



Center for Research in Economics, Management and the Arts

## **CORRUPTION AND AGE**

Benno Torgler  
Neven T. Valev

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# CORRUPTION AND AGE

by

Benno Torgler and Neven T. Valev\*

**Abstract:** In recent years the topic of corruption has attracted a great deal of attention. However, there is still a lack of substantial empirical evidence about the determinants of corruption. This empirical study analyses a cross-section of individuals using the World Values Survey wave III (1995-1997), investigating the *justifiability of corruption*. The major aim in the paper is to investigate whether we observe differences between age groups. Despite an increasing interest of economists in the determinants of corruption, the factor age has been widely neglected in the literature. The results suggest that there is a strong age effect, controlling in a multivariate analysis for additional factors.

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\* Yale Center for International and Area Studies, Leitner Program in International & Comparative Political Economy, 34 Hillhouse Avenue, P.O. Box 208206, New Haven, CT 06520 (USA) and Center for Research in Economics, Management and the Arts (CREMA), Gellertstrasse 24, CH-4052 Basel (Switzerland). E-Mails: [benno.torgler@yale.edu](mailto:benno.torgler@yale.edu), [ecobtx@langate.gsu.edu](mailto:ecobtx@langate.gsu.edu), [benno.torgler@unibas.ch](mailto:benno.torgler@unibas.ch). Georgia State University, Andrew Young School of Policy Studies, 14 Marietta Street, Suite 553, Atlanta, GA 30303. E-Mail: [nvalev@gsu.edu](mailto:nvalev@gsu.edu). We are grateful to Doris Aebi for helpful comments and suggestions. Please address all correspondence to Benno Torgler.

## I. INTRODUCTION

As Tanzi (2002) reports, corruption is not a new phenomenon. Already 2000 years ago, the book *Arthashastra*, written by Kautilya discussed corruption. Corruption is a topic that has attracted important writers such as Dante and Shakespeare and bribery (besides treason) is one of the two explicitly mentioned crimes that could justify the impeachment of a U.S. president (see Noonan 1984). It is also interesting to note that in Ancient Egypt, the pharaohs searched for ways to reduce corruption of their tax collectors (called *scribes*). The scribes were paid high salaries to reduce the incentives to enrich themselves by cheating taxpayers. Furthermore, scribes working in the field were controlled by a group of special scribes from the head office (see Adams 1993). However, still little is known about the causes of corruption. Up to the 1980s the studies on corruption were largely confined to other fields such as political science and sociology. Studies in economics strongly increased since the early 1990s. In general, the transformation of the socialist economies was one of the main reasons for this surge in interests since institutional weaknesses and corruption surfaced as major obstacles to market reforms (Abed and Gupta 2002). The increased interest and new datasets contributed to a rapidly growing empirical literature on corruption (see Treisman 2000 and Lambsdorff 1999 for reviews) to which we contribute.

This empirical study analyses a cross-section of individuals using the World Values Survey wave III (1995-1997) to shed some light on the extent to which citizens perceive corruption as a justifiable phenomenon. We are particularly interested in the effect of age on the justifiability of corruption, a factor that has not received much attention in previous studies despite its importance. As the following section discusses, age has been identified as an important determinant of other illegal activities: older people are on average more tax compliant and less likely to be involved in crime. The micro-data set used here show that older people are also less likely to perceive corruption as justifiable. One of the major advantages of the data set is that different cultural regions can be investigated, i.e. we can assess the cross-culture robustness of the relationship between age and corruption. The findings from these data suggest that age differences matter in most circumstances. Swamy et al. (2001) include age and age squared as control variables in their estimations of the justifiability of corruption and find that the coefficient on age is positive and the coefficient on age squared negative, both statistically significant. The authors, focusing on gender differences, did not comment on this result. We extend Swamy et al.'s (2001) analysis by using a more recent data set collected in the mid-1990s. These data make it possible to

observe generation effects after the surge of corruption in the transition economies in the early 1990s. The 1990-1991 dataset used by Swamy et al. (2001) dates to the period when transition began in most former communist economies. Furthermore, we report more extensive results on the effect of age on the justifiability of corruption across different geographical regions and across countries. Swamy et al. (2001) report the effect of age only in a broad panel of countries. It is possible that several countries drive the age effect or that it is specific to some institutional or cultural environments.

Mocan (2004) also uses micro data to show an effect of age on corruption: individuals at the age of 20 to 54 are more likely to be asked for a bribe compared to the reference group (younger than 20). In this paper we focus on the reported justifiability of corruption instead of on the likelihood of being involved in corruption. This focus on social norms fits better the interdisciplinary literature on age differences. Section II of the paper gives an overview of that literature to provide a theoretical background. Section III then presents the empirical findings and Section IV finishes with some concluding remarks.

## II. ARE OLDER PEOPLE MORE COMPLIANT?

Criminology findings indicate that age is negatively correlated with rule breaking. Hirschi and Gottfredson (2000) point out:

“no fact about crime is more widely accepted by criminologists. Virtually all of them, of whatever theoretical persuasion, appear to operate with a common image of the age distribution. This distribution thus represents one of the brute facts of criminology” (p. 138).

Studies show that the shape of the distribution relating age and crime has remained almost unchanged in the last 150 years and that the relationship is invariant across gender and race groups. Differences can be observed regarding the type of crime. For example, age is positively correlated with the seriousness of injury offenses but not with the seriousness of theft offenses. The peak regarding crimes against persons compared to theft is at a higher age (Gottfredson and Hirschi 1990 and Hirschi and Gottfredson 2000). Similar tendencies can be observed for other involvements. For example, the relationship between crime and motor vehicle accidents (fatal traffic accidents) has a peak point in the late teens and steadily declines thereafter. However, contrary to crime, the fatality age curve is bimodal, beginning to increase around age sixty (see Sorensen 1994). Looking at tax evasion, there is the tendency

that a higher age is correlated with a lower tax evasion although a few studies imply no such influences (for an overview see Torgler 2003a).

There are two major concepts that explain the correlation between age and crime: the traditional desistance theory and the age theory (Gottfredson and Hirschi 1990). The desistance theory asserts that the decline in crime occurs because factors associated with age reduce or change the actors' criminality. Social position is a key explanation of an age effect according to that theory. Tittle (1980) argues that older people are more sensitive to the threats of sanctions and over the years have acquired greater social stakes, as material goods, status, a stronger dependency on the reactions from others, so that the potential costs of sanctions increase. However, Gottfredson and Hirschi (1990) survey studies conducted in a controlled environment (prison) which show that the age effect is comparable to the age effect outside a prison. This persistence indicates that status changes such as marriage, parenthood or employment are not sufficiently responsible for the observed decreases in criminality associated with age (Hirschi and Gottfredson 2000). On the other hand, the age theory asserts that the decline cannot be explained by a change in the persons' status or the exposure to anti-criminal institutions, which act to restrain offenders. The theory is based on the idea that the aging of the organism itself has an impact on individuals' criminal behavior. Gottfredson and Hirschi (1990) are in favor of the aging theory stressing that differences in individuals' criminal tendencies remain relatively stable over the life course.

The estimations reported in the next section include a number of variables that control for the social status of the respondents in an effort to differentiate between the two effects. The estimations are also performed for various geographic sub-samples to compare the age effect in different environments.

### III. EMPIRICAL EVIDENCE

The data used in the present study come from the World Values Survey wave III. The World Values Survey is a worldwide investigation of socio-cultural and political change. The survey assesses the basic values and beliefs of people around the world and has been carried out in 50 countries representing over 70 percent of the world's population. The researchers who conduct and administer the World Values Survey (WVS) in their respective countries are required to follow the methodological requirements of the World Values Association. Surveys are generally based on national representative samples of at least 1000 individuals, ages 18

and over (although sometimes people under the age of 18 participate). The samples are selected using probability random methods and the questions contained within the surveys generally do not deviate far from the original official questionnaire.<sup>1</sup> The WVS inquires about the acceptability of various dishonest or illegal activities. The question on the justifiability of corruption that is of primary interest in this paper is stated as follows:

Please tell me for each of the following statements whether you think it can always be justified, never be justified, or something in between: (...) someone accepting a bribe in the course of their duties.

The ten-scale index with the two extreme points “never justified” and “always justified” was recoded into a four-point scale (0, 1, 2, 3), with the value 3 standing for “never justifiable”; 4-10 were integrated in the value 0 due to a lack of variance. Thus, a higher value is interpreted as lower justifiability of corruption.

The variable JUSTIFIABILITY OF CORRUPTION is not free from biases and problems. In general, the proxy can be criticized as it considers a *self-reported* and *hypothetical* choice (see Swamy et al. 2001). It is possible that an individual who has been involved in corruption in the past will tend to excuse such behavior declaring a low justifiability of corruption. Furthermore, cross-cultural comparisons should be treated with caution. In countries where corruption is widespread and delays in transactions are long, additional payments to “speed up” the process may be justifiable.<sup>2</sup> Nevertheless, in recent years a number of studies have investigated the effects of values, norms, and attitudes on economic behavior or institutions (see, e.g., Knack and Keefer 1997). According to Ajzen and Fishbein (1980) and Lewis (1982) behavior can be predicted from attitudes and subjective norms. The tax compliance literature, for example, has documented a strong link between attitudes toward tax compliance and actual compliance.<sup>3</sup> For our purposes here, it is useful to note that our JUSTIFIABILITY OF CORRUPTION variable is statistically significantly correlated with well-known indexes of the actual level of corruption such as the Transparency

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<sup>1</sup> A typical World Values Survey can be viewed at [www.worldvaluessurvey.org](http://www.worldvaluessurvey.org).

<sup>2</sup> De Soto (1989) and his research team conducted an experiment, setting up a small garment factory in Lima, intending to comply with the bureaucratic procedures and thus behave in accordance with the law. They were asked for a bribe to speed up the process 10 times and twice it was the only possibility to continue the experiment.

<sup>3</sup> Weck (1983) reports a negative correlation between tax morale (attitudes toward paying taxes) and the size of the shadow economy. Compared to other variables tax morale has the most significant impact on the size of the shadow economy. In a multivariate analysis with data from the Taxpayer Opinion Survey, using tax evasion as a dependent variable, Torgler (2003b) finds that tax morale significantly reduces tax evasion.

International Corruption Perception Index (correlation coefficient is 0.358) and the Quality of Government rating (Control of Corruption) developed by Kaufmann, Kraay, and Mastruzzi (2003) (correlation coefficient 0.380).

We will use an ordered probit estimation to analyze the ranking information of the scaled dependent variable. A weighting variable has been applied to correct the samples and thus to get a reflection of the national distribution. In the estimations where we pooled several countries we have integrated an additional weighting variable. The original weight variable was multiplied by a constant for each country to get an equal number of weighted observations (around 1500) for each survey. The World Values Survey provides the weighting variables. Countries with fewer than 750 observations (Montenegro, the Dominican Republic, Ghana, Pakistan, and Tambov) were excluded from the sample to reduce possible biases due to a lack of representativeness. Several countries were also excluded, as they don't have information regarding the dependent and independent variables that we integrated in the estimations<sup>4</sup>. Finally, Sweden could not be included as one of the control variables (*EDUCATION*) is coded differently. We proceed with a sample of 39 countries.

### Independent Variables

As age may be a proxy for other characteristics of the survey respondents that influence the justifiability of corruption, the estimations reported in the next section control for gender differences, as well as the education level, the marital status, the economic situation, and the employment status of individuals. *Table A1* in the Appendix provides a description of these variables. The variable *EDUCATION* (continuous variable, 1 = no formal education, 9 = university degree) is related to citizens' knowledge about corruption. Better educated individuals might know more about the government's activities and thus would be in a better position to assess the degree of corruption. This may have a positive or a negative impact on the justifiability of corruption, depending on how governments act. On the other hand, they may be more strongly involved in corruption, understanding better the opportunities of corruption. Thus, the effect of education is not clear and there is a lack of empirical studies that investigate the relationship between education and the justifiability of corruption. Swamy et al. (2001), for example, do not include an education variable in the reported equations. Mocan (2004) finds that a higher level of education leads to a higher probability of being targeted for bribes.

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<sup>4</sup> These countries are Japan, South Africa, Puerto Rico, Turkey, and Columbia.

Marital status is a further control variable (dummy variable, value 1 if the respondent is married and 0 otherwise). Married people may be more compliant than others, especially compared to single people because they are more constrained by their social network (Tittle 1980). It is also argued that marriage alters public behavior (Swamy et al. 2001). Tittle (1980) finds significant differences between the various marital statuses. However, controlling for age, the results show that the association between deviance and marital status is a reflection of age difference, as older persons are more likely to be married or widowed and age was a strong predictor of deviance. Gottfredson and Hirschi (1990) also point out that in the literature on crime marital status does not seem to have an impact on the likelihood of crime.

As a proxy for income we use the economic situation of an individual (dummy variable for *UPPER CLASS* with the remaining individuals in the reference group). Using the exact income would produce biases, because this variable is not comparable across different countries. Individuals with a higher income are more likely to be asked for a bribe, as are those with a better education. Individuals with a lower income might have lower social “stakes” or restrictions but are less in a position to take risks because of a high marginal utility loss (wealth reduction) if they are caught and penalized. Furthermore, we control for financial satisfaction (scale 1 = dissatisfied to 10 = satisfied). People who are financially dissatisfied might be more willing to act illegally. Such dissatisfaction might create a sense of distress, especially when there is a discrepancy between the actual and the desired financial situation<sup>5</sup>. Thus, there may be a higher incentive to act illegally to reduce this gap.

An important variable to include is the occupation status. Elderly people may disapprove of corruption because they are less likely to be employed and thus less in a position to benefit from corruption. In addition to a dummy variable for unemployment, we use a dummy variable for self-employed individuals as they might be in the best position to invest in bribing and benefit from corruption. Such a status may have an impact on the norms regarding bribery. Being away from a job with its regular hours, restrictions, and compensations may increase the incentive to act illegally.

The dummy variable *FEMALE* controls for gender differences. Earlier literature has shown that females are on average more compliant than males (see Tittle 1980, Junger 1994, Gottfredson and Hirschi 1990, Mears et al. 2000, Dollar et al. 2001, Swamy et al. 2001, Mocan 2004). Two major factors in the criminology literature explain gender differences: self-control and opportunities to commit criminal or reckless acts (see, e.g., Gottfredson and Hirschi 1990, Zager 1994). A low self-control reduces the restrictions to behave illegally,

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<sup>5</sup> For the theory of aspiration see e.g., Frank 1941, Simon 1955, Siegel 1957.



failing to consider carefully long-term negative consequences of the behavior. The opportunity argument is close to the concept of traditional economics, suggesting that males and females don't have different motivations. It is rather the chance to be corrupt that matters.

The models also include regional dummy variables for the CEE and FSU (Central and Eastern Europe and Former Soviet Union countries), LATIN AMERICA, ASIA and AFRICA<sup>6</sup>, leaving the industrialized economies of WESTERN EUROPE, USA, and AUSTRALIA in the reference group. A historically high level of rule of law, an accountable system of governance, and low corruption may be associated with a lower justifiability of corruption in our reference group. Finally, instead of using age as a continuous variable, we use four dummy variables for age cohorts: AGE<30, AGE 30-49, AGE 50-64, and AGE 65+, with AGE<30 as a reference group, to better investigate the impact of age.

The models use a standard error adjusted for the clustering on countries, thus taking into account unobservable country specific characteristics. In general, clustering leads to a decrease in the  $z$ -values, but has no impact on the marginal effects. Since the equation in an ordered probit model is nonlinear, only the signs of the coefficients can be directly interpreted and not their sizes. Calculating the marginal effects is therefore a method to find the quantitative effect of an independent variable. The marginal effect indicates the change in the share of individuals (or the probability of) belonging to a specific justifiability of corruption levels, when the independent variable increases by one unit. If the independent variable is a dummy variable, the marginal effect is evaluated in regard to the reference group. In all estimations the marginal effects are presented only for the highest social norm of bribing level (score of 3). Furthermore, "I don't know" answers and missing values were omitted from all estimations.

### Empirical Results

This section reports three groups of estimation results: a panel analysis of all 39 countries, panel estimates from four geographic regions, and cross-sectional estimates from each country in the sample. The primary objective is to investigate the robustness of an age effect on the justifiability of corruption across countries with different cultural and institutional characteristics and with different levels of economic development. *Table 1* presents the first results using the entire panel of countries. We observe that all age groups from 30 to 65+ report a significantly lower justifiability of corruption than the reference group

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<sup>6</sup> Only one country represents Africa (Nigeria).

below 30. For example, the proportion of persons of age 65+ who report the lowest justifiability of corruption is more than 14 percentage points higher than for the reference age group. Thus, we find a strong age impact, controlling in a multivariate analysis for additional factors. Interestingly, we can observe that the marginal effects increase consistently with each additional increase in the age variables.

*Table 1* also indicates that there are gender differences. Being female rather than male increases the probability of a person stating that accepting a bribe is never justifiable by 3.9 percentage points. This indicates that females have higher norms regarding bribery than males. The results do not suggest a statistically significant effect of EDUCATION on the JUSTIFIABILITY OF CORRUPTION. The coefficient on EDUCATION is negative, suggesting that higher levels of education are associated with lower justifiability of corruption, but is not statistically significant. Married people have a higher social norm regarding bribery than individuals with another marital status. Being married increases the share of persons indicating that accepting a bribe is never justifiable by 3.4 percentage points. On the other hand, we do not find a statistically significant effect of the economic situation of an individual on corruption, neither in terms of economic status nor in terms of financial satisfaction. Being self-employed and unemployed lowers the probability for a person to state that accepting a bribe is never justifiable by 2.9 and, respectively, 5.3 percentage points.

We also find regional differences in terms of the justifiability of corruption. The probability for inhabitants of CEE and FSU, LATIN AMERICA, and AFRICA to state the lowest justifiability of accepting a bribe is 12.1, 11.5, and 7.6 percentage points lower than for the reference group. The coefficient for ASIA is also negative but not statistically significant. Overall, the estimates show that the social norm regarding bribery is unambiguously higher in Western Europe, the U.S., and AUSTRALIA.

Next, we report the effect of age and the remaining control variables in the four regions.<sup>7</sup> It can be argued that the observed effect of age on corruption in the panel of countries reported in *Table 1* is driven by one of the regions. It is also possible that some control variables act differently in the different regions. *Table 2* presents these results. In three out of four regions, the age effect is highly statistically significant. There are no statistically significant differences between the age categories only in ASIA. The strongest age effect can be found in the Central and Eastern European countries and in the Former Soviet Union countries, followed by Latin America and the previous reference group (Western Europe, USA, and Australia). The sharp increase in corruption in the former communist countries

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<sup>7</sup> Africa has not been considered independently, as Nigeria was the only African country in the data set.

during the first years of transition may explain the large generational differences in that region. Younger people have spent a larger part of their lives in these circumstances compared to older citizens and the influence of the initial transition period on their beliefs was stronger. In all three regions, the marginal effects increase with an increase of age. Thus, taking a look at different regions and thus different cultures there is still a strong age effect.

Looking at the control variables, consistent findings are observable for the dummy variable MARRIED, being statistically significant in all regions (also Asia), which indicates that married people have a lower tolerance for corruption. There is also the tendency that self-employed and unemployed individuals have a higher tolerance for corruption compared to other citizens. Notice also that in Asia and Latin America, the justifiability of bribing is more strongly influenced by economic factors than in other regions. In fact, in Asia it is only economic and none of the demographic factors that influence this social norm. Perhaps, Asian societies have the tendency to rank social or community values over individuals' values. The importance of the community and thus the strong emphasis on shared social norms is a key difference compared to more individualistic Western oriented societies (see Li 1999).

Finally, *Table 3* reports empirical estimates for each country in our sample separately. The results of the 39 regressions are presented in *Table 3*. For simplicity, only the coefficients for the different age groups are reported. The number of countries showing a statistically significant difference from the reference group increases with an increase in the age category. Starting with 19 countries where the 30 to 49 years of age variable is statistically significant, the number increases to 27 (AGE 50-64) and finally to 28 out of 39 countries (more than 70 percent of cases) for the age category AGE 65+. In most of the countries the coefficients are *highly* statistically significant with relatively large marginal effects. Thus, we observe an age effect throughout different cultures, with a particularly strong impact for CEE and FSU countries.

#### IV. CONCLUDING REMARKS

This empirical study analyses a cross-section of individuals using the World Values Survey wave III (1995-1997), investigating the determinants of the *justifiability of corruption*. The major aim in the paper is to investigate whether we observe differences between age groups. Despite an increasing interest of economists in the determinants of corruption and contrary to the criminology literature, this factor has been widely neglected in the economics literature. Thus, it is highly relevant to investigate empirically possible connections between

age and corruption. The findings indicate that the variable JUSTIFIABILITY OF CORRUPTION is significantly lower for the age groups from 30 to 65+ than for the reference group below 30. The age effect becomes stronger for each higher age group and is substantial in magnitude. In the 39 regressions done individually for each country, the coefficients of the two oldest age groups were statistically significant in around 70 percent of the cases, showing high marginal effects. In general, the results have the interesting political implication that it may be important to place more elderly people in those political and public administration positions, which are traditionally more vulnerable to corruption. However, political implications should be treated with caution, as more empirical evidence is needed to get a broader picture of possible age differentials.

The econometric estimates also suggest that the social norms regarding bribery are higher in the reference group (region Western Europe, USA, and Australia) compared to CEE and FSU countries, Latin America, Asia, and Africa. Interestingly, we also observe that women have a higher social norm regarding corruption than men and that self-employed and unemployed people have a lower one compared to other employment statuses. All in all, the paper shows that socio-demographic variables help to understand what shapes the social norm of bribing. The multivariate analysis helped to isolate the impact of age from other “life-course” explanations such as marriage, employment, education or economic situation. The results indicate that the age effect is robust across different social and cultural conditions.

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*Table 1*  
Determinants of the Justifiability of Corruption

<i>WEIGHTED ORDERED PROBIT</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg. Effects</i>
<i>DEPENDENT VARIABLE</i>	<i>Justifiability of Corruption</i>		
<b>INDEPENDENT VARIABLES</b>			
<i>a) Demographic Factors</i>			
AGE 30-49	0.185***	6.340	0.059
AGE 50-64	0.383***	8.170	0.112
AGE 65+	0.516***	7.050	0.141
FEMALE	0.121***	4.960	0.039
EDUCATION	-0.013	-1.070	-0.004
<i>b) Marital Status</i>			
MARRIED	0.104***	5.000	0.034
<i>c) Economic Variables</i>			
FINANCIAL SATISFACTION	0.001	0.200	0.0004
UPPER CLASS	-0.139	-1.220	-0.046
<i>d) Employment Status</i>			
SELFEMPLOYED	-0.087**	-2.000	-0.029
UNEMPLOYED	-0.160**	-2.270	-0.053
<i>e) Regions</i>			
CEE and FSU	-0.373***	-3.580	-0.121
LATIN AMERICA	-0.339*	-1.840	-0.115
ASIA	-0.178	-0.530	-0.059
AFRICA	-0.223***	-2.980	-0.076
Number of observations	46399		
Log pseudo-likelihood	-38272		

Notes: Standard errors adjusted for clustering on countries. In the reference group are AGE<30, MALE, OTHER MARRIED STATUS, OTHER CLASSES, OTHER EMPLOYMENT STATUS, WESTERN EUROPE + USA + AUSTRALIA. Significance levels: \* 0.05 < p < 0.10, \*\* 0.01 < p < 0.05, \*\*\* p < 0.01. Marginal effect = highest score (JUSTIFIABILITY OF CORRUPTION: 3). JUSTIFIABILITY OF CORRUPTION: the higher the value the lower the justifiability. CEE: Central Eastern European Countries, FSU: Former Soviet Union Countries.

Table 2

## Determinants of the Justifiability of Corruption in Different Regions

WEIGHTED ORDERED PROBIT	Western Europe, USA, Australia			CEE and FSU Countries			Latin American Countries			Asian Countries		
	Coeff.	z-Stat.	Marg. Effects	Coeff.	z-Stat.	Marg. Effects	Coeff.	z-Stat.	Marg. Effects	Coeff.	z-Stat.	Marg. Effects
DEPENDENT VARIABLE	<b>Justifiability of Corruption</b>			<b>Justifiability of Corruption</b>			<b>Justifiability of Corruption</b>			<b>Justifiability of Corruption</b>		
INDEPENDENT VARIABLES												
<b>a) Demographic Factors</b>												
AGE 30-49	0.217***	2.64	0.057	0.248***	6.37	0.084	0.170***	4.97	0.057	-0.052	-1.32	-0.016
AGE 50-64	0.388***	5.31	0.092	0.500***	11.08	0.156	0.357***	5.47	0.112	-0.037	-0.54	-0.011
AGE 65+	0.564***	4.9	0.123	0.629***	8.4	0.183	0.622***	7.3	0.174	-0.189	-1.18	-0.061
FEMALE	0.206***	3.35	0.055	0.117***	3.6	0.04	0.128***	2.8	0.043	-0.025	-0.38	-0.007
EDUCATION	-0.004	-0.17	-0.001	-0.005	-0.32	-0.002	-0.002	-0.15	-0.001	-0.061**	-2.48	-0.019
<b>b) Marital Status</b>												
MARRIED	0.140**	2.18	0.037	0.078***	2.67	0.027	0.080*	1.79	0.027	0.155***	4.96	0.048
<b>c) Economic Variables</b>												
FINANCIAL SATISFACTION	0.028**	2.15	0.008	-0.01	-0.96	-0.003	0.007	0.38	0.002	0.019***	3.08	0.006
UPPER CLASS	-0.126	-0.91	-0.035	-0.001	-0.01	0	-0.289*	-1.85	-0.105	-0.356*	-1.77	-0.12
<b>d) Employment Status</b>												
SELFEMPLOYED	-0.089	-1.34	-0.024	-0.083	-1.35	-0.029	-0.006	-0.06	-0.002	-0.264***	-3.25	-0.085
UNEMPLOYED	-0.015	-0.16	-0.004	-0.055	-0.85	-0.019	-0.126**	-2	-0.044	-0.668***	-5.96	-0.237
Number of observations	7277			20906			7421			7192		
Log pseudo-likelihood	-4872			-18833			-6375			-5541		

Notes: Standard errors adjusted for clustering on countries. In the reference group are AGE<30, MALE, OTHER MARRIED STATUS, OTHER CLASSES, OTHER EMPLOYMENT STATUS. Significance levels: \* 0.05 < p < 0.10, \*\* 0.01 < p < 0.05, \*\*\* p < 0.01. Marginal effect = highest score (JUSTIFIABILITY OF CORRUPTION: 3). JUSTIFIABILITY OF CORRUPTION: the higher the value the lower the justifiability. CEE: Central Eastern European Countries, FSU: Former Soviet Union Countries.



Table 3

## Age and the Justifiability of Corruption in the Evaluated Countries

<i>WEIGHTED ORDERED PROBIT</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg. Effects</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg. Effects</i>	<i>Coeff.</i>	<i>z-Stat.</i>	<i>Marg. Effects</i>
<i>DEPENDENT VARIABLE: Justifiability of corruption</i>									
<i>Variables</i>	<i>AGE 30-49</i>			<i>AGE 50-64</i>			<i>AGE 65+</i>		
<b>COUNTRIES</b>									
<b>Western European Countries &amp; USA &amp; AUSTRALIA</b>									
USA	0.297**	2.32	0.050	0.623***	3.99	0.080	0.842***	5.18	0.080
Western Germany	0.107	0.98	0.033	0.629***	3.68	0.165	0.384**	2.14	0.106
Eastern Germany	0.633***	4.81	0.191	0.726***	5.08	0.201	1.036***	5.61	0.236
Switzerland	0.310**	2.45	0.085	0.382**	2.50	0.096	0.501***	3.16	0.118
Australia	0.389***	3.89	0.071	0.810***	5.80	0.114	0.830***	5.67	0.112
Norway	0.365***	3.06	0.075	0.553***	3.67	0.097	0.877***	4.40	0.128
Finland	0.057	0.44	0.014	0.254	1.52	0.058	0.434**	2.20	0.093
Spain	-0.095	-0.75	-0.024	0.068	0.45	0.017	0.096	0.61	0.024
<b>CEE and FSU</b>									
Poland	0.249	1.44	0.058	0.561**	2.52	0.103	7.365***	36.39	0.160
Bulgaria	0.154	1.29	0.055	0.458***	3.39	0.154	0.625***	4.10	0.199
Belarus	0.193***	2.60	0.069	0.538***	6.06	0.177	0.784***	7.37	0.236
Estonia	0.215*	1.88	0.053	0.685***	4.66	0.141	0.752***	3.68	0.138
Georgia	0.511***	3.67	0.201	0.574***	3.15	0.219	0.864***	3.64	0.305
Latvia	0.297***	3.12	0.111	0.589***	5.37	0.207	0.853***	6.00	0.269
Lithuania	0.405***	3.65	0.134	0.821***	6.10	0.241	1.138***	6.73	0.283
Moldova	0.360***	3.17	0.132	0.463***	3.31	0.160	0.444***	2.80	0.152
Armenia	0.209***	2.99	0.078	0.337***	3.62	0.121	0.359***	2.83	0.126
Russia	0.336***	3.70	0.086	0.662***	5.88	0.145	0.963***	7.01	0.181
Slovenia	0.311**	2.50	0.096	0.375***	2.60	0.109	0.478***	2.87	0.131
Ukraine	0.230***	3.19	0.076	0.503***	6.11	0.154	0.538***	5.40	0.158
Azerbaijan	-0.101	-1.35	-0.040	0.181*	1.78	0.071	0.076	0.44	0.030
Serbia	0.108	0.93	0.026	0.368***	2.70	0.081	0.618***	3.38	0.115
Macedonia	0.039	0.30	0.010	0.048	0.30	0.012	0.124	0.51	0.031
Croatia	0.446***	3.94	0.163	0.648***	4.73	0.224	0.891***	5.48	0.289
Bosnia-Hercegovina	0.061	0.55	0.021	0.199	1.48	0.066	0.419**	2.21	0.127
<b>LATIN AMERICA</b>									
Mexico	0.114	1.42	0.043	0.331***	2.90	0.121	0.505**	2.39	0.173
Argentina	0.153	1.00	0.029	0.399**	2.22	0.067	0.708***	3.34	0.102
Brazil	0.230***	2.72	0.091	0.551***	4.65	0.216	0.215	1.01	0.086
Chile	0.329***	2.90	0.104	0.459***	3.18	0.133	0.597***	3.46	0.160
Peru	0.157	1.57	0.049	0.206	1.46	0.062	0.268	0.92	0.077
Venezuela	0.069	0.81	0.025	0.036	0.29	0.013	0.193	0.91	0.067

Uruguay	-0.001	-0.01	-0.0002	0.022	0.11	0.003	0.051	0.25	0.007
<b>ASIA</b>									
South Korea	0.077	0.63	0.021	0.407**	2.58	0.096	1.022**	2.03	0.164
India	0.001	0.01	0.0002	-0.055	-0.38	-0.013	-0.407*	-1.76	-0.112
Taiwan	-0.001	0.00	-0.0002	0.123	0.48	0.0374	0.330	1.01	0.092
China	0.203*	1.67	0.033	0.282*	1.70	0.040	0.141	0.61	0.021
Philippines	-0.009	-0.12	-0.004	0.157	1.40	0.059	-0.094	-0.61	-0.034
Bangladesh	0.208	1.14	0.001	8.136	39.04	0.014	8.088***	39.14	0.002
<b>AFRICA</b>									
Nigeria	0.139	1.04	0.046	-0.002	-0.01	-0.001	-0.630	-1.40	-0.234

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Notes: The specification is based on the previous specifications, considering each country value for the age coefficients in comparison to AGE<30. Significance levels: \*  $0.05 < p < 0.10$ , \*\*  $0.01 < p < 0.05$ , \*\*\*  $p < 0.01$ .

## APPENDIX

*Table A1*  
Description of Variables

<b>Variable</b>	<b>Derivation</b>
AGE	DUMMIES AGE 30-49, AGE 50-64, 65+ (reference group, AGE < 30)
GENDER	FEMALE (MALE in the reference group)
EDUCATION	Continuous variable What is the highest educational level that you have attained? <ol style="list-style-type: none"> <li>1. No formal education</li> <li>2. Incomplete primary school</li> <li>3. Completed primary school</li> <li>4. Incomplete secondary school: technical/vocational type</li> <li>5. Complete secondary school: technical/vocational type</li> <li>6. Incomplete secondary: university-preparatory type</li> <li>7. Complete secondary: university-preparatory type</li> <li>8. Some university-level education, without degree</li> <li>9. University-level education, with degree</li> </ol>
MARITAL STATUS	DUMMY: MARRIED=1, all other classes (divorced, separated, widowed, single) in the reference group.
FINANCIAL SATISFACTION	How satisfied are you with the financial situation of your household? (scale 1 = dissatisfied to 10=satisfied)
Economic CLASS	People sometimes describe themselves as belonging to the working class, the middle class, or the upper or lower class. Would you describe yourself as belonging to the:  DUMMY: UPPER CLASS, the rest (middle class, working class and lower class) is the reference group.
OCCUPATION STATUS	TWO DUMMIES: SELFEMPLOYED, UNEMPLOYED, the rest (part time employed, at home, student, retired, orther) is in the reference group.

Source: Inglehart et al. (2000).