

Confidence in Judicial Institutions: An Empirical Approach

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Abstract: We look at the role of the justice budget when individuals have bounded rationality regarding the judiciary and consequently need to refer to stimuli to decipher the legal environment. We first examine how and why the justice budget may affect people's perception of the judiciary and, by extension, influence economic decision-making in this context. We then test this proposition using a cross-section of European countries. We use data from the World Value Survey measuring trust in justice as proxies for perception of the judiciary and several budget-related variables extracted from databases produced by the European Commission for the Efficiency of Justice. We show that increasing public resources devoted to the judiciary is positively associated with higher levels of trust in justice. We also show that the justice budget is likely to have a greater impact on trust in relatively less economically and institutionally developed countries. Finally, our paper yields some implications for public policy since we show that the budgetary determinants of factors of trust in justice are not the same for all prior levels of confidence in the judiciary or stages of institutional and economic development of countries.

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1. Introduction

Insufficient resources, lack of confidence and congestion due to a surge in demand are the three most common complaints about justice in many countries. In this paper we tackle those three issues, arguing that the justice budget, through its impact on the public perception of justice, may have an impact on the quality of law enforcement and, by extension, on economic outcomes.

At the beginning of the 2000-s, Glaeser and Shleifer (2001, 2002, 2003) opened a new strand of research showing that the cost of enforcement is not neutral with regard to the best instrument chosen for controlling undesirable behavior. Specifically, Glaeser and Shleifer (2001) show that quantity regulation allows better enforcement and better economic efficiency than Pigouvian taxes, contrary to the traditional view of the superiority of corrective taxes when accounting for the cost incurred by enforcers identifying violations (Kaplow and Shavell 2002, Keohane et al. 1999). However, while these analyses have begun to cast enforcement as an economic problem, they continue to view the cost of enforcement as a simple “budget constraint.” This paper offers a new approach to public expenditure on justice by considering the positive externality on the public perception of justice.

With the present paper, we seek to contribute to the discussion about the link between legal institutions and economic development. To date, the substance of legal rules and legal procedures has been presented as the foremost determinant of legal performance and thus of economic efficiency. A broad strand of literature has pointed out that substantive and procedural law is what differentiates various legal regimes, explaining differences in growth. The link between the characteristics of rules and procedures and economic outcomes has been empirically established¹ for various economic activities: finance (starting with La Porta et al., 1997 and 1998), banking (La Porta et al., 2002a), investment (Djankov et al., 2007, 2008, 2010), employment (Botero et al., 2004), entrepreneurship/entry (Djankov et al. 2002) and rental housing (Djankov et al. 2003b). Our purpose here is to show that the justice budget is also worth exploring as a new possible transmission channel between legal institutions and economic activity.

Our reflection is based on one key observation: As revealed by many surveys, most people do not precisely know or understand the content of the rules of law or the enforcement procedures that constitute the judiciary. People’s rationality is thus bounded regarding the uncertain justice system, and individuals need to refer to some stimuli “to make sense out of the [legal environment] around them” (Denzau and North, 1994). Bringing together studies conducted in different countries and aimed at understanding the origin of public beliefs about the judiciary, we have identified some organizational factors that contribute significantly to a positive perception of justice (whatever the legal regime). These factors are, specifically, access to legal services, independence, neutrality and competency of court personnel and that cases be heard in a reasonable timeframe. It is worth noting that these organizational stimuli generally require substantial public financial efforts—to wit, relatively large justice budgets. Indeed, although this is not enough to guarantee a positive image of justice and good judicial performance, it appears to be a necessary condition. Thus, the key insight of this paper is the following: The organization of justice, and particularly the highly correlated justice budget, may have an impact on people’s

¹ Note that these studies have been and are still criticized on the basis of both the relevance of data and the methodology.

beliefs about justice. To empirically test this hypothesis we have chosen to use some budget-related variables instead of purely organizational variables, mostly for methodological reasons. The former kind of variable is indeed quite measurable and available (budget per capita, number of courts, judges, etc.), whereas the latter is difficult to measure and unavailable or not comparable between different countries (degree of independence, neutrality or competency of judges, for example).

In Section 2, we develop our argument that the justice budget has to be considered as a possible determinant of the public perception of justice. In Section 3, we present the data we employ to test our prediction that the justice budget may affect perceptions of the judiciary using a cross-section of European countries. On the one hand, we present data used as proxies for perception: data measuring trust in justice from the World Value Survey (WVS). On the other hand, we present several budget-related variables (the budget of courts per incoming case, the budget of courts per capita, the number of courts and judges per 100 000 inhabitants and an index reflecting the availability of judicial information to the users of courts) extracted from databases produced by the European Commission for the Efficiency of Justice (CEPEJ), which has never been yet exploited by scholars. Section 4 presents and discusses the results of our empirical study. From the original CEPEJ dataset, we prove that, consistent with our theoretical prediction, devoting more resources to the justice system positively affects levels of trust in justice (i.e., a more positive image of justice). We also show that this positive link is stronger in less developed countries, which also display the lowest initial levels of trust in justice. This tends to mean that public legal resources have decreasing marginal benefits as trust increases. Finally, our paper yields some implications in terms of public policy, since we show that the contribution of budgetary factors to trust in justice is not the same for all initial levels of trust in justice or stages of institutional and economic development. Policy makers should, thus, take this parameter into account to design efficient judicial reforms. We conclude with Section 5.

2. The justice budget as a signal

In “The Problem of Social Cost,” Ronald Coase (1960) first put forward the general idea that institutions matter when transactions are costly. The role of institutions in the performance of economies was then made clearer by North in successive contributions dedicated to this issue. In the Northian view, institutions provide a structure through which individuals can make transactions despite uncertainty. North built his analysis of institutions on the common hypothesis in New Institutional Economics that individuals act with bounded rationality rather than instrumental rationality, as in neoclassical economics. Economic agents make their choices based on incomplete information or with limited computational capacities to process information. This is why individuals cannot perfectly predict the circumstances under which the transactions will take place; neither can they perfectly anticipate the long-term consequences of their choices. This makes human interaction uncertain and costly, and finally hampers cooperation and economic exchanges. In this context, institutions exist to reduce uncertainty as well as transaction costs “by establishing a stable (...) structure to human interactions” (North, 1990: 6). But North makes clear that, if institutions are expected to reduce transaction costs, some are actually more efficient than others. As North states:

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. (1990: 16).

Among what North calls “formal institutions,” legal institutions provide a set of rules and procedures serving to protect property and secure economic exchanges. Since the end of the 1990-s, a considerable, though controversial, literature (initiated by La Porta et al., 1997 and 1998) has emphasized—on the basis of empirical analyses—that legal systems from the common law tradition are more efficient at enhancing economic performance than legal systems within the civil law tradition. Exploring various fields, related research has shown that both legal rules and judicial procedures are better for enforcing contracts and protecting property rights in common law countries than in civil law countries (see La Porta et al., 2008). Thus, the general argument in favor of common law—which provides a theoretical explanation for the empirical evidence—is that common law provides legal rules and judicial procedures that better structure incentives and better shape individuals’ decision making than civil law. It is important to emphasize here that this argument draws on the underlying assumption that individuals are able to internalize substantive and procedural rules. While, in some areas of economic activity, people actually receive complete information and have the computational ability to internalize the rules of law designed to reduce uncertainty—in banking and finance for example—this is not true for many aspects of human activity. In fact, there are many clues in real life that most people do not know or do not understand the legal rules and judicial procedures that make up legal institutions. For example, for the last two decades, opinion polls about the judiciary in France have revealed that 90% of people recognize their general lack of knowledge about the functioning of the judiciary and assert that legal language is too complicated. Moreover, 30% of people who have ever had business before the courts admit that they did not understand the court rulings (Bargues and Ferey, 2002; François, 2003). This argument is consistent with recent research on the uncertainty of law (Dari-Mattiacci and Deffains, 2007; Dari-Mattiacci et al., 2011). Legal uncertainty is generally defined as the difficulty precisely knowing *ex ante* what the outcome of the judicial system will be *ex post*. According to Dari-Mattiacci and Deffains (2007), the identified causes of such uncertainty are “unforeseen contingencies, the inherent ambiguity of language itself, the use of vague notions (such as *bona fides*, reasonable man, or *bonus pater familias*), and a natural process of obsolescence due to continual changes in society and technology.” North himself, in his 1990-s book, points out the possible problem of knowledge regarding third-party enforcement, i.e. the legal system, but without further exploring the issue:

A coercive third party is essential. One cannot have the productivity of a modern high income society with political anarchy. Indeed, effective third-party enforcement is best realized by creating a set of rules that then make a variety of informal constraints effective. Nevertheless, the problems of achieving third-party enforcement of agreements via an effective judicial system that applies, however imperfectly, the rules are not only very imperfectly understood and are a major dilemma in the study of institutional evolution” (1990: 35).

To summarize, we would like to say that institutions—particularly legal ones—are necessary to reduce the uncertainty of the environment surrounding exchanges. But our purpose is to point out

here that uncertainties may also arise regarding these institutions themselves, due to their own complexity relative to the limited cognitive capacities of the individuals to decipher them. Thus, the principal argument we advance in this paper is that bounded rationality is likely to apply to institutions, just as it applies to the whole uncertain environment involved in human interactions. Consequently, just as people cannot have perfect knowledge of the world around them, they cannot have perfect knowledge of judicial institutions (and cannot perfectly internalize them). They can only obtain an imperfect representation of these institutions through their subjective perceptions. Whether individuals' perceptions are correct or not, i.e. to whatever extent beliefs match reality, these beliefs will shape individuals' feelings that the judicial environment is fair or unfair, secure or insecure. On this basis, we would like to build on previous analyses and point out that not only "both good rules and their enforcement matter" (La Porta et al., 2008), but also that the perception of the judiciary matters (even if it is erroneous), as it affects human interactions, too.

What shapes individuals' beliefs about the legal environment? North (2005) draws on Hayek (1952) to explain the construction of beliefs. He shares Hayek's view that individuals refer to "stimuli" received from the environment and to their personal system of interpretation to form expectations about the world around them. Concerning the judiciary, to understand public perceptions we need to investigate the possible stimuli that shape them. Based on opinion surveys conducted in countries as different as the United States² and France,³ in terms of their legal origin and organization, a consistent picture can be drawn of what matters to people in the justice system. The same identified criteria/stimuli seem to take part in driving individuals' beliefs on both continents. Basically, there are five main criteria: accessibility, independence, neutrality, competency and timeliness.

1. The principal public concern seems to be with accessibility. Generally, people are concerned about how easy it is to access legal services, but they consider several dimensions of accessibility. The first dimension of accessibility is physical access to justice. This might reflect how quickly and easily individuals can get to a court, or enter it if they have physical disabilities. In practice, it depends (at least partly) on the number of courts (or, more specifically, on the organization of the judicial map) and on investments in modernizing court buildings. The second dimension of accessibility is financial. People's opinion of justice is affected by how much it costs to go to court. This is linked to the possibility of benefitting from legal aid or free legal representation or advice for people who cannot afford legal costs. Finally, the last dimension of accessibility is information. The ability to become informed about court rulings, procedures and services seems to foster a positive public image of the justice system.
2. The second criterion that matters to the public perception of the judiciary is independence. Surveys reveal that people do not want judges' decisions to be driven by political influence. This may be implied (although it is not guaranteed) by judges being recruited

² For example, 'The Public Image of the Courts, 1977; Perceptions of the U.S. Justice System', 1998; 'How the Public Views the State Courts: Findings from a 1999 National Survey', 1999. For a 'primer' on public opinion about courts see 'Public Perception of the State Courts: A Primer' (D.B. Rottman, 2000)

³ Especially national surveys commissioned by the Ministry of Justice and by the research mission *Droit et Justice*. A study of these surveys can be found in *La qualité de la justice* (M.-L. Cavrois, H. Dalle and J.-P. Jean eds., 2002).

and paid according to criteria that safeguard against any influence from political or interest groups.

3. Third, neutrality appears to fashion people's assessment of the judiciary, too. People expect parties to be treated in a fair manner during court proceedings. Particularly, judges must be neutral regarding people's racial group, gender, wealth, religion, etc. They also are expected to be honest and to decide on relevant evidence.
4. Another (fourth) important matter is competency of court personnel, including judges. It is important to people that judges be well-trained and qualified for their jobs. They expect court personnel to be courteous and respectful and judges to defend their decisions and make them readily understandable.
5. Finally, duration also matters. To favor a positive image of the judiciary, cases must be resolved within a "reasonable time." In practice, this implies that judicial proceedings be not too formalized, i.e. do not involve too many steps or participants. This also may simply mean that there are enough judges to be able to handle cases rapidly.

Of course, some demographic factors and the individual experience of people, especially with a court, are also of importance in belief formation. However, that the general factors presented above are observed by people when judging the quality of their legal institutions is now hardly controversial, as it has been the principal conclusion of consistent survey research in many countries over a couple of decades. Depending on the country, surveys reveal that the effective public attitude based on these criteria is sometimes positive and sometimes negative. But our central tenet is that the criteria are shown to be of importance in the formation of perceptions. It is also worth mentioning that some of these criteria are used in court performance measurement programs to build performance indicators.⁴

We would now like to highlight that the stimuli identified here are linked in important ways to the organization of the judiciary. In a recent article, Hadfield (2011) emphasizes that the impact of legal design on the incentives of legal actors (namely litigants, lawyers and judges) must be considered when studying judicial efficiency. The intuition is that the capacity of a legal system to promote economic growth lies in its capacity to adapt to the changing environment. This capacity depends on the organization of the justice system. More precisely, it depends on the way the justice system affects effective behaviors of legal actors and organizes their cooperation. In the present paper, we wish to advance in this direction and show that legal design also matters because of its impact on people's subjective perceptions of the efficiency of the justice system. This insight into judicial organization allow us to consider the case in which a judicial reform (e.g. adding staff in a court) may turn out to have positive effects in the long term (by enhancing people's perception of the efficiency of the court), even if it proves not to substantially enhance court productivity and quality in short term. This is the case because—as has already been highlighted in the literature from Posner (in the 1970s) to, more recently, Dari-Mattiacci et al. (2011)—when people have a positive attitude toward the judiciary they tend first to comply more with the law and, second, to settle out of court rather than litigating when they are involved in a dispute. As a consequence, fewer cases go to court and legal productivity increases (at least in a first instance).

⁴ The Trial Court Performance Standards and Measurement System in the U.S. or the performance indicators chosen to introduce the Constitutional Bylaw on Budget Acts (LOLF) in France, for example.

As implied by the arguments above, developing organizational attributes that will enhance people's perception of justice often requires making a substantial public financial effort by increasing the justice budget. Building new courts or hiring more judges to give citizens better access to justice are expensive investments. Training court personnel to make them more competent also requires more public resources. Finally, developing information systems to make people better aware of court proceedings or durations is another example of the high cost of improving public attitudes toward the judiciary. Thus, we extend our argument to the general idea that the justice budget may affect people's beliefs about the efficiency of the judiciary.

From an analytical point of view, we choose to focus on the budget first because, as we have just explained, it is highly correlated with a lot of important organizational stimuli. Then, as surveys reveal, the justice budget itself is often the object of shared belief by citizens: Most people in a country are generally of the same opinion about whether the justice budget is adequate for an efficient organization of the judiciary. As a matter of fact, in many countries people believe that the judicial system *lacks* the means to effectively protect and enforce property rights. In this context, a policy of expanding the justice budget is likely to signal to people that the government is willing to improve the organization of justice to better enforce property rights. This will then reduce expected transaction costs and enhance exchanges.

In a previous paper (Deffains and Roussey, 2011), we investigate the impact of a marginal increase in public expenditure on justice on the efficiency of both the judiciary and a specific market: the rental housing market. We look at the multiplier mechanism by which a slightly higher justice budget first increases the productivity of courts and then provides incentives to landlords to make decisions that improve the functioning of the rental market. In the present paper, we further explore the impact of the justice budget on the efficiency of the judiciary through people's perceptions of justice instead of people's effective behaviors. We particularly would like to stress that if the *effective* quality of the judiciary matters for economic decisions, as shown in the existing literature, what individuals *think* about the quality of the judiciary matters, too. In this context, the justice budget not only has a *direct* impact on people's decisions, but also an *indirect* impact on people's perceptions (and obviously, by extension, on their decisions). Of course, an increase in the justice budget is not sufficient to improve the perception and the efficiency of the justice system. Clearly, people must believe that the new budget will effectively be used to improve the organization of the judiciary. In particular, they must not anticipate that these public resources will be simply misused or misappropriated by public officials. However, as remarked by the European Commission for the Efficiency of Justice (CEPEJ) in evaluating the quality of European judicial systems, a large justice budget seems to be a necessary condition for judicial performance:

[A] correlation can be noted between the lack of performances and efficiency of some judicial systems and the weakness of their financial resources. However, the opposite is not always true: high financial resources do not always guarantee good performance and efficiency of judicial systems. (2010: 291)

Using a cross section of European countries, the next sections will test our proposition that the justice budget can have an impact on people's perceptions of the judiciary. As we mentioned in

the introduction, from a methodological point of view, focusing on the justice budget as a possible stimulus allows us to use available and quite homogeneous data on budgetary aspects in different countries, whereas data about more subjective aspects (like competences, neutrality or independence, for example) are either not available or not consistent across countries.

3. Data

In the following empirical analysis, we use the variable “people’s trust in justice” (from the WVS) as a proxy for people’s “perception” of justice. Surveys of perception of justice often refer to “good priors” about the justice system by saying that people are “confident” in it. Judicial perception and trust thus appear to be relatively similar concepts in these surveys.⁵ We also note that data about “trust in justice” or “trust in the legal system” have often been used as proxies for the efficiency of justice⁶ in studies establishing a link between institutions and economic outcomes.

Data on trust in judicial systems

As a measure of trust in the judicial system we use data provided by the World Value Survey. Thousands of respondents in many nations were asked how much confidence they had in the legal system. Responses ranged from “a great deal” to “quite a lot” to “not very much” to “none at all.” We have calculated the percentage of respondents in each country with either “a great deal” or “quite a lot” of confidence. This provides us with a measure of trust in legal institutions. We use data from the fourth and fifth waves of the World Value Survey, with 24 values from the fifth wave (2005-2008)⁷ and 17 values from the fourth wave (1999).⁸ Values are highest for the Scandinavian countries.

⁵ A good example is the summary of U.S. surveys by Rottman (2000), where the two notions seem to be used interchangeably.

⁶ See for example Djankov et al. (2003b).

⁷ Andorra, Bulgaria, Croatia, Cyprus, Finland, France, Georgia, Germany, Italy, Moldova, Netherlands, Norway, Poland, Romania, Russian Federation, Serbia, Slovenia, Spain, Sweden, Switzerland, Turkey and Ukraine. The measure of trust for Great Britain has been attributed to “UK-England and Wales” and “UK-Scotland”.

⁸ Austria, Belgium, Croatia, Czech Republic, Denmark, Estonia, Greece, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Malta, Portugal, Slovakia and UK-Northern Ireland.

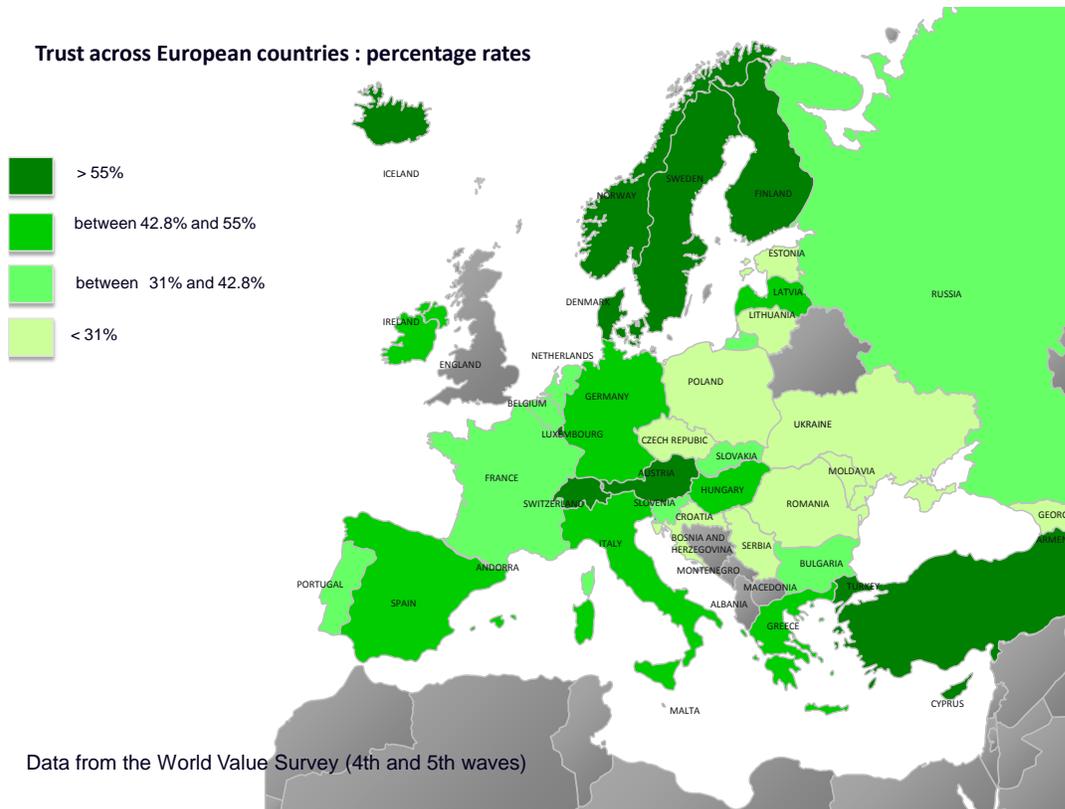


Figure 1: Confidence in justice systems in Europe (Source: World Value Survey)

Data on budgets of European judicial systems

Data on budgets of European judicial systems are from the European Commission for the Efficiency of Justice (hereafter CEPEJ). The CEPEJ was set up in 2002 by the Committee of Ministers of the Council of Europe to improve the quality and efficiency of European judicial systems. As stated in the first report of the CEPEJ (2004), the aim of the Commission is “to improve the efficiency and the functioning of the justice system of Member States, with a view to ensuring that everyone in their jurisdiction can enforce their legal rights effectively, thereby generating increased confidence of citizens in the justice system.” With this aim, the main tasks of the CEPEJ are (1) to evaluate European judicial systems in terms of their internal organization, and (2) to propose some concrete solutions to the States to prevent violation of property rights. In order to do so, once every two years since 2002, the CEPEJ has collected quantitative and qualitative data concerning the functioning of justice in the Member States of the Council of Europe (40 States for the pilot exercise in 2002 and 47 in 2006).

Data collected are based on the Member States’ own responses to an evaluation scheme elaborated by the CEPEJ. From a comparative perspective, the questionnaire has focused on the most common tasks in the functioning and the output of the different judicial systems. The resulting dataset is of quite good quality because judiciary concepts are common to European countries and lead to few interpretation errors in the questionnaire. Moreover, where doubts about

some specific responses persisted, data were clarified, amended and validated by the CEPEJ working group to allow a fruitful comparison. Obviously, we should remain cautious vis-à-vis the quality and relevance of the data. There is inevitable variance in the answers due to differences in the organization of complex and diverse judicial systems and the interpretation of the questions by the national correspondents. For example, analysis of the scope of justice budget has to account for the fact that some tasks that are performed by the public judicial system in certain European countries are left to the private sector elsewhere. By the same token, the effect of high inflation in some countries outside the Euro Zone may also lead to strange figures.⁹

Nevertheless, these limitations and shortcomings should not prevent us from using this unique and detailed database (170 items in 2006) designed to be employed in a comparative fashion. Indeed, the variables we use from the CEPEJ databases provide good proxies for the budgetary factors we intend to analyze.

Since the first data collection (2002) was an experimental project and does not provide sufficiently relevant information, we have chosen to use the datasets for 2004 and 2006 only. Based on experience from the previous evaluation cycle, the 2004 and 2006 questionnaires were revised so that the figures provided by the Member States correspond to similar concepts (duties or expenditure).

The budget-related variables considered in the empirical study are the following:

1. We employed the budget allocated to the justice system including courts, legal aid and public prosecution in 2004 for the following two reasons. On one hand, according to the CEPEJ, including the budget spent on the public prosecution system in the budget allocated to the courts allows “the comparison of the means allocated to the functions of prosecuting and judging, in spite of the differences in the organization of the systems, between countries where the prosecution system is fully separated from courts and those where both institutions are joined.” On the other hand, including the budget devoted to legal aid tells us about the financial effort made by countries to guarantee equal access to justice for all citizens. To allow the comparison and make the country-data homogeneous, we calculated the budget allocated to entire justice system *per incoming case*. As a proxy for incoming cases we used the number of civil¹⁰ and administrative litigations plus the number of criminal cases heard by first instance courts. When possible, we then calculated an average of the budget allocated to the whole judicial system per incoming case in 2004 and 2006 (we took the value either from 2004 or 2006 when we had only one year available). Budgetary data were finally available for 36 countries, values ranging from a low of 70 euros spent per incoming case in Armenia to a high of 10545 euros in Sweden. As regards measures of justice budgets in European countries, we also use the budget per inhabitant (average measurement of budget per inhabitant in 2004 and in 2006). Values range from 2 euros (Armenia) to 130 euros (Northern Ireland). Although this approximation of the

⁹ According to the CEPEJ (2006 report): “Comparing quantitative figures from different countries, with different geographical, economic, and judicial situations is a difficult task which must be addressed cautiously, both by the experts while drafting the report and by the readers while interpreting the information provided by the report.”

¹⁰ Including, for most countries, civil cases, family matters, dismissal cases and litigations with a financial claim.

financial means of European justice systems is not perfect, it highlights significant disparities.

2. As a second approximation to judicial means, we use the number of courts. To avoid problems arising from differences between countries regarding the *legal* definition of a court, we chose the number of geographical court locations (per 100 000 inhabitants). A geographical court location is defined by the CEPEJ as a “court building where judicial hearings take place.” Here again, for each country we use an average of 2004 and 2006 values when possible. There are 45 available values, ranging from 0.4 buildings per 100 000 inhabitants in the Netherlands to 7.9 in Turkey.
3. The third variable we use to measure judicial means is the number of judges (per 100 000 inhabitants). According to the European Convention of Human Rights and the case law of the European Courts of Human Rights “the judge decides, according to the law and following organized proceedings, on any issue within his/her jurisdiction.” To control for diversity in the status of judges in Europe, we use a proxy built by adding the number of professional and non-professional judges (per 100 000 inhabitants). It is worth mentioning that in Armenia, Austria, Azerbaijan, Bulgaria, Cyprus, Denmark, Georgia, Greece, Ireland, Iceland, Lithuania, Malta, Montenegro, Moldova, Netherlands, Romania, Russian Federation, Turkey and Ukraine, all judges are professional, whereas the United Kingdom uses non-professional judges (lay judges) extensively. For almost all countries, we average the figures for 2004 and 2006. Finally, we have 45 available values.
4. A fourth high-cost determinant of confidence in the judicial system, as revealed by surveys, may be the availability of information about rules of law, duration of the proceedings, and practical aspects of the courts, for example. Based on the following five questions about the provision of information to the citizens, we have built an index of information.
 - A. “Are there official Internet sites/portals (e.g. Ministry of Justice, etc.) where the general public may have access to legal texts (e.g. codes, laws, regulations, etc.) free of charge?”
 - B. “Are there official Internet sites/portals (e.g. Ministry of Justice, etc.) where the general public may have access to case-law of the higher court(s) free of charge?”
 - C. “Are there official Internet sites/portals (e.g. Ministry of Justice, etc.) where the general public may have access to other documents (e.g. forms) free of charge?”
 - D. “Is there an obligation to provide information to the parties concerning the foreseeable timeframe of the proceeding?”
 - E. “Is there a public and free-of-charge specific information system to inform and help victims of crimes?”

Answers were coded and aggregated so as to reflect the degree of the availability of information within each country, with 0 reflecting no available information and 1 easily accessible information. We took an average of the 2004 and 2006 indexes. We have 45 data points with a minimum value of 0.4 in Bosnia and Herzegovina and a maximum of 1 in Finland, France, Latvia and Moldova.

Following the literature and recommendations of the CEPEJ, we also use as explanatory variables: population,¹¹ average per capita GDP at current prices in US dollars over the period 1995–2005,¹² average democracy index over the period 1995–2006¹³ and education index in

¹¹ Average value for 2004 and 2006. Source : CEPEJ

¹² Source : United Nations data

2006.¹⁴ Table 2 presents the sample sizes, means, standard deviations, minima and maxima for the variables used in the analysis.

Variables	Obs	Mean	Std. Dev.	Min	Max
trust	39	47.04	18.63	15.03	85.37
per capita GDP	45	14818.52	14923.01	495.08	57660.65
education	45	0.9404	0.0396	0.824	0.993
democracy	45	8.598	2.08	0	10
population	45	18000000	28500000	299899	142000000
incoming cases per inhabitant	43	5083.14	3559.64	656.35	16690.29
budget per incoming case	36	1244.01	1970.24	70.1	10545.12
budget per inhabitant	43	45.65	34.75	2.3	130.34
courts	45	2.12	1.47	0.4	7.8
judges	45	88.44	223.63	3.2	1506.3
information	45	0.74	0.13	0.4	1

Table 2: Descriptive statistics

We expected to find a positive relationship between the explanatory variables described above and trust in judicial systems. Figures 2 to 6 present the scatter plots of (ln) degree of confidence in justice against respectively, (ln) judicial budget per case (Figure 2), (ln) judicial budget per inhabitant (Figure 3), (ln) number of courts per 100 000 inhabitants (Figure 4), (ln) number of judges per 100 000 inhabitants (Figure 5) and the degree of information availability (Figure 6). The scatter plots show that countries with more means allocated to justice generally also display higher degrees of trust in justice. From these scatter plots, we may already identify three clusters of countries: (1) One cluster is made up of highly trusting in justice countries with relatively high judicial means (mostly Scandinavian countries), (2) then we observe an intermediate-trust cluster of countries with relatively high budgets of justice (Western European countries) and, (3) finally, another group of countries with relatively limited means and little confidence in justice (Eastern European countries, transition economies).

¹³ Source: Polity IV, regime authority characteristics and transitions datasets, annual time-series 1800-2008.

¹⁴ Source: one of the three indices on which the Human Development Index is built. It is based on the adult literacy rate and the combined gross enrolment rate for primary, secondary and tertiary schools.

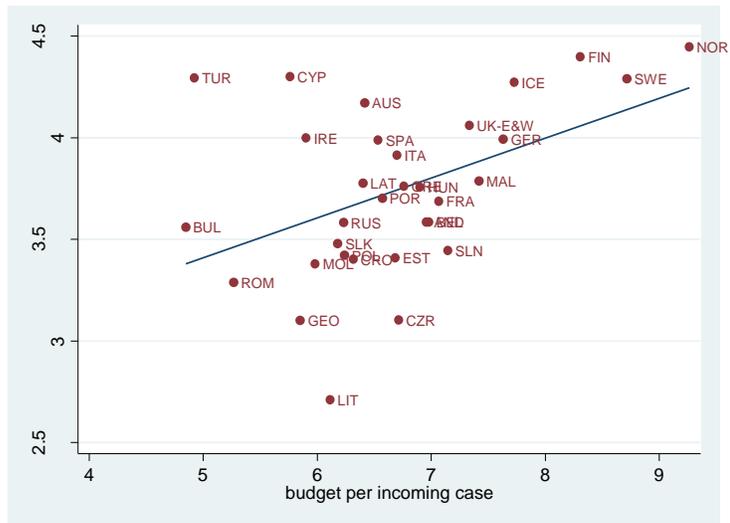


Figure 2: Budget per incoming case and trust in justice

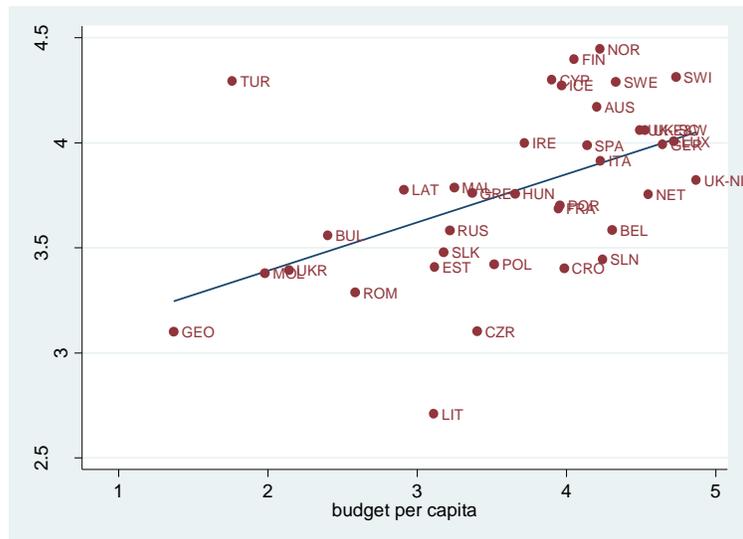


Figure 3: Budget per capita and trust in justice

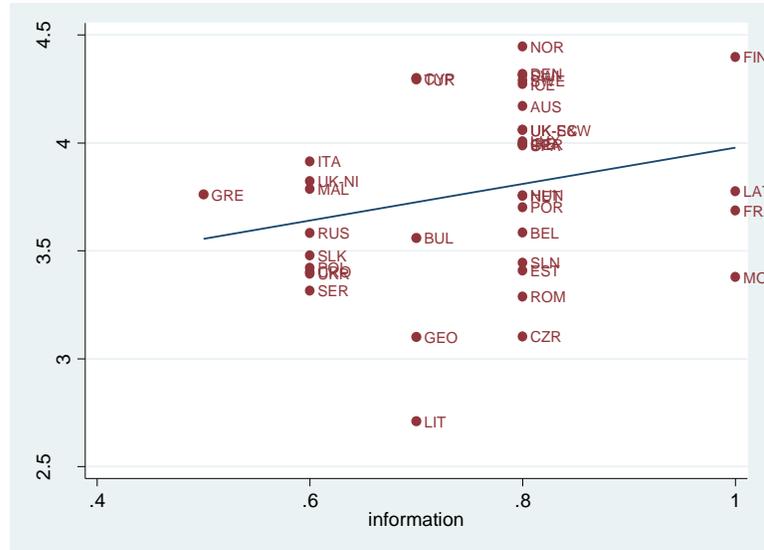


Figure 6: Information index and trust in justice

4. Regression results

We confirm the positive correlation between trust in justice and the budget-related variables after controlling for the environment variables described above: population, per capita GDP, democracy and education. Regression results are presented in Table 3. We regress trust in justice on budget per incoming case (equations 1, 3, 5 and 7) adding, respectively, the number of courts per 100 000 inhabitants (equation 3), the number of judges per inhabitant (5), and the information availability index (7) into the regression. Equations 2, 4, 6 and 8 follow the same steps, replacing budget per incoming case with budget per capita and controlling for the number of incoming cases per 100 000 inhabitants. Budget per incoming case and budget per capita exhibit a strong and significant positive relationship with the level of trust in justice. This relationship is generally significant at the 5-percent level (except in equation 1). The number of courts per 100 000 inhabitants also has a positive effect on trust in justice. The coefficient on courts remains stable across the different regressions and significant at the 10-percent level.

The control variable measuring per capita GDP loses significance when budget variables related to specific judicial expenditures are introduced: expenditure on labor (judges per 100 000 inhabitants), capital investments (court buildings per 10 000 inhabitants) or provision of information (information index). According to the regressions, the control variables “population” and “democracy” have no significant impact. Quite surprisingly, the control variable “education” does not have the expected sign: Education decreases trust in justice. This counterintuitive result is, however, the same as in Djankov et al. (2003b), where the proxy for education enters in regressions of perceived judicial quality with a negative sign. One explanation could be that more educated people are more likely to detect true failures in the functioning of the judicial system. They are more likely to have cognitive capabilities to evaluate the *objective* performance and

quality of the judicial system. Also, more educated people are likely to be more demanding about judicial quality, more critical of the judiciary, and less trusting. Another reason could be that Eastern European countries, which display substantially lower levels of trust in justice compared to the more confident (Northern) countries, do not present substantial differences in education levels due to their historical investments in this sector as former socialist nations.

The number of incoming cases per 100 000 inhabitants is negatively related to trust in justice as we had expected. Indeed, higher numbers of litigations may lead to congestion of courts and, thus, undermine public perception of the judicial system.

The variables “judges” and “information” are never significant for the whole sample, which does not necessarily lead to a rejection of our hypothesis that those budget-related variables may affect trust in justice in some countries. We will show that next, using 3 homogenous sub-samples.

One quite tricky point is that some of our trust-in-justice observations are from surveys conducted in 1999. Consequently our dependent variable sometimes *precedes* some of our budget-related explanatory variables (coming from 2004 and 2006). This raises the possibility that our estimates reflect reverse causation from trust in justice to the budget. Nevertheless, we can rule out this possibility *a priori* for two main reasons. First, following Zak and Knack (2001) we argue that:

[T]he extremely high correlation of trust from the [fourth] to the [fifth]-survey waves suggests that changes in trust over time are small relative to cross-country variations and that these values are likely reasonably good proxies for the desired – but unavailable – [fifth-wave] values for trust.

Second, many research works discussed in this paper provide both theoretical and empirical support for a negative causality link running from trust in justice to judicial resources. Thus, positive coefficients could be explained with difficulty by a positive impact of trust in justice on judicial budgets. Conversely, the established findings that trust impacts resources may negatively reinforce our result that trust is positively related to resources. Indeed, we are able to find a positive effect of judicial resources on trust in justice in spite of potential negative disturbances likely to reduce the positive expected effect. To ensure that we identify the causal effect from budget to trust, the best method would be to treat budget-related variables as endogenous. This would then require identifying instruments for them that are not related to trust in justice, which is quite difficult.

Table 3 : Trust in justice and judicial means - OLS estimates

Equation	1	2	3	4	5	6	7	8	9
Dependent variable	trust in justice								
per capita GDP	0.178*	0.110**	0.118	0.075	0.104	0.069	0.12	0.072	0.208
	(0.087)	(0.052)	(0.096)	(0.054)	(0.096)	(0.055)	(0.108)	(0.049)	(0.171)
education	-4.414*	-4.540*	-4.387**	-4.060*	-4.062**	-3.717*	-4.317**	-4.454**	-4.549**
	(2.23)	(2.334)	(1.7)	(2.015)	(1.865)	(2.109)	(1.822)	(2.042)	(2.224)
democracy	0.374	0.451	0.523	0.544	0.487	0.491	0.401	0.461	0.455
	(0.328)	(0.316)	(0.371)	(0.366)	(0.336)	(0.337)	(0.386)	(0.385)	(0.271)
population	0.031		0.032		0.036		0.038		0.027
	(-0.04)		(-0.036)		(-0.036)		(-0.038)		(0.04)
budget per case	0.159*		0.206**		0.255**		0.239**		
	(0.087)		(0.086)		(0.099)		(0.104)		
cases per 100 000 inhabitants		-0.113*		-0.134**		-0.160**		-0.123*	-0.143
		(0.065)		(0.062)		(0.067)		(0.061)	(0.088)
budget per inhabitant		0.217**		0.228**		0.257**		0.244**	0.402
		(0.086)		(0.089)		(0.095)		(0.089)	(0.302)
courts			0.183*	0.147*	0.189*	0.157**	0.186*	0.150*	
			(0.103)	(0.078)	(0.101)	(0.075)	(0.103)	(0.078)	
judges					-0.058	-0.052	-0.056		
					(0.051)	(0.052)	(0.052)		
information							0.357	0.391	
							(0.298)	(0.238)	
budget per capita*GDP									-0.024
									(0.04)
cons	-0.482	1.677*	-0.716	1.874**	-0.671	2.355**	-0.473	2.020**	0.723
	(1.104)	(0.821)	(0.992)	(0.855)	(1.022)	(0.928)	(0.969)	(0.863)	(1.361)
R ²	0.458	0.442	0.503	0.483	0.522	0.5	0.539	0.504	0.4534
N	31	36	31	36	31	36	31	36	36

Notes : Robust standard errors are shown in parentheses. The symbols *, **, *** mean that the coefficient is statistically different from zero, respectively at the 10-, 5-, 1-percent level. All the variables have been used in logarithm in the regressions.

We have shown that the means allocated to justice may have an impact on trust in justice, but not yet addressed the question of where the justice budget matters most? To test our prediction that the impact of the justice budget on trust in justice is higher in the poorest countries, we introduce an interaction term equal to per-capita-budget \times per-capita-GDP in the multiple regression (equation 9). The *negative* coefficient on this interaction term provides support for the previous argument that the effect of the justice budget is higher in the relatively poorest countries. However, the coefficient is not significant at the 10-percent level in the multiple regression. This is why we have conducted three F-tests to verify the validity of our results and establish whether the non-significant coefficient on the variable “budget per capita \times GDP” may be due to sampling error.

Table 4 : F-test		
H_0 : both of the coefficients on x and y equal to 0	F(2, 28)	Prob > F
x : budget per capita y : per capita GDP	0.88	0.4242
x : budget per capita y : budget per capita \times GDP	4.09	0.0277
x : budget per capita \times GDP y : per capita GDP	2.63	0.0895

Table 4 presents the results of our F-tests. According to the first F-test, the null hypothesis that the coefficients on both the per-capita justice budget and on per-capita GDP are equal to zero cannot be rejected. However, the second and third F-test show that one of the coefficients (at least) of the interaction term or budget per capita on one hand, and the interaction term or per capita GDP on the other hand, are not equal to zero. Those results give us the intuition that the coefficient on “budget per capita \times GDP” may not be null, although it does not appear significant in the regression (probably due to sampling error). Thus, we finally conclude that judicial resources may have a bigger impact on trust in justice in countries that are relatively less rich or developed.

Now, we would like to know whether any particular budget-related variables have a different impact on trust in justice as a function of the countries’ level of development. To do so, the next step in our analysis is to split the sample into three homogenous groups of countries. A methodological problem potentially arises here. Splitting our original sample will constrain us to repeat the regressions with a small number of countries. In this context, limiting the number of

explanatory variables will allow us to keep a sufficiently large number of degrees of freedom. For this reason, we would like to create homogeneous clusters of European countries, so we can eliminate control variables from the regressions. Thus, Table 5 checks for the relationship between the various environment variables and between the environment variables and legal origins.¹⁵

Table 5 : Pair-wise correlation of control variables

	education	democracy	per capita GDP	legal origin
education	1			
democracy	0.6079*	1		
per capita GDP	0.6145*	0.4674*	1	
legal origin	0.4642*	0.5652*	0.622*	1

Note : * means correlation coefficients significant at the 5% level or better.

The control variables are highly correlated with each other and highly correlated with legal origins, which is consistent with La Porta et al. (1999). The richest countries have Scandinavian, English or German legal origins and are also more educated with a higher level of democracy. Countries with French legal origins are less rich and have a lower level of education and democracy. Last, former socialist countries tend to be the poorest and present the lowest level of education and democracy. These findings bear out the clusters we identified from the simple correlations. Therefore it seems relevant to consider that relatively less developed countries tend to experience smaller levels of trust in justice and tend to devote fewer resources to their judicial systems.

Now, we can split the sample so that we have three homogeneous sub-samples (roughly sharing the same legal origins, having the same level of development and displaying similar levels of trust in justice):

1. The poorest countries with the lowest level of trust in justice: Albania, Armenia, Azerbaidjan, Bosnia and Herzegovina, Bulgaria, FYRO Macedonia, Georgia, Latvia, Lithuania, Moldova, Montenegro, Poland, Romania, Russian Federation, Serbia, Slovakia and Turkey (hereafter referred as group 1)
2. An intermediate group with Croatia, Cyprus, Czech Republic, Estonia, France, Greece, Hungary, Italy, Malta, Portugal, Slovenia, Spain and Ukraine (hereafter referred as group 2)

¹⁵ Following results from La Porta et al., we group Scandinavian, English and German legal origins. The other groups are countries sharing French legal origins on the one hand and countries sharing Socialist legal origins on the other hand.

3. The more developed countries having citizens more trustful towards justice: Austria, Belgium, Denmark, Finland, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Sweden, Switzerland and the UK (hereafter referred as group 3)

Constituting these homogeneous sub-samples allows the regression to be repeated without introducing environment variables and thus retaining a sufficiently high number of degrees of freedom.

Table 6 shows that, depending on the country, different factors have to be promoted to increase trust in justice. Columns (1), (2) and (3) in Table 6 respectively present the regression results for group 1, group 2 and group 3. For less developed countries (group 1), the only significant factor positively affecting trust in justice is the number of courts per 100 000 inhabitants. It is significant at the 10-percent level. This is consistent with the intuition that Eastern European countries, and especially former socialist countries, need to invest more in infrastructure (court buildings) to develop their judicial systems. Incidentally, according to the CEPEJ, this is what Eastern European countries are currently doing to promote “access to the court for the highest number.” Conversely, the CEPEJ has observed that Western and Northern European countries have adopted a strategy of specialization of courts. They tend to reduce the number of courts while increasing court competences, for both budgetary and efficiency reasons. In Central European countries (group 2) the general level of the per-capita budget has a statistically significant and positive impact on trust in justice.

Table 6 : Trust in justice and judicial means (by group)

OLS estimates			
Equation	1	2	3
Dependant variable	trust in justice		
budget per inhabitant	-0.315 (0.497)	0.304*** (0.067)	-0.17 (0.195)
courts	0.453* (0.192)	0.053 (0.115)	0.078 (0.111)
judges	0.299 (0.243)	-0.221** (0.078)	0.082*** (0.02)
information	-0.13 (0.726)	-0.153 (0.339)	0.676** (0.26)
cons	3.019*** (0.621)	3.275*** (0.36)	4.620*** (0.807)
R ²	0.542	0.706	0.44
N	10	13	14

Notes : Robust standard errors are shown in parentheses. The symbols *, **, *** mean that the coefficient is statistically different from zero, respectively at the 10-, 5-, 1-percent level. All the variables have been used in logarithm in the regressions.

Group 2 countries also display a statistically significant and *negative* coefficient for judges. This may suggest that they have insufficient means for dealing with incoming cases and administrative burdens. Thus, a relatively large number of judges appears to be counterproductive as long as the overall justice budget is small at the same time. Finally, column 3, describing the richest European countries, demonstrates strong relationships between trust in justice and two budget-related variables: the number of judges (significant at the 1-percent level) and the information index (significant at the 5-percent level). For the number of judges, the coefficient is relatively small, whereas the coefficient on information is particularly high. This suggests that the most developed countries, principally in Scandinavia, have to target investment at their systems for informing citizens about judicial rules, procedures, delays, and how to access to courts.

Two results are worth noting: the positive impact of the number of judges per 100 000 inhabitants in Northern European countries, and of the per-capita justice budget in Central European countries. Indeed, Buscaglia and Dakolias (1999) show that increasing the number of court personnel or general budget resources has no significant effect on the *objective* performance of courts (clearance rates and duration of case disposal, respectively). However, we here provide evidence that increasing the number of judges or the per capita budget may have a positive impact on economic decisions through a positive effect on trust in justice. This indirect effect is likely to occur even if increasing judicial resources has no direct effect on *objective* court performance.

Finally, we want to underline that what may improve trust in justice in the poorest countries (the number of courts) will involve more massive investments than are required to improve trust in justice in Northern countries (information systems). This seems to corroborate our intuition that the increase of judicial resources in less developed and less confident countries has to be greater than in more developed and more confident countries to improve the image of justice.

5. Conclusion

Our paper sheds new light on the debate about how legal institutions impact on economic outcomes. Our purpose was to show that, if the *effective* functioning and quality of the judiciary is important for economic performance, as pointed out in the existing literature, what people *think* about the judiciary, namely how they *perceive* it, also matters. The key insight here is that the organization of the justice system and, more specifically, the justice budget (which are highly correlated), are central to this debate. Indeed, we propose viewing legal design and its public cost as a possible transmission channel from law to economy, because of its impact on people's perceptions. Because people have limited rationality regarding the justice system, they refer to *stimuli* to decipher the legal environment surrounding their transactions. We argue that the justice budget, playing the role of such a stimulus in a context of uncertain legal environment, is likely to have a positive impact on people's image of justice, and thus on their economic decisions.

We have chosen to focus on the justice budget for three different reasons. The first is that the budget allocated to the organization of justice is the object a very commonly shared belief by citizens in a country. Surveys show that most individuals in a country have about the same opinion about whether the budget of justice is adequate to organize the judicial system in an

efficient way. And the fact is that, in most countries, people consider that the judiciary lacks the means to run efficiently. On this basis, we have argued that a high (higher) justice budget is likely to be interpreted as a commitment from the government that substantial public resources will be dedicated to better enforce property rights. This will reduce the expected cost of transactions and enhance economic performance. The second reason to focus on the justice budget is that it is linked in important ways to organizational stimuli that have clearly been identified in existing surveys. In other words, providing people with ready access to justice, with information about court proceedings or with competent court personnel, for example, is expensive and requires a relatively large justice budget. Thus, as those organizational variables have already been shown to affect people's image of justice, we expect the correlated justice budget to also play a role in people's beliefs. Last, from a more methodological point of view, focusing on the justice budget allows us to accede to interesting and available budget-related data, whereas more subjective data about independence, neutrality, impartiality, competence, etc., are neither available nor relevant to an empirical analysis (because they are not comparable between countries). Drawing on a new and original database from the CEPEJ and well-known data from the WVS (used as proxies for judicial perception) we have provided empirical support for our hypothesis.

Our main results are the following: First we show that some variables related to different aspects of judicial investment—the overall amount of resources allocated to the judicial system, court buildings—are positively correlated with the average level of trust in justice. Second, we provide evidence that the impact of judicial resources on trust is bigger in the poorest European countries, which also featured smaller justice budgets and lower levels of trust initially. Last, our paper leads to some interesting implications for public policy. Indeed, we have shown that the budgetary determinants of factors of trust in justice are not the same irrespective of the countries' initial level of confidence in justice and the stage of institutional and economic development. Less well-developed European countries particularly need to invest in judicial infrastructures (court buildings), intermediary countries need to focus on general judicial resources to improve judges' working conditions, whereas more developed European countries have to increase their court staffs to a limited extent and improve their systems for informing citizens to a greater extent. This last result tends to reveal that a "*judicial resources threshold*" does exist. At the beginning, heavy investments in justice are needed to shape a positive image of justice (typically court buildings and judges), but when trust in justice becomes sufficiently high, positive externalities allow investing in less consequential judicial factors (information systems). Thus, our result that judicial resources positively affect trust in justice does not imply that judicial resources should be increased without limits, because making more judicial investments may become counterproductive beyond a threshold.

We finally would like to stress some interesting overlaps with Hadfield (2011), who recently blazed a trail to new research on the role of organizational aspects of judicial systems in understanding the link between legal institutions and economic growth. Glaeser et al. (2004) also suggest that scholars should think more about concrete policy adapted to improving the quality and credibility of legal institutions. Finally, our empirical conclusion is also consistent with La Porta et al. (1999), who show that larger governments (here corresponding to government investing significant amounts in judicial resources) tend to be of higher quality (perception is here viewed as one aspect of the quality of justice). Aside from a few papers, the literature on the topic is scant, and more attention still has to be paid to both judicial organization and judicial perception. We hope that this paper will contribute to stimulate research in this direction.

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