

STREET-LEVEL CORRUPTION IN INDUSTRIALIZED AND DEVELOPING COUNTRIES

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ABSTRACT: This paper offers a cross-country analysis of street-level corruption. In line with earlier studies on general corruption (where data did not allow a distinction between street-level and high-level corruption, e.g. Treisman 2000 and La Porta *et al.* 1999), nine hypotheses based on general economic theories of law enforcement are tested using data from the International Crime Victims Survey (ICVS) held in forty countries (N = 27,456). The analyses employ multilevel logistic regression models. The results show that citizens living in countries with (a) high levels of economic development, (b) high levels of economic freedom, (c) long exposure to democracy, (d) a non-federal structure, (e) Protestant traditions, and (f) a British legal culture, experience less corruption. A relation between corruption levels and economic development, economic freedom, long democratic traditions, and a British legal culture, however, is found only when no distinction is made between industrialized and developing countries. As for individual characteristics, a higher risk of being victimized by corruption is correlated with a lower age and higher levels of education and income.

Key words: ICVS; cross-country analysis; corruption; victimization; economic development; British legal culture; federalism

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1 Introduction

It is a well-known fact that the chance of becoming a victim of corruption is higher in some countries than in others. The literature on corruption is vast with respect to theoretical analyses and case studies (for a review, see Rose-Ackerman 1999 and Bowles 2000). The number of cross-country empirical studies, however, is still limited (Mauro 1995; Easterly and Levine 1997; La Porta *et al.* 1997, 1999; Wei 1998; Ehrlich and Lui 1999; Ades and Di Tella 1999; Treisman 2000; Djankov *et al.* 2002). In these empirical studies, data were used that did not allow a distinction between high-level and street-level corruption.

This article is the first cross-country study that focuses on *street-level* corruption. Street-level corruption is corruption by a public official who carries out routine activities at a lower level of the public administration. Examples are police officers (who have to report traffic code violations), customs agents (who have to levy import and export taxes and who can influence the delay related to their decisions), and lower government employees (who can influence the red tape associated with obtaining a licence). High-level corruption (or 'grand corruption', Rose-Ackerman 1999) involves high-level officials or politicians, who are responsible for major, non-routine decisions on issues such as who obtains a concession to exploit natural resources, who wins a major public contract, who receives investment subsidies, or who becomes the owner of a privatized firm.

There are several arguments for the view that street-level corruption is different in nature, requires different anti-corruption strategies, and is less harmful to the economic system than high-level corruption. First, it is different in nature because most cases of street-level corruption are of an 'extortion' type. A public official takes the initiative in the transaction, and puts a citizen under pressure to consent to a corrupt transaction. This pressure can consist of withholding a service to which the citizen is legally entitled, reporting an offence which the citizen did not commit, or reporting an offence that is commonly committed but generally not reported. By contrast, most cases of high-level corruption are of a 'bribery' type. A citizen takes the initiative in the bribery, which aims to put him in a better position than most other citizens (e.g. he is the one who gets exclusive rights to the exploitation of a natural resource).

Second, street-level corruption may differ from high-level corruption when it comes to anti-corruption strategies. Street-level corruption is a very visible type of crime. It is easy for the general public (and hence for public prosecutors) to find out where it takes place and which public officials are involved in it. These low-level public officials generally commit several hundreds or thousands of corrupt acts, all involving relatively small payments. Street-level corruption can occur only in very

loosely organized public sectors, where political leaders lose their grip on the lower levels of their administrations, and prosecutors and courts are highly inefficient and unmotivated. Reducing street-level corruption is largely a matter of internal reorganization (improving internal efficiency and administrative oversight), so that corrupt acts get punished, and higher-level officials regain control of the lower levels.

High-level corruption, on the other hand, is much more difficult to detect. Such acts are more of a 'one (big) shot' type. The parties involved in such a corrupt transaction are in most cases the only parties who can provide evidence of the transaction. Both parties, however, have a very strong interest in concealing the transaction (Bowles 2000). Even for experienced prosecutors it may be very difficult to discover the transaction and to collect legally convincing evidence. Therefore, the strategy to reduce high-level corruption may consist in limiting the opportunities to commit the crime – for example, by abolishing subsidies and deregulating the market (Buscaglia and Ratliff 2000), or replacing vague standards with clear-cut, detailed rules (Rose-Ackerman 1978; Schäfer 2002).

Third, it is argued that high-level corruption is more harmful to the economic system. High-level corruption may result in the wrong type of public investments, or in too few public investments (because of too high prices or too low tax revenue). Street-level corruption increases the price of driving, walking on the streets, or crossing a border, but its effects may not be substantially different from those of other factors that increase the price of these activities. For example, traffic congestion or a pollution tax on gasoline (to combat the global warming effect) increases transport costs in a country as well.

The purpose of this article is to describe levels of street-level corruption across industrialized and developing countries. The article also aims to test hypotheses suggesting that levels of corruption in countries are associated with their historical and cultural traditions, the extent of economic development, political institutions, and government policy. Treisman (2000) tested these hypotheses but used an index for corruption which included measures of both high-level and street-level corruption.

In our analysis we focus particularly on street-level corruption and use data from the 'International Crime Victims Survey' (ICVS). The ICVS is a large-scale international project, in which citizens from various countries have been interviewed on their personal experiences of many types of crime, including corruption. The ICVS survey has now been held in more than sixty countries at four points in time: 1989, 1992, 1996 and 2000. Since 1996 the survey has also included questions on street-level corruption.

This article is organized as follows. Section 2 presents the theoretical background and derives eight economic, historical, cultural and political

country characteristics (economic development, economic freedom, long democratic tradition, high governmental salaries, political stability, non-federal structure, Protestantism, and British legal culture) that are hypothesized to affect corruption levels. Since the ICVS survey also contains data on the individual characteristics of the respondents, we formulate a number of hypotheses related to individual characteristics as well. In section 3 we discuss the data and methodology. In section 4 we give an overview of the corruption levels in each country. In section 5 we discuss our findings. Section 6 concludes.

2 Theoretical background

Corruption is an illegal payment by a citizen to a public official to obtain a benefit. Analytically, it can be considered a principal–agent problem of a special type. A principal (a public institution) hires an agent (a public official) to perform a certain task (e.g. to control tax returns) that affects the situation of a third party (a citizen). This third party (the citizen) and the public official act in concert to divide a ‘rent’, to the detriment of the public institution. The corrupt act makes both the citizen and the public official better off.

Strictly speaking, the ‘victim’ of this corrupt act is the public institution (e.g. it collects less tax revenue, or gets less advantageous contract terms) and/or some citizens in particular (e.g. those who would have won in a public bidding process in the absence of bribery, or those who should have received a licence a few days earlier). While a corrupt transaction is an (illegal) bargain that makes both the citizen and the public official better off, the citizen may in some cases consider himself as ‘the victim’, depending on how much pressure was put on him to consent to the transaction. The situation is somewhat analogous to normal (legally enforceable) contracts. In principle, contracts are supposed to be freely entered into and to improve the situation of both parties. However, when one of the parties uses undue pressure to induce the other party to sign the contract, for instance by threatening that party with a gun, contract law will consider this contract as ‘void’ on the basis of doctrines such as ‘duress’. Such contracts can indeed no longer be presumed to be beneficial to both parties (though signing the contract was an improvement compared to being shot).

Polinsky and Shavell (2001) make a useful distinction between ‘bribery’ and ‘extortion’. Bribery refers to payments to corrupt public officials that have been made on a ‘voluntary basis’ (in return for not reporting a violation of the law or for reducing the sanction). As a result of the corrupt transaction, the citizen is in a better position than most other citizens.

Extortions are payments made by individuals who have been threatened by the public official with being framed innocently.

When we apply this terminology to the street-level–high-level distinction, it seems plausible to presume that most street-level corruption cases are of an ‘extortion’ type. The public official takes the initiative in the transaction, and puts the citizen under pressure to consent to the corrupt transaction. This pressure can consist in withholding a service to which the citizen is legally entitled, or reporting an offence the citizen did not commit. It can also consist in reporting an offence that is commonly committed but generally not reported (for instance, a police officer may threaten to report a speed limit violation that is committed by nearly all car drivers). In other words, when there is a difference between ‘law in books’ and ‘law in action’, the public official can threaten to apply the ‘law in books’ to induce the citizen to consent to the illegal payment.

Benefit, apprehension rate and sanction

How can we explain varying corruption levels? Corruption is a deliberate act. Therefore, Becker’s (1968) general rational–criminal framework is a good starting point for analysing corruption. Parties can be expected to commit crimes if the benefits of crime exceed the apprehension rate times the sanction. Corruption levels can be influenced by changing the benefits (and opportunities), apprehension rates and sanctions. As no direct data on these three components are generally available, cross-country empirical analyses have to look for factors that might be directly or indirectly related to any of these three elements. Since the purpose of this study is to test to what extent the causes of street-level corruption differ from the causes of high-level corruption, we will test a number of hypotheses that previous cross-country studies, and Treisman (2000) in particular, have found to be significant for corruption in general.

However, we will not test a number of hypotheses of previous studies that are by definition not related to street-level corruption, such as the availability of natural resources in a country (Ades and Di Tella 1999; Treisman 2000), or the public investment levels (Tanzi and Davoodi 1998), since corruption related to granting concessions or public investment contracts is a form of high-level corruption. In addition, we will not test hypotheses that cannot be tested with the ICVS data (for instance, the ICVS survey does not allow for controlling the relationship between the magnitude of import taxes and the magnitude of the payments, as it only collected data on whether payments had been made, and not on the magnitude of these payments).

For each hypothesis, we will briefly discuss the theoretical foundations: that is, how they might be related to benefit, apprehension rate, or sanction.

Benefit

Corruption is a 'Pareto improvement' between the civil servant and the citizen. This means that the civil servant can offer an advantage to the citizen at no cost to him or herself. The civil servant has this opportunity when he or she can use discretion in the granting of an advantage (or 'rent' to use the economic terminology). He or she may or may not issue a permit, impose a fine on a rule-breaker, or speed up a procedure.

Since corruption requires a public official and a citizen to divide a 'rent', it would be reasonable to expect that less state interventionism leads to lower corruption levels (Buscaglia and Ratliff 2000). Generally, anti-corruption policy works along these lines. Markets are deregulated so that civil servants are no longer the ones who decide whether or not to grant permits. Subsidies have been eliminated. Services have been made more efficient by privatization and competition, whereby all providers are forced to render quick service. Economic freedom thus leads to fewer possibilities for, and advantages of, corruption – though Treisman (2000) found no clear evidence of a relationship between state interventionism and corruption levels.

Following the same line of reasoning, Shleifer and Vishny (1993) have argued that federalism may increase corruption levels, as the rents are a sort of common field on which competing authorities 'graze'. The result is a sort of 'overgrazing'. Another explanation may be that federalism loosens the governmental organization: it splits the political authority into smaller organizations that are no longer competent to control each other. This increases discretion levels of those at the bottom of the organization. Finally, federalism can increase the likelihood of contradictory rules, which increase a public official's discretion. There are also fewer competing organs of control, which give controllers a greater monopoly, leading more easily to bribery. Treisman (2000) found a clear positive correlation between federalism and corruption.

On the basis of the above considerations, we formulate the following hypotheses:

H1 (Economic freedom): The more economic freedom in a country, the less chance there is for a citizen to become a victim of corruption.

H2 (Non-federal structure): In a non-federal country, a citizen has a lower chance of becoming a victim of corruption than in a federal country.

Apprehension rate

The chance of being apprehended for corruption can be increased by having more controllers, by having more than one controller involved (so that bribery is more difficult since all the controllers must be in agreement about the payment), and by using technological advances (cameras to register traffic violations, checking tax returns using computer software, etc.).

Economic prosperity is in principle coupled with the opportunity to have more controllers (for example, more appeals judges), and limitations on governmental interference. In more developed economies human capital and technology are relatively cheaper (compared to GNP). As a consequence, it is cheaper to organize additional levels of control, which improve administrative oversight. Previous studies have also found that corruption is negatively correlated with private investment and economic growth (Mauro 1995; Keefer and Knack 1995), with a lower quality infrastructure (Tanzi and Davoodi 1998) and with attracting less foreign investment (Wei 1998). Treisman (2000) found a strong negative correlation between economic development and corruption, with causation also working in the other direction: corruption is believed to retard economic development.

Moreover, the chance of apprehension is a function of the willingness of third parties, who are witnesses, to report corruption to the government. In this regard, Protestantism is assumed to have a positive role in checking corruption (La Porta *et al.* 1997; Treisman 2000; Banfield 1958). The explanation is that Protestantism is a less hierarchical religion, or that a more clear separation between church and state increases the chance that a poorly functioning state will be criticized by the church, or that Protestants might be more inclined to file complaints. On the basis of a less hierarchical and individualistic religion, Protestants would be more inclined to file complaints, to inform authorities and to appear as witnesses in case of corruption. Besides, one might expect that in countries where there are Protestant traditions, there are relatively more official church and governmental institutions that have been set up to control and prevent the misuse of power. Therefore, it can be expected that, in Protestant countries, the chance of apprehension for corruption is greater, and that potential perpetrators are less likely to commit their crimes.

Democracy can reduce corruption through a free press (which makes it more likely that corrupt acts will be exposed), freedom of organization (which facilitates collective action against corruption), and political competition (which gives an incentive to politicians who are not in power to monitor those who are). In democratic countries it can therefore be assumed that the chance of apprehension is greater, which results in less corruption in these countries. However, Treisman (2000) found that while

the current degree of democracy was not significantly associated with less corruption, a long democratic tradition in a country was.

A number of recent cross-country studies have also tried to measure the 'quality' of the common law, as opposed to the civil law. La Porta *et al.* (1999) found common law systems to be associated with a higher quality of government. Mahoney (2001) showed that common law produces faster economic growth through greater security of property and contract rights. Djankov *et al.* (2002) found that procedural formalism is systematically greater in civil law countries than in common law countries, and that procedural formalism is associated with 'a higher expected duration of judicial proceedings, more corruption, less consistency, less honesty, less fairness in judicial decisions, and inferior access to justice'. Treisman (2000), however, stressed the importance of making a distinction between the British legal culture and the common law rules. He concluded that the British legal culture is a more important explanatory variable for corruption than the content of the common law rules. The core is a stronger focus on procedural aspects of law, which improves the independence of the judiciary and provides a better protection against state abuses.

This reasoning leads to the following four hypotheses.

H3 (Economic development): The higher the level of prosperity in a country, the less chance there is for a citizen of that country to become a victim of corruption.

H4 (Protestantism): The higher the percentage of Protestants in a country, the less chance there is for a citizen of that country to become a victim of corruption.

H5 (Long democratic tradition): In a country with a long democratic tradition, a citizen has a lower chance of becoming a victim of corruption than in a country that has not been democratic for a long time.

H6 (British legal culture): In a country that has been a former British colony (or in the UK), a citizen has a lower chance of becoming a victim of corruption than in another country.

Sanction

Sanctions for corrupt officials may consist in criminal sanctions, but also in lost benefits related to losing their position. Becker and Stigler (1974) launched the idea of paying a higher than market wage to police officers to improve their incentives (though their proposal consisted in 'normalizing' this overpayment by requiring job entrance payments). The idea is a preliminary application of the 'efficiency wages' theory of Shapiro and Stiglitz (1984), according to which it can be rational for an employer to overpay his employees. The above-market wages make the sanction of dismissal more severe, which allows the employer to lower monitoring levels and hence to save on monitoring costs. Rose-Ackerman (1978),

Klitgaard (1988) and Besley and McLaren (1993) have defended raising wages in the public sector to reduce corruption levels. So far, however, the empirical evidence that higher wages reduce corruption is weak. Van Rijckeghem and Weder (1997) found no short-run correlation. Treisman (2000) found no clear evidence either. De Geest *et al.* (2001) have argued that efficiency wages are a relatively inefficient technique to improve incentives, compared to negative sanctions. Nevertheless, it can still be expected that there will be less corruption in countries where government jobs are relatively well paid.

A similar type of reasoning can be used in relation to the effects of the expected length of a civil service job. The cost for a civil servant caught for corruption is relatively lower in countries where officials only have the job for a short time. In politically stable nations, civil servants can expect to enjoy their (privileged) positions for many years. Therefore, Andvig and Moene (1990) have argued that an increased probability of regime change may increase the level of corruption. Instability can induce an official to think more in the short run, and to enrich himself while he still can; it may also reduce the loss related to dismissal. In politically stable systems, officials may find it more beneficial to abstain from corrupt practices in order to keep their chances of climbing the career ladder (Rauch and Evans 1997). Instability, however, may also increase the apprehension rate, as the next regime may not be interested in protecting corrupt officials of the former regime. These effects may be set off against each other. Treisman (2000) found no significant correlation between corruption and stability.

On the basis of the effects of sanctions, the following hypotheses can be formulated:

H7 (High governmental salaries): The higher the relative governmental wages in a country, the lower the chance for a citizen of that country to become a victim of corruption.

H8 (Political stability): In a politically stable country, a citizen has a lower chance of becoming a victim of corruption than in a politically unstable country.

Individual characteristics

In addition to the characteristics of the country they live in, the chance of an individual citizen becoming a victim of corruption can be presumed to depend on their social position and how they behave (Hindelang *et al.* 1978; Cohen and Felson 1979; Meier and Miethe 1993; Wittebrood and Nieuwebeerta 1999). This forms the basis for a number of general criminological theories, such as the 'lifestyle theory', and the 'opportunity structure

theory' (Miethe and Meier 1990: 245). Certain patterns of daily life make contacts between potential perpetrators and potential victims more likely. In particular, the physical proximity to corrupt government officials and the extent to which potential victims expose themselves to these potentially corrupt officials can be expected to be important factors. So, people who travel a lot and partake in nightlife can be expected to have a greater chance of coming into contact with corrupt customs officials and policemen.

Also, there is the idea of a certain structure of opportunity in which perpetrators have the chance to choose a target. Within this structure, the attractiveness of someone or something, and the extent to which this target is protected, determines who becomes the victim (Meier and Miethe 1993: 479–84). Since a potential victim's attractiveness is relevant, people with relatively high incomes, status and education, who are more likely to have relatively valuable and attractive possessions, can be expected to more often pay (extra) to have something arranged by corrupt civil servants.

The individual characteristics of the respondents, collected by the ICVS survey, allow us to formulate a number of hypotheses related to individual characteristics. It is to be noted, however, that we regard these characteristics as control variables when examining effects of country characteristics. We derive the following hypothesis:²

H9 (Individual characteristics): Men, youths, people with a higher education, people with higher incomes, and people who often partake in nightlife have a higher risk of becoming a victim of corruption than (respectively) women, the elderly, lower-educated people, people with lower incomes, and those who do not partake in nightlife.

3 Data and method

ICVS data

The data we used on corruption come from the 'International Crime Victims Survey' (ICVS). The ICVS is a large-scale international survey held

2. The ICVS survey also contained data on whether respondents were married or single. We ran the analysis and found that married people have an increased chance of becoming a victim. However, this result should be interpreted with extreme caution, as there is a serious danger that married respondents confuse 'us' with 'me'. If a married couple driving a car are asked to pay a bribe to a police officer, the partner who did not drive might feel victimized as well, and might reply 'yes' to the question of whether he/she has experienced corruption. On a theoretical level, the relationship is not clear either. For instance, it is not clear whether being married is correlated with having a higher income. According to some studies, married men receive higher wages than unmarried men, but the opposite holds for married women (Kenny 1983; Mincer 1978).

in various countries using a representative sample of about 2,000 respondents aged 16 and older, who are asked about their experiences of crime, their crime-reporting behaviour, and their attitudes towards crime and the police. So far, this survey has been held four times: in 1989, 1992, 1996 and 2000. In total, more than 200,000 respondents have been interviewed in 24 industrialized and 46 non-industrialized countries. (For more on the ICVS survey, see van Kesteren *et al.* 2000 and Nieuwbeerta 2002.) Since 1996, questions have been included on whether the respondent has been a victim of corruption. Hence, we only used data from the 1996 and 2000 surveys.

In the ICVS survey, the respondents from industrialized countries were selected from across the whole country (so as to have a representative sample), while in non-industrialized countries, the respondents all came from large cities. To correct for this potential bias, we used only the data of respondents living in cities with more than 100,000 inhabitants. In total, the data used encompass 27,456 respondents in 40 countries.

Analysing the data-set of the ICVS is interesting for a number of additional reasons. First, it provides data on street-level corruption, while other sources mix data on street-level and high-level corruption. Second, it allows for controlling individual characteristics of respondents, as data on individual characteristics of the citizens were collected. Third, it is an 'experienced' crime survey,³ which contains fewer arbitrary subjective (hearsay) elements than often used in 'perceived' crime indexes, such as those presented by Transparency International, the Business International Corporation, the World Comparative Report or the International Country Risk Guide. Fourth, the ICVS data offer a clearer insight into the differences between countries than official statistics based on data from the police and the courts (Woltring and Shinkai 1996). This is especially true for corruption. Official data from the police or the courts are unreliable for a number of reasons. Corruption is in essence an illegal transfer which both participants have every incentive to keep secret (Bowles 2000). In addition, many victims may not report corruption to the police if the corrupt official was a police officer (see Table 1). Finally, the definitions and registration procedures used in these statistics can vary from country to country.

Street-level corruption

In the ICVS, respondents were asked the following question (after questions on whether they had been a victim of diverse forms of crime, such as burglary, robbery, assault or car theft):

3. Some questions in the ICVS were not related to experienced crime, but to perceived crime. We used only experienced crime data.

‘In some areas there is a problem of corruption among government or public officials. During [last year], has any government official, for instance a customs officer, police officer or inspector in your own country, asked you or expected you to pay a bribe for his service?’

(If the respondent answered ‘yes’, a number of additional questions were asked on whether they reported it, and on why they did not report it.)

The question is clearly related to ‘street-level’ corruption, for several reasons. First, the question refers to lower-level officials, and to routine tasks of the government. Second, the ICVS asked whether respondents had experienced corruption, and these respondents are citizens of all types (in contrast to some other surveys in which only business people were interviewed). It is unlikely that more than a very small number of citizens in a society will ever get involved in high-level corruption. Third, the questions are related to being a ‘victim’. As we explained above, most street-level corruption cases are extortion cases, while most high-level corruption cases are bribery cases. As a result, citizens who are involved in street-level corruption are likely to consider themselves as victims, while this may not hold for citizens involved in high-level corruption cases. Finally, citizens involved in high-level corruption are unlikely to ever admit this.

Previous studies used data that did not allow a distinction to be made between street-level and high-level corruption. Mauro (1995), Ehrlich and Lui (1999) and Ades and Di Tella (1999) used the corruption indices published by Business International Corporation (BI), based on surveys of the business community, measuring ‘the degree to which business transactions involve corruption or questionable payments’. Ades and Di Tella 1999 also used issues of the World Competitiveness Report (WCR), based on surveys conducted amongst top and middle managers. Respondents were asked what they believed to be ‘the extent to which improper practices (such as bribing or corruption) prevail in the public sphere’. La Porta *et al.* (1997, 1999), Easterly and Levine (1997) and Djankov *et al.* (2002) used perceived corruption indices from the International Country Risk Guide (ICRG), which includes high-level and street-level corruption. Finally, Wei (1998) and Treisman (2000) used the Transparency International index of corruption (TI), which is based on seven different sources, including the perceptions of businessmen and specialists. This index does not make a distinction between street-level and high-level corruption either.⁴

4. The correlation between the values of the ‘TI Corruption Index’ and the percentage of citizens in every country who reported being a victim of corruption in the ICVS is high ($r = 0.67$; $N = 29$). This has two explanations. First, the TI index is a mixture of high-level and street-level corruption (including the ICVS question). Second, it is quite likely that street-level corruption is correlated with high-level corruption.

Country characteristics

In this article several hypotheses have been formulated about the effects of the macro-characteristics of countries on corruption. We assumed that the country in which people live influences the chance of becoming the victim of corruption. Our data on countries' macro-characteristics come from various sources, but are compatible with those of Treisman (2000).

As an indicator of a country's level of prosperity, we use the gross national product (GNP) per head of the population for 1990, measured in adjusted-dollars from the 'Penn World Tables' data-set (Summers and Heston 1991).

The extent of economic freedom in a country is measured by using the 'Index of Economic Freedom' from the Heritage Foundation (O'Driscoll *et al.* 2001). This index goes from 1 (little economic freedom) to 5 (much economic freedom) and is based on diverse indicators. It measures the presence of governmental pressure or limits on the production, distribution and consumption of goods and services, above the necessity of guaranteeing the safety of citizens.

Whether a country has a long tradition of democracy is determined by using methods devised by Alvarez *et al.* (1996). A country is classified as democratic when the prime minister and the parliament are chosen in free elections, when more than one party participates in these elections, and when there has been a change in the powers that be in the past three elections. Only countries which in all forty-six years between 1950 and 1995 had been recognized as democratic were considered as having a 'long democratic tradition'.

Our measure for the relative size of governmental wages is based on an international study of the World Bank (Schiavo-Campo *et al.* 1997). This standard measures the average civil service salaries in a country, divided by the GNP, per head of the population.

The extent of political stability in a country is measured by the average number of political leaders per year in the period from 1980 to 1993, for Western countries, and from 1990 to 1994 for the countries of the former Communist Eastern bloc.

As a measure of whether a country has a British legal culture, simply those countries that were a former British colony or the United Kingdom itself were included. These standards were used earlier by Treisman (2000).

With respect to federalism, a distinction was made between countries without a federal structure and those which have one (see also Elazar 1995 and Treisman 2000).

The extent of Protestantism in a country is measured by the percentage

of the population that practises a Protestant religion (cf. La Porta *et al.* 1999 and Barrett 1982).

Descriptive statistics of the country characteristics are presented in Appendix 1, as are the correlations between these characteristics. It is clear that a number of characteristics are strongly related. To avoid possible problems of multi-collinearity, we have used the macro-data centred around the average in all of the forty examined countries.

Individual characteristics

The ICVS contains a number of questions on the individual characteristics of the respondents.

In our analysis we use most of these characteristics. As well as the gender (female = 1, male = 0) and age (16–24, 25–54, and 55 and older) of the respondents, we use the number of years of education (eleven years or more = 1, less than eleven years = 0), income (higher than average = 1, lower than, or equal to, average = 0), marital status (married = 1, unmarried = 0) and the respondent's nightlife behaviour (going out often = 1, the rest = 0).

Method

To test the formulated hypotheses, a 'multilevel' or 'hierarchical' model was used (Goldstein 1987; Bryk and Raudenbush 1992). These models can be seen as generalizations of models for 'pooled time series' and cross-section data. Since the main purpose of this study is to explain the differences in the chances of becoming a victim, among individuals, and among the various countries in which the individuals live, we applied the models with two distinct levels: the country and the individual. The multilevel models have the advantage over traditional techniques (OLS-regression, etc.) because they take the layered structure of the data-set into account, since on every level individual measurement errors can be specified. In this way, the relation of the measurement error within countries can be taken into account when estimating the coefficient. Another advantage is that at the country level, in countries where the data of relatively few respondents are known, information can be weighted relatively lighter than data in countries with a relatively large number of respondents. Because our dependent variable is dichotomous – i.e. having been a victim of corruption (coded 1) or not having been a victim (coded 0) – in the analyses binomial logistic versions of the hierarchical model are used.

4 Description of street-level corruption rates

Before discussing our results with respect to various hypotheses, it might be useful to offer a description of the scope of corruption in the ICVS countries. Figure 1 shows the percentage of people in each country who reported to have been a victim of corruption in 1999. It shows that corruption by civil servants occurs most in developing countries and least in industrialized countries.

Corruption occurs most frequently in Asia and Latin America (the average level is about 20 per cent), with Argentina and Indonesia as absolute leaders, with corruption levels of over 30 per cent. The Central and Eastern European countries have corruption levels between 10 and 15 per cent, with an exceptionally high level of 28 per cent in Georgia. In the former Communist bloc, it appears that there is less corruption in those countries where the economic and political reforms have progressed the most since the fall of the Berlin wall in 1989. Corruption is still a frequent phenomenon in the Central European countries. However, the level of corruption is already much lower in Hungary, Poland, the Czech Republic and Estonia. While an average of 1 out of 5 citizens in developing nations reports to have been a victim of corruption, and 1 out of 8 in Eastern Europe, corruption is rare in the industrialized world. In 13 of the 16 industrialized countries, less than 0.5 per cent of the citizens report having been confronted with corruption (in the other industrialized countries, the percentage is only slightly higher).

Given the relatively high percentage of citizens who indicate having been a victim of corruption, it is interesting to investigate the non-industrialized countries, particularly to see precisely who has committed the reported corruption. The question was not asked in the ICVS in Western European countries. Table 1 offers data on what percentage was committed by, respectively, government officials, customs officers, police officers, and other inspectors. In most of the countries, the police committed a substantial proportion of the corruption. In particular, respondents from South America name the police most often. And, especially in Eastern European countries, corruption by government employees is mentioned frequently. The percentage of people who report that they were victims of corruption by customs agents and inspectors is on average lower, but varies among the countries.

5 Testing the hypotheses

As a first test of the formulated hypotheses to explain the differences in the scope of corruption among the various countries, we present in

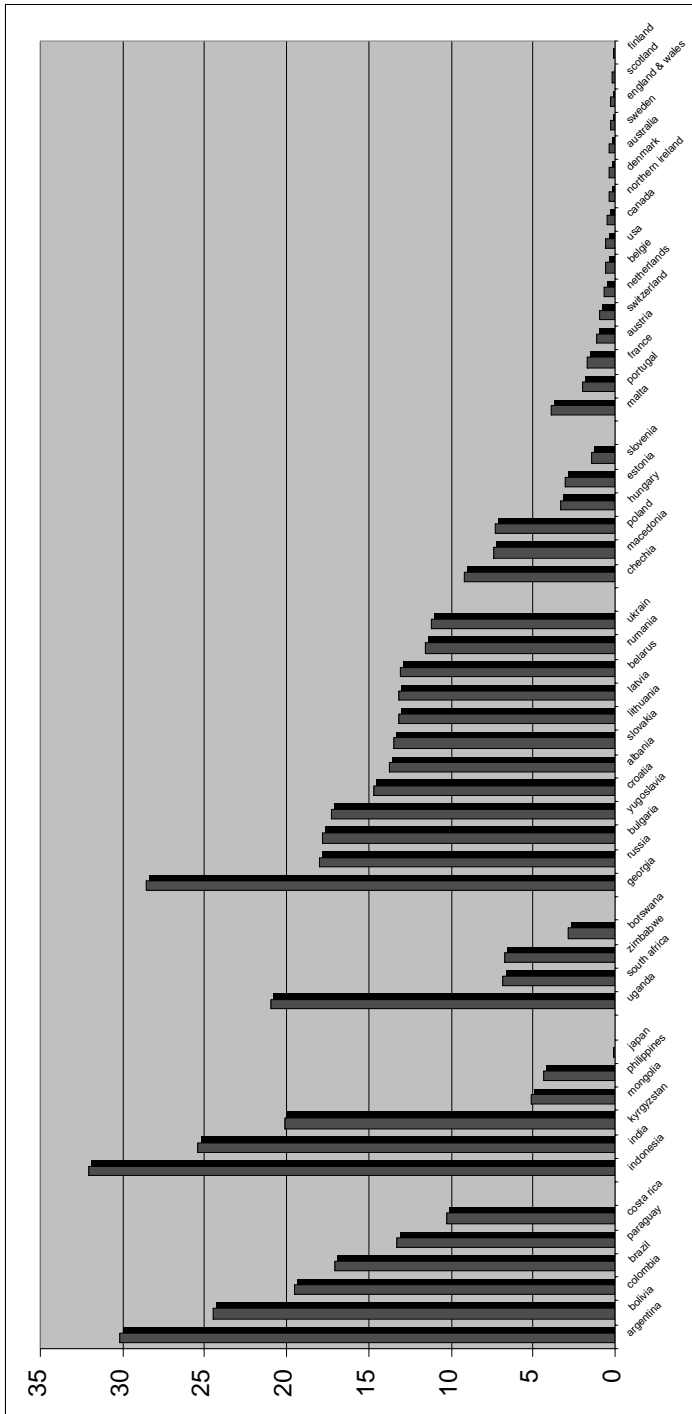


Figure 1. Percentage of citizens in each country who experienced street-level corruption

TABLE 1. Percentage of citizens who experienced street-level corruption, and the type of government or public officer involved

	Percentage victim of corruption	Type of government or public officer (%)					N	
		Government official	Customs officer	Police officer	Inspector	Other		
<i>Latin America</i>								
Argentina	30.2	4	8	71	17	1	100%	1000
Bolivia	24.4	22	5	43	16	14	100%	999
Colombia	19.5	18	15	34	3	30	100%	1000
Brazil	17.1	8	20	46	26		100%	1000
Paraguay	13.3	26	12	28	29	5	100%	587
Costa Rica	10.3	10	4	26	50	10	100%	701
<i>Asia</i>								
Philippines	4.4	47	5	33	4	11	100%	1250
Indonesia	32.1	40	2	51		6	100%	1193
India	25.4	57	5	20	9	10	100%	999
Kyrgyzstan	20.1	37	18	25	14	7	100%	1494
Mongolia	5.1	22	37	20	11	9	100%	1053
<i>Africa</i>								
Uganda	21.0	29	16	30	3	21	100%	997
South Africa	6.9	9	3	54	17	17	100%	1006
Zimbabwe	6.8	28	16	24	18	15	100%	1006
Botswana	2.8	28	22	39		11	100%	643
<i>Central Europe</i>								
Georgia	28.6	13	30	30	26	1	100%	567
Russia	18.0	16	6	50	10	19	100%	1018
Albania	13.7	36	13	8	16	27	100%	983
Ukraine	11.2	22	13	27	9	29	100%	1000
<i>Eastern Europe</i>								
Bulgaria	17.9	5	15	52	8	21	100%	1075
Yugoslavia	17.3	27	21	41	4	7	100%	1094
Croatia	14.7	21	10	44	3	21	100%	994
Slovakia	13.5	25	6	32	28	9	100%	1105
Lithuania	13.2	21	22	31	6	20	100%	653
Latvia	13.2	38	23	11	16	11	100%	1011
Belarus	13.1	37	18	18	7	20	100%	999
Rumania	11.6	55	6	13	7	19	100%	1000
Czech Republic	9.2	29	6	30	21	14	100%	717
Macedonia	7.4	21	29	10	8	33	100%	700
Poland	7.3	10	6	43	8	34	100%	2739
Hungary	3.3	12	16	32		40	100%	754
Estonia	3.0	9	9	27	9	45	100%	364
Slovenia	1.4	13	44	13	6	25	100%	1107

Table 2, for the various regions, the percentage of victims of corruption, as well as the averages of the clarifying variables. It shows that in the regions with relatively high prosperity, with much economic freedom, and with a long democratic tradition (the 'New World' (Australia, Canada,

TABLE 2. Percentage of citizens who experienced street-level corruption, and explanatory country characteristics by region

	<i>New World¹</i>	<i>Western Europe</i>	<i>Eastern Europe</i>	<i>Central Europe</i>	<i>South America</i>	<i>Asia</i>	<i>Africa</i>
Corruption	0.3	0.7	10.2	14.6	20.3	20.6	9.3
Prosperity	4.3	4.2	3.8	3.8	3.6	3.3	3.3
Economic freedom	3.1	2.9	2.0	1.4	2.2	1.7	1.9
Democratic tradition	0.7	0.9	0.0	0.0	0.2	0.3	0.0
British legal culture	0.7	0.3	0.0	0.0	0.0	0.3	0.8
Government salaries	1.3	1.5	1.6	0.5	2.6	2.6	6.1
Politically stable	0.6	0.7	0.2	0.6	0.6	0.8	0.8
Non-federal structure	0.3	0.6	1.0	0.5	0.6	0.7	1.0
% Protestants	22.7	30.8	13.4	0.0	3.1	3.2	22.3
No. of countries	3	14	9	2	5	3	4
No. of respondents	2,185	6,177	7,733	1,953	4,163	2,416	2,829

1 New World = Australia, Canada and the USA

USA) and Western Europe), there is hardly any corruption. Moreover, the percentage of Protestants is much higher in these regions. These findings are in agreement with our hypotheses. Furthermore, it appears that government salaries, in contrast to our expectations, are high in regions with relatively high levels of corruption (for example, Latin America, Asia, and especially Africa). Individual characteristics are also taken into account. In order to adequately test the hypotheses we have performed multilevel analysis.

Multilevel analysis: all countries

Using the ICVS data, we estimated the parameters of various multilevel models explaining the risk of becoming a victim of corruption (see Table 3). The first two models relate to data of all countries ($N = 40$). In the first model, only the intercept and individual characteristics are used as variables. The intercept provides the average proportion of victims of corruption in the countries that were examined for respondents in the reference category (young unmarried men with little education and low incomes, who do not go out often): exponent $(-2.556 / (1 + -2.556)) = 5.2$. The variance at the country level represents the variance in the intercepts for the different countries, and thus indirectly the proportion of victims of corruption across countries. This variance is 1.294, and is significant. In the second model, characteristics of these countries are added to the model. The variance at the country level decreases because

of this by $(1.294 - 0.266) * 100\% / 1.294 = 79\%$. After adding the country characteristics there is about 20 per cent of the original variance at the country level left over. So, the country characteristics explain a notable proportion of the differences in the scope of corruption in various countries.

Of the eight explanatory country characteristics that were expected to influence the chances of becoming a victim of corruption, there are six that are significant and in the expected direction. The parameters for the effects of prosperity, economic freedom, long-term democracy, and British legal culture are significant and negative. This means that – in agreement with our hypotheses – the greater the prosperity, the more economic freedom, the longer a country has been democratic, and if it has been a British colony (or the UK itself), the lower the chances are for a citizen to become a victim of corruption.

Also in agreement with our hypotheses is the effect of the percentage of Protestants, and the effect of the federal structure in a country. The greater the percentage of Protestants, the less chance there is of a citizen being a victim of corruption; and in countries with a federal structure there is more corruption than in others. Another two of the formulated hypotheses were not confirmed: relating to the effects of governmental salaries and political stability. Neither of these country characteristics has a statistically significant influence on the chances of corruption.

Multilevel analysis: non-industrialized countries only

From the above analyses, it is clear that industrialized countries are in an exceptional position. In these countries, almost without exception, there is hardly any street-level corruption. Moreover, these are the countries with a relatively high level of prosperity, great economic freedom and long-term democracy. This brings into question whether the formulated hypotheses are sustainable when these countries are not examined. For this reason, we also estimated the parameters of two models on the basis of data of respondents in non-industrialized countries ($N = 23$). Again, we see that by incorporating the country characteristics the original differences between countries diminish. The variance on a country level decreases by $(0.338 - 0.090) * 100\% / 0.338 = 73\%$.

Of the eight clarifying country characteristics that were assumed to be influential on the chances of becoming a victim of corruption, only two are significant and in the expected direction. In countries with a relatively large number of Protestants and in non-federal countries, the level of corruption is lower. We find no confirmation of the other hypotheses. The parameters of the effects of prosperity, economic freedom, long-term

democracy and British legal culture are no longer significant (and sometimes even positive). These results differ from earlier analyses where, for example, British legal culture seemed to be of importance in developing countries (see, for example, Treisman 2000: pp. 420–1). Furthermore, the effect of the scope of political instability in a country is again not significant. As opposed to our expectations, countries with relatively high government salaries have more corruption. It is possible that in some developing countries politicians and civil servants raise their salaries, a form of corruption, so that a high level of corruption is coupled with relatively high government salaries.

In conclusion, we can say that, of the eight formulated hypotheses on the effects of country characteristics on the chances of becoming a victim of corruption, four hypotheses (H1, H3, H5 and H6) have been corroborated, only when all the countries are taken into account. Furthermore, two hypotheses (H2 and H4) are confirmed, independent of the selection of countries. Two hypotheses (H7 and H8) are not supported by the results.

These conclusions have various implications when explaining cross-national differences in corruption. The results imply that a first major distinction should be made between countries with high prosperity and countries with low prosperity. In prosperous countries – all seventeen countries in Western Europe and the New World – the risks of becoming a victim of corruption are very low (on average around 0.6 per cent), whereas in countries with low prosperity corruption is much more frequent. Subsequently, among these relatively poor countries a further distinction could be made based on their (religious) culture and type of government. In countries with a federal government structure – Argentina, Brazil and Russia – levels of corruption are among the highest (on average around 23 per cent). In non-federal countries and those with a Protestant culture – Botswana, Estonia, Hungary, South Africa and Zimbabwe – the risks of becoming a victim of corruption are modest (around 5 per cent). In the remaining fourteen countries, i.e. those with a non-federal structure and no Protestant culture – the risk is in between (on average around 15 per cent).

Effects of individual characteristics

Aside from the effects of country characteristics on the chances of becoming a victim of corruption, we also formulated hypotheses on the effects of individual characteristics. Table 3 shows the parameters of the effects of the individual characteristics on the chances of becoming a victim of corruption for all four of the models. The results of the four

TABLE 3. Parameters (log-odds-ratios) of binomial multilevel models explaining the risk of becoming a victim of street-level corruption

Variable	All countries (N = 40)		Non-industrialized countries (N = 23)	
	b (S.E.)	b (S.E.)	b (S.E.)	b (S.E.)
Intercept	-2.556 (.204)	-3.081 (.144)	-1.959 (.146)	-2.574 (.197)
INDIVIDUAL LEVEL				
Woman	-.574 (.046)	-.614 (.045)	-.608 (.045)	-.628 (.045)
High income	.177 (.050)	.195 (.049)	.188 (.048)	.198 (.048)
High education	.335 (.052)	.362 (.049)	.355 (.048)	.371 (.049)
Age 25–54	.038 (.057)ns	.049 (.054)ns	.051 (.054)ns	.051 (.054)ns
Age 55+	-.904 (.084)	-.943 (.085)	-.938 (.082)	-.955 (.083)
Married	.140 (.052)	.144 (.051)	.155 (.051)	.153 (.051)
Goes out often	.332 (.051)	.357 (.048)	.355 (.048)	.365 (.048)
COUNTRY LEVEL				
Prosperity		-2.582 (.536)		.844 (.589)ns
Economic freedom		-.489 (.213)		.096 (.158)ns
Democratic tradition		-.688 (.317)		-.134 (.264)ns
British legal culture		-1.298 (.334)		.439 (.406)ns
Government salaries		.095 (.079)ns		.165 (.054)
Politically stable		-.218 (.411)ns		-.268 (.288)ns
Non-federal structure		-.921 (.269)		-.509 (.210)
% Protestants		-.011 (.007)		-.056 (.011)
Variance at country level	1.294 (.312)	.266 (.081)	.338 (.109)	.090 (.032)
No. of respondents	27,004	27,004	18,642	18,642

ns = not significant at $p < .05$

models are remarkably consistent. All the characteristics have a significant effect, and all, except for one (marital status), in the expected direction. These results confirm the idea that the chance people have of being a victim of corruption is partially determined by what they do, and how they behave.

6 Concluding remarks

This article offers a cross-country study focused on *street-level* corruption. In previous empirical studies, data were used that did not allow a distinction to be made between high-level and street-level corruption. We find, in line with previous studies on general corruption (e.g. Treisman 2000 and La Porta *et al.* 1999), that citizens living in non-federal countries, and in countries with more Protestants, experience lower corruption levels.

Appendix 1. Mean and standard deviation of variables used

	Range	All countries (N = 40)		Non-industrialized countries (N = 23)	
		Mean	Std dev.	Mean	Std dev.
DEPENDENT VARIABLE					
Corruption	0–1	0.10	0.30	0.14	0.34
EXPLANATORY VARIABLES					
<i>INDIVIDUAL LEVEL</i>					
High income	0–1	0.52	0.50	0.48	0.50
Age 25–54	0–1	0.49	0.50	0.48	0.50
Age 55+	0–1	0.25	0.43	0.22	0.41
Goes out often	0–1	0.42	0.49	0.35	0.48
Married	0–1	0.56	0.50	0.59	0.49
High education	0–1	0.58	0.49	0.54	0.50
Woman	0–1	0.54	0.50	0.56	0.50
<i>COUNTRY LEVEL¹</i>					
Democratic tradition	0–1	–0.07	0.47	–0.32	0.27
Non-federal structure	0–1	0.02	0.43	0.08	0.39
British legal culture	0–1	0.01	0.44	0.01	0.39
Prosperity	–	–0.07	0.37	–0.27	0.24
Economic freedom	0–5	–0.12	0.64	–0.43	0.50
Government salaries	–	0.06	1.94	0.41	2.23
Politically stable	0–1	0.01	0.25	–0.03	0.26
% Protestants	0–100	–2.95	22.40	–11.36	10.12
No. of respondents		27,456		19,094	

¹ Variables at country level are centred around the mean of all countries (N = 40). Since not all countries have the same number of respondents and the means in this table show ‘weighted average over all respondents’, these do not have the value of zero exactly.

The most remarkable findings, however, are that no correlation between corruption levels and economic development, economic freedom, long democratic traditions and British legal culture can be found when only developing countries are taken into account (and industrialized countries are left out of the analysis). This implies that street-level corruption is not higher in poorer developing countries than in richer developing countries, nor is street-level corruption higher in more regulated developing countries, or developing countries with a long democratic tradition.

This seems to confirm the thesis that street-level corruption is different in nature, and requires different anti-corruption strategies from high-level corruption. Street-level corruption is a very visible type of crime. Therefore, it can occur only in very loosely organized public sectors, when political leaders lose their grip on the lower levels of their administrations, and prosecutors and courts are highly inefficient and unmotivated. The

Appendix 2. Correlations between country characteristics (N = 40)

	<i>Corruption</i>	<i>Prosperity</i>	<i>Economic freedom</i>	<i>Democratic tradition</i>	<i>% Protestants</i>	<i>Non-federal</i>	<i>Politically stable</i>	<i>Government salaries</i>
<i>Corruption</i>								
<i>Prosperity</i>	-0.71							
<i>Economic freedom</i>	-0.56	0.66						
<i>Democratic tradition</i>	-0.50	0.63	0.56					
<i>% Protestants</i>	-0.46	0.40	0.35	0.43				
<i>Non-federal structure</i>	-0.02	-0.26	-0.19	-0.30	0.11			
<i>Politically stable</i>	-0.14	0.05	0.23	0.29	0.00	-0.07		
<i>Government salaries</i>	0.28	-0.60	-0.17	-0.21	-0.08	0.10	0.09	
<i>British legal culture</i>	-0.13	-0.04	0.20	0.35	0.06	-0.16	0.27	0.39

fact that no correlation could be found between street-level corruption in developing countries and economic prosperity suggests that street-level corruption is less harmful to the economic system than high-level corruption.

All of these findings, however, should be interpreted with caution. More empirical and theoretical work is needed before well-corroborated statements can be made on the causes of street-level corruption, and the optimal strategies to reduce it.

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