

van Aaken, Anne; Feld, Lars P.; Voigt, Stefan

Working Paper

Power over prosecutors corrupts politicians: cross country evidence using a new indicator

CESifo Working Paper, No. 2245

Provided in Cooperation with:

Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

Suggested Citation: van Aaken, Anne; Feld, Lars P.; Voigt, Stefan (2008) : Power over prosecutors corrupts politicians: cross country evidence using a new indicator, CESifo Working Paper, No. 2245, Center for Economic Studies and ifo Institute (CESifo), Munich

This Version is available at:

<https://hdl.handle.net/10419/26290>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Power over Prosecutors Corrupts Politicians: Cross Country Evidence Using a New Indicator

ANNE VAN AAKEN
LARS P. FELD
STEFAN VOIGT

CESIFO WORKING PAPER NO. 2245
CATEGORY 2: PUBLIC CHOICE
MARCH 2008

An electronic version of the paper may be downloaded

- *from the SSRN website:* www.SSRN.com
- *from the RePEc website:* www.RePEc.org
- *from the CESifo website:* www.CESifo-group.org/wp

Power over Prosecutors Corrupts Politicians: Cross Country Evidence Using a New Indicator

Abstract

It is hypothesized that prosecution agencies that are dependent on the executive have less incentives to prosecute crimes committed by government members which, in turn, increases their incentives to commit such crimes. Here, this hypothesis is put to an empirical test focusing on a particular kind of crime, namely corruption. In order to test it, it was necessary to create an indicator measuring de jure as well as de facto independence of the prosecution agencies. The regressions show that de facto independence of prosecution agencies robustly reduces corruption of officials.

JEL Code: H11, K40, K42.

Keywords: corruption, prosecution agencies, judicial independence and positive constitutional economics.

Anne van Aaken
Max Schmidheiny Tenure Track Professor for Law and Economics
University of St. Gallen
Department of Law
Guisanstr. 36
Switzerland – 9010 St. Gallen
anne.vanaaken@unisg.ch

Lars P. Feld
University of Heidelberg
Alfred-Weber-Institute
Grabengasse 14
Germany - 69117 Heidelberg
lars.feld@awi.uni-heidelberg.de

Stefan Voigt
Philipps University Marburg
Chair of Economics
Barfüßertor 2
Germany – 35032 Marburg
voigt@wiwi.uni-marburg.de

The authors would like to thank dozens of country experts listed at the end of the paper. Without their help, this study would not have been possible. Previous versions of the paper were presented at the annual meetings of the European Association of Law and Economics, the European Public Choice Society, the Public Choice Society, the International Society for the New Institutional Economics, the Verein für Socialpolitik, the European Consortium for Political Research, a brown bag lunch at the World Bank and the Law & Economics Workshops of the University of California at Berkeley, the ETH Zurich and the University of Zurich. We thank the participants of these conferences and workshops for very valuable comments. Many participants helped to improve the quality of the paper. Peter Collin, John Donohue, Marie-Theres Foegen, Tom Ginsburg, Walter Marcus-Jones and Thomas Weigend helped more than once with their expertise on criminal procedural law and legal history. Jürgen H.P. Hoffmeyer-Zlotnik (ZUMA-Mannheim) helped to improve the underlying questionnaire and Jörg Arnold and Jan-Michael Simon from the Max Planck Institute for Foreign and International Criminal Law (Freiburg, Germany) arranged for a number of contacts in Latin America.

Power over Prosecutors Corrupts Politicians: Cross Country Evidence Using a New Set of Indicators

1 Introduction

Over the last ten years, both the consequences and the causes of corruption have been important research topics. Mauro (1995) was one of the first to show that corruption is detrimental to investment and growth. If that is the case, identifying the causes of perceived corruption becomes an issue. Here, Treisman (2000) is the seminal paper showing that high income levels are the best predictor for the absence of perceived corruption. Other determinants for the absence of perceived corruption include historic variables (British rule, number of years of having been democratic), cultural variables (being protestant), but also institutional variables (not having a federal structure).

To date, the structure of judicial institutions as a potential determinant of corruption has received no attention. Yet, it seems likely that the structure of the judiciary plays an important role in determining corruption levels. This paper asks whether the organizational structure of prosecuting authorities affects corruption levels. It is based on a simple hypothesis: if prosecutors are subject to the directives of government members, then these government members could misuse this power to prevent the prosecution of crimes committed by people like themselves. This makes crimes – including corruption – more attractive and, hence, more likely. If prosecutors are, alternatively, independent from directives of government, then corruption levels are predicted to be lower.

In order to test this hypothesis, measures on the independence of prosecutors are needed. The first value-added of this paper is the construction of two such indicators: one capturing their formal independence (*de jure* PI) and another one capturing their factual independence (*de facto* PI). The *de jure* indicator summarizes up to 21 variables, the *de facto* indicator up to 7.

The indicator for *de jure* and *de facto* PI is available for 78 and 76 countries respectively. *De facto* PI turns out to be highly and robustly significant for explaining variation in perceived corruption: the more independent the prosecutors factually are, the lower the expected level of corruption, c.p.. *De jure* PI has an unexpected sign: more independence is correlated with more corruption. But this variable never reaches conventional significance levels. We argue that the unexpected sign is the result of reversed causality.

The remainder of the paper is organized as follows: in the next section, our key terms are defined and some theoretical hypotheses developed. Section 3 presents

the new indicator on the various aspects of prosecutorial independence. Our estimation approach and a description of the additionally used variables are presented in section 4. Our estimation results can be found in section 5. Section 6 concludes.

2 Some Theory

Before developing our hypotheses, we start with some central definitions: Corruption is defined as the misuse of public office for private benefit. Private benefit need not be confined to individual benefit but can include benefits to political parties and other associations.

The office of the public prosecutor takes on different names in different countries, e.g. Crown Prosecution Service, Public Attorney's Office, Department of Public Prosecution, Public Prosecution Authority, Attorney General Office, State Attorney Office etc. For simplicity, the generic term “procuracy” is used to include all of these. If one thinks in terms of a value chain, the procuracy can be separated from the police, which is part of the executive, on the one hand, and from the judiciary, on the other. The following criteria should all be fulfilled in order to qualify as a procuracy: (i) it has the competence to gather information on the behavior of criminal suspects, or to instruct the police to gather more information; (ii) on the basis of that information, it has the competence to indict a suspect; (iii) during a trial it represents the interests of the public.¹

The likelihood of a government member becoming corrupt depends on the expected utility of corruption. A higher likelihood of corrupt behavior being prosecuted is expected to be correlated with lower levels of corruption, *c.p.*. There is, hence, a close interdependence between the behavior of government members and the behavior of members of the procuracy. We assume that prosecutors maximize the same that everybody else does² and that their incentives are shaped by the in-

¹ Empirically, investigative committees that are part of the legislature often inquire into executive crimes during the course of duties. Their competences differ widely. In this paper, we refrain from considering them because they are not part of the permanently established prosecution agency. Their action depends on discretionary acts of parliament. Additionally, their focus is often restricted to crimes committed during the course of office or even more narrowly to breach of duty of office, whereas our focus is, as just spelled out, broader.

² Posner (1994) asks: “What Do Judges Maximize?” and answers: “The Same Thing Everybody Else Does”. We extend this assumption to prosecutors. Glaeser et al. (2000) explicitly ask: “What Do Prosecutors Maximize?” They are specifically interested in the US setting in which concurrent competences between state and federal prosecutors play an important role.

stitutions structuring the procuracy as well as the relationship of the procuracy and other government offices. Prosecutors can be subject to directives by government members because competences are formally allocated to them. In this case, formal independence of prosecutors would be low. But prosecutors can also be subject to directives by government members because government members put pressure on prosecutors although formal institutions do not allocate such competence to them. In this case, factual independence of prosecutors would be low.

We argue that factual independence is crucial for how prosecutors behave. PI implies that prosecutors do not have to anticipate negative consequences as the result of their behavior such as (a) being expelled, (b) being removed against their will to another position or location or (c) being paid less. The factual independence of prosecutors from members of government is a necessary condition of prosecutors prosecuting crimes committed by members of government. Yet, it is not a sufficient condition. Independence from other government branches can also be misused: prosecutors could, e.g., turn lazy or prosecute primarily those whom they dislike. Such misuse of independence can possibly be curbed by leaving prosecutors only little discretion. Inactivity might also be curbed by giving third parties the competence to initiate proceedings against suspects. These additional aspects are also reflected in the indicator to be presented in the next section.³

The expected utility of corrupt behavior does not only depend on the (factual) independence of prosecutors, but also on the (factual) independence of judges. If judges are not independent from government, then corruption cases might be brought to court by prosecutors but not be sanctioned by judges. This means that an independent procuracy is primarily expected to have beneficial effects if the judges are also independent from government interference. This argument can also be turned around: in many countries, the procuracy acts as a gate-keeper to the courts. Judges cannot initiate proceedings but often depend entirely on prosecutors to bring a case before they can become active. This means that – at least with regard to criminal cases – an independent judiciary can only be expected to have any beneficial effects if the procuracy is also independent from government interference.

Additionally, the direct election of many prosecutors in the U.S. has a major impact on their behavior. In a sense, the US setting is unique.

³ There might be “too much” prosecutorial independence. Empirically, this could be tested by regressing corruption also on the quadratic term of the PI.

In cross country settings, omitted variable bias always looms large. This is why there are a number of potentially significant control variables. It could be argued that the likelihood of corrupt behavior being prosecuted depends on the degree of political competition observed in a country. Suppose one party has been controlling all important offices for many years and contrast that with another country in which representatives of various partners hold important positions all the time. It appears plausible to assume that government corruption is lower in the second country. This will be controlled for by taking the realized level of checks and balances explicitly into account.

The last argument assumed that opposition interested in prosecuting corruption could reduce the likelihood of corrupt behavior. A press enjoying a high degree of freedom can also substantially reduce the expected utility from corrupt acts – and, hence, make them less likely. It is possible that a free press can re-enforce some of the effects already discussed. It appears worthwhile to estimate interaction effects.

Fighting corruption has been high on the development agenda for a number of years. Some states have even founded specific agencies that have the sole task of combating corruption. It could be that such agencies increase the likelihood of corrupt behavior being prosecuted which could, in turn, reduce the coefficient of the PI-indicator variable.⁴

3 A New Indicator on Prosecutorial Independence

3.1 Introductory Remarks

In this section of the paper, we introduce two new indicators. They have been constructed relying exclusively on verifiable information – and not on subjective evaluations of any country experts. Anybody interested in recalculating the indicators should, at least in principle, arrive at identical values. They consist of up to 28 variables and we present them in various groups that can be kept apart in order to test for the specific influences of specific aspects of prosecutorial independence. The most important separation is that between *de jure* PI and *de facto* PI. The variables that make up *de jure* PI can all be found in legal documents whereas *de facto* PI is concerned with their factual implementation. Within *de jure* PI, five

⁴ But it could also be that anti-corruption agencies and corruption are positively correlated if such agencies are founded because a society seriously suffers from problems with corruption. We might, hence, deal with a problem of reversed causality.

aspects are elaborated upon separately. These are (1) general institutional traits (such as whether the prosecution agency is mentioned in the Constitution, what the formal qualifications are that one needs to have in order to become a prosecutor etc.), (2) the personal independence of prosecutors (including appointment, promotion, transfer and removal from office), (3) the formal independence from government (right of government members to give positive/negative instructions to prosecutors), (4) the issue whether the procuracy enjoys a monopoly in initiating prosecutions or whether there are alternative ways to get prosecutions started and (5) the degree of discretion that prosecutors enjoy in pursuing their cases. Each of the variables used can take on values between 0 and 1 where greater values indicate a higher degree of PI. There are various ways to aggregate the single variables into an overall indicator: the first option is to sum up all codings for all available variables and then divide by the number of variables for which information is available. We call this the unweighted *de jure* indicator. Alternatively, the five sub-indicators just mentioned could be summed and then normalized. This implies a weighting of the variables, since the variables contained in sub-indicators with a low number of variables are weighted relatively more heavily than those contained in sub-indicators with a high number of variables. In the regressions we always use the unweighted indicator.

Information was enquired by country experts via a questionnaire that was e-mailed to them. For filling in the questionnaire, the country experts did not have to make personal evaluations of the situation in their country, but were asked to simply give information on the legal structure of the procuracy. Among the country experts were Supreme Court judges, law professors, lawyers but also activists from organizations such as Transparency International. Mails were sent to far more than 78 experts – the number of countries for which data are available – but many recipients never answered or promised to fill in the questionnaire later. The choice of countries could be called ‘biased random’ due to a number of factors: contacts to legal experts are not equally spread around the world; the use of e-mail is also not equally distributed around the world. But cultural factors might also play in. The Middle and Far East as well as Africa are clearly underrepresented in our study. Notice that the codings were NOT contained in the questionnaire sent to the country experts.

For quite a number of countries, 2 or even more questionnaires were received. The degree to which the answers coincided was quite high. In case different answers were given, it was attempted to do some fact-finding based on the information given by the experts. Rarely, the coding was done solely on the basis of the more plausible answer, i.e. on its coherence with the other answers provided etc.

3.2 The *de jure* Components

3.2.1 General Institutional Traits of the Procuracy

It was asked whether the office of state prosecutor is mentioned in the Constitution of the country based on the hypothesis that an explicit mentioning in the Constitution can be interpreted as a signal that the founders of the Constitution believed the procuracy to be an important part of the political process [1; the numbers in brackets in the following two subsections refer to the numbers in the questionnaire that is reprinted as appendix 1]. In order to further ascertain the relevance that the legal order attributes to prosecutors, it was asked whether their formal qualification requirements are as demanding as that of judges – or less [14]. Closely related is the difficulty of removing prosecutors from office. Again, this was compared to the difficulty of removing judges from their office [28]. A last aspect of the general institutional set-up is whether incoming cases are allocated to specific prosecutors by a general rule. Such a rule reduces discretionary powers of members of the executive and/or the head of the procuracy [8]. The subindicator based on these four variables is called “general”.

3.2.2 Personal Independence of Prosecutors

The personal independence of prosecutors can be the result of various institutional arrangements concerning the nomination, election and appointment procedures of prosecutors as well as promotion and removal from office. We distinguish between high-level prosecutors, such as the state prosecutor, or general prosecutor / attorney general, and other prosecutors as appointment/election procedures may differ substantially between the low-level prosecutors and the high level ones. The appointment of high-level prosecutors is assumed to be decisive as they usually have an internal right of instruction.⁵

Appointment

In determining the personal independence of the procuracy from the executive and the legislature, three aspects are considered, namely (i) term length [19], (ii) renewability [19], and (iii) appointing organ [18]. Life tenure and appointment by

⁵ Appointment of low-level prosecutors is usually done by the high level prosecutor or the minister of justice. The decision is usually based on merits or grades. Due to the hierarchical structure of the procuracy, the appointment of low-level prosecutors is of little influence for the probability of crimes committed by government members to be prosecuted, which allows us to neglect this point.

others than politicians guarantees the greatest personal independence, while appointment by politicians for a renewable term generates the lowest independence, as it can be expected to motivate prosecutors to cater to the interests of the organ that has the power to re-elect them. Appointment for a non-renewable fixed term generates more personal independence than appointment for a renewable term.

Promotion/Transfer of Prosecutors /Removal from Office

The behavior of prosecutors towards members of the executive is influenced by the degree to which members of the executive determine a prosecutor's career. Relevant aspects include (i) promotion [23], (ii) removal from office [24, 25], and (iii) transfer [26].

(i) Even if prosecutors enjoy tenure, a promotion procedure monopolized by politicians can decrease personal independence. Hence, if representatives of the public prosecutors participate in this process, political influence via the promotion process is expected to be lower than in countries where (representatives of) prosecutors are not asked. Self-governing bodies of the procuracy, which can decide on promotions are supposed to lead to the highest degree of independence.

(ii) The same argument applies to removal from office. If prosecutors may be removed at will by the executive, the incentive to resist political pressure is reduced.

(iii) Transfers to other offices (including in other cities) might be a device for heavy pressure if they can be carried out against the will of the prosecutor. This is the reason why the principle of non-transferral against the will is often named as part of the concept of judicial independence. Application of this principle to the procuracy will make it less dependent on others.

The sub-indicator based on these seven variables is called “personal narrow”. This implies that there is also another sub-indicator called “personal broad” which is, indeed, the case. In addition to the seven variables of “personal narrow”, it takes into consideration whether low level prosecutors and criminal law judges enjoy tenure [20, 21].

3.2.3 Formal Independence of Prosecutors

Prosecutors may be subjected to orders regarding individual cases they handle. We propose to distinguish between instructions given by superiors within the prosecution agency (internal orders [7]) and instructions given by officials outside the procuracy, e.g., by the minister of justice (external orders [6]). The absence of external instructions is assumed to be more important for the probability of crimes

committed by government members being prosecuted than the possibility of the head of the procuracy to give orders to low level prosecutors because it allocates ultimate decision-making with regard to the prosecution of such crimes to the executive. If no external instructions may be given, prosecutors are called formally independent.

The Power to Substitute a Prosecutor in Handling a Specific Case

A functional equivalent of the right to give orders is the right to substitute prosecutors working on a specific case [9, 10]. This is functionally equivalent because it endows the hierarchical superior giving orders to have his line of prosecution carried out (or else having the case taken away). The combination of the power to give external orders to the high prosecutor and his or her authority to give internal instructions or to substitute the prosecutor working on the case, amounts to a rather direct way of influencing the investigation. Nevertheless, substituting the prosecutor might attract more public attention and criticism than instructions given in camera to the prosecutor handling an investigation. The sub-indicator based on these four variables is called “formal”.

3.2.4 Monopoly in Prosecution?

If the procuracy enjoys a monopoly to prosecute crimes, economists would expect a lower total number of prosecutions compared to institutional arrangements in which prosecutorial activities are not confined to the procuracy. Such a monopoly, even when politicians cannot formally instruct or interfere with the prosecutor’s decision, provides incentives for politicians who are at risk of being prosecuted to influence the procuracy by, for example, intervening in their appointment process or offering bribes. If other actors can also initiate a trial, it will be more difficult to prevent being prosecuted through such means.

There are various possibilities to institutionalize competition in prosecution: the competence to indict can also be given to the police, to interested private parties, e.g. the victim (or her family) who might have the right to force public prosecution or to initiate proceedings independently, or to certain interest groups, such as child protection groups, environmental groups, or taxpayer associations. The latter avenue might be more effective in combating corruption, since many corruption cases are so-called victimless crimes in which there is no individual victim; the victim is the public at large. Taking a case to court thus amounts to the production of a public good. Interest groups can be assumed to be more likely to contribute to its production than individuals [4].

Opening up additional channels for prosecution can also be interpreted as increasing the accountability of prosecutors as they will have to justify why it was not them who initiated proceedings. Another means of making the procuracy accountable can be to make its decisions subject to judicial review [13]. If actors can force the procuracy to become active via a judicial decision, this increases the incentives of the procuracy to prosecute cases. The sub-indicator based on these two variables is called “monopoly”.

3.2.5 Degree of Discretion in Prosecution

The existence of discretion in individual decisions regarding prosecution is likely to have an impact on the chances of public figures being prosecuted [2, 3]. The degree of discretion is influenced by the adoption of the mandatory principle, but also by “hidden” components of discretion, such as the ability to drop a case due to insufficient evidence or not concentrating enough efforts to conduct serious investigations.

The legality principle – sometimes also called the principle of mandatory prosecution – commands that every case in which there is enough evidence of an offence having been committed has to be brought to court. The opportunity principle, in contrast, grants a prosecutor some discretion concerning the indictment decision given the same amount of evidence. The opportunity principle confers more discretion to the procuracy than the legality principle, as it allows broader justifications for non-prosecution of cases.⁶ Other things being equal, the prosecution of crimes committed by government members is expected to be higher under the mandatory principle than under the opportunity principle. The sub-indicator constructed on the basis of these variables is called “discretion”.

3.3 *De facto* Prosecutorial Independence

We now turn to possible ways of measuring PI as factually implemented. As with regard to the *de jure* indicator, no one single proxy adequately reflects all relevant aspects of PI. To assess *de facto* PI, up to seven variables have been used. Again, each of these variables can take on values between 0 and 1 where greater values indicate a higher degree of PI.

⁶ Although this conceptual distinction is watertight, empirically one can observe that prosecutors almost anywhere enjoy some degree of explicit discretion in their decision to indict (or not to indict). In most legal systems, charges can be dismissed by the prosecutor on the basis of policy considerations. Lack of public interest in prosecution is a prominent example.

The *de jure* indicator is based on various legal documents. Even if they are changed frequently, exact values can be calculated for every single point in time, depending on the formal validity of the respective documents. This does not hold for *de facto* PI. Counting the number of times that prosecutors have been removed against their will makes only sense if a minimum period is taken into account (for this variable, the decade from 1991 to 2000 was chosen). For others, such as the development of the real income of prosecutors, an even longer period (between 1960 and 2000) was chosen. This means, of course, that the indicator will be very sticky in comparison to the *de jure* indicator. We chose this approach because we think the past matters for how PI is evaluated by citizens and other potentially relevant actors such as investors. Government will not be able to build up a reputation as law-abiding or PI-respecting overnight. Here is a list of the six variables and the reasoning used for coding them:

(1-2) If prosecutors are forced to retire against their will or are removed from office against their will [22, 27], this can be interpreted as a sign that their factual independence is low. The more frequently such forced changes occurred, the lower the score a country received.

(3) Frequent changes in the legal foundations concerning the prosecution of crimes committed by members of government [29] can be caused by attempts of other government branches to increase their influence over the procuracy. Frequent changes increase uncertainty among the members of the procuracy. The more changes occurred, the lower the score a country received.

(4-5) In order to be factually independent, prosecutors need to be paid adequately. Additionally, in order to do a good job, the budget of the procuracy needs to be adequate. A very conservative criterion was used in order to ascertain these two aspects empirically, namely whether the income of prosecutors had remained at least constant in real terms since 1960 [30] and whether the budget of the prosecutorial offices had remained at least constant since 1960 [31].

(6) The last variable focuses on a different aspect – and offers additional information rather than belonging to the core of prosecutorial independence. It was also asked how many cases are initiated by actors other than the state prosecutors. The interpretation of this number is, however, debatable: on the one hand, one could argue that a high number indicates that the prosecutorial process is not monopolized by the procuracy. They do not prevent cases from being taken to the court. In that interpretation, a high number of cases should thus indicate not a high factual degree of PI, but a high chance of criminal cases being prosecuted. On the other hand, one could argue that a high number of cases being prosecuted by oth-

ers is a signal that the threat potential of others initiating prosecutions is not sufficient in order to induce the prosecutors to do their work. The second interpretation presupposes an ideal in which close to all cases should be prosecuted by the procuracy. But there can be legal systems that do not share that ideal. We just opt in favor of the first interpretation, in which a high number of cases initiated by others than state prosecutors is taken as a positive sign for the likelihood of criminal cases being taken to court.

(7) It can be argued that the factual independence of prosecutors also depends on the number of politically motivated assassinations counted in a country. If prosecutors fear they could be the object of an assassination attempt, this might make them less tough in prosecuting government members if they suspect government behind some of the assassinations. The number of assassinations was not an item in the questionnaire. Instead, the figures contained in Bank's Cross-National Time-Series Data Archive (2004) and defined as "Any politically motivated murder or attempted murder of a high government official or politician". The numbers for the years 1999 to 2003 were summed up and then normalized by population size and coded such that more assassinations lead to lower scores (Lebanon scored .17, Trinidad and Tobago .18, Armenia 0.19 and Colombia .26. Then there is a huge gap with Bolivia being ranked fifth but scoring .70).⁷

A systematic stock-taking of the various prosecutorial systems realized in the world has never taken place.⁸ Since the focus of our analysis is on the impact of PI on corruption, we can only address the data on PI briefly. It is most interesting to note that *de jure* and *de facto* PI deviate strongly from each other. While, for example, Argentina (rank 1), Armenia (rank 2) and Latvia (rank 3) occupy the top positions in the *de jure* indicator, England (rank 51), Switzerland (rank 62), Germany (rank 64), the U.S. (rank 68), Australia (rank 69), France (rank 70) and Denmark (rank 76) fare relatively badly. This picture turns in the case of *de facto* PI with Argentina (rank 69), Armenia (rank 54) and Latvia (rank 45) not occupying top places anymore. Here, the highly developed countries fare a lot better with

⁷ It proved to be more difficult to receive information on *de facto* than on *de jure* variables. We decided to include countries into the ranking even if information on only two variables was available. To check the robustness of results, regressions were rerun increasing the minimum number of available variables one by one (which meant reducing the number of observations). Results remained, however, virtually unchanged.

⁸ This is even true for the legal science. Dressler (2002) has edited an Encyclopedia of Crime and Justice which does, however, not contain a systematic comparison of the various systems.

France (rank 1), Australia (rank 8), Denmark (rank 14), Switzerland (rank 17), England and the U.S. (jointly on rank 18) and Germany (rank 28). Indeed, the correlation coefficient between *de jure* and *de facto* PI is -0.214 and thus negative.⁹ Given the negative correlation, the question emerges what mechanisms are at work transforming *de jure* into *de facto* PI, a question which is, however, beyond the scope of this paper. Yet, this surprising finding will be shortly discussed in the next section.

4 The Estimation Approach

A canonical model to explain corruption could be obtained neither from a theoretical inquiry (see Aidt 2003) nor from empirical analyses (see Seldadyo and De Haan 2005, Serra 2006). Seldadyo and De Haan (2005) and Serra (2006) conduct extreme bounds analyses to identify those determinants of corruption that had been found to have an impact on corruption in previous empirical studies and that remain robust performing an extreme bounds analysis. Although their analysis provides some hints as to the robustness of different factors, no parsimonious clear-cut baseline specification follows from their inquiry. In order to test the impact of PI on corruption, we thus estimate the following model:

$$CPI_i = \alpha + \beta M_i + \gamma PI_i + \delta JI_i + \varepsilon Z_i + u_i \quad (1)$$

where the dependent variable CPI, stands for the average Corruption Perceptions Index for the years 1998 to 2006. The CPI ranks countries by their perceived levels of corruption, as determined by expert assessments and opinion surveys. The index is constructed on the basis of surveys from up to 13 independent organizations carried out among resident and non-resident country experts with a focus on corruption in the public and political sectors. The index can take on values between 0 (very high corruption levels) and 10 (corruption free). We have multiplied the index by (-1) in order to make the regression results more easily accessible. A positive sign of an estimated coefficient then indicates that the respective variables is associated with higher corruption levels and vice versa.

The explanatory variables are:

⁹ In a study based on a very similar research design, Feld and Voigt (2003) found that the partial correlation between *de jure* and *de facto* judicial independence was only .167. The correlation coefficient between *de facto* PI and *de facto* JI amounts to 0.331, and that between *de jure* PI and *de jure* JI to 0.111.

M	a vector of variables that proved significant in explaining corruption in previous studies. Following Treisman (2000) and Seldadyo and De Haan (2005), our M-vector contains (i) per capita income in 1990; (ii) trade openness as the sum of a country's exports and imports in percent of GDP, (iii) population size, (iv) the percentage of the population that declares to be protestant and (v) a dummy for former British colonies;
PI	a vector containing both <i>de jure</i> and <i>de facto</i> PI;
JI	a vector of the <i>de jure</i> and <i>de facto</i> index of judicial independence as introduced by Feld and Voigt (2003),
Z	a vector of additional controls; these are mostly institutional or political;
u	a stochastic term.

Exact definitions and sources of all variables can be found in the appendix. The estimation strategy consists in running a baseline regression based on the M-vector, then establishing a basic impact of PI on corruption and finally extending the models further by running several robustness checks.

5 Estimation Results

The estimation results of the baseline specifications are presented in *Table 1*. As the results show, the models perform relatively well. Without reporting the individual results we have also tested the null hypothesis of normal distribution of the residuals which cannot be rejected in any of the regressions. Thus, there are no outliers which we need to take care of. In particular, there is no need to particularly focus on the U.S. as our footnote 2 might imply. The first equation reveals that the M-vector can already account for more than 80% of the variation in perceived corruption levels. Countries with high per capita income that used to be a British colony and whose population is protestant are likely to suffer from low levels of corruption only. While openness and population size have signs already found in other investigations these variables do not turn out to be significant on any conventional significance level. Equations (2) through (5) serve to introduce various combinations of the PI and the JI vectors. Surprisingly, the index of *de jure* prosecutorial independence has a positive sign implying that higher levels of

de jure PI are correlated with higher levels of perceived corruption. This variable never reaches conventional levels of significance though.¹⁰

Table 1: OLS-Regressions of the Average Corruption Perception Index (Inverse) between 1998 and 2006 on Prosecutorial Independence and Controls, Baseline Specifications

Variables	(1)	(2)	(3)	(4)	(5)
<i>De jure</i> PI	–	0.619 (0.69)	–	0.545 (0.59)	0.500 (0.51)
<i>De facto</i> PI	–	–	-0.812** (2.89)	-0.807** (2.90)	-0.624* (2.24)
<i>De jure</i> JI	–	–	–	–	0.539 (0.64)
<i>De facto</i> JI	–	–	–	–	-1.252* (2.49)
Real GDP/cap in 1990 (in \$ 1'000)	-0.258** (14.53)	-0.257** (13.93)	-0.244** (14.29)	-0.242** (13.61)	-0.220** (10.26)
Openness (average 1990–2000)	-0.004 (1.32)	-0.004 (1.29)	-0.002 (0.65)	-0.002 (0.64)	-0.004 (1.01)
Population size in 1990 (in 1'000'000)	-0.001 (0.83)	-0.001 (0.85)	-0.001 (0.86)	-0.001 (0.76)	-0.001 (0.95)
Protestants in % of population	-0.023** (5.27)	-0.022** (5.02)	-0.022** (5.36)	-0.022** (5.15)	-0.026** (5.37)
British colony	-0.575* (2.24)	-0.488(*) (1.69)	-0.403 (1.58)	-0.324 (1.08)	-0.468 (1.16)
Constant	-1.408	-1.738	-1.292	-1.581	-1.314
\overline{R}^2	0.851	0.853	0.861	0.862	0.882
RMSE	0.933	0.936	0.917	0.922	0.919
Observations	75	75	73	73	59

The numbers in parentheses are the absolute values of the estimated t-statistics. ‘**’, ‘*’ or ‘(*)’ show that the estimated parameter is significantly different from zero on the 1, 5, or 10 percent level, respectively. SER is the standard error of the regression.

De facto PI has the expected negative impact on corruption. In equation (3), it is significant at the 1 percent level. Including both *de jure* and *de facto* PI confirms the results from the two previous equations: *de jure* PI has an insignificant positive effect and *de facto* PI reduces corruption significantly. Equation (5) reveals,

¹⁰ This is also true when alternative specifications of the *de jure* indicator are used (regression results based on the weighted *de jure* index are virtually identical).

first, that these effects are robust to the inclusion of both *de jure* and *de facto* indicators of judicial independence although *de facto* PI loses some statistical significance but is still significant on the 5 percent level. Second, none of the *de jure* variables is significant whereas both *de facto* variables are significant on the 5 percent level. Third, *de facto* JI significantly reduces corruption as well.¹¹

The finding that *de jure* and *de facto* PI have opposite effects on perceived corruption levels is puzzling at first. Econometrically, it seems desirable to instrument PI. Yet, adequate instruments are hard to find. Before discussing pros and cons of possible instruments, we propose a simple argument: Both the causes and consequences of corruption have been high on the development agenda for the last 10 or 15 years. Some development aid is conditional on improvement in governance scores including corruption. It thus appears very plausible that high levels of corruption are a cause for major reforms, including criminal procedural law. Causality is, hence, reversed. This does, however, only hold for *de jure* PI as factual independence is not determined by well-intentioned declarations (i.e. fresh legislation) but by the factual behavior of government representatives over a long period. Our data support that view: the average value of *de jure* PI for the entire sample is .470. If a sub-sample containing only those countries that passed major revisions of their criminal procedural law in 1990 or later is constructed (N=27), this average rises to 0.5288. If, conversely, another sub-sample is constructed (N=43) in which no such reforms took place, the average is 0.4162. This is exactly what one would expect following our argument: recently passed legislation allocates a higher level of formal independence to the prosecutors than old legislation. It is also in line with our argument that this is turned around when the averages for *de facto* PI are calculated: whereas the average for the entire sample is 0.526, the more recent legislators only achieve 0.4227, whereas the more established countries secure 0.5893. As the estimated effect of *de jure* PI is not significantly different from zero and the regression results obtained remain robust to the exclusion of *de jure* PI, we do not undertake the endeavor to find valid instruments.

¹¹ The reader should not worry that the different estimated equations in Tables 1 to 3 are based on different numbers of observations. We have estimated all equations by restricting the number of observations to the following ones with less observations. E.g. in Table 1 this means that we have estimated equations (1) and (2) also with the same observations as equations (3) and (4), and equation (4) with the same observations as equation (5). The results did virtually not respond to the reduction in observations implying that it is the specification and not the reduced sample size that leads to changes in estimation results as compared to previous equations.

Table 2 reports the results from further robustness checks. The main message is that *de facto* PI always remains significant for explaining variation in corruption perception levels. *De jure* PI keeps its unexpected positive sign but never reaches conventional significance levels. In most equations in both table 1 and table 2, the

Table 2: OLS-Regressions of the Average Corruption Perception Index (Inverse) between 1998 and 2006 on Prosecutorial Independence and Controls, Robustness Analysis

<i>Variables</i>	(1)	(2)	(3)	(4)	(5)
<i>De jure</i> PI	0.873 (0.89)	0.600 (0.65)	0.270 (0.29)	1.039 (1.20)	0.686 (0.78)
<i>De facto</i> PI	-0.736* (2.55)	-0.739** (2.71)	-0.901** (3.18)	-0.644* (2.26)	-0.691* (2.49)
Polity IV	-0.033 (1.10)	–	–	–	0.019 (0.56)
Checks 1995	–	0.155 (1.54)	–	–	0.160(*) (1.70)
Anti Corruption Agency	–	–	0.580(*) (1.87)	–	0.750** (2.79)
Freedom of the Press	–	–	–	-0.025** (2.83)	-0.032** (3.04)
Real GDP/cap in 1990 (in \$ 1'000)	-0.229** (10.57)	-0.249** (13.23)	-0.236** (14.03)	-0.198** (8.11)	-0.192** (7.64)
Openness (average 1990–2000)	-0.002 (0.52)	-0.003 (0.86)	-0.001 (0.37)	0.000 (0.10)	0.001 (0.37)
Population size in 1990 (in 1'000'000)	-0.001 (1.03)	-0.001 (0.48)	-0.001 (0.80)	-0.001 (1.62)	-0.001 (1.47)
Protestants in % of population	-0.022** (5.06)	-0.021** (4.38)	-0.023** (6.22)	-0.019** (4.33)	-0.019** (4.24)
British colony	-0.301 (1.00)	-0.288 (0.99)	-0.643(*) (1.78)	-0.350 (1.20)	-0.746* (2.48)
Constant	-1.712	-2.009	-1.574	-3.390	-4.238
\overline{R}^2	0.865	0.867	0.869	0.878	0.895
RMSE	0.920	0.913	0.904	0.873	0.829
Observations	73	73	73	73	73

For notes see Table 1.

point estimate of *de facto* PI is between 0.6 and 0.9. We interpret this as meaning that a country that switched from a completely dependent procuracy to a completely independent one would, *c.p.*, improve its CPI level between 0.6 and 0.9. It would enable a country to switch from the level of the Czech Republic (4.28) to

that of Hungary (5.04) or from that of Malaysia (5.16) to Estonia (5.88) or Slovenia (5.89).

A high level of democracy (reflected in a high Polity IV score) is correlated with less corruption, but without becoming significant. We further conjectured that a higher level of factually realized checks and balances would decrease corruption. This is not the case; the coefficient is even positive and sometimes even marginally significant. Equation (3) in Table 2 contains a dummy variable for Anti-Corruption Agencies. Countries that have such agencies do suffer from higher levels of corruption. This suggests that causality might be reversed here: because corruption is high – and perceived as a problem – an anti-corruption agency is founded. Equation (4) shows that a high degree of press freedom is correlated with significantly lower levels of corruption (notice that we have also recalculated the original variable by multiplication with (-1)). Finally, estimating the full model in equation (5) with all variables used for robustness checks indicates that *de facto* PI remains significantly negative while press freedom also restricts corruption significantly.

The regression results presented in Table 3 show the effect of an interaction between *de facto* PI and freedom of the press. The first column in Table 3 simply replicates equation (5) of Table 2. This should serve as a benchmark for evaluating the interaction effects. Interacting *de facto* PI and freedom of the press in equation (2) leads to almost a tripling of the *de facto* PI coefficient. The interaction term is significantly different from zero and has a negative impact on corruption. Freedom of the press also has a negative sign, but is not significant anymore. This indicates that freedom of the press reinforces the restrictive impact of *de facto* PI on corruption. An F-Test on joint significance of *de facto* PI or of freedom of the press corroborates the results of equation (4) in Table 2. When the additional institutional and political control variables of equation (1) in Table 3 are included in the regression (equation (3)), the interaction term is not significant anymore. But the tests on joint significance indicate that freedom of the press and *de facto* PI keep their significant effects on corruption. As the interaction term is marginally significant, we can tentatively conclude that the reinforcing effect is

Table 3: OLS-Regressions of the Average Corruption Perception Index (Inverse) between 1998 and 2006 on Prosecutorial Independence and Controls, Robustness Analysis

<i>Variables</i>	(1)	(2)	(3)	(4)	(5)
<i>De jure</i> PI	0.686 (0.78)	1.171 (1.40)	0.825 (0.95)	0.404 (0.45)	0.606 (0.63)
<i>De facto</i> PI	-0.691* (2.49)	-1.804** (2.69)	-1.607* (2.47)	-0.497 (1.56)	-1.611(*) (1.70)
<i>De jure</i> JI	–	–	–	0.294 (0.46)	0.493 (0.72)
<i>De facto</i> JI	–	–	–	-0.873(*) (1.98)	-0.793(*) (1.84)
Freedom of the Press	-0.032** (3.04)	-0.009 (0.81)	-0.019 (1.44)	-0.034* (2.69)	-0.019 (1.13)
<i>De facto</i> PI* Freedom of the Press	–	-0.037(*) (1.84)	-0.029 (1.50)	–	-0.037 (1.10)
Polity IV	0.019 (0.56)	–	0.016 (0.48)	0.001 (0.02)	-0.011 (0.23)
Checks 1995	0.160(*) (1.70)	–	0.160(*) (1.70)	0.067 (0.56)	-0.070 (0.59)
Anti Corruption Agency	0.750** (2.79)	–	0.709** (2.76)	0.441 (1.65)	0.389 (1.55)
Real GDP/cap in 1990 (in \$ 1'000)	-0.192** (7.64)	-0.190** (7.38)	-0.186** (6.87)	-0.169** (5.54)	-0.161** (4.51)
Openness (average 1990–2000)	0.001 (0.37)	0.001 (0.20)	0.001 (0.43)	-0.001 (0.27)	-0.001 (0.19)
Population size in 1990 (in 1'000'000)	-0.001 (1.47)	-0.001 (1.08)	-0.001 (0.99)	-0.002* (2.10)	-0.001(*) (1.81)
Protestants in % of population	-0.019** (4.24)	-0.018** (3.95)	-0.018** (4.02)	-0.022** (4.40)	-0.020** (3.84)
British colony	-0.746* (2.48)	-0.301 (1.03)	-0.682* (2.29)	-0.887* (2.34)	-0.812* (2.16)
Constant	-4.238	-3.010	-3.897	-3.500	-3.294
\overline{R}^2	0.895	0.883	0.898	0.908	0.912
SER	0.829	0.864	0.825	0.846	0.840
Observations	73	73	73	59	59

For notes see *Table 1*.

still there. This does not necessarily hold anymore when the indexes of judicial independence are included (equation (4) and (5)). *De facto* PI and *de facto* JI are only marginally significant in these specifications. For the smaller number of observations the interaction introduces too much noise in the estimated equations such that the efficiency of the estimation results is somewhat reduced.

Many more robustness checks not reported in tables have been carried out: the various legal origins do not perform significantly different from the group of Scandinavian countries used as a benchmark. This is somewhat surprising as those countries score well above-average in corruption rankings. Our result seems to suggest that it is their being protestant rather than having a specific legal tradition that causes low levels of corruption. Continent dummies do not show up as significant either. Further, using quadratic terms for the *de facto* PI variable does not indicate that some countries might have chosen “too much” independence. All in all, *de facto* PI survives as a significant and highly robust variable explaining variation in perceived corruption levels.

6 Conclusions and Open Questions

The first value-added of this paper consists in presenting two new indicators reflecting the *de jure* as well as the *de facto* independence of prosecutors in up to 78 countries. Here, these two new indicators have been used to inquire into the possible effects of prosecutorial independence on perceived corruption levels.

Factually independent prosecutors lead to lower levels of perceived corruption. This result is quite robust across various specifications. Unexpectedly, formal prosecutorial independence is correlated with higher corruption levels although the coefficients never reach conventional significance levels. We argue that this finding reflects reversed causality: Due to gentle pressure to fight corruption, many governments have passed fresh legislation granting their prosecutors more independence formally. Yet, formal legislation often remains black letter law.

Various other applications of the new indicators come to mind: First, it has already been mentioned that the procuracy is only one element in the value chain producing justice and security; the police and the courts are two other such elements. It could be of interest to delve a little deeper into possible interrelationships between these three actors.

It can further be analyzed whether different degrees of prosecutorial independence have effects on the perceived legitimacy of governments. Legitimacy could suffer if it is known that crimes are less likely to be prosecuted if committed by a member of government. This could also undermine the trust of the population in government. Low levels of trust could, in turn, lead to a lower propensity to invest and thus to negative economic consequences. But low levels of trust might also decrease regime stability and lead to an increase in the resources that need to be spent on police forces etc. It could thus be tested whether low prosecutorial independence is not only correlated with higher levels of corruption but also with (i)

lower regime legitimacy, (ii) lower trust in government, (iii) lower regime stability and even (iv) lower economic growth.

In this paper, we have mainly focused on prosecutorial independence. It was, however, mentioned that independence as such is not a sufficient condition but that prosecutors need also be accountable. It could be worthwhile to pursue this argument and analyze cases in which meritless cases have been pursued for whatever reasons. With regard to the judiciary, the danger of its becoming too eager has been discussed under the heading of ‘judicial activism’. In analogy, the danger mentioned here could be discussed under the heading of ‘prosecutorial activism’.¹²

References

- Aaken, A.v, E. Salzberger and S. Voigt (2004); The Prosecution of Public Figures and the Separation of Powers. Confusion within the Executive Branch – A Conceptual Framework, forthcoming in: *Constitutional Political Economy* 15(3):261-80.
- Aidt, T.S. (2003), Economic Analysis of Corruption: A Survey, *Economic Journal* 113, F632-52.
- Dressler, Joshua (2002; ed.); *Encyclopedia of Crime and Justice*, New York: Macmillan, 2nd ed.
- Feld, L. and S. Voigt (2003); Economic Growth and Judicial Independence: Cross Country Evidence Using a New Set of Indicators, *European Journal of Political Economy* 19(3).497-527.
- Glaeser, E., D. Kessler and A. Piehl (2000); What Do Prosecutors Maximize? An Analysis of the Federalization of Drug Crimes, *American Law and Economics Review*. 2(2):259-90.
- Heston, A., Summers, R., Aten, B., 2001, Penn World Table Version 6.0. Center for International Comparisons at the University of Pennsylvania (CICUP), December 2001.
- Mauro, Paolo (1995); Corruption and Growth, *Quarterly Journal of Economics*, 110:681-712
- Posner, R. (1994); What Do Judges and Justices Maximize? (The Same Thing Everybody Else Does), *Supreme Court Economic Review*, 3:1-41.
- Seldadyo, H. and J. De Haan (2005), The Determinants of Corruption: A Reinvestigation, Paper Presented at the EPCS-2005 Conference, Durham, 31 March-3 April 2005.
- Serra, D. (2006), Empirical Determinants of Corruption: A Sensitivity Analysis, *Public Choice* 126:225-56.
- Treisman, D. (2000); The Causes of Corruption: A Cross-National Study, *Journal of Public Economics* 76: 399-457.

¹² *Prima facie*, the danger of ‘prosecutorial activism’ seems, however, less relevant than that of judicial activism, at least if the activism of the judiciary refers to the highest courts of a country. Prosecutorial activism is systematically checked upon by the courts whereas this is not the case – or a lot more costly – with regard to highest courts.

Thank you note:

The authors thank many experts who contributed to the success of this study by sharing their knowledge concerning the institutional set up of the procuracy in their countries, in particular Rudite Abolina (Latvia), Charles Adwan (Lebanon), Aigul Akmatjanova (Kyrgyz Republic), Adul Alim (Bangladesh), Dr. Pedro Angulo (Peru), Tos Anonuevo (Philippines), Benito Arrunada (Spain), Beth Aub (Jamaica), Barnabás Balázs (Slovakia), Karoly Bard (Hungary), Abdulaziz Bari (Malaysia), Brigitte Bierlein (Austria), Nathan Brown (Egypt), Justice Collymore (Trinidad & Tobago), Giovanni Cordini (Italy), Frank Costigan, QC (Australia), Bibek Debroy (India), Sophie Delabuyere (France), Donatas Demskis (Lithuania), Djurevic (Croatia); Lilian Ekeanyanwu (Nigeria); Paul English (Russia), Duncan Fairgrievies (England), Luiza Cristina Fonseca Frischeisen (Brazil), Pedro Galilea (Spain), Georgy Ganey (Bulgaria), Oren Gazal (Israel), Jaan Ginter (Estonia), Mauricio González Cuervo (Columbia), Yonko Grozev (Bulgaria), Yaaseen Hansrod (Mauritius), Ponzalo Himiob (Venezuela), Pentcho Houbtchev (Bulgaria), Johanna Jalas (Finland), David Johnson (Japan), Ivo Josipovic (Croatia), Pacharo Kayira (Malawi), Mr. Koponen (Finland), Lorenzo Livieres (Paraguay), Klaus D. Loetzer (Benin), Nino Loladse (Georgia), Abdullah Al Mamun (Bangladesh), Arne Mavcic (Slovenia), Ilona Medrikat (Honduras), Michael Meier (Botswana), Chadia El Meouchi (Lebanon), Victoria Miron (El Salvador), Bart de Moor (Belgium), Wolfgang Müller (Zimbabwe), Stephen Mwaura (Kenya), Monica Nicida (Brazil), Joachim Nyemeck Binam (Cameroon), Niklaus Oberholzer (Switzerland), Prof. Dr. Dagmar Oberlies (Cambodia), Dr. Arturo R. Oliver González (Mexico), Inigo Ortiz de Urbana (Spain), Dr. Theodor Papakiriakou (Greece), Vlad Perju (Romania), Violeta Piculescu (Romania), Nils Rekee, (Sweden), Boyd Reid (Trinidad & Tobago), Jihad Rizkallah (Lebanon), Kent Roach (Canada), Nathalie Rubio (France), Claudia Schoenbohm (Bolivia), Slaven Scepjanovic (Montenegro), Bernhard Seliger (Korea), James Shikwati (Kenya), Onur Sir (Turkey), Pavel Skoda (Slovakia), Michael Sticka (Czech Republic), Ricardo Ernesto Soto Barrios (Panama), Jose Luis Tapia (Peru), Prof. Dr. Jürgen Theres (Morocco), Kestutis Vagneris (Lithuania), Xiomara Vallesteros (Nicaragua), Aldo Vásquez (Perú), Laszlo Venczl (Hungary), Thao Viet (Vietnam), Thomas Weigend (Germany), J.C. Weliamuna (Sri Lanka), Marco Zeisig (Ecuador/Guatemala). Voigt thanks Tobias Göthel and Justyna Wojciechowska for excellent research assistance.

Appendix 1: Text of the Questionnaire Combined With the Coding Used

The role of state prosecutors and the separation of powers

QUESTIONNAIRE

Please return to:

Prof. Dr. Stefan Voigt
Economic Policy, Economics
University of Kassel
Nora-Platiel-Straße 4
34127 Kassel
Germany

Dear Reader,

this research project is concerned with the systematic place that state prosecutors occupy in the separation of powers as implemented in various countries. It tries to identify the degree of independence that state prosecutors enjoy in general and their independence in prosecuting crimes committed by members of government in particular. It complements a previous research project concerned with judicial independence.

We would be grateful if you could help us with your knowledge concerning the country on which you are an expert. We would appreciate if you could (a) answer the following questions, and (b) could indicate good sources for additional information (primary as well as secondary). In some countries, prosecutors are called state attorneys, public attorneys etc. In order to keep things simple, we have decided to use the term “prosecutor” to describe the function and “procuracy” to describe the office no matter what the exact term in a given country.

You will notice that we distinguish between high level prosecutors and other prosecutors. High level prosecutors are the state prosecutor, the general prosecutor or the attorney general. Other prosecutors are all those that are not high level prosecutors.

If you are interested, we would be pleased to keep you informed on the progress concerning the indicator. In that case, please provide us with your address. Of course, the easiest way to return the questionnaire is by e-mail. The latest results regarding this research project will be put on our server:

<http://www.wirtschaft.uni-kassel/voigt/htm>

Thank you very much for your help. Yours sincerely

Stefan Voigt

Country for which information is provided:

(1) Is the office of state prosecutor

- | | | | |
|---|---|-----------------------|--------|
| a | mentioned in the Constitution? | YES (1) ¹³ | NO () |
| b | mentioned in the Law? | YES (0,5) | NO () |
| c | mentioned somewhere else? Namely _____. | | |

(It is possible to tick more than one answer.)(If more than one answer, the country gets the higher score).

(2) Is the principle of mandatory prosecution

- | | | | |
|---|--|------------|---------|
| a | mentioned in the Constitution? | YES (1) | NO () |
| b | mentioned in the Law? | YES (0,66) | NO () |
| c | mentioned in precedent/court decisions | YES (0,33) | NO () |
| d | not part of the legal system | YES (0) | NO (). |

(It is possible to tick more than one answer.)(If more than one answer, the country gets the score of the answer that is coded highest).

(3) *Please answer this question only if mandatory prosecution is the pertinent legal principle in your country.*

Are exceptions – due to the opportunity principle – enumerated

- | | | | |
|---|------------------------------|-----------|---------|
| a | in the Constitution? | YES (1) | NO () |
| b | in the Law? | YES (0,5) | NO () |
| c | in precedent/court decisions | YES (0) | NO (). |

¹³ The numbers in parantheses are the codings used; these were NOT part of the questionnaire as sent to the country experts.

(4) Is the power to initiate court proceedings with regard to crimes

- a confined to state prosecutors only? (0,0)
- b also available to others
 - i namely the police? (0,2)
 - ii directly concerned individuals? (0,4)
 - iii others (such as associations), namely
_____ (if state agencies 0,2; if non-state agencies 0,4)

(5) Please answer this question only if the power to initiate court proceedings is not confined to the state prosecutor.

What is the percentage of cases that are initiated by other actors than the state prosecutors?

- a Between 0 and 5% of all cases (0,00)
- b Between 6 and 10% of all cases (0,25)
- c Between 11 and 20% of all cases (0,50)
- d Between 21 and 40 % of all cases (0,75)
- e More than 40% of all cases (1,000).

(6) Do members of the executive have the power to give instructions to prosecutors

- a with regard to specific cases? YES (0) NO ()
- b by issuing general guidelines? YES (0,5) NO ()
- c not at all? YES (1) NO ().

(7) Does the head of the procuracy have the power to give instructions to prosecutors

- a with regard to specific cases? YES (0) NO ()
- b by issuing general guidelines? YES (0,5) NO ()
- c not at all? YES (1,0) NO ().

(8) Is there an impersonal rule which allocates incoming cases to specific prosecutors? YES (1) NO (0).

- (9) Can an investigation be reallocated to another state prosecutor against the will of the hitherto investigating state prosecutor without due reason?

YES (0) NO (1).

- (10) Are the possibilities for reallocation enumerated by law?

YES () NO ().

THEY ARE _____

_____.

- (11) Does the state prosecutor officially have to inform the media about an ongoing investigation? YES () NO ().

- (12) *Please answer this question only if your answer to question (11) was yes.*

Does the state prosecutor have to inform the media

- a before indictment? YES () NO ()
b after indictment? YES () NO ().

- (13) Prosecutorial decisions are subject to review by the judiciary. Does the judiciary have the competence to

- a review the charges brought by the prosecutor? YES (0,25) NO ()
b review the decision to prosecute a certain crime? YES (0,25) NO ()
c review the decision not to prosecute a certain crime due to legal or factual deficiencies? YES (0,5) NO ()
d review the use of the opportunity principle by the prosecutors? YES () NO ().

- (14) Are formal qualification prerequisites for being appointed as a prosecutor less demanding than those applying to judges? YES (0) NO (1).
- (15) Are there special rules concerning the investigation and prosecution of politicians/ other public figures? YES (0) NO (1).

If yes, please specify _____

_____.

- (16) Decisions to indict a public figure have to be authorized by
- | | | | |
|---|-----------------------------------|----------|---------|
| a | the highest prosecutor? | YES (0) | NO () |
| b | any prosecutor? | YES (1) | NO () |
| c | especially appointed prosecutors? | YES (0) | NO () |
| d | others? | YES (na) | NO (). |

- (17) After finishing their term, high level prosecutors often enter
- | | | |
|---|------------------|--------|
| a | Political office | () |
| b | Judicial office | () |
| c | Other, such as | _____. |

- (18) How are **high-level** public prosecutors nominated/appointed/elected?
- | | | |
|---|--|-----|
| a | High level prosecutors are nominated and appointed by one or more members of the executive; | () |
| b | High level prosecutors are nominated by one or more members of the executive and are elected by parliament (or a committee thereof); | () |
| c | High level prosecutors are nominated by one or more members of the executive and are elected by the judiciary; | () |
| d | High level prosecutors are nominated and elected by parliament (or a committee thereof); | () |
| e | High level prosecutors are nominated by parliament (or a committee thereof) and are elected by one or more members of the executive; | () |
| f | High level prosecutors are nominated by parliament (or a committee thereof) and are elected by the judiciary; | () |

- g High level prosecutors are nominated and elected by the judiciary; ()
- h High level prosecutors are nominated by the judiciary and are appointed/elected by one or more members of the executive; ()
- i High level prosecutors are nominated by the judiciary and are elected by parliament (or a committee thereof); ()
- j High level prosecutors are nominated by the judiciary, the legislature, or the executive and are elected by actors not representing any government branch (academics, the public at large); ()
- k High level prosecutors are elected by general elections. ()
- l High level prosecutors are elected by still a different procedure, namely_____.

		Competence to elect/appoint high level prosecutors		
		Executive	Legislature	Judiciary
Competence to nominate high-level prosecutors	Executive	0	1/3	2/3
	Legislature	1/3	0	2/3
	Judiciary	2/3	2/3	1

(19) Do **high level prosecutors** enjoy tenure

- a for life or until retirement? (1)
- b for a fixed term of ___ years ()
 - i with renewability? (0)
 - ii without renewability? (0,5)
- c other, namely _____ ().

(20) Do **low level prosecutors** enjoy tenure

- a for life or until retirement? (1)
- b for a fixed term of ___ years ()
 - i with renewability? (0)
 - ii without renewability? (0,5)

c other, namely _____ ().

(21) Do **criminal law judges** enjoy tenure

- a for life or until retirement? (1)
- b for a fixed term of ____ years ()
 - i with renewability? (0)
 - ii without renewability? (0,5)
- c other, namely _____ ().

(22) In the decade from 1991 to 2000, approximately _____ prosecutors were forced to retire against their will.

The answers were coded using the following table:

Number of forced retirements	Coding
0	1,0
1-2	0,8
3-4	0,6
5-6	0,4
7-8	0,2
more	0,0

If response was “a few”, the coding was 0,6

Among the most important reasons for forced retirement were

- A low popularity of prosecutors ()
- B that the prosecutors had committed criminal acts ()
- C that the prosecutors reached retirement age ().

(23) **Low level prosecutors** can be promoted by

- a high level prosecutors YES (1) NO ()
- b the minister of justice YES (0,5) NO ()
- c other members of the executive YES (0) NO ().

If $a \wedge b = 0,75$; if $a \wedge c = 0,5$; if $b \wedge c = 0,25$

(24) **High Level Prosecutors** can be removed from office

- a only by judicial procedure YES (1) NO ()
- b by decision of one or more members of the executive YES (0) NO ()

- | | | | |
|---|--|------------|---------|
| c | by decision of parliament
(or a committee thereof) | YES (0,33) | NO () |
| d | by joint decision of one or more
members of the executive and of
parliament (or a committee thereof) | YES (0,66) | NO () |
| e | other | YES (na) | NO (). |

If $a \wedge b = 0,25$; if $a \wedge c = 0,5$; if $b \wedge c = 0,33$, if $b \vee c = 0$.

The reasons are (e.g. disciplinary offence): *IF “change of government” = 0.*

(25) **Low Level Prosecutors** can be removed from office

- | | | | |
|---|--|------------|---------|
| a | only by judicial procedure | YES (1) | NO () |
| b | by decision of one or more
members of the executive | YES (0,25) | NO () |
| c | by decision of parliament
(or a committee thereof) | YES (0,5) | NO () |
| d | by joint decision of one or more
members of the executive and of
parliament (or a committee thereof) | YES (0,75) | NO () |
| e | other | YES (na) | NO (). |

The reasons are (e.g. disciplinary offence):

(26) Can prosecutors be transferred against their will to

- | | | | |
|---|-------------------|---------|---------|
| a | another position? | YES (0) | NO (1) |
| b | another location? | YES (0) | NO (1). |

(27) In the decade between 1991 and 2000, prosecutors have been removed against their will approximately _____ times.

The answers were coded according to the key used for variable 22.

(28) Removal of state prosecutors is

- | | | |
|---|-----------|-------|
| a | more easy | (0) |
| b | the same | (0,5) |

c more difficult (1)
than removing judges from office.

(29) Since 1960, the laws relevant for the prosecution of crimes committed
by members of government have been changed

- | | | |
|---|-------------------|--------|
| a | 0 times | (1) |
| b | 1 or 2 times | (0,8) |
| c | 3 or 4 times | (0,6) |
| d | 5 or 6 times | (0,4) |
| e | 7 or 8 times | (0,2) |
| f | more than 8 times | (0,0). |

(30) Since 1960, the income of prosecutors has remained at least constant in
real terms YES (1) NO (0).

(31) Since 1960, the budget of state prosecutorial offices has remained at
least constant in real terms YES (1) NO (0).

A GOOD SOURCE FOR MORE DETAILED INFORMATION CONCERNING
PROSECUTION OF GOVERNMENT MEMBERS IN MY COUNTRY IS

General comments (please feel free to make any comment):

Appendix 2:

Descriptive Statistics for the Two New Indicators, including their components

	GENE- RAL	PERS- NAR- ROW	PERS- BROA	FOR- MAL	MONO- POLY	SMALL TO- TAL	GRAND TOT	DE FACTO	DE- FAC MOD
Mean	0.569	0.458	0.537	0.441	0.459	0.450	0.466	0.526	0.612
Median	0.625	0.388	0.522	0.500	0.466	0.426	0.453	0.600	0.646
Maximum	1.000	1.000	1.000	1.000	1.000	0.843	0.860	1.000	1.000
Minimum	0.125	0.000	0.000	0.000	0.000	0.116	0.116	0.000	0.142
Std. Dev.	0.228	0.244	0.238	0.234	0.250	0.145	0.142	0.327	0.256
Observations	79	79	79	79	79	79	79	77	76

Bivariate Correlations Among Indicators (including their components)

	GE- NE- RAL	PERS- NAR- ROW	PERS- ROA	FORMAL	MONO- POLY	SMALL TO- TAL	GRAND TOT	DE FAC- TO	DE- FAC- MOD	DE- JURJI
GENERAL	1.000									
PERSNARROW	0.088	1.000								
PERSBROA	0.099	0.919	1.000							
FORMAL	0.619	0.277	0.236	1.000						
MONOPOLY	0.061	-0.065	-0.138	-0.057	1.000					
SMALL_TOTAL	0.630	0.398	0.297	0.713	0.453	1.000				
GRAND_TOT	0.652	0.367	0.315	0.717	0.445	0.992	1.000			
DE_FACTO	-0.165	0.141	0.094	-0.285	0.032	-0.189	-0.214	1.000		
DEFACMOD	-0.133	0.124	0.103	-0.287	0.004	-0.223	-0.240	0.965	1.000	
DEJURJI	0.201	-0.032	-0.015	0.232	0.002	0.099	0.111	0.114	0.121	1.000
DEFACJI	0.031	0.084	0.114	-0.002	0.036	0.012	0.020	0.331	0.334	0.167

Appendix 3: List of Variables Used (Definitions and Sources)

AGE:

Age of democracy defined as $AGE = (2000 - DEM_AGE) / 200$, with values varying between 0 and 1.

ANTI CORRUPTION AGENCY:

Dummy variable equal to 1 if the country has such an agency; source: Alan Doig (private communication) and Transparency International websight.

AVELF:

Index of ethnolinguistic fractionalization, ranging from 0 (homogeneous) to 1 (strongly fractionalized) averaging five sources; source: La Porta (1999).

CHECKS75:

Number of the factual vetoplayers in 1975; source: Beck et al. (2000)

CHECKS95:

Number of the factual vetoplayers in 1995; source: Beck et al. (2000)

COLBRIT:

Dummy variable, equal to 1 if the country is a former U.K. colony, 0 otherwise, source: CIA (2005).

CPI9806:

Corruption Perceptions Index measuring perceptions of abuse of power by public officials. Average over 1998 – 2006. Index values between 0 and 10, lower values meaning lower levels of corruption (recoded from the original version); source: Transparency International and Internet Center for Corruption Research (<http://www.icgg.org/>).

DE FACTO JUDICIAL INDEPENDENCE

Average of up to 9 variables on a scale from 0 (dependent) to 1 (completely independent); source: Feld and Voigt (2006)

DE JURE JUDICIAL INDEPENDENCE

Average of up to 16 variables on a scale from 0 (dependent) to 1 (completely independent); source: Feld and Voigt (2006)

FEDERAL:

Dummy variable equal to 1 if a country has a federal political structure, 0 otherwise; source: Forum of Federations (2002): List of Federal Countries.

GDPCAP90:

Real per capita gross domestic product in 1990; source: Heston et al. (2001).

LATABS:

Rescaled variable for latitude, defined as the absolute value of *LATITUDE* divided by 90 and taking on values between 0 and 1; source: CIA (2005).

LEGAL ORIGINS:

Dummy variables for COMMON LAW, FRENCH, GERMAN, SCANDINAVIAN and SOCIALIST legal origin; source: La Porta et al. 1998, CIA World Book of Facts.

POLIV:

Factually realized level of democracy with -10 = “perfect” autocracy and 10 = perfect democracy; source: Polity IV Dataset

POPSIZE90:

Absolute size of a country’s population in 1990; source:

PRESSFREE:

Freedom of the Press from 0 = completely free to 100 = unfree, source: Freedom House

PROTESTANT:

Percentage of the population in a country professing the Protestant religion in 1980 (younger states are counted based on their average from 1990 to 1995); source: La Porta (1999) and CIA (2005):

CESifo Working Paper Series

for full list see www.cesifo-group.org/wp

(address: Poschingerstr. 5, 81679 Munich, Germany, office@cesifo.de)

- 2180 Emilia Del Bono, Andrea Weber and Rudolf Winter-Ebmer, Clash of Career and Family: Fertility Decisions after Job Displacement, January 2008
- 2181 Harald Badinger and Peter Egger, Intra- and Inter-Industry Productivity Spillovers in OECD Manufacturing: A Spatial Econometric Perspective, January 2008
- 2182 María del Carmen Boado-Penas, Salvador Valdés-Prieto and Carlos Vidal-Meliá, the Actuarial Balance Sheet for Pay-As-You-Go Finance: Solvency Indicators for Spain and Sweden, January 2008
- 2183 Assar Lindbeck, Economic-Social Interaction in China, January 2008
- 2184 Pierre Dubois, Bruno Jullien and Thierry Magnac, Formal and Informal Risk Sharing in LDCs: Theory and Empirical Evidence, January 2008
- 2185 Roel M. W. J. Beetsma, Ward E. Romp and Siert J. Vos, Intergenerational Risk Sharing, Pensions and Endogenous Labor Supply in General Equilibrium, January 2008
- 2186 Lans Bovenberg and Coen Teulings, Rhineland Exit?, January 2008
- 2187 Wolfgang Leininger and Axel Ockenfels, The Penalty-Duel and Institutional Design: Is there a Neeskens-Effect?, January 2008
- 2188 Sándor Csengödi and Dieter M. Urban, Foreign Takeovers and Wage Dispersion in Hungary, January 2008
- 2189 Joerg Baten and Andreas Böhm, Trends of Children's Height and Parental Unemployment: A Large-Scale Anthropometric Study on Eastern Germany, 1994 – 2006, January 2008
- 2190 Chris van Klaveren, Bernard van Praag and Henriette Maassen van den Brink, A Public Good Version of the Collective Household Model: An Empirical Approach with an Application to British Household Data, January 2008
- 2191 Harry Garretsen and Jolanda Peeters, FDI and the Relevance of Spatial Linkages: Do third Country Effects Matter for Dutch FDI?, January 2008
- 2192 Jan Bouckaert, Hans Degryse and Theon van Dijk, Price Discrimination Bans on Dominant Firms, January 2008
- 2193 M. Hashem Pesaran, L. Vanessa Smith and Takashi Yamagata, Panel Unit Root Tests in the Presence of a Multifactor Error Structure, January 2008

- 2194 Tomer Blumkin, Bradley J. Ruffle and Yosef Ganun, Are Income and Consumption Taxes ever really Equivalent? Evidence from a Real-Effort Experiment with Real Goods, January 2008
- 2195 Mika Widgrén, The Impact of Council's Internal Decision-Making Rules on the Future EU, January 2008
- 2196 Antonis Adam, Margarita Katsimi and Thomas Moutos, Inequality and the Import Demand Function, January 2008
- 2197 Helmut Seitz, Democratic Participation and the Size of Regions: An Empirical Study Using Data on German Counties, January 2008
- 2198 Theresa Fahrenberger and Hans Gersbach, Minority Voting and Long-term Decisions, January 2008
- 2199 Chiara Dalle Nogare and Roberto Ricciuti, Term Limits: Do they really Affect Fiscal Policy Choices?, January 2008
- 2200 Andreas Bühn and Friedrich Schneider, MIMIC Models, Cointegration and Error Correction: An Application to the French Shadow Economy, January 2008
- 2201 Seppo Kari, Hanna Karikallio and Jukka Pirttilä, Anticipating Tax Change: Evidence from the Finnish Corporate Income Tax Reform of 2005, January 2008
- 2202 Walter Krämer and André Güttler, On Comparing the Accuracy of Default Predictions in the Rating Industry, January 2008
- 2203 Syed M. Ahsan and Panagiotis Tsigaris, The Efficiency Loss of Capital Income Taxation under Imperfect Loss Offset Provisions, January 2008
- 2204 P. Mohnen, F. C. Palm, S. Schim van der Loeff and A. Tiwari, Financial Constraints and other Obstacles: Are they a Threat to Innovation Activity?, January 2008
- 2205 Sascha O. Becker and Mathias Hoffmann, Equity Fund Ownership and the Cross-Regional Diversification of Household Risk, January 2008
- 2206 Pedro R. D. Bom and Jenny E. Ligthart, How Productive is Public Capital? A Meta-Analysis, January 2008
- 2207 Martin Werding, Ageing and Productivity Growth: Are there Macro-level Cohort Effects of Human Capital?, January 2008
- 2208 Frederick van der Ploeg and Steven Poelhekke, Globalization and the Rise of Mega-Cities in the Developing World, February 2008
- 2209 Sara Biancini, Regulating National Firms in a Common Market, February 2008
- 2210 Jin Cao and Gerhard Illing, Liquidity Shortages and Monetary Policy, February 2008

- 2211 Mathias Kifmann, The Design of Pension Pay Out Options when the Health Status during Retirement is Uncertain, February 2008
- 2212 Laszlo Goerke, Tax Overpayments, Tax Evasion, and Book-Tax Differences, February 2008
- 2213 Jun-ichi Itaya and Heinrich W. Ursprung, Price and Death, February 2008
- 2214 Valentina Bosetti, Carlo Carraro and Emanuele Massetti, Banking Permits: Economic Efficiency and Distributional Effects, February 2008
- 2215 Assar Lindbeck, Mårten Palme and Mats Persson, Social Interaction and Sickness Absence, February 2008
- 2216 Gary E. Bolton and Axel Ockenfels, The Limits of Trust in Economic Transactions - Investigations of Perfect Reputation Systems, February 2008
- 2217 Hartmut Egger and Peter Egger, The Trade and Welfare Effects of Mergers in Space, February 2008
- 2218 Dorothee Crayen and Joerg Baten, Global Trends in Numeracy 1820-1949 and its Implications for Long-Run Growth, February 2008
- 2219 Stephane Dees, M. Hashem Pesaran, L. Vanessa Smith and Ron P. Smith, Identification of New Keynesian Phillips Curves from a Global Perspective, February 2008
- 2220 Jerome L. Stein, A Tale of Two Debt Crises: A Stochastic Optimal Control Analysis, February 2008
- 2221 Michael Melvin, Lukas Menkhoff and Maik Schmeling, Automating Exchange Rate Target Zones: Intervention via an Electronic Limit Order Book, February 2008
- 2222 Raymond Riezman and Ping Wang, Preference Bias and Outsourcing to Market: A Steady-State Analysis, February 2008
- 2223 Lars-Erik Borge and Jørn Rattsø, Young and Old Competing for Public Welfare Services, February 2008
- 2224 Jose Apesteguia, Steffen Huck, Jörg Oechssler and Simon Weidenholzer, Imitation and the Evolution of Walrasian Behavior: Theoretically Fragile but Behaviorally Robust, February 2008
- 2225 Walter Krämer, Long Memory with Markov-Switching GARCH, February 2008
- 2226 António Afonso and Christophe Rault, What do we really Know about Fiscal Sustainability in the EU? A Panel Data Diagnostic, February 2008
- 2227 Sergey M. Kadochnikov and Igor M. Drapkin, Market Structure, Technological Gap and Vertical Linkage Effects from Foreign Direct Investment, February 2008

- 2228 Guglielmo Maria Caporale, Davide Ciferri and Alessandro Girardi, Fiscal Shocks and Real Exchange Rate Dynamics: Some Evidence for Latin America, February 2008
- 2229 Scott Alan Carson, Geography and Insolation in 19th Century US African-American and White Statures, February 2008
- 2230 Wolfgang Buchholz and Jan Schumacher, Discounting and Welfare Analysis Over Time: Choosing the η , February 2008
- 2231 M. Hashem Pesaran, Christoph Schleicher and Paolo Zaffaroni, Model Averaging in Risk Management with an Application to Futures Markets, February 2008
- 2232 Wilhelm Kohler, Offshoring: Why Do Stories Differ?, February 2008
- 2233 Stefan Bach, Giacomo Corneo and Viktor Steiner, Effective Taxation of Top Incomes in Germany, 1992-2002, February 2008
- 2234 Robert S. Chirinko, σ : The Long And Short Of It, February 2008
- 2235 Volker Grossmann and Holger Strulik, Should Continued Family Firms Face Lower Taxes than other Estates?, February 2008
- 2236 Guido Tabellini, The Scope of Cooperation: Values and Incentives, February 2008
- 2237 Heinrich W. Ursprung and Christian Wiermann, Reputation, Price, and Death: An Empirical Analysis of Art Price Formation, March 2008
- 2238 Hans Fehr and Christian Habermann, Private Retirement Savings in Germany: The Structure of Tax Incentives and Annuitization, March 2008
- 2239 Joseph Francois and Ian Wooton, Market Structure and Market Access, March 2008
- 2240 Hiroyuki Kasahara and Beverly Lapham, Productivity and the Decision to Import and Export: Theory and Evidence, March 2008
- 2241 Gary E. Bolton and Axel Ockenfels, Does Laboratory Trading Mirror Behavior in Real World Markets? Fair Bargaining and Competitive Bidding on EBay, March 2008
- 2242 Atsushi Oshima, B. Ravikumar and Raymond Riezman, Entrepreneurship, Organization Capital and the Evolution of the Firm, March 2008
- 2243 Walter Krämer and Sebastian Schich, Large-Scale Disasters and the Insurance Industry, March 2008
- 2244 Leif Danziger, Adjustment Costs, Inventories and Output, March 2008
- 2245 Anne van Aaken, Lars P. Feld and Stefan Voigt, Power over Prosecutors Corrupts Politicians: Cross Country Evidence Using a New Indicator, March 2008