

## BIROn - Birkbeck Institutional Research Online

Andriani, Luca and Sabatini, F. (2013) Trust and prosocial behaviour in a process of state capacity building: the case of the Palestinian territories. Working Paper. Birkbeck, University of London, London, UK.

Downloaded from: <https://eprints.bbk.ac.uk/id/eprint/10439/>

*Usage Guidelines:*

Please refer to usage guidelines at <https://eprints.bbk.ac.uk/policies.html> or alternatively contact [lib-eprints@bbk.ac.uk](mailto:lib-eprints@bbk.ac.uk).



**Working Papers in Management**

**Birkbeck, Department of Management**

**BWPMA 1306**

# Trust and Prosocial Behaviour in a Process of State Capacity Building: the Case of the Palestinian Territories

---

**Luca Andriani**

*Department of Management  
Birkbeck, University of London*

**Fabio Sabatini**

*Department of Economics and Law, University La Sapienza, Rome, Laboratory  
for Comparative and Social Research, National Research University Higher  
School of Economics, Moscow*

October 2013

**ISSN 2052 – 0581**

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

# Trust and Prosocial Behaviour in a Process of State Capacity Building: the Case of the Palestinian Territories <sup>1</sup>

Luca Andriani <sup>2 \*</sup> and Fabio Sabatini <sup>3</sup>

## Abstract

This paper contributes to the literature by conducting the first empirical investigation into the determinants of prosocial behaviour in the Palestinian territories, with a focus on the role of trust and institutions. Drawing on a unique dataset collected through the administration of a questionnaire to a representative sample of the population of the West Bank and the Gaza Strip, we have found that institutional trust is the strongest predictor of prosociality. This result suggests that, in collectivist societies with low levels of generalized trust, the lack of citizens' confidence in the fairness and efficiency of public institutions may compromise social order. The strengthening of institutional trust may also reinforce prosocial behaviour in individualist societies, where a decline in generalized trust has been documented by empirical studies

**Keywords:** Institutional trust, generalized trust, prosocial behaviour, social capital, institutions, Palestine.

**JEL Codes:** H26, L31, O19, O53, Z, Z13.

---

<sup>1</sup> Paper prepared for presentations at the 25<sup>th</sup> Annual EAPE Conference 2013 "Beyond Deindustrialisation: the Future of Industry" (Paris, France, November 7-9, 2013) and at the ERF 20th Annual Conference: Economic Development and Social Justice (Cairo, Egypt, March, 2014). Part of this work was developed when Luca Andriani was visiting the Palestine Economic Policy Research Institute (MAS) in Ramallah. We are grateful to MAS for sharing data for the measurement of social capital in the Palestinian Territories. We are deeply indebted to Mohamed Nasr and Jamil Hilal for precious comments and suggestions. The paper also benefited from comments to a previous version of this work by participants at the Fourth Annual Conference in Political Economy "Political Economy, Activism and Alternative Economic Strategies" (The Hague, The Netherlands, July 9-11, 2013). Usual caveats apply.

<sup>2</sup> Department of Management, Birkbeck College University of London. Email: luca.andriani@bbk.ac.uk.

\* Corresponding author: Birkbeck College University of London – London, Malet Street WC1E 7HX.

<sup>3</sup> Department of Economics and Law, Sapienza University of Rome, and Laboratory for Comparative Social Research, National Research University Higher School of Economics, Moscow. Email: fabio.sabatini@uniroma1.it.

## 1. Introduction

Weak public institutions discourage mutual confidence and prosocial behaviour in prisoner's dilemma-like situations (Rothstein 1998; 2003; Dasgupta 2005; 2013; Letki 2006; Frey and Torgler 2007; Bühlmann and Freitag 2009). The empirical literature identifies the belief that unknown others can be trusted (usually called “social”, “generalized” or “moral” trust) as being one of the best predictors of prosocial behaviour, especially in “individualist” societies – i.e. those societies where social relations mainly rely on weak ties and are informed by values related to power, achievement, and self-direction (Hofstede 1991; Oishi et al. 1998; Irwin 2009). In “collectivist” societies, where social relations rely on strong, cohesive group ties informed by principles of tradition, conformity, and benevolence (Hofstede 1991; Triandis 1995), confidence in public institutions has been found to play a stronger role in promoting cooperation (Yamaghishi 1988; Kumlin 2004; Kumlin and Rothstein 2005). In these societies, citizens tend neither to trust nor to cooperate with people outside of their reference groups – usually only composed of the extended family and close friends. Institutional trust can provide individuals with valid incentives to behave prosocially – e.g. to avoid cheating in transactions – even in settings of low or decreasing generalized trust, for example by strengthening the belief that anti-social behaviours will be properly punished.

This paper aims to empirically investigate the determinants of prosocial behaviour in the Palestinian Territories, with a special focus on the role of different types of trust. To reach this goal, we rely on a unique dataset collected through the administration of a questionnaire to a representative sample of 2508 Palestinian households in the West Bank (including Jerusalem) and the Gaza Strip in June and July 2007 by the Palestinian Central Bureau of Statistics.

The Palestinian Territories are characterized by a typical collectivist society coping with a difficult process of state capacity building in a context of low generalized trust and strong uncertainty about the future: Israeli closure policy has compromised Palestinian workers' ability to work in Israel and causes continuous fluctuations in prices and transaction costs, leading to a substantial inability to undertake basic economic activities (European Commission 2004; 2011). As a result, in addition to dramatic macroeconomic implications in terms of labour force participation, unemployment, standards of living, poverty, and deterioration of human capital, the social mechanisms for the efficient resolution of prisoner's dilemma-like situations are weak, agents' behaviour in strategic contexts is hardly predictable, and economic transactions between unknown parties take place in a climate of

general distrust. The uncertainty pervading the economic environment is a decisive factor of the economic backwardness which further hampers the process of state capacity building. On the other hand, Palestinian society seems to remain relatively cohesive. As stated in a World Bank report, “Despite violence, economic hardship and the daily frustrations of living under curfew and closure, lending and sharing are widespread and families for the most part remain functional ... The West Bank and Gaza has/have absorbed levels of unemployment that would have torn the social fabric in many other societies.” (World Bank 2003, p. 6).

The collectivist aspects of Palestinian society – such as strong family ties and informal networks, commonly known as “bonding social capital” (Putnam et al. 1993) – play a crucial role in building resilience to conflict (World Bank 2003; Nasr and Hilal 2007). However, bonding social capital also prevents group members from trusting (and cooperating with) outsiders (Putnam et al. 1993; Field 2004; Sabatini 2008). In addition to the achievement of peace, the promotion of prosocial behaviour outside of the small boundaries of reference groups is a necessary (though not sufficient) task for the advancement of the economic, social, and political development of the Territories.

In this paper we investigate the possible role of trust in prosocial behaviour in two steps: first, we draw on a number of attitudinal items to build indicators of unobserved attitudes such as institutional trust and prosociality through a measurement model. Second, the correlation between latent measures of trust and prosocial attitudes is assessed through a structural equations model (SEM) and some refinements.

SEM estimates indicate a significant and positive correlation between trust in domestic institutions, such as public institutions, clans and the rule of law, and prosocial attitudes. Trust in international institutions seems to play a minor role in prosociality. Trust in public institutions can be understood as a consequence of citizens’ perception about the fairness and efficiency of these institutions. We borrow the concept of “psychological contract” from the organizational behaviour literature (Rousseau 1989; 1995) to argue that there is an implicit agreement between citizens and institutions based on mutual obligations. Our results suggest that citizens who perceive institutions as efficient and fair want to act prosocially to “fulfil the contract”. If institutions are perceived as inefficient and corrupt, institutional trust decreases and prosocial behaviour is discouraged, because citizens neither want to respect obligations (e.g. in paying taxes) nor do they fear being sanctioned for their anti-social behaviour (e.g. inefficient public institutions will find it difficult to properly punish tax evasion).

In a collectivist society endemically lacking generalized trust, a decrease in institutional trust may compromise social order, especially in the course of a difficult process of state capacity building. The strengthening of institutional trust may also reinforce the “psychological contract” between the state and its citizens in Western democracies, ?or more? in general in individualist societies, where a decline in generalized trust has been documented by empirical studies (Putnam 2000; Costa and Kahn 2003; Sarracino 2010; Bartolini et al. 2013). Political science studies have highlighted how inclusive and efficient welfare state institutions tend to increase social and institutional trust (Rothstein 2001; van Oorschot 2004 Kumlin and Rothstein 2005; Bühlmann and Freitag 2009; Jensen and Svendsen 2011). Our findings add to this literature by suggesting that governments, by designing efficient and fair state institutions, can invest in social and institutional trust and encourage prosocial behaviour.

The outline of the paper is as follows: Section 2 presents the motivation of the study and briefly reviews the related literature. Section 3 describes our data and reports some descriptive statistics. The empirical analysis of the role of different types of trust in prosocial attitudes is presented and discussed in section 4, along with some model refinements. Concluding remarks and a brief discussion of implications for policy and future research close the paper.

## **2. Motivation of the study and related literature**

Since the early 1990s, a growing number of studies has identified social capital – with particular regard to its “cognitive” dimension of social trust and its “structural” aspect of prosocial behaviour<sup>4</sup> – as a factor of economic and social development. Trust and prosocial behaviour have been credited with reducing reduce transaction costs, promoting the enforcement of contracts, facilitating credit at the level of individual investors, and to encouraging innovation and investment in human and physical capital (see among others Putnam 1993; Fukuyama 1995; Knack and Keefer 1997; Christoforou 2010; Zak and Knack 2001).

---

<sup>4</sup> Following Uphoff (1999), it is possible to distinguish between structural and cognitive dimensions of social capital. Structural social capital deals with individuals’ behaviours and mainly takes the form of networks and associations which can be observed and measured through surveys. Cognitive social capital derives from individuals’ perceptions resulting in norms, values and beliefs that contribute to cooperation. These latter aspects involve subjective evaluations of the social environment. Both structural and cognitive dimensions include several sub-dimensions whose relationship with health variables in turn varies depending on the context and on the effect of other individual and local potentially influential factors (Degli Antoni 2009; Yamamura 2011).

Knack argues that (2002), “Where social mechanisms for the efficient resolution of prisoners’ dilemma and principal-agent games are weak or absent (i.e. where most potential pairs of economic transactors cannot trust each other) the private returns to predation increase while the private returns to production fall” (p. 171). Individuals in higher-trust societies indeed spend less on protecting themselves from being exploited in economic transactions (Knack and Keefer 1997).

Even if these views have been acknowledged in the economics debate only recently, it is worth noting that the concept of the social “embeddedness” of the economic action is deeply rooted in the history of economic thought, and can also be found in the early work of the classical economists. Typical code-words of social capital literature (e.g. trust, altruism, sympathy, and prosocial behaviour) can be found in the work of Adam Smith. In the *Theory of Moral Sentiments*, Smith (1759) argued that there were certain virtues, such as trust and a concern for fairness that, due to their role in prosocial behaviour and in the discouragement of cheating, were vital for the functioning of a market economy. Smith described trust and prosocial behaviour as critical foundations of the early beginnings of the market, allowing the development of trade and economic activities. According to North (1990, p. 54) “the inability of societies to develop effective, low-cost enforcement of contracts is the most important source of both historical stagnation and contemporary underdevelopment in the Third World”. In our view, it is reasonable to extend this point by arguing that not only the effective functioning of markets but also, to a larger extent, the resilience of the economic system, rely on those institutions (whether formal or informal) that foster the sharing and diffusion of feelings of trust and promote or preserve prosocial behaviour.

Disentangling the determinants of prosocial behaviour, and its relationship with trust, is a fundamental task for economic research, which assumes particular importance in the analysis of a process of state capacity building, where markets and formal public institutions are in the early stages of their development. From this point of view, the Palestinian society poses a puzzle because, despite a very low generalized trust, forms of prosocial behaviour remain fully functional, helping to preserve social cohesion in a strongly unfavourable macroeconomic and political scenario.

Irwin (2009) argues that, in collectivist societies, prosocial behaviour is affected by institutional trust (intended as the belief that institutions effectively induce others to act in a trustworthy manner) rather than generalized trust as in individualist cultures (Yamagishi and Yamagishi 1994; Brehm and Rahn 1997; Stolle 2001; Uslander 2002).

In collectivist cultures relationships are guided by rigid distinctions between in-group and out-group. Individuals are tightly linked to their group, which protects them throughout their life span in exchange for unquestioning loyalty. People are expected to maintain harmony with the in-group through reciprocally cooperative interactions. To accomplish this, collectivism generally entails a strong emotional dependence on the group, which controls individual behaviour through social patterns and rules based on principles of tradition, conformity, benevolence and respect (Triandis, 1995; Irwin 2009; Berigan et al. 2011). Personal aspirations are often sacrificed to the pursuit of the group's welfare (Hofstede, 1991; Berigan et al. 2011). Collectivist societies are naturally based on extended families or clans. Researchers typically agree that Western cultures are individualistic while Asian, Latin American and Middle Eastern cultures are collectivistic (Hofstede, 1991; Buda 1998).

Yamighishi et al. (1994; 1998) find that, due to the importance individuals place on in-groups compared to out-groups, people from collectivist societies display markedly less trust in strangers than those from individualist societies (Yamagishi & Yamagishi, 1994). Still Yamighishi (1988) shows that this lack of trust has a negative effect on prosocial behavior toward strangers.

Irwin (2009) uses World Values Survey (WVS) microdata from 14 countries for the period 1981-2001 to assess the role of social and institutional trust in prosocial behaviour. To test his hypotheses on the diverse roles of different types of trust, the author segments countries according to their respective levels of individualism or collectivism, as measured by the Hofstede-scale (Hofstede 1991). The empirical results suggest that individuals of collectivist societies rely mainly on public institutions to protect them from potential non-cooperative behaviours of out-group strangers. The effectiveness and fairness of public institutions in fact increase individuals' confidence that cheating will be unfailingly punished and that unknown others will behave cooperatively.

Institutional trust can be seen as the outcome of a complex, long-running and continuous interaction between the state and its citizens. This interaction is more likely to be cooperative in the presence of a certain degree of reciprocity between the parties: individuals trust institutions and avoid cheating only if they expect these institutions will act fairly and effectively.

The literature explains this mechanism through two main arguments.

The first argument, advanced by Kumlin and Rothstein (2005), stresses the idea that the positive perception that people have of public institutions increases people's confidence in the society and their trust in their fellow citizens. Drawing on cross-sectional data collected in



1999 in Western Sweden by the SOM Institute at Göteborg University, the authors found that social trust is higher among people with more confidence in public officials and the welfare state's institutions.

The second argument focuses on the idea that trustworthy institutions may reinforce prosocial behaviour by increasing citizens' confidence that cheating actions will be discovered and effectively punished (Irwin 2009).

Several empirical studies have found a significant and positive correlation between the belief that strangers can be trusted and institutional trust – intended as trust in public institutions. It seems reasonable to argue that citizens who report high levels of confidence in public institutions may also be more confident that wrongdoers will be punished.

The arguments outlined above lead us to formulate the hypothesis that, in the collectivist society of Palestinian territories, institutional trust – defined as confidence in public institutions – may be a better predictor of prosocial behaviour than other forms of trust.

### 3. Data and methods

As anticipated in the introduction, data were collected through the administration of a questionnaire to a representative sample of the population ( $n = 2508$ ) of the West Bank and the Gaza Strip in June and July 2007 by the Palestinian Central Bureau of Statistics. The questionnaire was specifically designed to assess civic and political participation, engagement in formal and informal networks, various forms of trust, shared values, and attitudes on contemporary social and political issues<sup>5</sup> (Nasr and Hilal 2007).

Following SEM practice, we first drew on a number of attitudinal items to build three latent constructs: prosocial behaviour, trust in political institutions, and trust in civil institutions. The correlation between these constructs was then analyzed through a structural model, also accounting for a number of control variables.

Prosocial behaviour (labelled as *prosocial*) is obtained as a combination of responses to questions about whether each of the following behaviours “can always be justified, never be justified or something in between”:

- Absence from work without good reasons (*work*)
- Bribery (*bribe*).

---

<sup>5</sup> As pointed out by Nasr and Hilal “Differently from the West Bank the analysis of data from the Gaza Strip could only be conducted at the level of the Strip's population as a whole, since the political and security situation prevented from stratifying the sample at the more detailed level of sub-groups defined by demographic characteristics” (Nasr and Hilal 2007, p.2).

- Abstention in elections<sup>6</sup> (*abstention*).
- No commitment to traffic rules (*traffic*).
- Purchase of stolen goods (*stolen*).

Respondents chose a number from 1 (never justifiable) to 3 (always justifiable). We reversed this scale, so that larger values indicate a greater propensity for prosocial behavior. Descriptive statistics are presented in Table 1

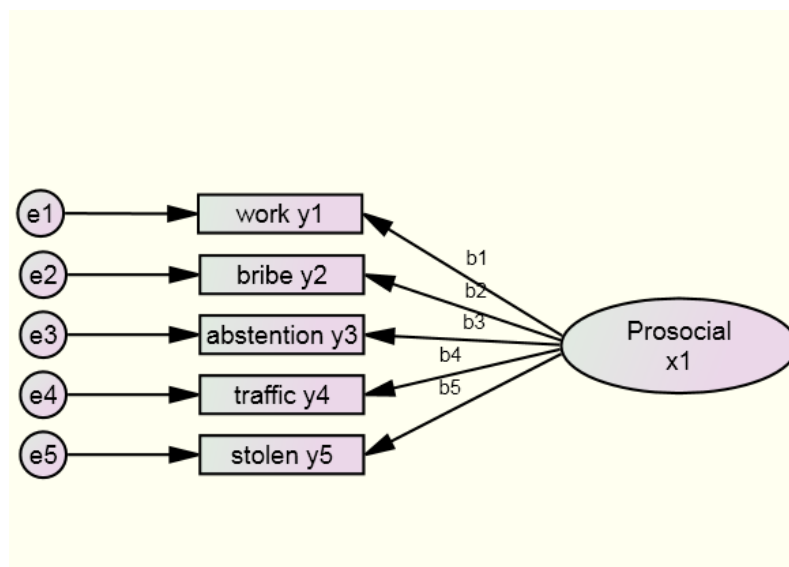
*Table 1. Descriptive Statistics*

	n. obs.	mean	Std. Dev.	min	max	Range
work	1098	2.69	.579	1	3	2
bribe	1098	2.95	.248	1	3	2
abstention	1098	2.30	.737	1	3	2
traffic	1098	2.84	.406	1	3	2
stolen	1098	2.87	.394	1	3	2
trust_gov	1098	2.06	1.008	1	4	3
trust_parties	1098	2.08	.935	1	4	3
trust_localgov	1098	2.49	.926	1	4	3
trust_parliament	1098	2.21	.996	1	4	3
trust_president	1098	2.28	1.014	1	4	3
trust_judicial	1098	2.43	.978	1	4	3
trust_police	1098	2.52	.968	1	4	3
trust_un	1098	2.29	1.035	1	4	3
trust_intorganisation	1098	2.17	.987	1	4	3
trust_donors	1098	2.23	1.067	1	4	3
trust_clan	1098	3.22	.751	1	4	3
trust_specific	1098	6.24	1.193	2	8	6
rule_law	1098	2.92	.313	1	3	2

<sup>6</sup> This refers to the abstention at in the 2006 elections for the Palestinian Legislative Council (Nasr and Hilal 2007). The 2006 elections were the second parliamentary elections after those in 1996. The 2006 PLC elections were preceded by the Presidential elections in January 2005.

Due to the large sample size and to non-normal distributed data, in order to achieve a better empirical fit we employed a measurement model based on generalized least square (see Olsson et al. 2000). Figure 1 describes the measurement model used to construct the latent indicator of prosocial attitudes

*Figure 1: Measurement Model of Prosocial*



We obtained an unobserved factor which is significantly and positively correlated with all the observed indicators. The correlation matrix and regression weights are reported in Tables A1 and A2 in the Appendix. Squared multiple correlations (reported in Table A3 in the Appendix) indicate that the unobserved factor explains more than 30% of the variance of *work* and *stolen*, and about 20% of the remaining items *bribe* and *abstention*.

Due to the large sample size, the model chi-square is not a reliable goodness-of-fit measure (Bollen 1989; Kline 2005), we therefore followed Tempelaar et al. (2007) and rely on alternative fit indexes which are reported in Table A4 in the Appendix. All relative fit indicators are above the minimum threshold and all absolute fit indicators are below the value of the threshold level identified by the literature (Bollen 1989; Kline 2005).

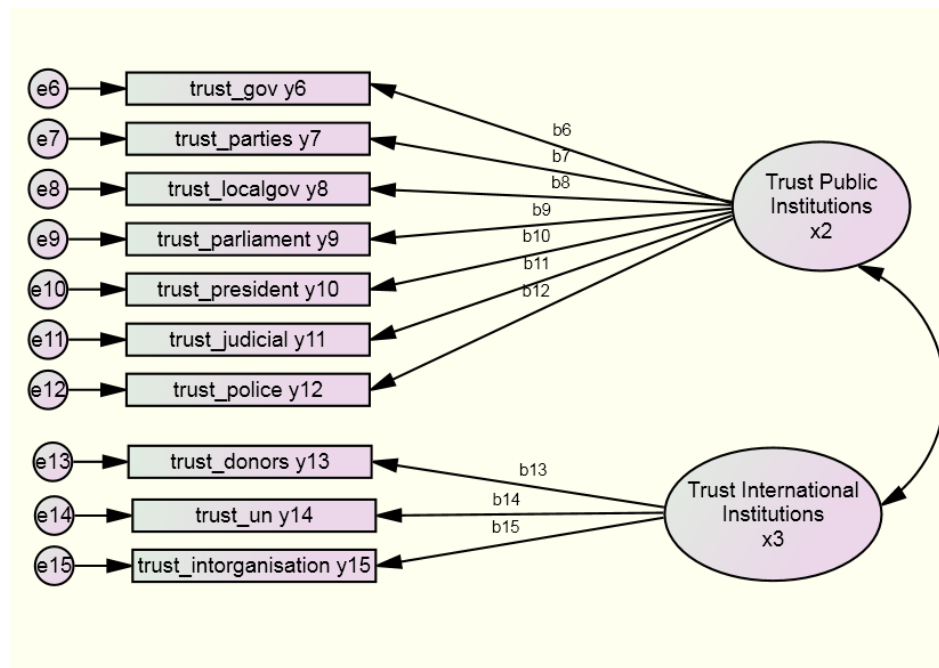
Institutional trust is measured by two latent variables obtained as combinations of indicators of respondents' trust in public and international institutions. In the questionnaire, trust in public institutions is measured by the score from 1 to 4 given by respondents to the question: "Do you think that the following institutions can be trusted?", 1 meaning 'Totally' and 4

meaning ‘Not at all’. The named institutions were the government<sup>7</sup> (*trust\_gov*), political parties (*trust\_parties*), the local government (*trust\_localgov*), the president of the Palestinian National Authority<sup>8</sup> (*trust\_president*), the Parliament (*trust\_parliament*), the judicial system (*trust\_judicial*) and the police (*trust\_police*).

On the other hand, trust in international institutions refers to international donors (*trust\_donors*), international organizations linked to the United Nations (UN) (*trust\_un*), and international organizations not linked to the UN (*trust\_intorganizations*). We reversed the original scale, so that larger values indicate greater trust.

Figure 2 describes the measurement model we used to build the latent indicators of trust in public and international institutions.

Figure 2: Measurement Model Trust



Similarly with the measurement model of *prosocial*, here the latent variables of trust in public and international institutions are related to their respective multiple observable indicators.

<sup>7</sup> The term government mentioned in the questionnaire refers to the Palestinian Authority

<sup>8</sup> This is the highest institutional position. The constitution requires the President is legitimated to appoint the Prime Minister of the Palestinian Authority. Among his/her responsibilities, the President is the chief of the Palestinian forces.

Correlation matrices, regression weights, and goodness-of-fit indexes are reported in Tables A5, A6, and A7 in the Appendix.

Table A6 indicates that the regression weights between the latent variables and the observable items are all positive and significant at 1% significance level. The standardised regression weights of the latent indicator of *trust in international institutions* on the trust items reported in table A9 are largely above 0.7. This means that a 1 unit increase in the standard deviation of the latent variable is associated with an increase of more than 0.7 unit of standard deviation of the trust items. The standardised regression weights of the variable *trust in public institutions* on the trust items reported in table A9 are largely above 0.5 except in the case of trust in government where the standardised regression weight is 0.47.

The covariance between the latent variables is significant at 1% significance level. The squared multiple correlations (reported in Table A8) indicate that the latent indicator of trust in international institutions explains approximately 67% of the variance of trust in donors in the UN and about approximately 75% of the variance of respondents' trust in non-UN international organizations. The latent indicator of trust in public institutions explains a proportion ranging from 21% to 59% of the variance of basic indicators of institutional trust.

We also control for knowledge-based trust, trust in clans, and the importance attributed to the rule of law. The social psychology literature identifies two main types of trust, "social" (or "generalized" or "moral") trust, and "knowledge-based" (or "particularized") trust (see Uslaner, 2002, for a comprehensive review). Unfortunately, we were not able to include generalized trust in the model, since this variable was measured by the Palestinian Central Bureau of Statistics as a binary indicator obtained by "yes" or "no" responses to the question: "Generally speaking, do you think that most people can be trusted?"<sup>9</sup>.

Generalized trust is distinct from knowledge-based trust, which depends on information and experience (Yamagishi and Yamagishi, 1994). According to Dasgupta (2000), we trust people mainly when we know something about their disposition, their available options, their ability and so forth, so we think they are trustworthy and expect they will choose to behave themselves. Knowledge-based trust is the confidence in known people and in people holding a similar status, such as relatives, friends, and colleagues. This form of trust is rooted in

---

<sup>9</sup> The use of binary variables may produce unreliable estimates in SEMs (Kline 2005). It is worth noting that measures of generalized trust based on this question has been criticized in the literature due to their ambiguity with respect to which "people" respondents have in mind. As stated by Knack and Keefer (1997), responses could easily reflect a varying mix of two concepts across individuals: how much trust one places in people who are not close friends or relatives, and the frequency of encounters with such persons. People in low-trust environments such as the Palestinian territories will transact more with close friends and relatives than with strangers, compared with people in high-trust environments such as most individualist societies.

strong ties, such as those embedded in Palestinian family clans, or may develop over time with business exchange (Zucker 1986, Ring and Van de Ven 1992) and plays a fundamental role in preserving economic activities, especially in the context of small communities such as Palestinian clans.

Knowledge-based trust (*trust\_specific*) is measured by the score from 1 to 4 given by respondents to the questions: “Do you think that your neighbours can be trusted?” and “Do you think that your colleagues can be trusted?”, 1 meaning ‘Totally’ and 4 meaning ‘Not at all’. As for previous indicators, we reversed the scale, so that larger values indicate greater trust. Our indicator is built as the arithmetical sum of the two scores. Trust in clans (*trust\_clan*) is measured by the 1-4 score (recoded as for previous variables) given to the question “How much confidence do you have in the family clan?”.

The importance of the rule of law (*rule\_law*) is measured by the 1-4 score (as in the previous variables) given to the question “Which is the importance is the rule of law?”

The relationships between prosocial behaviour and the various forms of trust are assessed by means of a structural equations model (SEM) and some refinements. The advantage of SEM over separate regression models for each outcome is twofold. First, as noted by Kupek (2006), “SEM can model all regression equations simultaneously, thus providing a flexible framework for testing a range of possible relationships between the variables in the model, including mediating effects and possible latent confounding variables. Second, on a more general level, SEM parameters can quantify the contribution of each predictor to the covariance structure such as the common factors model” (p. 8). Moreover, SEM allows the researcher to better account for possible causes of common bias affecting the main variables of the analysis by the estimation of possible correlations among error terms.

We follow the conventional practice of indicating endogenous variables with  $\eta$  and exogenous variables with  $\xi$ . Error terms are indicated with the symbol  $\zeta$ . The prosocial attitudes of individual  $j$  can be expressed as:

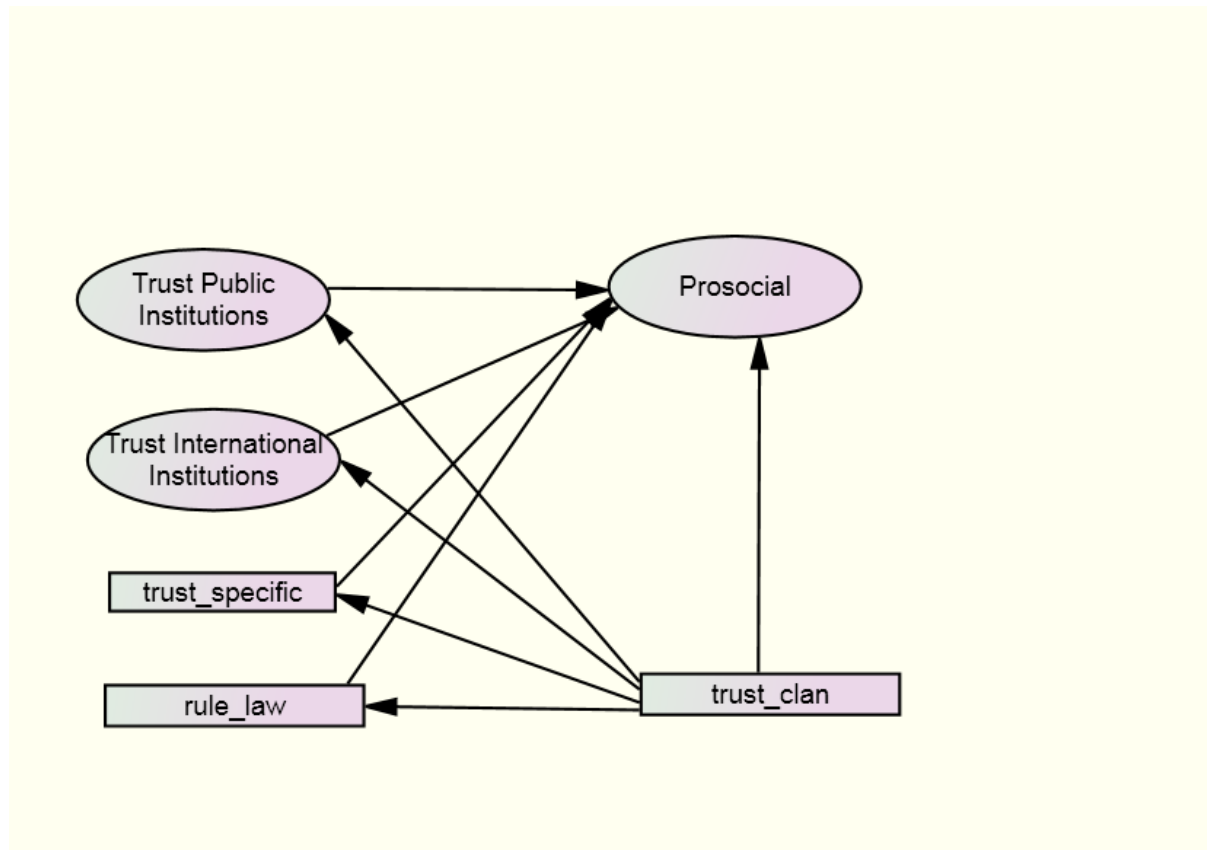
$$\eta_j = \alpha + B\eta_j + \Gamma\xi_j + \zeta_j \quad (1)$$

where  $\alpha$  is an intercept vector,  $B$  a matrix of structural parameters governing the relations among the endogenous variables,  $\Gamma$  a regression parameter matrix for regressions of endogenous variables on exogenous explanatory variables and  $\zeta_j$  a vector of disturbances.

More specifically, in the model presented in this section, we only estimate a limited number

of parameters as reported in Table 1 below<sup>10</sup>. Modification indexes were used to add or subtract parameters one at a time in order to achieve a better fit to the data. The path diagram of the model presented in this section is represented in Figure 3.

*Figure 3 Structural Model*



#### 4. Empirical results

Before illustrating the SEM results, it is interesting to report some descriptive evidence. Table 2 ranks institutions based on the percentage of citizens reporting the highest trust score. 12.34% of our sample report having great trust in the police while only 3.89% of respondents report great confidence in political parties.

<sup>10</sup> While designing the structural model, the researcher puts forward a number of hypotheses on the linkages connecting the phenomena under consideration. The consistency of these hypotheses with the pattern of variances and covariances in the data is then assessed through the goodness-of-fit tests. In practice, this approach combines exploratory and confirmatory purposes: first, a model is theorized and tested using SEM procedures. If it is found to be deficient, an alternative model is then tested based on changes suggested by modification indexes. Changes may consist, for example, in the addition of parameters to (or the subtraction from) matrixes B and  $\Gamma$ .

*Table 2: ranking of the Institutions according to trust*

<i>Ranking</i>	<i>Institutions</i>	<i>% of respondents having great trust in this institution</i>
1	Family clan	40.32%
2	Police	12.34%
3	Judicial system	11.75%
4	Local government	11.01%
5	President	10.60%
6	Parliament	8.68%
7	Government	7.98%
8	Political parties	3.89%

Family clans appear to be more popular than formal political institutions. 40.32% of Palestinians in our sample declare they have total trust in family clans. The highest level of trust in clans is more frequently observed among males (42.91%) than females (37.73%). The analysis of correlations indicates that trust in clans is significantly and positively correlated with the age of the respondents

Table 3 reports results of chi square tests between trust in different institutions, gender and active political participation. Compared to males, a smaller proportion of females report the highest level of confidence in the institutions representing the entire Territories such as the Parliament, the Government and the President, compared with male respondents. However, it also shows a smaller proportion of females do not trust these institutions at all.

Tests also indicate a systematic and significant association between trust in institutions and political participation. The proportion of those who totally trust institutions is higher among the politically active.



*Table 3 Trust in political institutions by gender and political participation*

Trust Institutions/characteristics	Gender	Individuals politically active
Trust a lot police	Female: 10.71%*** Male: 13.91%***	Active: 16.25%*** Not active: 10.74***
Not trust police	Female: 23.88%*** Male: 26.81%***	Active: 23.93*** Not active: 26.06***
Trust a lot judicial system	Female: 10.99%*** Male: 12.48%***	Active: 16.44%*** Not active: 9.78%***
Not trust judicial system	Female: 22.43%*** Male: 29.73%***	Active: 25.04%*** Not active: 26.71%***
Trust a lot local government	Female: 12.03% Male: 10.07%	Active: 11.40%*** Not active: 10.89%***
Not trust local government	Female: 20.81% Male: 24.08%	Active: 18.71%*** Not active: 24.16%***
Trust a lot President	Female: 8.73%*** Male: 12.33%***	Active: 15.09%*** Not active: 8.64%***
Not trust President	Female: 30.00%*** Male: 38.25%***	Active: 31.07%*** Not active: 35.68%***
Trust a lot Parliament	Female: 7.73%*** Male: 9.56%***	Active: 9.88%*** Not active: 8.09%***
Not trust Parliament	Female: 29.66%*** Male: 37.74%***	Active: 36.14%* Not active: 32.96%*
Trust a lot Government	Female: 6.84%*** Male: 9.04%***	Active: 8.64%* Not active: 7.61%*
Not trust Government	Female: 39.6%*** Male: 44.27%***	Active: 45.45%* Not active: 40.72%*

Trust a lot political parties	Female: 3.16%	Active: 6.94%***
	Male: 4.56%	Not active: 2.51%***
Not trust political parties	Female: 39.69%	Active: 35.60%***
	Male: 40.55	Not active: 42.18%***

---

\*, \*\*, \*\*\* indicate respectively 10%, 5% and 1% significance level of the Chi-squared test

---

A statistical analysis conducted through chi-squared estimations indicates that Palestinians appear to be reluctant toward the “heaviest anti-social behaviours such as bribery and the purchase of stolen goods. In fact, about 90% of the sample (90.67% female 88.17% males) do not accept the purchase of stolen goods and approximately 96% do not accept bribery. Females are slightly more reluctant in justifying more to accept mild forms of anti-social behaviours than men: 78.26% of women do not accept absence from work without good reasons compared with 76.18% of men, and 87.45% of women do not agree with) the lack of commitment to traffic regulations against 82.95% of men. Palestinians seem to be more tolerant towards abstention at elections, which is frowned upon by 48.6% of females and 48.25% of males. This proportion is slightly lower, 46.79%, among Palestinians with a higher level of education.

The SEM analysis shows that our latent measure of prosocial attitudes is significantly and positively correlated with institutional trust, with trust in clans and with the importance attributed to the rule of law (see Table 4). . Goodness-of-fit indicators are reported in table 5. All the indicators of fit satisfy the respective threshold minimum and maximum limits.

The correlation between the main endogenous variable and our measure of knowledge-based trust is only slightly significant

*Table 4 GLS estimates of the Structural Equation Model*

	prosocial	Trust Public. Inst.	Trust Intern. Inst.	Rule of law	Trust Specific
Trust Public Inst.	.059** (.029)				
Trust Intern. Inst.	.018 (.017)				
Trust Clan	.021 (.018)	.175*** (.026)	.125*** (.038)	.020 (.013)	.663*** (.044)
Rule of law	.095** (.040)				
Trust Specific	.023* (.012)				

\*  $p < 0.1$  \*\*  $p < 0.05$  \*\*\*  $p < 0.01$  Standard errors in parenthesis (sample size: 1098 observations)

*Table 5 Measures of Fit*

Indicators	CMIN/DF	RMSEA	SRMR	GFI	AGFI	IFI	CFI
Cut-off value	<5	<0.08	<0.1	0.9	0.9	0.9	0.9
Level of this analysis	2.23	0.033	0.039	0.97	0.96	0.91	0.90

This result provides support to the hypothesis that, in collectivist societies, institutional trust plays a greater role than knowledge-based trust in providing incentives to avoid cheating and to behave prosocially. Knowledge-based trust, in fact, depends on experience and is strictly related to individuals' involvement in small networks – such as family clans – acting as forms of “bonding social capital” and encouraging members to behave cooperatively with their in-group peers and to distrust (and possibly exploit) outsiders. Institutional trust, on the other hand, can provide incentives to prosocial behaviour through two main channels.

Firstly, individuals will be less fearful of being cheated in interactions, especially transactions, if they are confident that institutions are capable of enforcing contracts, effectively resolving disputes, and possibly punishing offenders. This makes outsiders' behaviour more predictable causing an overall reduction in uncertainty, at least in the perception of those who trust institutions, who are thereby encouraged to act cooperatively. Secondly, the cooperative behaviour of individuals who trust institutions may be a matter of reciprocity. As outlined in the brief review in Section 2, several studies show that citizens tend to act prosocially if they feel they are being fairly treated by public institutions.

In addition to these two explanations, citizens may *also* act prosocially because they are tied to public institutions by a “psychological contract” based on mutual obligations. People who think that institutions are efficient and fair are likely to report high levels of institutional trust and may choose prosocial behaviour with the aim of fulfilling the psychological contract.

The concept of psychological contract refers to the mutual beliefs, perceptions, and informal obligations between an employer and an employee (Rousseau 1989; 2004). It is a common view in the organizational behaviour literature that employees tend to maximize their efforts and to behave cooperatively only as far as their expectations of their employer's fairness are fulfilled (Robinson and Rousseau 1994; Aselage et al. 2003). The notion of psychological contract can be extended to other principal-agent-like scenarios. Feld and Frey (2002) argue that the relationship between tax authorities and taxpayers involves an implicit or psychological contract. “The more strongly the political participation rights are developed, the more important this contract is, and the higher tax morale is. The existence and survival of this tax contract requires certain behaviour on the part of the two parties concerned”. This argument also relies on the concept of procedural justice: according to the authors, “The tax authorities must acknowledge and support the contract with the taxpayers by acting in a respectful way towards them, but also by preventing honest taxpayers from being exploited in the process.” (Feld and Frey 2002, p. 89). A number of subsequent empirical studies on tax morale report a positive impact in institutional trust on tax compliance across different

contexts, such as Latin America (Torgler 2005a), Switzerland (Torgler 2005b), and Europe (Lago Penas et al 2010). In these cases, institutional trust refers to formal public organizations including confidence in government (Torgler 2004; Torgler and Schneider 2007), in the president (Torgler 2005a; 2005b), in the Parliament (Martinez-Vasquez and Torgler 2009) and in the legal system (Torgler and Schneider 2007).

Whether the relationship involves an employer and his/her employees or the state and its citizens, the social exchange between the parties and the fulfilment of the contract essentially rely on trust. Our results support the view that, in collectivist societies, trust towards domestic political institutions plays a greater role than other forms of trust.

In the Palestinian territories, in addition to formal public institutions, clans and international institutions should also be considered. International NGOs play a crucial role in the Palestinian economy. As reported by Lasensky (2004), Palestinians are probably the largest per capita recipients of international aid. Donors and international organisations provide fundamental support in the provision of important public services such as education and food security.

Our estimates, however, interestingly do not show a significant role of trust in international institutions in prosociality. Trust in clans, on the other hand, is found to be significantly and positively correlated with our latent measures of institutional trust. Clans are in fact one of the pillars of Palestinian community governance. In the Territories, clans (*hamail*) are family-based associations whose members do not necessarily need to be relatives. These associations usually group several extended families that might be connected through a common tribal father (Crisis Group 2007, Rothenberg 1998/1999; Atran 1986). One of the functions of clans is to provide protection to its members in exchange for obligations and loyalty (Landinfo, 2008). Clans also contribute to the administration of justice. Along with the official court system, there is a traditional conflict resolution system based on a mediation committee whose members are chosen by clans. This system is more likely to be involved in cases of conflict where members of different clans are involved.

Empirical evidence indicates significant and positive correlations between trust in clan and trust in public and international institutions. These positive correlations recall the role of community governance discussed by Bowels and Gintis (2002). They indicate with the term “community governance” a social organism or group able to provide a set of norms and rules facilitating the interaction of the members in a more cooperative manner (Bowels and Gintis, 2002). One of the strengths of community governance is the access to private information not always available to public institutions. In this sense the community has greater access to the

monitoring of the behaviour of its members and it also has the capability to punish individuals who behave against the established social norms. On the basis of their experimental findings, Bowles and Gintis (2002) stress the fact that community governance cannot represent a substitute institutional framework of the State but a complementary organism that may contribute to governance where the public institutions fail due to lack of information. This complementary synergy between community (clans) and public institutions is a crucial coping strategy for the institutional uncertainty represented by the Palestinian environment.

#### *4.1. Limitations of the study*

There are several reasons to treat these findings with caution. First, our indicator of prosocial attitudes is a latent variable obtained as a combination of a number of subjective measures that could have been unreliably reported by interviewees. Measures of trust are also given by subjective evaluations and thus exposed to common bias.

The cross-sectional design of the study is another limitation which requires caution in advancing a causal interpretation of the estimates. More generally, the nature of the phenomena under discussion exposes the analysis to endogeneity problems in two ways.

Firstly, institutional and knowledge-based trust are subjective and cognitive phenomena, which depend on individual, specific and unobservable preferences and perceptions. Hence, they are by definition endogenously determined. Unobservable, individual characteristics such as personal interests and values or unexpected shocks may be correlated with both prosocial attitudes and trust. Secondly, the possibility of a reverse causality could also be taken into account, in that individuals who have a preference for prosocial behaviour may be more willing to trust institutions. However, our estimates show that accounting for reverse causality markedly worsens the model's goodness of fit.

Our attempt to cope with endogeneity problems relies fundamentally on the use of SEM. Goldberger defines an SEM as "A stochastic model where each equation represents a causal linkage, rather than a simple empirical association" (Goldberger 1972, p. 979). SEMs are composed of regression equations, which are included in the model only so far as it is possible to interpret them as causal relationships, theoretically justifiable and not falsified by data (Garson 2011). However, it must be noted that, as other unexamined models may fit the data, if not better, an accepted model should be considered only as a "not-disconfirmed" model. Thus, even if the use of SEM allows us to more reliably evaluate the relationship

between trust and prosocial behaviour, the problem of causality still remains open to question, and causal ambiguities remain unsolved.

In addition, our dataset does not allow us to control for relevant economic aspects such as income and wealth.

A more reliable investigation into the determinants of prosocial behaviour in the Territories requires the collection of a more comprehensive and longitudinal dataset, observing the evolution of trust and prosocial behaviour over a prolonged period of time.

## 6. Conclusions

Despite the weaknesses outlined above, our paper adds to the literature by using a unique dataset to provide the first empirical investigation into the determinants of prosocial behaviour in a specific yet extremely interesting case such as the Palestinian Territories. Based on an SEM analysis articulated in two steps – a measurement model and a pathway model – our results support the hypothesis that diverse types of trust may exert a different influence on prosocial behaviour depending on the institutional context and on the characteristics of the social fabric. Trust in public institutions is found to be significantly and positively correlated with prosocial behaviour, and its role seems to be markedly greater than that of knowledge-based trust, which is of only minor significance. Prosociality does not show any statistically significant relationship with trust in international organizations, despite their prominent role in the Territories' economy. At this stage of the Palestinian process of state capacity building, domestic institutions apparently play a greater role than international organizations in fostering the diffusion of cooperative behaviours.

We propose two explanations of these results. First, people who trust public institutions may be more confident that others will behave cooperatively, because they believe in the institutions' ability to enforce rules and to identify and punish cheaters. On the other hand, citizens who perceive public institutions as efficient and fair may feel the *moral* obligation to behave prosocially as part of a “psychological contract” which ties them to the state. The significant and positive correlation of trust in clans with both prosocial attitudes and institutional trust also suggest important implications for policy makers and researchers in two interconnected points of reflection. Firstly, in modernizing the Palestinian society, the strengthening of public institutions, and the cooperation with international organizations (whether UN-connected or not), the role of the local community needs to be considered. This might lead to the second point of reflection: a process of state capacity building needs the support of the local community, especially where community institutions are perceived as

trustworthy and hold the power to enforce law across their members. Public institutions that recognise this role are more likely to gain the trust of their citizens and this can consolidate even more the establishment of the psychological contract.

Our findings also suggest that, in collectivist societies with low levels of generalized trust, the lack of citizens' confidence in the fairness and efficiency of public institutions may compromise social order. On the other hand, the strengthening of institutional trust may reinforce prosocial behaviour in individualist societies, where a decline in generalized trust has been documented by empirical studies

## References

- Aselage, J., Eisenberger, R. (2003). Perceived Organizational Support and Psychological Contracts: A Theoretical Integration. *Journal of Organizational Behavior*, 24 (5), 491-509.
- Atran, S (1986) Hamula Organisation and Masha'a Tenure in Palestine, *Man, New Series*, 21(2) 271 – 295
- Bartolini, S., Bilancini, E., Pugno, M. (2013). Did the Decline in Social Connections Depress Americans' Happiness? *Social Indicators Research*, 110:1033–1059.
- Berigan, N and Irwin, K (2011) Culture, Cooperation and the General Welfare. *Social Psychology Quarterly* 74(4): 341-360
- Bollen, K. (1989). *Structural Equations with Latent Variables*. New York: Wiley.
- Bowles, S., Gintis, H. (2002). Social capital and community governance. *Economic Journal* 112 (483), 419-436.
- Brehm, J., Rahn, W. (1997). Individual Level Evidence for the Causes and Consequences of Social Capital. *American Journal of Political Science* 41: 888-1023.
- Buda, R and Sayed M. Elsayed-Elkhouly (1998) "Cultural Differences between Arabs and Americans: Individualism-Collectivism Revisited" *Journal of Cross Cultural Psychology*, 29, 487-492
- Bühlmann, M., Freitag, M. (2009). Crafting Trust The Role of Political Institutions in a Comparative Perspective. *Comparative Political Studies* 42 (12), 1537-1566.



- Christoforou, A. (2010). Social capital and human development: an empirical investigation across European countries. *Journal of Institutional Economics* 6 (02): 191-214.
- Costa, D.L., Kahn, E.M. (2003). Understanding the American decline in social capital 1952-1998. *Kyklos* 56(1), 17-46.
- Crisis Group (2007) Inside Gaza: the challenge of clan and families Middle East Report N. 71, 20 December 2007
- Dasgupta, P. (2005). Economics of Social Capital. *The Economic Record* 81 (255), S2-S21.
- Dasgupta, P. (2013). New Frontiers of Cooperation in the Economy. *Journal of Entrepreneurial and Organizational Diversity* 1 (1), 7-20.
- Degli Antoni G (2009b) Intrinsic vs. Extrinsic Motivations to Volunteer and Social Capital Formation. *Kyklos* 62(3): 359-370.
- European Commission (2004). Palestinian Authority of the West Bank and Gaza Strip. European Neighbourhood Policy Country Report.
- European Commission (2011). Implementation of the European Neighbourhood Policy in 2010 Country Report: occupied Palestinian territory. Joint Staff Working Paper COM(2011) 303.
- Feld, L. P., Frey, B. S. (2003). Trust breeds trust: How taxpayers are treated. *Economics of Governance* 3, 87-99.
- Field, J. (2004). *Social Capital*. London and New York: Routledge.
- Frey, B. S., Torgler, B. (2007). Tax morale and conditional cooperation. *Journal of Comparative Economics* 35, 136–159.
- Fukuyama, F. (1995). *Trust: The Social Virtues and The Creation of Prosperity*. New York: Free Press.
- Hofstede, G. (1991). *Cultures and Organizations: Software of the Mind*. London: McGraw-Hill UK.
- Irwin, K. (2009). Prosocial Behavior across Cultures: The Effects of Institutional versus Generalized Trust. *Advances in Group Processes* 26:165-198.
- Jensen, C., Svendsen, G. T. (2011). Giving money to strangers: European welfare states and social trust. *International Journal of Social Welfare* 20: 3–9.

- Kline, R. B. (1995). *Principles and Practice of Structural Equation Modeling*. New York: Guilford Press.
- Knack S and Keefer P (1997) Does Social Capital Have an Economic Payoff?. *The Quarterly Journal of Economics* 112(4): 1251-1288.
- Knack, S. (2002). Trust, Associational Life and Economic Performance. In *The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being: International Symposium Report*.
- Kumlin, S. (2004). *The Personal and the Political. How Personal Welfare State Experiences Affect Political Trust and Ideology*. New York: Palgrave–Macmillan.
- Kumlin, S., Rothstein, B. (2005). Making and Breaking Social Capital. The Impact of Welfare-State Institutions. *Comparative Political Studies* 38 (4), 339-365.
- Kupek, E. (2006). Beyond logistic regression: structural equations modelling for binary variables and its application to investigating unobserved confounders. *BMC Medical Research Methodology* 2006, 6:13.
- LandInfo (2008). *Clan conflicts in the Palestinian Territory*. Oslo: Landinfo Country of Origin Information Centre.
- Lasensky, S (2004) Paying for Peace. The Oslo Process and the Limits of American Foreign Aids. *Middle East Journal* 58(2): 210 – 234
- Letki, N. (2006). Investigating the Roots of Civic Morality: Trust, Social Capital and Institutional Performance. *Political Behavior* 28 (4), 305-325.
- Martínez-Vázquez, J., Torgler, B. (2009). The evolution of tax morale in modern Spain. *Journal of Economic Issues* 43 (1), 1–28.
- Nasr, M., Hilal, J. (2007). *Measuring Social Capital in the Palestinian Territories*. The Palestine Jerusalem: Economic Policy Research Institute.
- North, D. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.
- Oishi, S., Schimmack, U., Diener, Ed., & Sub, E. M. (1998). The measurement of values and individualism-collectivism. *Personality and Social Psychology Bulletin* 24, 1177-2000.

- Olsson, U H Foss, T Troye, S V Howell, R D (2000) The Performance of ML, GLS, and WLS Estimation in Structural Equation Modeling Under conditions of Misspecification and Nonnormality *Structural Equation Modeling* 7(4): 557-595
- Putnam R. D., Leonardi, R. and Nanetti, R. Y. (1993) *Making Democracy Work*. Princeton: Princeton University Press.
- Putnam, R. D. (2000). *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster.
- Ring, P S and van de Ven, A H (1992) Structuring cooperative relationships between organizations. *Strategic Management Journal* 13(7): 483 – 498
- Robinson, S. L., Rousseau, D. M. (1994). Violating the Psychological Contract: Not the Exception but the Norm. *Journal of Organizational Behavior* 15 (3), 245-259.
- Rothenberg, C E (1998/99) A Review of the Anthropological Literature in English on the Palestinian Hamula and the Status of Women. *Journal of Arabic and Islamic Studies* 2: 24 - 48
- Rothstein, Bo (1998). *Just Institutions Matter: The Moral and Political Logic of the Universal Welfare State*. Cambridge: Cambridge University Press.
- Rothstein, Bo (2001). Social Capital in the Social Democratic Welfare State. *Politics and Society* 29(2), 207-241.
- Rothstein, Bo (2003). Political Legitimacy and Public Administration. In Guy B. Peters & Jon Pierre (eds.). *Handbook of Public Administration*. London: Sage.
- Rousseau, D. M. (1989) Psychological and implied contracts in organizations. *The Employee Rights and Responsibilities Journal* 2, 121-139.
- Rousseau, D. M. (1995). *Managing diversity for high performance*. New York: Business Week/Advance.
- Sabatini, F. (2008). Social Capital and the Quality of Economic Development. *Kyklos*, 61 (3), 466-499.
- Sarracino, F. (2010). Social capital and subjective well-being trends: Comparing 11 western European countries. *The Journal of Socio-Economics* 39(4): 482–517.
- Smith, A. (1759). *Theory of Moral Sentiments*. London: A. Millar.

- Tempelaar, D T Van Der Loeff, S S and Giselaers, W H (2007) A Structural Equation Model Analyzing the Relationship of Students' Attitude Toward Statistics, Prior Reasoning Abilities and Course Performance. *Statistics Education Research Journal* 6(2): 78-102
- Torgler, B. (2004). Tax morale, trust and corruption: empirical evidence from transition countries. CREMA Working Paper No 2004-05.
- Torgler, B. (2005a). Tax Morale and Direct Democracy. *European Journal of Political Economy* 21 (2), 525-531.
- Torgler, B. (2005b). Tax Morale in Latin America. *Public Choice* 122 (1/2), 133-157.
- Torgler, B., Schneider, F. G. (2007). What shapes attitudes toward paying taxes? Evicende from multicultural European countries. *Social Science Quarterly* 88 (2), 443-470.
- Triandis, H. C. (1995). *Individualism and collectivism*. San Francisco: Westview Press.
- Uphoff N (1999) Understanding Social Capital: Learning from the Analysis and Experience of Participation. In: Dasgupta P and Serageldin I (eds) *Social Capital: A Multifaceted Perspective*. Washington, D.C.: The World Bank.
- Uslaner, E. M. (2002). *The Moral Foundations of Trust*. Cambridge: Cambridge University Press.
- Van Oorschot, W.J.H. (2004). Balancing work and welfare: activation and flexicurity policies in The Netherlands. *International Journal of Social Welfare*, 13(1), 15-27.
- World Bank (2003). *Twenty-Seven Months -- Intifada, Closures and Palestinian Economic Crisis*. Washington, DC: World Bank.
- Yamagishi, T. (1988). The provision of a sanctioning system in the United States and Japan. *Social Psychology Quarterly* 51, 265-271.
- Yamagishi, T., & Yamagishi, M. (1994). Trust and commitment in the United States and Japan. *Motivation and Emotion*, 18, 129-166.
- Yamamura, E. (2011). The role of social trust in reducing long-term truancy and forming human capital in Japan. *Economics of Education Review*, 30(2), 380-389.
- Zak, P. J., Knack, S. (2001). Trust and Growth. *Economic Journal* 111(470), 295-321.
- Zucker, L G (1986) Production of trust: Institutional sources of economic structure, 1840 - 1920. *Research in Organizational Behavior*, 8: 53 – 111

## Appendix

*Table A1 Correlation matrix of behavioural items*

	work	bribe	abstention	traffic	stolen
work	1.000				
bribe	.235	1.000			
abstention	.234	.134	1.000		
traffic	.335	.224	.283	1.000	
stolen	.168	.286	.242	.356	1.000

All the correlations have a p-value < 0.01

*Table A2 Regression Weights (Measurement model prosocial behaviour)*

		Estimate	S.E.	C.R.	P	Label
stolen	<--- Prosocial	1.000				
traffic	<--- Prosocial	.993	.073	13.649	***	par_1
abstention	<--- Prosocial	1.273	.110	11.619	***	par_2
bribe	<--- Prosocial	.409	.032	12.876	***	par_3
work	<--- Prosocial	1.250	.089	14.043	***	par_4

\*\*\* 1% significance level

*Table A3 Squared Multiple Correlations*

	Estimate
work	.345
bribe	.111
abstention	.178
traffic	.290
stolen	.360

*Table A4 Model Fit Indicators*

<i>Indicator</i>	<i>CIMN/DF</i>	<i>RMSEA</i>	<i>GFI</i>	<i>AGFI</i>	<i>NFI</i>	<i>CFI</i>
<i>Level in this analysis</i>	3.67	0.038	0.997	0.988	0.969	0.977
<i>Minimum Threshold level</i>	5<	0.08<	0.9	0.9	0.9	0.9

*Table A5 Correlation Matrix of the Trust Items in Public Institutions*

	Trust gov	Trust parties	Trust localgov	Trust parliam	Trust president	Trust judicial	Trust police
Trust gov	1.000						
Trust parties	.552	1.000					
Trust localgov	.403	.427	1.000				
Trust parliam	.669	.504	.495	1.000			
Trust president	.335	.461	.332	.401	1.000		
Trust judicial	.328	.344	.417	.430	.536	1.000	
Trust police	.314	.398	.344	.352	.522	.501	1.000

All the correlations have a p-value < 0.01

*Table A6 Regression Weights – Trust in Institutions*

		Estimate	S.E.	C.R.	P	Label
trust_judicial	<--- Trust Public_Institutions	1.286	.087	14.699	***	par_1
trust_president	<--- Trust Public_Institutions	1.431	.094	15.166	***	par_2
trust_parliament	<--- Trust Public_Institutions	.982	.064	15.404	***	par_3
trust_localgov	<--- Trust Public_Institutions	1.000				
trust_parties	<--- Trust Public_Institutions	1.096	.066	16.592	***	par_4
trust_gov	<--- Trust Public_Institutions	.858	.064	13.426	***	par_5
trust_police	<--- Trust Public_Institutions	1.202	.082	14.578	***	par_6
trust_donors	<--- Trust International_Institutions	1.000				
trust_intorganisation	<--- Trust International_Institutions	.989	.033	29.633	***	par_7
trust_un	<--- Trust International_Institutions	.969	.033	28.973	***	par_8

*Table A7 Model Fit Indicators*

<i>Indicator</i>	<i>CIMN/DF</i>	<i>RMSEA</i>	<i>GFI</i>	<i>AGFI</i>	<i>NFI</i>	<i>CFI</i>
<i>Level in this analysis</i>	3.32	0.04	0.98	0.97	0.92	0.94
<i>Minimum Threshold level</i>	5<	0.08<	0.9	0.9	0.9	0.9

*Table A8 Squared Multiple Correlations (trust in public and international institutions)*

	Estimate
trust_un	.669
trust_intorganisation	.750
trust_donors	.674
trust_police	.457
trust_gov	.219
trust_parties	.414
trust_localgov	.352
trust_parliament	.291
trust_president	.589
trust_judicial	.510

*Table A9 Standardized Regression Weights (measurement model of trust in public and international institutions)*

	Estimate
trust_judicial <--- Trust Public_Institutions	.714
trust_president <--- Trust Public _Institutions	.768
trust_parliament <--- Trust Public _Institutions	.539
trust_localgov <--- Trust Public_Institutions	.593
trust_parties <--- Trust Public _Institutions	.643
trust_gov <--- Trust Public_Institutions	.467
trust_police <--- Trust Public_Institutions	.676
trust_donors <--- Trust International_Institutions	.821
trust_intorganisation <--- Trust International_Institutions	.866
trust_un <--- Trust International_Institutions	.818