



BIROn - Birkbeck Institutional Research Online

Andriani, Luca (2014) Fighting corruption and the use of bribes in the Palestinian Territories: with or without social capital? Working Paper. Birkbeck College, University of London, London, UK.

Downloaded from: <https://eprints.bbk.ac.uk/id/eprint/24002/>

Usage Guidelines:

Please refer to usage guidelines at <https://eprints.bbk.ac.uk/policies.html>
contact lib-eprints@bbk.ac.uk.

or alternatively



Working Papers in Management

Birkbeck, Department of Management

BWPMA 1402

Fighting Corruption and the Use of Bribes in the Palestinian Territories: With or Without Social Capital?

Luca Andriani

Department of Management

Birkbeck, University of London

October 2014

ISSN 2052 – 0581

Birkbeck University of London, Malet Street, London, WC1E 7HX

Fighting Corruption and the Use of Bribes in the Palestinian Territories: With or Without Social Capital?

Luca Andriani *

Department of Management – Birkbeck College University of London – London, Malet Street WC1E 7HX

Abstract

The presence of dysfunctional formal institutions in the Palestinian Territories might drive the citizens to concentrate on alternative forms of governance more community-oriented. Under these circumstances the set of informal institutions embedded in the social capital of the Palestinian community might help to explain the Palestinians attitude towards corrupt aversion. Hence, by using a unique Palestinian survey conducted in 2007 in West Bank and Gaza Strip, we analyse the relationship between social capital and Palestinians attitude towards corrupt aversion. The variables of social capital refer to voluntary activities and civic attitude while corrupt aversion is captured by the Palestinians' attitudes towards the use of bribes at work and the importance of fighting corruption. A bivariate probit model reports that corrupt aversion increases with civic attitude and is lower among Palestinians involved in voluntary activities. Predicted conditional probabilities suggest that under negative view of formal institutions and lack of social trust, Palestinians need more civic attitude to cope with corrupt aversion.

JEL Classifications: C35 D73 O17 Z13

Keywords: Corruption, Social Capital, Trust, Palestinian Territories, Bivariate Probit

1 Introduction

Social capital and corruption seem to be related one to another in a puzzling way. Social capital can be understood as those elements such as trust, norms and networks that can improve the efficiency of a society by reducing transaction costs, facilitating collective actions and lowering opportunistic behaviour (Grootaert 2001). On the other hand, corruption can be defined as “the misuse of entrusted authority for private benefit” (Seldadyo and Haan 2006 p.2). In order to be effective, corrupt exchanges need to occur within a “normative system” that has to keep secret (Della Porta and Vannucci 1999, Shleifer 1993). This means that within this “normative system” rules cannot be enforced by law. Therefore a corrupt exchange bases its strength upon trust, loyalty and reciprocity occurring among the agents involved in the action (Warren 2001).

While the optimistic view of social capital indicates in the elements of trust and reciprocity the key-solution to free riding problems, the same elements become essential for opportunistic behaviour to occur and, hence, for corrupt exchange to exist. For these reasons, in the literature the relationship between corruption and social capital has been analysed from different perspectives without reaching a unidirectional conclusion. In fact, even though a relevant number of studies report a significant correlation between increasing social capital and decreasing corruption (La Porta et al 1997, Uslaner 2002), several scholars argue that social capital does not produce always positive externalities (Fukuyama 2001, Putnam 2000, Warren 2001). For instance, in closed community where interpersonal relations are based on strong ties, the access of the social resources might be easily available to the members of the community but denied to the outsiders. This makes the access to public and/or social resources available according to group-membership rather than to meritocratic reasons. Hence, the access of non group-members is more likely to be subject to additional charge or bribes (Bjornskov 2003).

Given this puzzling framework, the analysis of the relationship between social capital and corruption becomes even more relevant in a geopolitical context under a state capacity building process like the Palestinian one. In this sense, the Palestinian reality can represent a remarkable case study. Given the particular geopolitical conditions of the area, the presence of dysfunctional formal institutions might drive the Palestinians to concentrate on alternative forms of governance more community-oriented with relevant consequences on their attitudes toward corrupt aversion. In fact, it can be argued that contexts characterised by weak and

dysfunctional institutions might induce citizens to distrust institutions and, hence, to pursue their goals through the NGOs sector (Torgler et al 2011). Individuals more involved in voluntary activities might also be more aware about the dysfunctional characteristics of the public institutions and hence more willing to pursue their social goals through the participation to associations. On the basis of this similar reasoning previous studies report a negative relationship between social norms against bribing and participation in associational activities (Torgler et al. 2011). So, individuals tend to be more involved in voluntary activities because more aware about the dysfunctional and weak institutions. Hence, collective actions might become a substitute of the state (Durlauf and Fafchamps 2004) driving the individuals more involved to be less incline in fighting the use of bribes and corruption within the more traditional public institutional framework because more driven to pursue their goals through the non-governmental sector.

This mechanism should be even more exacerbated where trust in formal institutions is weak. Of course, this does not mean that citizens involved in voluntary activities are in favour of a corrupted system. Instead, this might indicate that where citizens lose confidence in public institutions are more likely to pursue their goals through collective actions with the consequence of considering compacting corruption not a priority within their strategic agenda.

Given this peculiar framework, the aim of the paper is to analyse the relationship between social capital and attitude toward corrupt aversion among Palestinians. To this purpose, we use data from a Palestinian public opinion survey conducted in 2007 in West Bank and Gaza Strip by Nasr and Hilal (2007) and administered by the Palestinian Central Bureau of Statistics. The variables capturing the attitudes toward corrupt aversion are based upon the opinion that Palestinians have about the use of bribes at work and the importance of fighting corruption. The variables of social capital refer to civic attitudes and individuals involved in voluntary activities.

We test the relationship between corruption and social capital by applying a reduced form bivariate probit model. Empirical evidence reports that individuals involved in voluntary activities declare to be less corrupt averse. On the contrary, pro-civic attitude individuals declare that bribery at work cannot be justified. All these relationships are amplified in case of lack of social trust and under a negative view of formal institutions, low trust towards public institutions and low confidence in the rule of law. In fact, under these conditions it seems that an individual needs more civic attitude in order to cope with corrupt aversion.

The paper is structured as it follows.

Section 2 discusses the issue of corruption in the Palestinian context; section 3 presents the empirical methodology and the data; section 4 presents and discusses the empirical results; section 5 addresses some robustness analysis; section 6 discusses some of the limitations of this work and section 7 concludes.

2. Corruption in the Palestinian Context

The Palestinian Territories have been included in the Transparency International (TI) study only recently. The survey conducted by Transparency International in 2014 reports that 22% of Palestinians feels that corruption has increased tremendously in the last two years. Still, among the institutions, 42% of the respondents consider the political parties extreme corrupted, 26% of the respondents feel that the Parliament is very corrupted and 22% feels that the judicial system is corrupted.

The poll conducted by AMAN (2009), the Coalition for Accountability and Integrity in Palestinian Territories, reports that 63% of respondents believe that *wasta*, nepotism and favouritism are the most common forms of corruption in the public sector mainly used for personal interests and for accessing to public services. According to the poll, dysfunctions in the rule of law and accountability are among the main factors of corruption and they are attributed to the absence of the rule of law, an insufficient punitive legislation and to ineffective system of monitoring institutions. These factors undermine the regulatory capacity of fighting corruption and not only.

The lack of institutional transparency is likely to date back to the first Palestinian government established without a legislative authority in 1994 and merely on the basis of the Oslo Agreement (AMAN 2009). Given the particular geopolitical circumstances of the Palestinian Territories, the mechanisms of governance adopted by the Palestinian National Authority (PNA) at that time derive from the revolutionary resistance movement of the Palestinian Liberation Organisation (PLO) where the transparency of institutions and rule of law were not priorities.

Inevitably, this contributes to produce a sense of frustration among citizens as well as mistrust toward public institutions¹ (AMAN 2009).

¹ A discussion about the Palestinian regulatory capacity has been developed in Andriani (2011).

It is argued that the increasing number of Israeli settlements in West Bank during the post-Oslo period undermines the leadership of Arafat, president of the PNA, who developed a hierarchic system based on personal ties and vertical linkages (Jamal 2007). Within this system, associations and voluntary organisations were welcome as long as they were inclined to support the politics of the PNA. For this reason, Jamal (2007) describes the Palestinian associational activity of that period as polarised between pro-PNA associations and non-supporting associations. Since the former developed a system of vertical linkage with the Palestinian institutions, they could have a better access to local economic and political resources compare to the non-supporting associations (Jamal, 2007).

Even though, after the death of Arafat in 2004, part of the reform agenda of the Palestinian institutions is devoted to anti-corruption measures (Siegman et al., 2005), the “political disaggregation” following the results of the elections of 2006, has favoured even more the diffusion of *wasta* and nepotism in the recruitment of public officials on the basis of their political affiliations and of media professionals (AMAN, 2009). In addition, it is argued that the regulatory capacity and the accountability of the Palestinian institutions have been undermined on the one hand by the impossibility of using oversight instruments including interpellations, accountability and formation of commissions of inquiry, on the other hand by the lack of an effective auditing system able to verify potential irregularities in the annual financial report of the Ministry of Finance (AMAN 2009).

3 Empirical Methodology and Data

3.1 Bivariate Probit: the Baseline Model

Attitudes toward corrupt aversion and social capital might depend on similar socio-economic and demographic factors. In addition, since corrupt aversion is part of an individual’s social attitude, it is likely that social capital and corrupt aversion are significantly correlated by unobservable factors. For this reason, the propensity of declaring of being corrupt-averse in the presence of social capital is described by a specified bivariate probit model in latent variables where y_{1i}^* is the unobservable propensity of individuals to declare of being corrupt-averse and y_{2i}^* is the unobservable propensity of individuals of holding social capital. Following Cavatorta and Pieroni (2013), the application of the bivariate probit consists of a system of two binary probit equations estimated jointly by the maximum likelihood method

where corrupt aversion and social capital are the respective dependent variables, functions of a set of socio-economic covariates plus an error term as in the equations (2) and (3).

$$y_{1i}^* = \beta'_1 x_{1i} + u_{1i} \quad (2)$$

$$y_{1i} = 1 \text{ if } y_{1i}^* > 0$$

$$y_{1i} = 0 \text{ otherwise}$$

$$y_{2i}^* = \beta'_2 x_{2i} + u_{2i} \quad (3)$$

$$y_{2i} = 1 \text{ if } y_{2i}^* > 0$$

$$y_{2i} = 0 \text{ otherwise}$$

$$\{u_{1i}, u_{2i}\} \sim \Phi_2(0,0,1,1, \rho) \quad (4)$$

where $y_{1i} = 1$ indicates the individual declaring to be corrupt-averse which depends on socio-economic factors x_{1i} . $y_{2i} = 1$ indicates the individual “holding” social capital which depends on socio-economic factors x_{2i} . The errors $\{u_{1i}, u_{2i}\}$ are assumed to have a standard bivariate normal distribution Φ_2 with $\text{cov}(u_{1i}, u_{2i}) = \rho$. A significant covariance estimate suggests that the corrupt aversion and social capital are interrelated by unobservable factors such as unobservable characteristics of the respondents that may influence both their self-assessed corrupt aversion and their social capital.

Given these assumptions, the probability for an individual to declare to be corrupt-averse and that holds social capital is the following

$$\begin{aligned} \Pr(\text{corrupt-averse}, \text{social capital} | x) &= \Pr(y_1 = 1, y_2 = 1 | x) \\ &= \Pr(y_1^* > 0, y_2^* > 0 | x) \\ &= \Pr(u_1 > -\beta'_1 x_1, u_2 > -\beta'_2 x_2) \\ &= \Phi_2(\beta'_1 x_1, \beta'_2 x_2, \rho) \end{aligned} \quad (9)$$

where Φ_2 is the standard bivariate normal distribution.

3.2 Data Description and Variables

The data derives from the survey of social capital conducted by the Palestine Economic Policy Research Institute (MAS) in 2007. The survey contains several sections where a number of opinions regarding public spirit, trust, shared values and norms have been collected from a random sample of individuals (2,508 observations) located in West Bank and Gaza Strip. Almost 50.3% of the individuals are males and 2,344 individuals out of 2,350 are included in the aging interval 16 – 92² (table 1).

Table 1 Summary statistics

<i>Variable</i>	<i>Observations</i>	<i>Mean</i>	<i>St. Dev.</i>	<i>Min.</i>	<i>Max.</i>
<i>Bribe</i>	2331	0.962	0.192	0	1
<i>Fight</i>	2494	0.958	0.200	0	1
<i>Vol</i>	2488	0.414	0.493	0	1
<i>Social trust</i>	2302	0.156	0.363	0	1
<i>civic</i>	2352	0.594	0.491	0	1
<i>age</i>	2344	36.310	13.856	16	92
<i>age</i> ²	2344	1510.36	1186.669	0	8464
<i>female</i>	2350	0.503	0.500	0	1
<i>education</i>	2351	3.772	1.518	1	8
<i>employed</i>	2352	0.431	0.495	0	1
<i>Rule law</i>	2337	2.919	0.306	1	3
<i>Institutional trust</i>	2352	12.420	5.062	0	24
<i>Marital status</i>	2497	0.647	0.478	0	1
<i>family</i>	2338	35.900	17.716	0	52
<i>bridging</i>	2247	28.067	15.205	0	52

For political and security reasons, in Gaza the survey is conducted according to the Strip's population as a whole rather than to demographic characteristics at sub-group levels as in West Bank (Nasr and Hilal 2007). This makes the sample unequally distributed, since more than 91% of the sample belongs to West Bank, affecting the reliability of a potential regional dummy variable. Even though we do not have access to the survey response rate, the survey has been conducted according to the statistical validity and sampling procedures of the PCBS (Nasr and Hilal 2007). The statistical validity of the sampling process is reinforced by comparing the stratification of the representative sample with the socio-demographic

² The six missing individuals not included in the 2,344 are less than 16 years old. More precisely they are less than 10 years old.

statistics regularly reported by the PCBS (PCBS 2010). For example, the PCBS reports that the distribution of the higher education by gender as follow: 55% for females and 45% for males. Similarly, in our survey, the proportion of female respondents with higher education is of 57% against 43% of males. In terms of labour market, the unemployment rate estimated among the respondents living in WB is of 19.8% very similar to the unemployment rate of 18.6% reported by the PCBS.

On the basis of the bivariate probit model specified in the equations (2) and (3), table 2 reports the binomial dependent variables of corruption and of social capital.

Table 2 Dependent variables of corruption and social capital

Bribe	$\Pr(y_{Bribe} = 1)$ “can’t justify at all bribery at work” is the answer to the question “In your opinion can you justify these behaviours by other people?” $\Pr(y_{Bribe} = 0)$ Otherwise
Fighting corruption	$\Pr(y_{Fight} = 1)$ “Fighting corruption is very important” $\Pr(y_{Fight} = 0)$ Otherwise
Volunteer	$\Pr(y_{Vol} = 1)$ If the answer to the question “in the last 12 months did you volunteer?” is “Yes” $\Pr(y_{Vol} = 0)$ Otherwise
Civic	$\Pr(y_{Civic} = 1)$ “can’t justify at all: absence from work without reasonable reasons, abstention in elections, no commitments to traffic rules, buying stolen products, finding a wallet and not give it back to the police” $\Pr(y_{Civic} = 0)$ Otherwise

In the reduced form, the probability of declaring to be corrupt-averse and the probability of holding social capital are functions of covariates x_{ki} which is a vector of socio-economic factors.

As suggested by Glaeser et al (2002) and De Blasio et al (2010), social capital can be affected by several individuals’ socio-economic characteristics. Glaeser et al (2002) point out that social capital rises with the age and then falls, it is positively affected by the level of education and the level of occupation. De Blasio et al (2010) find that in Italy older and more educated individuals are more likely to cooperate and to have a higher degree of public spirit.

Unlike De Blasio et al (2010) and Glaeser et al (2010), the variables homeownership and income are missing as well as the variable of geographical proximity among individuals. Glaeser et al (2002) stress the fact that reduced physical distance intensifies social connections and, hence, favour cooperation and social capital. We replace this missing variable with the frequency of the individuals of meeting the family, the friends and the neighbours³. As suggested by Bowles et al (2002) a more efficient regulatory capacity from a formal institution is likely to favour even more cooperation and pro-social behaviour especially in the case where the rule of law is considered important by the recipients. In fact, better regulatory capacity and better institutional performance along with individual characteristics (education, occupation and age) are positively related to anti-corrupt behaviour (Bjornskov 2003, Seldadyo et al 2006). Following this literature, our covariates includes *age*, *age squared*, gender (*male*), the educational level (*education*), being employed (*employed*), the importance of the rule of law (*Rule law*), the trust in public institutions (*institutional trust*), trust towards people in general (*social trust*), the family network (*family*), the network composed by friends and neighbours (*bridging*), and the marital status (*marital status*).

4 Empirical Results

4.1 Empirical results of the Baseline Model

Table 3 shows the correlations between errors of corruption and social capital of these reduced forms. The ρ is statistically significant in all the specified baseline models. In the cases in which the social capital variable is expressed in terms of civic attitude the coefficient of ρ is positive and statistically significant at 1% statistical significant level. In these cases the LR test indicates that the null hypothesis of $\rho = 0$ is rejected at 1% level. Hence, the two variables/errors are correlated (given $\rho \neq 0$) suggesting that the probability of one variable will positively depend on the value/probability of the other and that the bivariate probit fits the data better than separate models.

³ Frequency of meetings and physical distance are not equivalent. However, the Palestinian Territories suffer of the presence of physical obstacles that limit the movement of Palestinians within the Territories tremendously. This means that in general Palestinians are likely to limit their movements within short distances. Hence, higher frequency of contacts definitively implies higher geographical proximity.

In the cases in which the social capital variable is expressed in terms of voluntary activities, the coefficient of ρ is negative and statistically significant at 5% statistical significant level. According to the LR test, the null hypothesis of $\rho = 0$ is rejected at 5% statistical significant level indicating that the two variables/errors are correlated (given $\rho \neq 0$). This suggests that the probability of one variable will negatively depend on the value/probability of the other and the bivariate probit fits the data better than separate models.

Table 3 Bivariate probit and correlation between errors of corrupt-averse and social capital

	$\Pr(y_{Bribe} = 1)$	$\Pr(y_{Bribe} = 1)$	$\Pr(y_{Fight} = 1)$	$\Pr(y_{Fight} = 1)$
	$\Pr(y_{Vol} = 1)$	$\Pr(y_{Civic} = 1)$	$\Pr(y_{Vol} = 1)$	$\Pr(y_{Civic} = 1)$
<i>N</i>	2,335	2,342	2,346	2,353
<i>MLL</i>	-1850.88	-1833.92	-1758.48	-1790.96
ρ	-0.129**	0.631***	-0.156**	0.295***
<i>se</i> (ρ)	0.063	0.051	0.075	0.07
<i>LR</i> ($H_0 : \rho = 0$)	4.163**	102.445***	4.268**	16.268***

* $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

4.2 Marginal effects on joint probabilities

We consider the marginal effects on the joint probabilities of the respondents of declaring to be corrupt averse and holding social capital $\Pr(y_1 = 1, y_2 = 1)$ as in equation (9)⁴.

Table 4 reports the marginal effects on the joint probabilities to be corrupt-averse and holding social capital.

All the estimations report that the joint probabilities of being corrupt-averse and holding social capital increases with trust in institutions and with the importance of the rule of law in both of the social capital and corrupt-averse specifications. The coefficient of the predictor *rule law* is much higher in the specified case of joint probability of be against the use of bribes and holding civic attitude (*column 2*). In fact, in this case the joint probability of being against bribes and holding civic increases by 0.19 among individuals who consider the rule of law very important. The joint probabilities of holding social capital and being corrupt-averse

⁴ Notice that we have four joint probabilities: $\Pr(y_1 = 1, y_2 = 1)$; $\Pr(y_1 = 1, y_2 = 0)$; $\Pr(y_1 = 0, y_2 = 1)$; $\Pr(y_1 = 0, y_2 = 0)$. We focus the attention on the first type since we consider it more related to the statement of social capital and corruption puzzle described by equation (1).

increase with education in all the specifications except for the one of being against the use of bribe and in favour of civic attitude (*column 2*). The variable social trust seems to be statistically not significant where social capital is expressed in terms of civic attitude while it seems to be a negative predictor of the joint probability of being corrupt-averse and holding social capital where social capital is expressed with the variable *vol*. The joint probability of being involved in voluntary activities and being corrupt-averse increases with the network of friends and neighbours. This variable seems to be not statistically significant in the other two cases.

Table 4 Marginal effects

	$\Pr(y_{Bribe} = 1)$ $\Pr(y_{Vol} = 1)$	$\Pr(y_{Bribe} = 1)$ $\Pr(y_{Civic} = 1)$	$\Pr(y_{Fight} = 1)$ $\Pr(y_{Vol} = 1)$	$\Pr(y_{Fight} = 1)$ $\Pr(y_{Civic} = 1)$
<i>Rule law</i>	0.072** (0.034)	0.186*** (0.033)	0.099*** (0.035)	0.202*** (0.034)
<i>Trust institutions</i>	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)
<i>Social trust</i>	-0.050* (0.028)	0.017 (0.028)	-0.054* (0.028)	0.016 (0.028)
<i>Family</i>	0.000 (0.001)	-0.002** (0.001)	0.000 (0.001)	-0.002** (0.001)
<i>Bridging</i>	0.004*** (0.001)	0.001 (0.001)	0.004*** (0.001)	0.001 (0.001)
<i>Age</i>	0.002 (0.004)	0.001 (0.004)	0.001 (0.004)	0.001 (0.004)
<i>Age squared</i>	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)
<i>Male</i>	0.091*** (0.023)	-0.039* (0.023)	0.094*** (0.023)	-0.037 (0.023)
<i>Education</i>	0.027*** (0.008)	0.011 (0.008)	0.030*** (0.008)	0.013* (0.008)
<i>Employed</i>	0.089*** (0.025)	0.001 (0.025)	0.088*** (0.025)	-0.004 (0.025)
<i>Marital status</i>	-0.047* (0.026)	0.050* (0.026)	-0.050* (0.026)	0.055** (0.026)

* $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$ Robust standard errors in parenthesis below each coefficient

4.3 Predicted conditional probabilities.

We estimate predicted conditional probabilities on a representative male individual of age 40, with a high school education, married, with an average frequency of meeting family and friends and employed.

These odd ratios are computed in response to a change in the parameters of the rule of law and institutional trust, on the one hand, and in considering whether the individual trust people in general (*social trust = 1*) or otherwise (*social trust = 0*).

On the basis of this framework, we say that our individual has a positive view of the formal institutions if he considers the rule of law very important and he has high trust in the institutions. Otherwise, we say that our individual has a negative view of the formal institutions.

Table 5: Predicted conditional probabilities (odds ratios)

Section I Social trust = 1		
	$\frac{\Pr(y_{Bribe} = 1 y_{Civic} = 1)}{\Pr(y_{Bribe} = 1 y_{Civic} = 0)}$	$\frac{\Pr(y_{Bribe} = 1 y_{Vol} = 1)}{\Pr(y_{Bribe} = 1 y_{Vol} = 0)}$
<i>High institutional trust & high importance of the rule of law*</i>	1.016 (1.6% ↑)	0.997 (0.3% ↓)
<i>Low institutional trust & low importance of the rule of law</i>	1.041 (4.1% ↑)	0.984 (1.6% ↓)
Section II Social trust = 0		
	$\frac{\Pr(y_{Bribe} = 1 y_{Civic} = 1)}{\Pr(y_{Bribe} = 1 y_{Civic} = 0)}$	$\frac{\Pr(y_{Bribe} = 1 y_{Vol} = 1)}{\Pr(y_{Bribe} = 1 y_{Vol} = 0)}$
<i>High institutional trust & high importance of the rule of law*</i>	1.028 (2.8% ↑)	0.995 (0.5% ↓)
<i>Low institutional trust & low importance of the rule of law</i>	1.063 (6.3% ↑)	0.978 (2.2% ↓)
Section III Social trust = 1		
	$\frac{\Pr(y_{Fight} = 1 y_{Civic} = 1)}{\Pr(y_{Fight} = 1 y_{Civic} = 0)}$	$\frac{\Pr(y_{Fight} = 1 y_{Vol} = 1)}{\Pr(y_{Fight} = 1 y_{Vol} = 0)}$
<i>High institutional trust & high importance of the rule of law</i>	1.030 (3% ↑)	0.986 (1.4% ↓)
<i>Low institutional trust & low importance of the rule of law</i>	1.881 (88.1% ↑)	0.689 (31.1% ↓)

<i>Section IV Social trust = 0</i>		
	$\frac{\Pr(y_{Fight} = 1 y_{Civic} = 1)}{\Pr(y_{Fight} = 1 y_{Civic} = 0)}$	$\frac{\Pr(y_{Fight} = 1 y_{Vol} = 1)}{\Pr(y_{Fight} = 1 y_{Vol} = 0)}$
<i>High institutional trust & high importance of the rule of law</i>	1.058 (5.8% ↑)	0.974 (2.6% ↓)
<i>Low institutional trust & low importance of the rule of law</i>	2.146 (146% ↑)	0.650 (35% ↓)

*We consider the maximum score of institutional trust, 32, the equivalent of 100% of trust in the institutions. Hence, we calibrate “High Institutional Trust” with a score of 24 which indicates at least 75% of trust in institutions. Instead we calibrate “Low Institutional Trust” with a score of 8 which indicates only 25% of trust in institutions. The importance of the rule of law is a parameter assuming values 1 (not important) and 3 (very important).

Table 5 reports that the representative individual is more likely to be corrupt-averse in the presence of civic attitude than in absence of it. This difference is even larger under a negative view of formal institutions. Section I reports that in the presence of social trust, for an individual with appositive view of formal institutions the probability of being corrupt-averse when the individual holds civic attitude is about 1.6% higher than in absence of civic attitude. This probability rises up to 4.1% in the case of negative view of formal institutions. It seems that under negative view of formal institutions the individual needs more civic attitude to cope with corrupt aversion. Even though we find a similar pattern also in absence of social trust as in Section II, it seems that in this case the need for civic attitude seems to generally increase: 2.8% (against 1.6% of Section I) and 6.3% (against 4.1% of Section I).

The different attitude toward corrupt aversion captured by the presence or absence of civic attitude seems to be tremendously exacerbated when we consider the attitude toward “fighting corruption” as in sections III and IV. In fact, in the presence of social trust, Section III, reports that probability of an individual with a positive view of formal institutions to be corrupt-averse when the individual holds civic attitude is about 3% higher than in absence of civic attitude. This probability rises up to 88.1% under negative view of formal institutions and up to 146% (Section IV) if we add a condition of absence of social trust. This suggests that when an individual does not trust others and has a negative view of formal institutions, the probability of being corrupt averse requires a large endowment of civic attitude.

When we consider social capital expressed in terms of voluntary activity in all the four sections, it seems that individuals involved in voluntary activities tend to be less corrupt averse than when they are not involved. This probability lowers even further in case of negative view of formal institutions and in the absence of social trust.

5 Robustness Analysis

We address the issue of robustness through a sensitivity analysis in which we take into account the single items composing the institutional trust and the impact of social trust on the joint probability of being involved in voluntary activities and not being corrupt-averse.

5.1 Trust in Public Institutions

It can be argued that the potential substitutive and complementary relationships occurring among the single components of institutional trust are not captured by the composite indicator. Furthermore, institutions closer to the citizens such as *local government* and *police* might have a higher marginal effect on the joint probabilities. Hence, we conduct our baseline model by estimating the marginal effects of each of the components of the variable *institutional trust* separately to avoid possible risks of multicollinearity⁵. Table 6 report the estimations related to the single institutional trust items. These indicate that in most of the cases all the coefficients of the single components of *institutional trust* have a positive and significant marginal effect on the joint probabilities except in two cases: trust in clan and trust in the judicial system when we consider individuals involved in voluntary activities.

Table 6: marginal effects of the single institutional trust items

Trust single institutions	$\Pr(y_{Bribe} = 1)$	$\Pr(y_{Bribe} = 1)$	$\Pr(y_{Fight} = 1)$	$\Pr(y_{Fight} = 1)$
	$\Pr(y_{Vol} = 1)$	$\Pr(y_{Civic} = 1)$	$\Pr(y_{Vol} = 1)$	$\Pr(y_{Civic} = 1)$
Clan	0.003 (0.013)	0.047*** (0.013)	-0.003 (0.013)	0.043*** (0.013)

⁵ Notice that the marginal effects of the socio-economic covariates (not included in the table but in the empirical model) do not vary significantly from the baseline model.

Government	0.03*** (0.011)	0.03*** (0.011)	0.026** (0.011)	0.027** (0.011)
Parties	0.049*** (0.03)	0.035*** (0.011)	0.044*** (0.012)	0.032*** (0.011)
Local govern.	0.026** (0.011)	0.046*** (0.011)	0.019* (0.011)	0.043*** (0.011)
Parliament	0.028** (0.011)	0.025** (0.011)	0.023** (0.011)	0.023** (0.011)
President	0.026** (0.011)	0.039*** (0.01)	0.022** (0.011)	0.037*** (0.01)
Judicial	0.01 (0.011)	0.026** (0.011)	0.001 (0.011)	0.024** (0.011)
Police	0.024** (0.011)	0.039*** (0.01)	0.021* (0.01)	0.038*** (0.01)

* $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$ Robust standard errors in parenthesis below each coefficient

5.2 Social Trust between Voluntary Activity and Corrupt-Aversion

Given the flourishing literature on the positive relationship between social trust and corrupt-averse attitude (Uslaner 2002, Bjornskov 2011), it is quite surprising the negative impact of social trust on the joint probability of being corrupt-averse and being involved in voluntary activities as in table 4. In light of the particular conditions of the Palestinians, we might assume that social trust is more likely to be negatively related to y_{Vol} than to the corrupt-averse attitude. This would explain the initial negative impact of social trust on the joint probability of declaring to be corrupt-averse and being involved in voluntary associations. For this reason and given the negative relationship between the variables of corrupt-aversion and y_{Vol} we estimate the marginal effects of the joint probabilities of being involved in voluntary activities and not being corrupt-averse (Table 7).

The estimations in table 7 seem to support our conjecture. The joint probability of being involved in voluntary activities and not being corrupt-averse increases with social trust in both the specifications. It seems that social trust is highly negatively correlated with the variable vol rather than with the corrupt-averse attitude.

Table 7: Marginal Effects of being involved in voluntary activities but not being corrupt-averse

	Pr($y_{Bribe} = 0$)	Pr($y_{Fight} = 0$)
	Pr($y_{Vol} = 1$)	Pr($y_{Vol} = 1$)
<i>Rule law</i>	-0.005 (0.005)	-0.032*** (0.006)
<i>Trust institutions</i>	-0.000 (0.000)	0.000 (0.000)
<i>Social trust</i>	-0.009** (0.004)	-0.007** (0.003)
<i>Family</i>	-0.000 (0.000)	0.000 (0.000)
<i>Bridging</i>	0.0003** (0.000)	-0.000 (0.000)
<i>Age</i>	-0.001 (0.001)	0.000 (0.000)
<i>Age squared</i>	0.000 (0.000)	0.000 (0.000)
<i>Male</i>	0.006 (0.004)	0.002 (0.003)
<i>Education</i>	0.0001** (0.002)	-0.002* (0.001)
<i>Employed</i>	0.004 (0.005)	0.006 (0.004)
<i>Marital status</i>	-0.009* (0.006)	-0.004 (0.004)

* $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$ Robust standard errors in parenthesis below each coefficient

5.3 Alternative Baseline Models for Civic Attitude

Given the particular condition of the Palestinian society we consider alternative baseline models for our civic attitude as well as alternative indicators of *civic*.

Firstly, because of the small range of the composite items based on a 3-level scale we consider the indicator *civic2* with a median cut-off rather than the mean like in the original baseline model.

Secondly, the lack of sovereignty due to the absence of an established independent state might compromise the meaning of civic attitude for Palestinians. In fact, some respondents

might be disappointed about the way the process of state capacity building has been implemented so far and they might exercise their disagreement by not voting to elections. In addition, this discontent might undermine the trust of the Palestinians toward politicians. The sensitivity of these circumstances might affect the direction of our indicator and, hence, undermine our initial set-up. For this reason we replicate our baseline bivariate model by considering an alternative version of civic attitude, *civic3*, without the item *abstention to elections* as well as by running the model for the sub-sample of respondents who do not trust politicians at all.

Table 8: Alternative indicators of civic attitude

	$\Pr(y_{Bribe} = 1)$	$\Pr(y_{Bribe} = 1)$	$\Pr(y_{Bribe} = 1)$	$\Pr(y_{Bribe} = 1)$
	$\Pr(y_{Civic} = 1)$	$\Pr(y_{Civic2} = 1)$	$\Pr(y_{Civic3} = 1)$	$\Pr(y_{Civic} = 1)$
	Original baseline model	Median cut-off	No item of abstention to elections	No trust politicians at all
N	2,342	2,342	2,342	800
MLL	-1833.92	-1833.92	-1706.41	-607.05
ρ	0.631***	0.631***	0.957***	0.583***
$se(\rho)$	0.051	0.051	0.43	0.105
$LR(H_0 : \rho = 0)$	102.445***	102.445***	180.91***	22.188***
	$\Pr(y_{Fight} = 1)$	$\Pr(y_{Fight} = 1)$	$\Pr(y_{Fight} = 1)$	$\Pr(y_{Fight} = 1)$
	$\Pr(y_{Civic} = 1)$	$\Pr(y_{Civic2} = 1)$	$\Pr(y_{Civic3} = 1)$	$\Pr(y_{Civic} = 1)$
N	2,353	2,353	2,353	803
MLL	-1790.96	-1790.96	-1703.13	-614.74
ρ	0.295***	0.295***	0.366***	0.271***
$se(\rho)$	0.07	0.07	0.07	0.126
$LR(H_0 : \rho = 0)$	16.268***	16.268***	25.379***	4.295***

* $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Table 8 shows that in all the alternative specifications the positive and significant correlation between civic attitude and attitudes toward corrupt aversion remain unaltered where the LR test rejects the hypothesis of independency of the equation of attitudes of corrupt aversion and each alternative specification of *civic*. In all specifications the non-zero correlation between the residuals is statistically significant at 1% statistical level. In the case of *civic2* given the small difference in the cut-off of 0.48 the estimations remain unaltered. In the case of *civic3* the correlations coefficient is higher especially in the case of the attitude toward the use of bribe. This difference might capture the Palestinians' disappointment about the ongoing process of state capacity building and hence lower their trust towards politicians. This results are confirmed even when we consider a sub-sample of respondents who do not trust politicians at all. Not surprisingly, in this case the correlations coefficients are slightly lower, 0.583 and 0.271, compare to the 0.631 and 0.295 respectively of the original baseline model but still high and positive.

6 Limitations

These results need to be interpreted in the light of, at least, four limitations.

Firstly, this paper is mainly concerned about the Palestinian context. Caution is needed in generalising these results since, unlike other geopolitical realities, the WBGS is not an independent state. Nevertheless, it seems that the higher credibility of the formal institutions and the legal system plays a crucial role in shaping Palestinians' attitude towards corrupt aversion.

Secondly, from our analysis it is not possible to estimate the average level of corruption of specific groups (for instance self-employed or public sector workers). The survey does not permit the production any type of estimate on the shadow economy. However, this goes beyond the aim of this study. Instead, one of the major contributions that this work aims to provide is to shed light on the attitude of citizens toward corruption especially in view of a more consistent process of state-capacity building.

Finally, the variable *bribe* might be affected by self reporting bias. Individuals might tend to overvalue their anti-corrupt spirit and, hence, provide answers not corresponding to their true opinion (Azfar and Murrell, 2009). From an enterprise survey for Nigeria, Clausen et al (2010) identify 13.1% of respondents on questions about corruption to be reticent. Given that this proportion is a subset of all reticent respondents, they also estimate that the percentage of

reticent respondents of that survey might be even greater than 30%. The type of phrasing the questions about corruption is one of the main factors of biased answers. The less personal the questions are the higher is the probability of obtaining unbiased estimates since the respondents feel more protected by the general structure of the sentence (Clausen et al, 2010). Moreover, still Clausen et al (2010) point out that this unbiased condition is favoured by less topic-specialised surveys. For instance, where surveys are mainly focused on corruption, respondents might become more reticent because they might feel that every question could provide additional inferences about the respondent's own behaviour. On the other hand, a more general survey in which the topic "corruption" is only one of the numerous behavioural questions might reduce this risk. We argue that the data source used in this paper corresponds to the latter scenario for, at least, two reasons. Firstly, the survey on social capital conducted by MAS (2007) covers multi-dimensional aspects of citizens' behaviours where the attitude towards corruption is only one of them. In fact, the individuals in the survey are required to answer to questions about many aspects of their social, political and civil life. Hence, the questions about corruption are limited to a small sub-section. Secondly, the questions on corruption are general rather than personal. They are mainly based on the respondents' opinion about other people's behaviour or about the concept of corruption within a general perspective⁶.

Finally, unlike other empirical works (Bjornskov 2003, De Blasio et al 2010, Kingston 2005, Paldam 2002), the model specification does not include the variable income since it is missing from our data set. On the other hand, it is also true that De Blasio et al (2010) did not find any significant correlation between individual income and social behaviour. It is possible that this variable might work better when the analysis is addressed at a macro level and cross-country as in Paldam (2002). An initial alternative to our model include different working sectors such as public, private and self-employed. Individuals working in the public sectors are likely to deal more directly with bribes than workers in the private sector and/or self-employed workers (Kingston 2005). When we include these working sectors in our model results do not change significantly. For instance, the marginal effects on joint probabilities are unchanged.

⁶ A common problem of surveys dealing with corruption is the trade-off between the accuracy of the questions (general or specific and how much general or how much specific) and the unbiased answer. This survey is not able to overcome this problem. However, we believe that biased estimates are mitigated and reduced by the structure of the survey and the phrasing of the questions.

7 Conclusions

The main perception from our analysis is that, in general, the Palestinians declare to be corrupt averse.

Empirical evidence indicates that corrupt aversion is lower for Palestinians involved in associational activities. This might have a twofold speculative explanation. Firstly, the individuals that are more involved in voluntary activities might also be more aware about the dysfunctional characteristics of the public institutions and hence more willing to pursue their social goals through the participation to associations. This can have the consequence of considering fighting corruption not a priority in their strategic agenda. Secondly, the polarisation of the voluntary sector in the Palestinian context favours the creation of vertical linkages between the organisations pro-Palestinian Authority and the public officials based on a system of nepotism and clientelistic network (Jamal 2007). These linkages might induce the individuals involved in assessing rent-seeking behaviour less rigorously as well as augment a feeling of suspect among the citizens even where corrupt exchange between voluntary organisations and public institutions are inexistent. This latter concern might be connected with the result of the anti-corruption survey conducted by Transparency International in the Palestinian Territories in 2013 according to which 27% of the respondents feel that NGOs in the Palestinian Territories are corrupt if not extremely corrupt⁷.

However, unlike the voluntary activity, civic attitude seems to be positively related to attitudes of corrupt aversion. These results are amplified by the Palestinian's view on formal institutions and their social trust. Predicted conditional probabilities suggest that under negative view of formal institutions and lack of social trust Palestinians need more civic attitude in order to cope with corrupt aversion.

At this stage, policy recommendations become as important as difficult to propose. A crucial insight provided by our analysis is that Palestinians seem to be willing to cooperate as long as the regulatory context favours the collective action solution. This insight is quite clearly suggested by the positive relation of institutional trust and the importance of the rule of law with the variables of corrupt aversion. Individuals that trust institutions declare, more than others, that corrupt exchanges cannot be accepted. These individuals also highlight the crucial importance of the rule of law. In other words, given a reliable institutional setting and legal

⁷ The results of this survey is in the website of Transparency International <http://www.transparency.org/gcb2013/country/?country=palestine>

framework, Palestinians would tend to disapprove corruption. This might provide a signal that the culture of legacy is not absent in the Palestinian social context. This searching for a more stable institutional and legal framework might be emphasised by the particular geopolitical conditions of the area. Indeed, a resetting of the geopolitical arena is likely to affect the mechanism of informal institutions either in terms of trust or in terms of civic attitude (or both). Policy recommendations, hence, might go beyond simple socio-economic interventions including fiscal and social policies. Instead, changes in the legal framework and “institutional attitude” might be the keys for reducing problems of corruption.

For “Institutional attitude” we mean the attitude assumed by the Institutions, from the government to the juridical court in fighting corrupt exchanges. For instance, the anti-corrupt public prosecution and the penal system for crimes of corruption are denounced to be weak and inefficient (AMAN 2009). Law enforcement officers including police, experts in anti-corruption investigation and administrations of prisons are affected by a similar problem. In this sense a more efficient coordination among the different agencies engaged in combating corruption might be beneficial. Moreover, despite the significant improvement in the juridical system during the year 2009, the complexity of some legal texts and procedures still represent an additional obstacle for law and order. AMAN (2009) underlines that especially in the cases of non-ministerial institutions (the Water Authority, the Electricity Authority, the Telecommunication Authority and the Palestinian Standard Institution) prosecutors have no authority to prosecute its corrupted members. This, of course, undermines the transparency process and the idea of integrity of the Palestinian institutions in general.

References

- Aidt, T S (2010) “Corruption and Sustainable Development” CWPE 1061 Working Paper
- Andriani, L (2011) “Social Capital and Corruption Puzzle: Evidence from a Palestinian Survey” Palestine Economic Policy Research Institute (MAS), Jerusalem
- Attila, G (2008) “How do African population perceive corruption: microeconomic evidence from Afrobarometer data in twelve countries” CERDI Etudes and Documents, E 2008. 11
- Banfield, E 1958 *The Moral Basis of a Backward Society*, New York, Free Press
- Barone, G Mocetti, S (2009) “Tax Moral and Public Spending Inefficiency” Bank of Italy Working Paper N. 732

- Barr, A Serra, d (2010) "Corruption and Culture: An Experimental Analysis" *Journal of Public Economics* 94 862-869
- Beugelsdijk, S Schaik, van Ton 2005 "Social Capital and Growth in European regions: an empirical test" *European Journal of Political Economy* Vol. 21 pp. 301- 324
- Bjornskov, C (2003) "Corruption and Social Capital" Department of Economics Aarhus School of Business Working Paper 03-13
- Cannari, L d'Alessio, G (2007) "Le opinioni degli italiani sull'evasione fiscale" Bank of Italy Working Paper N. 618
- Cavatorta, E Pieroni, L (2011) "A Competing Risk Model for Health and Food Insecurity in the West Bank" April, 2011 Mimeo
- Clausen, B Kraay, A Murrell, P (2010) "Does respondent Reticence Affect the Results of Corruption Surveys? Evidence from the World Bank Enterprise Survey for Nigeria" The World Bank. Policy research Working Paper 5415 September 2010
- Clausen, B Kraay, A Nyiri, Z (2009) "Corruption and Confidence in Public Institutions: Evidence from Global Survey" The World Bank. Policy research Working Paper 5157 December 2009
- Coalition for Integrity and Accountability (AMAN) "Combating Corruption in public Institutions: Measures and Procedures" Corruption Report 2009 Palestine
- Della Porta, D Vannucci, A (1999) "Corrupt exchanges: Actors, Resources and Mechanisms of Political Corruption" *Crime Law and Social Change* 31 (2) 162-165
- Dong, B Torgler, B (2010) "Corruption and Social Interaction: Evidence from China" CREMA Working Paper 2010 – 22
- Field, J 2008 *Social Capital* New York Routledge
- Fisman, R Gatti, R (2002) "Decentralization and Corruption: Evidence Across Countries" *Journal of Public Economics* 83 (2002) 325-345
- Fukuyama, F 2001 "Social Capital, Civil Society and Development" *Third World Quarterly*, 22, 1, 7-20
- Gambetta, D (2000) "Mafia: The Price of Distrust" in Gambetta, D *Making and Breaking Cooperative Relations* Electronic edition Chapter 10 pp. 158-175
- Goel, R K Nelson M A (1998) "Corruption and Government Size: A Disaggregated Analysis" *Public Choice* XCVII 107-120
- Granovetter, M (1973) "The Strength of Weak Ties" *American Journal of Sociology* N. 78 p. 1369-80

- Granovetter, M (1985) "Economic Action and Social Structure: the Problem of Embeddedness" *American Journal of Sociology* N. 91 p. 481-510
- Groenedijk, N (1997) "A Principal-Agent Model of Corruption" *Crime, Law and Social Change* 27 207-229
- Grootaert, C (2001) "Does Social Capital Help the Poor? A Synthesis of Findings from the Local Level Institutions Studies in Bolivia, Burkina Faso, and Indonesia" World Bank Working Paper N.10 June 2001
- Guiso, L Sapienza, P Zingales, L (2004) "The Role of Social Capital in Financial Development" *American Economic Review* Vol. 94, No. 3: 526-556
- Harris, D (2007) "Bonding Social Capital and Corruption: a Cross-Country Empirical Analysis" Environmental Economics and Policy Research Discussion Paper Series 27. 2007 Cambridge
- Khan, M H (1998) Patron-Client Networks and the Economic Effects of Corruption in Asia" *European Journal of Development Research* 10 (1) June 1998 15-39
- Kinghston, C (2005) "Social Capital and Corruption: Theory and Evidence from India" BREAD Working Paper N. 75
- Knack, F Keefer, P (1997) "Does Social Capital Have an Economic Payoff? A Cross-Country Investigation. *Quarterly Journal of Economics* 112/4, 1251-1288
- La Porta, R Lopez-de-Silanes, F Shleifer, A Vishny, R W (1997) "Trust in Large Organizations" *The American Economic Review* Vol. 87 N. 2 pp. 333-338
- Lambsdorff, J G (1999) "Corruption and Empirical Research – a Review Transparency International Working Paper November 1999
- Lin, N 2001 *Social Capital a theory of Social structure and Action* Cambridge, CaMbridge University Press
- Mauro, p (1995) "Corruption and Growth" *Quarterly Journal of Economics* 110 (3) Aug.1995 681-712
- Mauro, p (1998) "Corruption: Causes, Consequences and Agenda for Further Research" *Finance and Development / March 1998* 11-14
- Mauro, p (2004) "The Persistence of Corruption and Slow economic Growth" IMF Staff Working Paper Vol.51 N.1 International Monetary Fund
- Narayan, D Woolcock, M 2000 "Social Capital: Implications for Development Theory, research and Policy" *The World Bank Research Observer* Vol. 15 No. 2 August 2000, 225-249

- Paldam, M (2002) "The Cross-Country pattern of Corruption: Economic, Culture and Seesaw Dynamics" *European Journal of Political Economy* 18 (2) 215-240
- Paldam, M Svendsen, G T (2002) "Missing Social Capital and the Transition in Eastern Europe" *Journal for Institutional Innovation, Development and Transition* 5, 21-34
- Portes, A (1998) Social capital: its origins and applications in modern sociology" *Annual review of Sociology* pp.1-14
- Putnam, R D 2000 *Bowling Alone: the collapse and revival of American community*, Simon & Schuster, New York
- Putnam, R D Leonardi, R Nanetti, R Y 1993 *Making Democracy Work*, Princeton: Princeton University Press
- Sabatini, F 2005a "Social Capital and Social Network. A new Framework for Measurement" Working Paper N.83 University of Rome "La Sapienza" Department of Public Economics
- Sciarrone, R (2002) "The Dark Side of Social Capital: The case of Mafia" Workshop on Social Capital and Civic Involvement Cornell University, September 13-14, 2002
- Seldadyo, H de Haan, J (2006) "The Determinants of Corruption: A Literature Survey and New Evidence" Paper prepared for the 2006 EPCS Conference, Turku, Finland, 20-23 April 2006
- Shleifer, A Vishny, R W (1993) "Corruption" *Quarterly Journal of Economics* 108 (3) 599-617
- Slemrod, J (2007) "Cheating Ourselves: The Economic of Tax Evasion" *Journal of Economic Perspectives* 21 (1) Winter 2007 25-48
- Sullivan, J D (2006) "NGOs in Palestine: Agents of Development and Foundation of Civil Society" *Journal of Palestine Studies* 25 (3) Spring 1996 93-100
- Tabellini, G (2008) "The Scope of Cooperation: Values and Incentives" *Quarterly Journal of Economics* 123 (3) 905-950
- Torgler, B (2005) "Tax Morale in Latin America" *Public Choice* 122 (1/2) Jan.2005 133-157
- Transparency International "Corruption Perception Index 2010" www.transparency.org
- Uebersax JS. *The tetrachoric and polychoric correlation coefficients. Statistical Methods for Rater Agreement* web site. 2006. Available at: <http://john-uebersax.com/stat/tetra.htm>
- Uslaner, E M (2002) "Trust and Corruption" Paper prepared for presentation at 2002 Annual Meeting of the American political Science Association Boston August 29-Septemebr 2002
- Warren, M E (1999) "Democracy and Trust" Cambridge University Press, Cambridge 1999
- Warren, M E (2004) "Social Capital and Corruption" *Democracy and Society*, Spring 2004, pp. 1, 16-18

Woolcock, M (1998) "Social Capital and Economic Development: toward a theoretical synthesis and policy framework" *Theory and Society*, 27, 2, 151-208

Woolcock, M 2001 "The Place of Social Capital in Understanding Social and Economic Outcomes", *Isuma: Canadian Journal of Policy Research*, 2, 1, 11-17

World Bank 2004 "Corruption, Governance and Security: Challenges for the Rich Countries in the World" The Global Competitiveness Report 2004/2005

Appendix 1

Table A1: Variables and coding scheme

Dependent variable - Corruption		
Variables	Description	Range
<i>Bribe</i>	"Can you justify bribery at work?"	Bribe = 1 if "can't justify at all bribery at work" Bribe = 0 otherwise
<i>Fight</i>	"Fighting Corruption"	<i>Fight = 1</i> if "Fighting corruption is very important" <i>Fight = 0</i> Otherwise
Dependent variables - Social Capital		
Variables	Description	Range
<i>Vol</i>	"In the last 12 months did you volunteer?"	<i>Vol = 1</i> if the answer to the question is yes <i>Vol = 0</i> Otherwise
<i>Civic</i>	"Can you justify these behaviours by other people?" "absence from work without reasonable reasons, assenteism in elections, not commitment to traffic rules, buying stolen products, finding a wallet and not give it back to the police"	The answers to each behaviour follows a scale (1-3) 1. I can justify it 2. I can justify it sometimes 3. I can't justify it at all We set a composite variable called <i>behaviour</i> which is the sum of the scores obtained by answering all the questions. The range of

		<i>behaviour</i> is [0 15]. The mean of <i>behaviour</i> from the survey is 13.5 Civic = 1 if <i>behaviour</i> is at least 13.5 Civic = 0 otherwise
Covariates		
Variables	Description	Range
<i>age</i>	Age of the individuals	16 - 92
<i>age</i> ²	Age squared	256 - 8464
<i>female</i>	Individuals that are female	Female = 1 if the individual is female Female = 0 otherwise
<i>education</i>	Level of education	1. illiterate 2. primary 3. secondary 4. high school 5. diploma 6. bachelor 7. diploma after bachelor 8. master or more
<i>employed</i>	Individual employed	Employed = 1 if the individual is employed Employed = 0 otherwise
<i>Rule law</i>	"Which is the importance of the rule of law?"	1. not important 2. important 3. very important Range = [1 3]
<i>Institutional trust</i>	"How is your trust for these institutions?" <i>Clan, Government, parties, local government, Parliament, Court of Justice, police</i>	The score for each answer is the following 1 = no trust 2= little trust 3 = somehow trust 4 = lot of trust The measure is composite and sum up the values over the six institutions. Hence the range of institutional trust is [0 24]
<i>Social trust</i>	"Can you say that you can trust people in general?"	<i>Social trust</i> = 1 if the answer to the question is "yes" <i>Social trust</i> = 0 Otherwise
<i>Marital status</i>	Individuals that are married	Marital status = 1 if the

		<p>individual is married</p> <p>Marital status = 0</p> <p>otherwise</p>
<i>family</i>	<p>frequency of an individual of meeting the family and/or talking to the family via phone/email</p>	<p>The scores are the following:</p> <p>52 = once a week</p> <p>24 = once or twice a month</p> <p>6 = few times a year</p> <p>0 = never</p> <p>Range of family = [0 52]</p>
<i>bridging</i>	<p>synthetic measure composed by the frequency of an individual of having contacts with friends (visiting, inviting friends, contacting them via phone or via email) and neighbours (visiting, inviting neighbours, contacting them via phone or via email)</p>	<p>The scores are the following</p> <p>For friends:</p> <p>52 = once a week</p> <p>24 = once or twice a month</p> <p>6 = few times a year</p> <p>0 = never</p> <p>For neighbours</p> <p>52 = once a week</p> <p>24 = once or twice a month</p> <p>6 = few times a year</p> <p>0 = never</p> <p>Bridging = $(\text{friends} + \text{neighbour}) / 2$</p> <p>The range of bridging = [0 52]</p>