)	-0.134*** (-4.20)	-0.115*** (-3.51)	-0.130*** (-4.10)	-0.119*** (-3.53)
0 to 1 Minimum Wages	-0.102 (-1.27)	-0.095 (-1.15)	-0.134 (-1.62)	-0.100 (-1.21)	-0.111 (-1.32)
1 to 4 Minimum Wages	-0.090* (-1.79)	-0.090* (-1.86)	-0.127** (-2.39)	-0.087* (-1.73)	-0.084* (-1.77)
4 to 8 Minimum Wages	-0.085* (-1.77)	-0.090* (-1.85)	-0.131** (-2.50)	-0.081* (-1.65)	-0.079 (-1.64)
Schooling years	-0.006 (-1.38)	-0.007 (-1.39)	-0.008 (-1.63)	-0.006 (-1.35)	-0.008 (-1.62)
Age	0.001 (1.26)	0.001 (0.96)	0.001 (1.18)	0.002 (1.44)	0.002 (1.59)
Married	-0.068** (-2.16)	-0.066** (-2.13)	-0.060* (-1.92)	-0.070** (-2.24)	-0.077** (-2.45)
Formal contract work	0.014 (0.41)	0.008 (0.24)	0.023 (0.66)	0.014 (0.40)	0.027 (0.77)
Occupied	-0.038 (-0.94)	-0.037 (-0.96)	-0.020 (-0.49)	-0.034 (-0.85)	-0.012 (-0.29)
Observations	956	956	956	956	956
R-squared	0.0369	0.0369	0.0369	0.0369	0.0369
First Stage Estimation					
Distance	-0.228*** (-15.78)	-0.251*** (-13.46)	-0.074*** (-5.98)	-0.167*** (-11.77)	-0.063*** (-8.59)
F - Statistic	31.63	26.16	11.15	15.74	12.72

Note: *, **, and *** respectively indicate significance levels at the 10%, 5%, and 1% levels. Significant results (at 10% level or better) are in **boldface**.

4.6 Discussion

4.6.1 Does Past Experience with the Police Have any Impact on Respondent Opinion?

Section 4.6 has shown a negative relationship between crime incidence and trust in the police. Important questions, however, arise regarding to what degree crime incidence can be attributed to police work, as well as what are the consequences of adding other variables, such as poverty, income inequality, size of young population, or law enforcement.

It is reasonable to assume that a large share of population has never personally demanded police service. This probably affects the population's perception of police responsiveness to crime. [Table 4.5](#) displays 2SLS estimates for the crime incidence effect on trust in police for

subgroups of people with (PANEL A) and without (PANEL B) past experience with the police. As can be seen in the first stage report, in all cases the instruments are quite strong and there are slightly fewer people who have used police services. The results of the second stage are quite interesting in that they show that, for the subgroup with prior experience with the police, rising crime incidence does *not* affect trust in the police. In contrast, people lacking past experience with police work do not have a statistically significant impact.

Yet more interesting, we have found that their coefficients are higher than those estimated for the entire sample. For those who have had not have a prior experience with the police, an increase in total crime of 1% decreases total crimes by 5.3 percentage points. This result suggests that people update their information set about police work once they have had a closer experience with police work. Apparently they tone down the responsibility ascribed to the police for crimes once they become more familiar with the institution's work.

Table 4.5 - 2SLS Regressions for Trust in the Police using Subsamples of People who Have Previous Experience with the Police

	Total Crimes	Private Property Crimes	Drug traffic Incidence	Life Crimes	Rape Incidence
PANEL A: Using people who have had previous experience with the police					
Had Previous Experience	-0.027 (-0.62)	-0.025 (-0.64)	-0.098 (-0.63)	-0.038 (-0.64)	-0.140 (-0.65)
Observations	407	407	407	407	407
R-squared	0.074	0.074	0.074	0.074	0.074
First Stage Estimation					
Distance	-0.207*** (-9.11)	-0.227*** (-8.33)	-0.057*** (-2.83)	-0.148*** (-6.34)	-0.040*** (-3.29)
F - Statistic	11.28	15.77	8.50	12.22	7.54
PANEL B: Using people who did not have previous experience with the police					
Did not Have Previous experience	-0.053* (-1.76)	-0.048* (-1.79)	-0.149* (-1.76)	-0.172* (-1.69)	-0.161* (-1.74)
Observations	549	549	549	549	549
R-squared	0.0518	0.0518	0.0518	0.0518	0.0518
First Stage Estimation					
Distance	-0.244*** (-13.13)	-0.269*** (-10.61)	-0.087*** (-5.62)	-0.179*** (-10.28)	-0.081*** (-8.84)
F - Statistic	23.59	18.22	8.97	11.64	11.21

Notes: *, **, and *** respectively indicate significance levels at the 10%, 5%, and 1% levels. Significant results (at 10% level or better) are in **boldface**.

Moreover, depending on the results of the previous experience with the police, people might trust the police in a different way. In order to deal with this we have run our exercise

subdividing the sample into people who have had a good previous experience with the police and people who have had a bad previous experience.

As can be seen on [Table 4.6](#), in both cases little impact occurs. Thus it seems that if people were to somehow become more familiar with police work they would likely attribute less weight to police responsibility in crime rate variations. This seems, however, not to depend on the results of their past personal experiences.

Table 4.6 - Regressions for Trust in the Police using Subsamples of People who Have Previous Experience with the Police and Were Satisfied \ Were Not Satisfied

	Total Crimes	Private Property Crimes	Drug traffic Incidence	Life Crimes	Rape Incidence
PANEL A: Using people who have had previous experience with the police and were satisfied					
Had Previous Experience	-0.028 (-0.60)	-0.026 (-0.59)	-0.109 (-0.57)	-0.035 (-0.58)	-0.277 (-0.59)
Observations	249	249	249	249	249
R-squared	0.0408	0.0408	0.0408	0.0408	0.0408
First Stage Estimation					
Distance	-0.245*** (-8.31)	-0.267*** (-7.58)	-0.063** (-2.24)	-0.196*** (-6.39)	-0.025 (-1.46)
F test	8.55	7.55	2.41	5.50	1.41
PANEL B: Using people who did not have previous experience with the police and were not satisfied					
Did not Have Previous Experience	0.008 (0.12)	0.007 (0.11)	0.016 (0.11)	0.012 (0.11)	0.022 (0.11)
Observations	146	146	146	146	146
R-squared	0.0276	0.0276	0.0276	0.0276	0.0276
First Stage Estimation					
Distance	-0.202*** (-5.07)	-0.216*** (-4.10)	-0.101*** (-3.38)	-0.130*** (-3.35)	-0.073*** (-3.72)
F - Statistic	6.14	4.84	2.85	3.92	3.56

Notes: *, **, and *** respectively indicate significance levels at the 10%, 5%, and 1% levels. Significant results (at 10% level or better) are in **boldface**.

4.6.2 Does Skin Color Matter?

If previous experience with the police is a condition that relates crime rates to success of police work then we should expect that two different subpopulations with exposures to high crime rates would attribute different rates to police work, depending on its efficiency. On the other hand, if crime rates for the two different subpopulations are very similar then we should expect that trust levels in police are quite similar. If this is not the case it could be due to differences in sample demographic profile, or because of different treatment by the police.

Table 4.1 shows that neighborhoods near police stations where black persons and non-blacks live have very similar crime rates. Despite this, police trust is remarkably higher for the subpopulation of non-black persons than for that of black persons. As mentioned in the last paragraph this is a case of different demographic profiles. Table 4.3 shows that the black subsample is younger, less schooled, and slightly poorer than non-blacks.

We decided to run the Two Least Stage Regressions of Trust in the Police on different kinds of per capita crime rates separately for the subpopulations of non-black persons and black persons. In these regressions we control for demographic and socioeconomic variables that could differentiate the groups in the ways described on Table 4.3. Even after controlling for such characteristics, black persons and non-black persons were still different in their perceptions of relationships between crime rates and trust in police; this must be due to the kind of treatment that they receive from the police.

Table 4.7 - 2SLS Regressions for Trust in the Police using Black and Non-Black Subsamples

	Total Crimes	Private Property Crimes	Drug traffic Incidence	Life Crimes	Rape Incidence
PANEL A: Using Black Subsample					
Black	-0.081* (-1.90)	-0.075* (-1.87)	-0.244* (-1.83)	-0.210* (-1.81)	-0.249* (-1.87)
Observations	412	412	412	412	412
R-squared	0.029	0.029	0.029	0.029	0.029
First Stage Estimation					
Distance	-0.210*** (-8.62)	-0.228*** (-6.51)	-0.070*** (-3.14)	-0.155*** (-6.46)	-0.068*** (-5.00)
F - Statistic	13.27	11.35	8.78	10.65	7.91
PANEL B: Using Non-Black Subsample					
Non-Black	-0.033 (-1.13)	-0.030 (-1.13)	-0.104 (-1.11)	-0.045 (-1.09)	-0.131 (-1.11)
Observations	544	544	544	544	544
R-squared	0.0125	0.0125	0.0125	0.0125	0.0125
First Stage Estimation					
Distance	-0.238*** (-13.46)	-0.262*** (-12.17)	-0.077*** (-5.11)	-0.175*** (-10.04)	-0.061*** (-6.83)
F - Statistic	23.28	19.43	8.89	12.19	8.77

Notes: *, **, and *** respectively indicate significance levels at the 10%, 5%, and 1% levels. Significant results (at 10% level or better) are in boldface.

As can be seen on Table 4.7, crime rates seem to affect trust in the police only for the black subsample, who already on average tend to trust the police less. These results are much

stronger than those obtained for the entire sample, which is quite interesting. It is not possible to state with certainty that this result derives from racial stereotyping by the police. But the results do indicate that if trust in the police is an important aspect of crime combat, then public policies should pay special attention to interaction with particular groups such as the black population.

These findings are similar to those reported in prior work on trust and trust in the police. Tyler (2005) shows that minority-group members are more distrustful of the police in the US, with black Americans expressing the lowest level of trust. Trust in the police seems to reflect more than simple fear of crime victimization or concern about crime and neighborhood conditions. In New York City, for example, the New York Police Department (NYPD) is widely credited with reducing violent crime to record lows. Nonetheless, New Yorkers, especially minorities, express widespread discontent with the police (McArdle and Erzen, 2001).

4.7 Conclusions

In the present Chapter we discuss the issue of trust in the police, associating information on crime rates to the geographic location of the respondents. Accurate predictors of trust in the police may constitute an important tool for raising the expected cost of committing a crime.

In order to achieve this, we have deployed a Two Least Square approach for dealing with the simultaneity bias problem between crime rates and trust in the police. We use the euclidian distance of each informant of the survey to the closest police station as the instrument. Our results point to a negative relation between increases in crime rates and trust in the police. Such results are even stronger for less common crimes such as drug dealing and rape. We also showed that those respondents who had had previous experiences with the police do not seem to associate police work with crime rates. This holds true even when the previous experience with the police received was poorly evaluated. These latter results stand in stark contrast to the respondents who lack any previous experience with the police.

Finally, we did not observe considerable differences in crime rates depending on the availability of police stations, controlling for black and non-black residential areas. Despite this, black people tend to trust the police far less than do non-blacks. This suggests a problem of racial stereotyping that merits further attention.

5. CONCLUDING REMARKS

This final chapter summarizes what we have learned and discusses the remaining uncertainties, which may be seen as opportunities to future research.

5.1 Summary of the Objectives

The judiciary and the police are two essential institutions for maintaining social order and the rule of law. This study seeks to analyze the determinants of trust in these two institutions.

We initially analyzed the determinants of public confidence in the Brazilian judicial system. We examined the relationships between trust in the judicial system and some demographic and economic variables such as race, income, age, gender, schooling years, experience with the judicial system, and knowledge about the judiciary.

In addition, we tried to identify the relationship between confidence in the judicial system and utilization of the judiciary in Brazil. We then examined whether confidence in the judicial system affects the demand for judiciary services.

Finally, we addressed the relationship between concern about local crime and confidence in the police. We examined whether regions with higher crime rates have lower confidence in the police.

By testing and understanding the mentioned effects, this thesis intends to link two relevant agendas: finding ways to measure the determinants of confidence in police and judiciary and improving the understanding of the relationship between trust and utilization of the judiciary.

The next section summarizes the main findings of this study.

5.2 Main Findings

Chapter 2: Trust in the Judicial System: Evidence from Brazil

Our results indicate that race and gender are important predictors once controlled for other respondent characteristics. Black persons and women have a slightly lower level of trust in the judicial system. People who have had previous experience with the judiciary express

lower levels of trust. The results also show, however, that people with more knowledge of the judicial system and with more years of education express higher levels of confidence in the Brazilian judicial system.

Finally, the results also show that there is a positive relationship between confidence in the judicial system and the behavior index, which is a measure of perception and reflects the opinions of people about the propensity to seek the courts. This result shows that people who have higher levels of confidence in the judicial system are more likely to use it.

Chapter 3: Does Trust in the Judicial System Affect its Utilization?

The results of Chapter 3 indicate that confidence in the judicial system has a positive impact on utilization of judiciary services. They also show that there is a statistically significant relationship between confidence in the judicial system and utilization of the judiciary for some demographic variables such as income, schooling years, age, and race.

Finally, the same tests were performed using a single question concerning trust in the judicial system, instead of the BCJI index. Similar results were obtained.

Chapter 4: Does Concern about Local Crime Affect Trust in the Police?

The evidence gathered by this chapter corroborates that, in general, there is a negative relation between an increase in crime rates and confidence in the police. Such results are even stronger for rarer crimes such as drug dealing and rape. The results also indicate that those who already have had experiences with the police do not seem to associate police work with crime rates, in contrast to those who have never had such an experience. This is true even if the experience with the police was negatively evaluated.

Lastly, there was no considerable difference on crime rates relative to the proximity of police stations, both where black people and non-black people live. Despite this, black people tend to trust the police much less than do non-black people.

5.3 Policy Discussion

Trust in the Judicial System

The ability of the judiciary to present itself as a legitimate instance in resolving the conflicts that arise in the social and economic environment affects the economic and social development of a country.

Our findings have important implications for measuring the legitimacy of the motivations that lead citizens to trust or to distrust the Brazilian judiciary. Given that black persons and women express lower trust levels, efforts should be made to reduce costs, improve access, and increase the fairness of the judicial system when dealing with these groups of individuals. Our findings also show that people with low incomes exhibit lower levels of confidence in the judicial system. Efforts to improve access to the judiciary for poor persons are therefore highly desirable.

Trust in the Judicial System and its Utilization

We found that confidence in the judicial system has a positive impact on utilization of the judiciary. A possible explanation for this result may be the fact that the judicial system is one of the very few alternatives that people have to resolve their conflicts. Confidence in the judicial system therefore probably has a marginal effect on propensity to use the judiciary. As Moore (1997) notes, “the loss of popular legitimacy for the criminal justice system produces disastrous consequences for the system’s performance. If citizens do not trust the system, they will not use it”

More precise estimates and measures of institutional confidence are needed to assess the influence of other aspects on the utilization of the judiciary.

Trust in the Police

We found that trust in the police is affected by crime rates. This result is relevant because some people believe that the police is the government’s first-line representative, responsible for controlling the social order. It thus suggests that governments should have the police engage in confidence-building activities in order to increase public approval of its services. In addition, cooperation has been widely suggested to flow from confidence in the police.

Finally, we also found that the coefficients that measure the impact of crime rates on confidence in the police, are higher for who do not have a prior experience with the police. This result suggests that people update their information set about police work once they have closer contact with the police. Apparently they see the police as less responsible for crimes once they better understand police work better.

5.4 Summary of the Contributions

Trust in the Judiciary

1. Use of data on trust in the judiciary in Brazil;
2. Calculation of an index as a measure of trust in the judicial system;
3. Estimation of determinants of trust in the judicial system;
4. Discussion of mechanisms of trust in the judiciary involving some economics and demographis variables, such as race, gender, and income;
5. Analysis of the impact of corruption news on confidence in the judiciary;
6. Analysis of the relationship between confidence in the judicial system and its utilization, while addressing a potential source of endogeneity;

Trust in the Police

1. Use of data on confidence in the police in Brazil;
2. Estimation of determinants of confidence in the police;
3. Discussion of mechanisms of trust in the police involving economic and demographic variables such as race and previous experience with the police;
4. Analysis of the impact of crime rates on confidence in the police;
5. Analysis of the spatial impact on confidence in the police;

5.5 Limitations and Future Research

There is a major problem it comes to the limitations and possibilities of future research in the judiciary studies, which is dataset access. Overall, the datasets are collected through surveys, because there are few publicly available data on the Brazilian judiciary.

Our results are based on data collected by the Confidence in Justice Survey, which is conducted by the São Paulo Law School of the Getulio Vargas Foundation. Although this

survey has used a method of proportional quota sampling, it is important to note that surveys can present significant problems, such as selection biases.

The results of this study should therefore be viewed as provisional results of an empirical analysis of possible determinants of trust in the judiciary and police. More precise estimates and measures of confidence institutional are needed.

Another limitation of this thesis is that it uses the instrumental variable approach. One specificity of using instrumental variable is that the results must be interpreted as local estimators. This means that under the hypothesis we described above

- i) we estimated a causal effect of crime rates change on confidence on police *only for the population subsample whose neighborhood crime rates are somehow affected by distance to police station;*
- ii) we estimated the causal effect of confidence in the judicial system on utilization of judiciary only for the population subsample whose confidence in the judicial system is somehow affected some by news of corruption;

REFERENCES

- ACEMOGLU, D.; JOHNSON, S; ROBINSON, J. A. The Colonial Origins of Comparative Development: An Empirical Investigation. **American Economic Review**, v. 91, p. 1369-1401, 2001.
- ACKERMAN, S, R. **Corruption and government: Causes, consequences, and reform**. New York: Cambridge University Press, 1999.
- ADORNO, S. Discriminação racial e justiça criminal. **Novos Estudos CEBRAP**, v. 43, p. 45-63. 1995.
- ANGRIST, J. D., PISCHKE, J. S. **Mostly Harmless Econometrics**. Princeton University Press, New Jersey, 2009.
- BAILEY, S. R.; LOVEMAN, M.; MUNIZ, J. O. Measures of Race and the analysis of racial inequality in Brazil. **Social Science Research**, v. 42, p. 106-119, 2013.
- BECKER, G. S. Crime and Punishment: An Economic Approach. **Journal of Political Economy**, University of Chicago Press, v. 76, p. 169 -175, 1968.
- BENESH, S. C. Understanding Public Confidence in American Courts. **Journal of Politics**, v.68, p. 697-707, 2006.
- BENESH, S.; HOWELL, S. Confidence in the Courts: A Comparison of Users and Non-users. **Behavioural Sciences and the Law**, 19, p. 199-214, 2001.
- BENNACK, F. A. **How the Public Views the State Courts: A Report on the National Survey**. Paper Presented at the National Conference on Public Trust and Confidence in justice System. Washington, 1999.
- BOOTH, J. A.; SELIGSON, M, A. **The Legitimacy Puzzle in Latin America: Political Support and Democracy in Eight Nations**. Cambridge: Cambridge University Press, 2009.
- BREHM, J.; RAHN, W. Individual-Level Evidence for the Causes and Consequences of Social Capital. **American Journal of Political Science**, v. 41, p. 999-1023, 1997.
- BROWN, R. S.; MOON, M.; ZOLOTH, B. S. Incorporating Occupational Attainment in Studies of Male-Female Earnings Differentials. **Journal of Human Resources**, v. 15, n. 1, p. 3-28, 1980.
- BURDICK, J. B. A. **Women, Race and Popular Christianity in Brazil**. New York: Routledge, 1998.
- BUSCAGLIA, E.; DOMINGO, P. **Impediments to Judicial Reform in Latin America**. Mexico City: CIDE. 1997.
- CLAUSEN, B.; KRAAY, A.; NYIRI, Z. Corruption and Confidence in Public Institutions: Evidence from a Global Survey. **World Bank Economic Review**, v. 25, n. 2, p. 212-249, 2011.

- COASE, R. H. The Problem of Social Cost. **Journal of Law and Economics**, v. 3, n. 1, p. 1–44, 1960.
- COLE, D. **No equal justice**: Race and class in the American criminal justice system. New York: Free Press, 1999.
- DELISI, M.; REGOLI, B. Race, conventional crime, and criminal justice: The declining importance of skin color. **Journal of Criminal Justice**, v. 27, p. 549–57, 1999.
- DI TELLA, R., FRANCESCHELLI, I. Government Advertising and Media Coverage of Corruption Scandals. **American Economic Journal: Applied Economics**, v. 3, n. 4 p. 119–151, 2011.
- GIBSON, J. L.; CALDEIRA, G. A.; BAIRD, V. A. On the Legitimacy of National High Courts. **The American Political Science Review**, v. 92, n. 2, p. 343-358, 1998.
- GLAESER, E. L. **Inequality**, HIER Discussion Paper 2078, 2005.
- HAYASHI, F. **Econometrics**. Princeton, NJ: Princeton University Press, 2000.
- HELLMAN, J., KAUFMANN, D. **The Inequality of Influence**. Available at SSRN: <http://ssrn.com/abstract=386901> or doi:10.2139/ssrn.386901, 2004.
- HOLLAND, P. W. Statistics and Casual Inference. **Journal of the American Statistical Association**, v. 81, n. 396, p. 945-960, 1986.
- HUANG, W. S. W.; VAUGHN, M. S. Support and confidence: **Public attitudes toward the police**. Americans view crime and justice: A national public opinion survey. Thousand Oaks, CA: Sage. 1996.
- JESILOW, P.; MEYER, J.; NAMAZZI, N. Public Attitudes toward the Police. **American Journal of Police**, v.14, p. 67-88, 1995.
- JONES, C.; WEATHERBURN, D.; MCFARLANE, K. New South Wales. Bureau of Crime Statistics and Research. **Public Confidence in the New South Wales Criminal Justice System**, 2008. Availability: <<http://search.informit.com.au/documentSummary;dn=664948566314414;res=IELHSS>>. I SBN: 9781921306273.
- KENNEDY, R. **Race, crime, and the law**. New York: Pantheon, 1997.
- LAMBSDORFF, J. **Corruption in Empirical Research**: A Review. Transparency International Working Paper, 1999.
- LASLEY, J. R. The impact of the Rodney King incident on citizen attitudes toward police. **Policing and Society**, v. 3, p. 245-255, 1994.
- LAWRENCE, W. S. Trust and Confidence in Criminal Justice. **National Institute of Justice Journal**, v. 248, p. 23-31, 2002.
- LEVASSEUR, A. A. Legitimacy of Judges. **American Journal of Comparative Law**, v. 50, p. 43-85, 2002.

- LOVELL, P. A. Race, Gender and Regional Labor Market Inequalities in Brazil. **Review of Social Economy**, v. 58, n.3, p. 277-293, 2000.
- MCARDLE, A., ERZEN, T. **Zero tolerance**: Quality of life and the new police brutality in New York City. New York: New York University Press, 2001.
- MNDH (Movimento Nacional de Direitos Humanos). Banco de dados sobre violência criminalizada: Pesquisa de homicídios noticiados (1997) em 14 estados brasileiros. Brasília: MNDH. 1998.
- MOORE, M. Legitimizing criminal justice policies and practices. **FBI Law Enforcement Bulletin**, p. 14-21, 1997.
- NOMURA, T. **On the Male-Female Wage differentials in Brazil: Intra-occupational Segregation**. Discussion Papers 1019, Graduate School of Economics, Kobe University, 2010.
- NORTH, D. **Institutions, Institutional Change and Economic Performance**. Cambridge: Cambridge University Press, 1990.
- O'DONNELL, G. Poliarquias e a efetividade da lei na América Latina. **Revista Novos Estudos**, v. 51, p. 37-61, 1998.
- PHARR, S. J. Official's misconduct and public distrust: Japan and the trilateral democracies. In S. J. Pharr & R. D. Putnam. **Disaffected democracies: What's troubling the trilateral countries**. Princeton, NJ: Princeton University Press, 2000.
- POVEY, K. **Open all hours**: A thematic inspection report on the role of police visibility and accessibility in public reassurance. London: Her Majesty's Inspectorate of Constabulary, 2001.
- REICHMANN, R. **Race in Contemporary Brazil**. Pennsylvania: The University of Pennsylvania Press, 1999.
- REISIG, M. D.; PARKS, R. B. Experience, quality of life, and neighbourhood context: A hierarchical analysis of satisfaction with police. **Justice Quarterly**, v. 17, n. 3, p. 607-630, 2000.
- _____. Can community policing help the truly disadvantaged? **Crime and Delinquency**, v. 50, n. 2, p. 139-167, 2004.
- REN, L.; CAO, L.; LOVRICH, N.; GAFFNEY, M. Linking confidence in the police with the performance of the police: Community policing can make a difference. **Journal of Criminal Justice**, vol. 33, p. 55-66, 2005.
- RODRIK, D., SUBRAMANIAN, A., TREBBI, F. **Institutions Rule**: The Primacy of Institutions over Integration and Geography in Economic Development. IMF Working Paper, vol. 32, p. 1-47, 2002. Available at SSRN: <http://ssrn.com/abstract=880291>. 2002
- ROSENBAUM, D. Police innovation post 1980: Assessing effectiveness and equity concerns in the information technology era. **IPV Review**, v. 1, p. 11-44, 2007.

- ROTHSTEIN, B. Trust, social dilemmas and collective memories. **Journal of Theoretical Politics**, v. 12, p. 477-501, 2000.
- SADEK, M. T. Judiciário: mudanças e reformas. **Estudos Avançados**, v. 18, n. 51, 2004.
- _____. Acesso à Justiça: visão da sociedade. **Justitia**, v. 1, p. 271-280, 2009.
- SALZMAN, R.; RAMSEY, A. Judging the Judiciary: Understanding Public Confidence in Latin American Courts. **Latin American Politics and Society**, v. 55, p. 73-95, 2013.
- SAMPSON, R.; JEGLUM-BARTUSCH, D. Legal cynicism and (subcultural) tolerance of deviance: The neighbourhood context of racial differences. **Law & Society Review**, v. 2, n. 4, p. 777-804, 1998.
- SCHUMAN, H.; STEEH, C.; BOBO, L.; KRYSAN, M. **Racial attitudes in America**. Cambridge, MA: Harvard University Press, 1997.
- SELIGSON, M. A. The Impact of Corruption on Regime Legitimacy: A Comparative Study of Four Latin American Countries. **Journal of Politics**, v. 64, p. 408-433, 2002.
- SHERMAN, L. Trust and Confidence in Criminal Justice. **National Institute of Justice Journal**, v. 248, p. 22-31, 2002.
- SHERIFF, R. Exposing Silence as Cultural Censorship: A Brazilian Case. **American Anthropologist**, v. 101, p. 114-132, 2000.
- SILVA, M. F. The Political Economy of Corruption in Brazil. **Revista de Administração de Empresas (RAE)**, v. 39, n. 3, p. 26-41, 1999.
- STAATS, J. L.; HISKEY, J. T.; BOWLER, S. Measuring Judicial Performance in Latin America. **Latin American Politics and Society**, v. 47, n. 4, p. 77-106, 2005.
- STULHOFER, A. Perception of corruption and the erosion of social capital in Croatia 1995-2003. **Politika Misao**, v. XLI, p. 74-86, 2004.
- TWINE, F. W. **Racism in a Racial Democracy: The Maintenance of White Supremacy in Brazil**. New Brunswick, NJ: Rutgers University Press, 1998.
- TYLER, T. Policing in Black and White: Ethnic group differences in trust and confidence in the police. **Police Quarterly**, vol. 8, n. 3, p. 322-342, 2005.
- USLANER, E. M. **The moral foundations of trust**. Cambridge, UK: Cambridge University Press, 2002.
- VELEZ, M. B. The role of public social control in urban neighborhoods: A multi-level analysis of victimization risk. **Criminology**, vol. 39, p. 837-864, 2001.
- VERBEEK, M. **The Econometrics of Panel Data: Fundamentals and Recent Developments in Theory and Practice**. New York: Kluwer Academic Publishers, 2007.
- VERBEEK, M., VELLA, F. Estimating Dynamic Models from Repeated Cross-Sections. **Journal of Econometrics**, v. 127, p. 83-102, 2005.

- WAISELFISZ, J. J. **Mapa da Violência: Os novos padrões da violência homicida no Brasil.** São Paulo, Instituto Sangari, 2012.
- WEITZER, R. Citizens' perceptions of police misconduct: Race and neighborhood context. **Justice Quarterly**, v. 16, p. 819-846, 1999.
- WEITZER, R.; TUCH, S. Perceptions of racial profiling. **Criminology**, v. 40, p. 435-456, 2002.
- _____. Race and perceptions of police misconduct. **Social Problems**, v. 51, p. 305-325, 2004a.
- _____. Racially biased policing: Determinants of citizen perceptions. **Social Forces**, v. 83, p. 1009-1030, 2004b.
- WEITZER, R.; TUCH, S.; SKOGAN, W. G. Police–community relations in a majority black city. **Journal of Research in Crime and Delinquency**, v. 45, p. 398-428, 2008.
- WOOLDRIDGE, J. M. **Econometric Analysis of Cross-Section and Panel Data.** MIT Press, Massachusetts, Second Edition, 2010.
- XU, Y.; FIEDLER, M. L.; FLAMING, K. H. Discovering the impact of community policing: The broken windows thesis, collective efficacy, and citizens' judgment. **Journal of Research in Crime and Delinquency**, v. 42, p. 147-186, 2005.

APPENDICES

APPENDIX A.2.1: BCJI BRAZIL – FGV SURVEY

APPENDIX A.2.2: METHODOLOGY OF THE BCJI CALCULATION

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APPENDIX A.3.1: 2 SLS - REGRESSIONS FOR UTILIZATION OF THE JUDICIARY BASED ON THE BCJI, USING NEWS OF CORRUPTION THAT ARE RELATED ONLY TO THE JUDICIAL SYSTEM

APPENDIX A.3.2: 2 SLS - REGRESSIONS FOR UTILIZATION OF THE JUDICIARY BASED ON THE QUESTION ON TRUST IN THE JUDICIAL SYSTEM, USING NEWS OF CORRUPTION THAT ARE RELATED ONLY TO THE JUDICIAL SYSTEM

APPENDIX A.2.1: BCJI BRAZIL – FGV SURVEY

Date	____/____/____	Quest. Number	____
1 – Personal Characteristics			
Name:			
City:	State: 1. SP 2. RJ 3. BA 4. PE 5. DF 6. MG 7. RS 8. AM		
District:	Zip-Code: _____-		
Address:			
P1) Gender: 1. Female 2. Male			
P2) Marital Status: 1-Single 2-Married 3-Divorced 4-Widow(er)			
P3) Race: 1-Asian 2-White 3-Native Brazilian 4-Brown 5-Black			
P4) Education (Years):			
P5) Age:			
P6) Occupation:			

2 – Questions

P1) In general, you regard the Brazilian judiciary as...

4	Very effective
3	Fairly effective
2	Not very effective
1	Not effective at all
99	<i>Does not know</i>

P2) In your opinion, the Brazilian judiciary solves litigation...

5	Very quickly
4	Quickly
3	Somewhat quickly
2	Slowly
1	Very slowly
99	<i>Does not know</i>

P3) In terms of competence in resolving litigation, the Brazilian judiciary is...

4	Very competent
3	Competent
2	Somewhat competent
1	Incompetent
99	<i>Does not know</i>

P4) In terms of costs of entering a lawsuit in court, the Brazilian judiciary is...

4	Very cheap
3	Cheap
2	A bit expensive
1	Very expensive
99	<i>Does not know</i>

P5) In terms of ease of use, the Brazilian judiciary is...

4	Very easy to use
3	Easy to use
2	Difficult to use
1	Very difficult to use
99	<i>Does not know</i>

P6) In terms of honesty, the Brazilian judiciary is...

4	Very honest
3	Honest
2	Somewhat Honest
1	Dishonest
99	<i>Does not know</i>

P7) How independent is the Brazilian judiciary from political influence?

4	Very independent
3	Independent
2	Somewhat independent
1	Not independent at all
99	<i>Does not know</i>

P8) In your opinion over the last 5 years the Brazilian judiciary has...

5	Improved greatly
4	Improved
3	Remained the same
2	Worsened
1	Become much worse
99	<i>Does not know</i>

P9) Thinking about the next five years, you believe that the Brazilian judiciary tends to...

5	Improve greatly
4	Improve
3	Remained the same
2	Worsened
1	Become much worse
99	<i>Does not know</i>

3 – Hypothetical Situations

C1) Your spouse left home and took your children. You tried to talk to your spouse in order to change this, but you have not been successful. In this situation, do you use the judicial system?

4	Yes
3	Probably
2	Probably not
1	No
98	<i>Does not know</i>

C2) You underwent surgery and, as a result of a medical error, your recovery took longer than expected, which caused you to be absent from work for longer than planned. In this situation, do you use the judicial system?

4	Yes
3	Probably
2	Probably not
1	No
98	<i>Does not know</i>

C3) You bought a car from a car dealership, but it was delivered with a flaw that compromises its functioning. You already took the car in machine shop, but it failed to fix the problem. In this situation, do you use the judicial system?

4	Yes
3	Probably
2	Probably not
1	No
98	<i>Does not know</i>

C4) Your neighbor underwent home renovations which caused cracks to appear in the walls of your home. You tried to solve the problem through dialogue with your neighbor but you have not been successful. In this situation, do you use the judicial system?

4	Yes
3	Probably
2	Probably not
1	No
98	<i>Does not know</i>

C5) You were fired and received less compensation than that to which you are entitled. In this situation, do you use the judicial system?

4	Yes
3	Probably
2	Probably not
1	No
98	<i>Does not know</i>

C6) The government did work on your street that caused extensive damage to your home. A government official said he could not do anything with respect to your losses. In this situation, do you use the judicial system?

4	Yes
3	Probably
2	Probably not
1	No
98	<i>Does not know</i>

4 – Trust in Institutions

CI) Please evaluate each of the institutions below as very trustworthy, fairly trustworthy, not very trustworthy, or not trustworthy at all.

		Very trustworthy	Fairly trustworthy	Somewhat confident	Not trustworthy at all	<i>Does not know</i>
A	Police	4	3	2	1	99
B	The National Congress	4	3	2	1	99
C	The Federal Government	4	3	2	1	99
D	Large Corporations	4	3	2	1	99
E	The Political Parties	4	3	2	1	99
F	The Catholic Church	4	3	2	1	99
G	The Armed Forces	4	3	2	1	99
I	TV Stations	4	3	2	1	99
J	Newspapers	4	3	2	1	99
K	The Public Prosecutor	4	3	2	1	99

APPENDIX A.2.2: METHODOLOGY OF THE BCJI CALCULATION

This appendix explains how the BCJI was constructed. We explain how the possible answers are labelled and show how the index was constructed for individuals.

The questions that constitute the questionnaire admit four or five possible answers. Each question is labelled by assigning consecutive natural numbers starting from 0 (which is the minimum in the confidence scale) through 4 or 5 (which are the two possible maxima in the confidence scale), depending on the question.

Formally, define $\max(q^k)$ as the maximum label value that is defined by the questionnaire (see APPENDIX A.2.1) for question k . At the individual answer level, define q_i^k as the answer of respondent i to question k . As $\max(q^k)$ differs among questions, we make them comparable via a normalization process. We scale each question k so that the normalized values lie between 0 and 10. We obtain the normalized answer to question k for respondent i as follows:

$$\text{normalized}(q_i^k) = \frac{q_i^k}{\max(q^k)} \times 10.$$

The BCJI for the individual i ($BCJI_i$) is given by:

$$BCJI_i = \frac{\sum_{k=P1}^{P9} \text{normalized}(q_i^k)}{9},$$

where the questions q^{P1}, \dots, q^{P9} correspond to questions P1 through P9 of APPENDIX A.2.1. Finally, the BCJI for a given state in given quarter is the average of the $BCJI_i$ s of the respondents who were interviewed at a given state during a given quarter.

APPENDIX A.2.3: METHODOLOGY OF THE BEHAVIOR INDEX CALCULATION

The calculation of the Behavior Index (BI) is similar to that of the BCJI, except that it considers only the hypothetical questions. The index is built on cases concerning family issues (H1), provision of service issues (H2), consumer issues (H3), neighborhood issues (H4), labor disputes (H5) and a case involving the government (H6). The ensuing behavior index was based on a set of questions whereby respondents stated how likely they would resort to the judiciary in order to resolve a dispute or problem, the possible answers to those questions being: (i) definitely not, (ii) probably not, (iii) probably yes, (iv) definitely yes. The Behavior Index by individual is thus given by:

$$Behavior\ Index_i = \frac{\sum_{k=C1}^{C6} normalized(q_i^k)}{6}.$$

APPENDIX A.2.4: SAMPLE CHARACTERISTICS CONSIDERING THE BRAZILIAN 2010 CENSUS

This table presents and compares Brazilian data census with the sample characteristics. Our sample is similar to Brazilian demographic data in terms of gender and race. In our sample, 52% of respondents are women and 10% are blacks. For Brazil, the black population is 8% and the women population is 51% according to 2010 Census. In terms of income, we have a difference to 2010 Census. The number of households with monthly per capita income between 0 and 1 minimum wages represent 54% of Brazilian population. In our sample the proportion is 46%. Households with monthly per capita income between 1 and 4 minimum wages represent 31% of population. In our sample the proportion is 37%. Households with monthly per capita income between 4 and 8 minimum wages represent 4% of population. In our sample the proportion is 10%. However this picture changes for per capita income higher than 8 minimum wages. Households with monthly per capita income higher 8 minimum wages represent 3% of population. In our sample the proportion represents 2% of respondents.

	Blacks		Women		Per Capita Income in terms of Minimum Wages							
	Population	Sample	Population	Sample	< 1		1 to 4		4 to 8		>8	
	Population	Sample	Population	Sample	Population	Sample	Population	Sample	Population	Sample	Population	Sample
São Paulo	6%	7%	51%	52%	42%	44%	40%	39%	10%	10%	4%	2%
Minas Gerais	9%	11%	51%	53%	59%	46%	30%	37%	4%	8%	3%	2%
Rio de Janeiro	12%	13%	52%	52%	46%	42%	31%	38%	12%	11%	5%	3%
Bahia	17%	20%	51%	53%	74%	53%	15%	31%	2%	8%	2%	1%
Rio Grande do Sul	6%	6%	51%	51%	46%	39%	41%	40%	5%	11%	3%	2%
Pernambuco	7%	10%	52%	53%	73%	52%	16%	32%	3%	9%	2%	2%
Distrito Federal	8%	9%	52%	53%	38%	36%	32%	39%	12%	14%	16%	5%
Brasil	8%	10%	51%	52%	54%	46%	31%	37%	4%	10%	3%	2%

Source: IBGE, 2010 Census

**APPENDIX A.3.1: 2 SLS - REGRESSIONS FOR UTILIZATION OF THE JUDICIARY
BASED ON THE BCJI, USING NEWS OF CORRUPTION THAT ARE RELATED ONLY TO
THE JUDICIAL SYSTEM**

This table presents news of corruption that are related only to the judiciary. We exclude all the news of corruption that are linked to other institutions such as the federal police, for example. In column (1) the dependent variable is the utilization of the judiciary. In column (2) we use the same specification, but now the dependent variable considers only cases where people sought the courts by option. In columns (1) and (2) we use “bad” news of corruption as instrument. In columns (3) and (4) we performed the same tests using “good” news of corruption as instrument. Finally, we use “bad” and “good” news of corruption as instrument in columns (5) and (6). We use also the Brazilian Confidence in Justice Index (BCJI) as our confidence measure. The control variables used in the first stage are news about corruption, confidence in the federal government, income dummies, gender, race, age, schooling years, knowledge of justice dummies, and quarter dummies.

	Total (1)	By Option (2)	Total (3)	By Option (4)	Total (5)	By Option (6)
BCJI	0.2928** (1.97)	0.1036* (1.83)	0.1861* (1.78)	0.0313 (1.25)	0.2097* (1.94)	0.0485* (1.83)
Trust in the Federal Government	-0.2640** (-2.07)	-0.1109 (-1.58)	-0.1791** (-1.96)	-0.0517** (-2.08)	-0.1974** (-2.08)	-0.0668*** (-3.41)
Woman	0.0022 (0.13)	-0.0478*** (-4.81)	-0.0049 (-0.37)	-0.0510*** (-6.82)	-0.0041 (-0.28)	-0.0519*** (-6.70)
Black	0.0404*** (4.92)	0.0292** (2.35)	0.0338*** (6.27)	0.0236*** (2.74)	0.0380*** (5.27)	0.0276** (2.41)
Age	0.0228*** (10.58)	0.0167*** (8.35)	0.0206*** (10.37)	0.0150*** (10.04)	0.0213*** (10.53)	0.0157*** (9.18)
Age squared	-0.0002*** (-11.36)	-0.0002*** (-8.06)	-0.0002*** (-10.69)	-0.0001*** (-8.59)	-0.0002*** (-10.55)	-0.0002*** (-7.94)
1 to 4 Minimum Wages	0.0033 (0.22)	0.0195* (1.67)	0.0034 (0.33)	0.0194*** (2.89)	0.0064 (0.50)	0.0216** (2.36)
4 to 8 Minimum Wages	0.0539*** (3.15)	0.0664*** (9.37)	0.0555*** (4.18)	0.0686*** (15.07)	0.0566*** (3.89)	0.0681*** (14.01)
More than 8 Minimum Wages	0.0607*** (3.37)	0.0989*** (5.52)	0.0635*** (4.03)	0.1022*** (6.89)	0.0651*** (3.86)	0.1018*** (6.47)
Schooling years	0.0083*** (6.38)	0.0105*** (6.43)	0.0092*** (5.77)	0.0109*** (5.41)	0.0090*** (5.29)	0.0109*** (5.32)
Knowledge of the Judiciary	-0.0130 (-0.29)	0.0199 (0.77)	0.0101 (0.34)	0.0343*** (4.39)	0.0054 (0.17)	0.0321*** (3.40)
R-squared	0.0542	0.0267	0.0158	0.0405	0.0537	0.0314
Observations	13,413	13,413	13,413	13,413	13,413	13,413
First Stage IV Results						
Bad News	-0.0228** (-3.07)	-0.0228** (-3.07)			-0.0129* (-1.85)	-0.0129* (-1.85)
Good News			-0.0192* (-2.02)	-0.0192* (-2.02)	-0.0166* (-2.01)	-0.0166* (-2.01)
F - Statistic:	11.34*	11.34*	9.75*	9.75*	12.30**	12.30**

**APPENDIX A.3.2: 2 SLS - REGRESSIONS FOR UTILIZATION OF THE JUDICIARY
BASED ON THE QUESTION ON TRUST IN THE JUDICIAL SYSTEM, USING NEWS OF
CORRUPTION THAT ARE RELATED ONLY TO THE JUDICIAL SYSTEM**

This table presents news of corruption that are related only to the judiciary. We exclude all the news of corruption that are linked to other institutions such as the federal police, for example. In column (1) the dependent variable is the utilization of the judiciary. In column (2) we use the same specification, but now the dependent variable considers only cases where people sought the courts by option. In columns (1) and (2) we use “bad” news of corruption as instrument. In columns (3) and (4) we performed the same tests using “good” news of corruption as instrument. Finally, we use “bad” and “good” news of corruption as instrument in columns (5) and (6). We use the question of confidence in the judicial system instead the Brazilian Confidence Justice Index (BCJI) as our confidence measure.

	Total (1)	By Option (2)	Total (3)	By Option (4)	Total (5)	By Option (6)
Trust in the Judicial System	0.1196*** (4.33)	0.0422* (1.80)	0.0764* (1.94)	0.0126 (0.80)	0.0826** (2.19)	0.0185* (1.75)
Trust in the Federal Government	-0.1700*** (-4.03)	-0.0775** (-2.43)	-0.1187*** (-2.58)	-0.0411*** (-3.58)	-0.1264*** (-2.84)	-0.0495*** (-4.99)
Woman	-0.0139 (-1.45)	-0.0535*** (-8.20)	-0.0151* (-1.86)	-0.0528*** (-8.48)	-0.0157* (-1.84)	-0.0547*** (-8.26)
Black	0.0471*** (20.14)	0.0315*** (3.20)	0.0377*** (4.86)	0.0242*** (3.27)	0.0424*** (7.92)	0.0285*** (2.98)
Age	0.0193*** (9.86)	0.0155*** (7.80)	0.0182*** (13.06)	0.0146*** (9.05)	0.0188*** (11.18)	0.0151*** (7.98)
Age squared	-0.0002*** (-9.29)	-0.0002*** (-7.20)	-0.0002*** (-11.35)	-0.0001*** (-7.88)	-0.0002*** (-9.99)	-0.0001*** (-7.21)
1 to 4 Minimum Wages	0.0008 (0.11)	0.0187** (2.13)	-0.0003 (-0.04)	0.0188*** (2.97)	0.0050 (0.57)	0.0214*** (2.59)
4 to 8 Minimum Wages	0.0565*** (5.03)	0.0673*** (15.73)	0.0547*** (4.52)	0.0685*** (16.25)	0.0586*** (4.82)	0.0686*** (15.24)
More than 8 Minimum Wages	0.0614*** (4.73)	0.0991*** (6.47)	0.0621*** (4.35)	0.1019*** (6.87)	0.0660*** (4.43)	0.1021*** (6.60)
Schooling years	0.0052*** (2.71)	0.0094*** (5.40)	0.0072*** (6.27)	0.0106*** (5.73)	0.0069*** (5.74)	0.0104*** (5.76)
Knowledge of the Judiciary	0.0168 (1.27)	0.0305** (2.50)	0.0267* (1.92)	0.0372*** (6.10)	0.0276* (1.92)	0.0375*** (4.98)
R-squared	0.0241	0.0119	0.0780	0.0457	0.0967	0.0426
Observations	13,413	13,413	13,413	13,413	13,413	13,413
First Stage IV Results						
Bad News	-0.0515*** (-4.34)	-0.0515*** (-4.34)			-0.0601* (-1.76)	-0.0601* (-1.76)
Good News			-0.0468** (-2.72)	-0.0468** (-2.72)	-0.0428** (-2.10)	-0.0428** (-2.10)
F - Statistic:	16.87***	16.87***	10.53*	10.53*	17.27***	17.27***