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Tax Morale and Pro-Social Behaviour: Evidence from a Palestinian Survey

Abstract

We conduct the first empirical investigation into the relationship between prosocial behaviour and tax morale in a context under state capacity building like the Palestinian Territories. We consider public spirit and associational activity two major expressions of pro-social behaviour and we estimate their impact on Palestinians' tax morale (intrinsic motivation to pay taxes). The empirical analysis employs a unique Palestinian public opinion survey conducted in 2007 in West Bank and Gaza Strip. By using a bivariate probit model, we find that tax morale increases with public spirit but it is lower among Palestinians involved in associational activities. Predicted conditional probabilities indicate that public spirit has more impact when the respondent has low confidence in the institutions and in the rule of law. Finally, more public spirit is required for a self-employee in order to deal with tax compliance than for a worker in the public sector, unless the worker in the public sector has lower confidence in the institutions and in the rule of law than the self-employee.

Keywords: Tax Morale, Pro-social behaviour, Palestinian Territories, Public Spirit, Bivariate Probit

JEL classifications: H260; D640; C250

1. Introduction

The role of pro-social behaviour in understanding tax compliance is underestimated in conventional economic theory.

The literature on tax morale argues that tax compliance is not only based on the probabilities of audit (Andreoni and Feinstein, 1998; Lago-Penas and Lago-Penas 2010) but also on trust and social norms internalised by a community (Torgler 2005). Empirical evidence reports a positive impact of civic conscience on the individual's perception about whether tax evasion is right or wrong (Torgler 2005; Orviska and Hudson 2003) making tax morale increase with the positive expectation about other's cooperative behaviour (Frey and Torgler, 2007). Given the importance of cooperative behaviour, experimental studies [have shown](#) that prosocial behaviour is a good predictor of conditional cooperation toward the public good (Fischbacher, [Gaechter](#), and Fehr, 2001). Most of these empirical and experimental studies have focused on contexts with an established system of formal institutions more or less effective but with a consistent impact on the cooperative behaviour of the citizens toward the public good.

[This paper contributes to the literature by conducting the first empirical investigation into the relationship between prosocial behaviour and tax morale in a context under state capacity building like the Palestinian Territories.](#) By using data from a Palestinian public opinion survey of 2007, the main question is whether being prosocial increases tax morale among Palestinians resident in West Bank and Gaza Strip. We consider public spirit and associational activities two major expressions of pro-social behaviour. For public spirit we mean a positive attitude adopted by the citizens for the benefit of the community even though this might incur a personal cost or reduced personal gain. Hence, having public spirit implies to behave sometimes against the self-interest and "to think about others when taking a stand"

(Kelman, 1987, p. 93). The associational activity refers to individuals engaged in voluntary activities which, in turn, should promote cooperation and civic engagement among the members of the community (Putnam, Leonardi and Nanetti, 1993). There are several reasons to consider the Palestinian case a remarkable case study.

One source of interest lies in the Palestinian survey which unlike other studies in this field implies that respondents exist within a context of weak formal institutions but strong informal onesⁱ. Under this peculiar framework, the analysis of citizens' attitude towards tax compliance can provide useful insights on the shaping of the relationship between state and society (Fjedstag and Zagha 2002).

Secondly, the collectivist nature of the Palestinian society and the unfavourable geopolitical context implies that social relationships are mainly based on within-group cooperation exacerbating even more within-group trust and discouraging cooperative behaviour for the wider public good.

Thirdly, weak public institutions undermine cooperative behaviour and are unable to be effective in low-cost enforcement of contracts (North 1990) with a likely negative effect on tax compliance (Frey and Torgler 2007). Hence, detecting the relationship between prosocial behaviour and the attitude towards tax compliance becomes crucial in a context under state capacity building where markets and public institutions are at an ongoing early stage.

Finally, as in most of developing realities, voluntary associations play a crucial role in Palestinian socio-economic activities. In fact, institutions face several difficulties in intervening in the provision of public goods due to their lack of tax base and organisational capacity (Durlauf and Fafchamps 2004). This is particularly valid in a context of state capacity building where individuals might perceive that weak and dysfunctional institutions are unable to provide fair welfare and social goals. On the one hand, this perception might reduce tax morale and tax evasion might be a message used by the tax payers to express their

disagreement (Torgler 2005). On the other hand, individuals might try to pursue social goals through participation in voluntary associations (Torgler et al. 2011). Hence, individuals actively involved in voluntary organisations might be more aware than others of the dysfunctional characteristics of institutions and, hence, less inclined to tax compliance especially where trust in formal institutions is lower. Based on a similar reasoning, previous empirical evidence in the literature reports a negative relationship between social norms against bribing and participation in associational activities (Torgler et al. 2011). The main interpretation is that the perception of dysfunctional institutions reduces even more the moral cost of tax evasion (Torgler 2005). In other words: “participation seems to arise when there is a need for collective actions to overcome the failures of governance” (Torgler et al. 2011, p. 618).

It has also been argued that in the last two decades the Palestinian associational life has been affected by vertical and clientelistic linkages with the Palestinian institutions for the seeking of more governmental support (Jamal, 2007). This might risk undermining the delivery of a sense of civic engagement among people (Jamal, 2007) to the extent of reducing the importance of tax compliance.

The paper is structured as follows: section 2 describes the Palestinian tax system; section 3 presents the empirical approach and the data; section 4 presents and discusses the empirical results; section 5 addresses the issues of robustness of the empirical findings; section 6 presents the conclusions.

2. Tax System in West Bank and Gaza Strip

The principles of the Palestinian tax collection system are based on the Paris *Protocol of Economic Relations* signed in 1994 between the State of Israel and the Palestinian Authority.

The Protocol establishes joint tax collection through a revenue clearance mechanism. This allows Israel to collect and reimburse the Palestinian Authority taxes and customs duties on Palestinian imports from or via Israel along with income taxes from the salaries of the Palestinians working in Israel (Fjeldstad and Zaghera, 2002). The design of this tax system inevitably shows the lack of independence of Palestinian fiscal policy and tax administration. In addition, the different interpretation of the protocol adopted by the two parties has frequently led to disputes concerning the “right” amount of PA tax revenue reimbursed by Israelⁱⁱ. Besides these structural obstacles and recent improvements in tax lawⁱⁱⁱ, the Palestinian fiscal policy faces at least two major challenges.

Firstly, the citizens’ perception of good governance and regulatory capacity has been undermined by political and personal allegiances of the institutional authority towards some influential taxpayers driving disputes on tax assessment to be solved via negotiations, discounts and exemptions. Things changed slightly in 2000 when the PA took “important steps to make its own financial operations more transparent, including by bridging all tax revenues under the control of the Ministry of Finance and by having its commercial operations audited and the results from this audit made public” (Fisher, Alonso-Gamo, and von Allmen, 2001, p. 271).

Secondly, it is argued that a large number of civic associations in WBGS employ the strategy of collusion with some Palestinian National Authority (PNA) officers to pursue two goals: exemption from taxation, including VAT and taxes on imported goods and services; and being “friend” with the major authority and endeavouring not to “irritate” it (Hilal and Khan, 2002). In addition, the strong relationship between Fateh and most of the professional associations (lawyers, doctors and engineers) has favoured several channels of rent-seeking behaviours (Hilal et al, 2002).

3. Empirical Approach and Data (revised)

3.1 Methodology

Since tax morale and prosocial behaviour might be correlated one to another by unobservable factors, we estimate their relationship with a bivariate probit model. This consists of a system of two probit equations estimated jointly by the maximum likelihood method where tax morale and prosocial behaviour are the respective dependent variables. Each dependent variable is a function of observable socio-economic and demographic covariates^{iv} plus an error term. Since the errors of each equation are assumed to be normally distributed but deriving from a joint normal distribution, they are allowed to be correlated one to another. The non-zero correlation captures the presence of unobservable characteristics of the respondents that may influence both their tax morale and prosocial attitude. Hence, tax morale and prosocial can be linked through two possible channels: the observable covariates and the unobservable factors captured by the non-zero correlation of the errors^v. Due to the lack of appropriate instrumental variables, one limitation of this empirical analysis is the impossibility to infer a causal relationship between the variables of interest. However, the bivariate probit technique implies a large variety of estimation exercises^{vi} helping to interpret the relationship between tax morale and pro-social behaviour. First of all, among the possible estimations, we can compute the marginal effect of the change of an observable characteristic (ex. institutional trust) on the joint probabilities of a respondent to self-report tax morale and prosocial attitude. In addition, we can estimate predicted conditional probabilities of how much higher (or lower) the propensity for an individual to be tax morale is in the presence of pro-social behaviour compare when prosocial behaviour is absent.

3.2 Data Description and Variables

The Palestinian survey used in this work was administered to a representative sample of 2508 Palestinians in June and July 2007 by the Palestinian Central Bureau of Statistics^{vii}. The survey contains several sections on public opinions regarding public spirit, trust, shared values and norms. Almost 50.3% of the individuals are female and 2,498 individuals out of 2,508 are included in the ageing interval 16 – 92^{viii} (table 1).

Table 1

The binary variable tax morale derives from the response of “can’t justify at all tax evasion” $\Pr(y_{Tax} = 1)$ and 0 otherwise $\Pr(y_{Tax} = 0)$ to the question: “In your opinion can you justify these behaviours by other people?” where among the list of the behaviour one is “tax evasion”

The variable public spirit derives from the response to questions about other people’s behaviour including *absence from work without reasonable reasons, abstention to elections, no commitment to traffic rules, buying stolen products, finding a wallet and not give it back to the police and bribery at work*. Each behavioural item follows a scale (1-3) with 1 meaning “I can justify it” and 3 “I can’t justify it at all). We follow Green and Hensher^{ix} (2010), so given the positive and significant correlations coefficients among the items and a Cronbach’s alpha above the acceptable threshold of 0.6, the binary variable assumes value 1 if above the sample mean of 16.428 $\Pr(y_{Spirit} = 1)$ and 0 otherwise^x $\Pr(y_{Spirit} = 0)$.

The variable *association* assumes value 1 if the respondent declares that he/she did volunteer in the last 12 months $\Pr(y_{ASSO} = 1)$ and 0 otherwise $\Pr(y_{ASSO} = 0)$. Unlike public spirit and tax morale, *association* refers to self’s behaviour rather than to other’s attitudes indicating

individuals willing to directly contribute to the collective effort and hence behaving prosocially (Berigan et al. 2011).

Following previous works on tax morale (Lago-Penas et al 2010; Torgler, 2005) the socio-economic covariates include age, gender, marital status, education, occupational status, belief in the importance of the rule of law^{xi}, trust in institutions (*institutional trust*), trust in people in general (*generalised trust*^{xii}), friends with political affiliation (*affiliation*), family network, friends/neighbours network (*friends*) and a regional dummy for the Palestinians living in the West Bank rather than in the Gaza Strip (see appendix A1 for variables description and coding schemes).

The variable institutional trust considers questions about trust on different institutions including government, political parties, local government, parliament, president, judicial system, police and clan. Each trust item follows a range (1- 4) where 4 indicates “lot of trust”. Given the high Cronbach’s alpha of 0.82 among the trust items, *institutional trust* is the sum score of these items which includes also the item “trust in clan”. This is due to the institutional function assumed by the clans in the local administration of justice.

The measure of tax morale is subject to self-reporting bias where respondents might overstate their degree of compliance (Torgler, 2005). Furthermore, unlike a multi-item measure, a single-item index might not capture the multidimensional nature of the concept, providing a less representative sample of information about tax morale with less accuracy due to a higher score variability (Torgler, 2011; Torgler, Schaffner and Macintyre, 2010). These limitations are emphasised in cross-cultural analysis where institutional factors might exacerbate the measurement errors (Torgler et al. 2011). However, the literature argues that in individual-level analysis single-item indicators can minimise problems of complexity of an index, especially where there is not a significant correlation among the composite items (Torgler 2005; Torgler et al. 2011). In fact, Torgler et al (2010, p. 297) highlights that several studies

(Cunning et al. 2009; Alm and Torgler 2006) report “consistent results using single-item survey measurements and laboratory experiments”.

In addition the self-reporting bias is reduced by the fact that the questions on the social attitudes, including tax evasion, refer to the behaviours of the *others* and that the survey follows a low-topic specialised mechanism where tax evasion is only one of several attitudinal questions (Clausen, Kraay and Nyiri, 2010).

The limitation of the single-item can also be addressed to the variable *association*, even though we also observe that in previous studies prosocial behaviour is proxied through a single-item variable based on volunteering (Berigan et al. 2011; Torgler et al. 2011).

Social connections are indicated with proximity with the frequency of the individuals of meeting the family (*family*), friends and neighbours (*friends*)^{xiii}. The variable “income” is missing since it is not in the survey. However, previous studies show not significant impact of income on tax morale in Latin America (Torgler 2005) and Botswana (Cunnings et al. 2009). In addition, Alm and Gomez (2008) argue that a variable income might suffer of biased answer, especially in developing contexts, due to the likelihood of underreporting income.

Unconditional joint probabilities^{xiv} report that 49.29% of individuals without public spirit cannot justify tax evasion against 86.36% among Palestinians with public spirit. Still, 66.28% of people that volunteer in the previous 12 months cannot justify tax evasion against 75.37% of those who did not volunteer.

The correlation^{xv} among the variables of tax morale and prosocial behaviour reports a negative binary correlation between associational activity and tax morale (-0.16) and between associational activity and public spirit (-0.19) and a high correlation between public spirit and tax morale (0.61).

4. Empirical Results

4.1 The Baseline Model

The residuals between the *tax morale* and *public spirit* equations ($\rho = 0.59$) are positively and significantly correlated indicating that respondents with high public spirit are more likely to consider tax evasion “not justifiable at all”. The LR test statistics reject the hypothesis that the two binomial probits are independent given the p value less than 0.01.

The residuals between the *tax morale* and the *association* equations ($\rho = -0.17$) are negatively and significantly correlated indicating that respondents involved in associations are more likely to justify tax evasion. Also in this case the LR test statistics reject the hypothesis that the two binomial probits are independent.

Table 2

As in Soon (2010) we test the overall model specification with the Wald test to detect the joint significance of all the explanatory variables. The chi-squared statistics are large and all significant at 1% level.

Table 3 reports the marginal effects on the joint probabilities of holding tax morale and being involved in associational activities $\Pr(y_{Tax} = 1 \ y_{Asso} = 1)$, holding tax morale and public spirit $\Pr(y_{Tax} = 1 \ y_{Spirit} = 1)$ and, given the negative relationship between tax morale and associational activities, not holding tax morale and being involved in associational activities $\Pr(y_{Tax} = 0 \ y_{Asso} = 1)$. The marginal effects are estimated in each case with and without working sector specifications.

Table 3

In *Column I*, the joint probabilities of holding tax morale and volunteering increases by 0.012 and 0.05 with an extra level of education and with being employed respectively. This joint probability also increases by 0.08 and 0.007 with the importance of the rule of law and with trust in institutions respectively while generalised trust seems not to be significant. These results are coherent with previous findings in the literature of trust and prosocial behaviour reporting that in collectivist societies^{xvi} (as the Arab ones) institutional trust is a stronger predictor of prosocial behaviour than generalised trust (Irwin 2009). The rationale is that in collectivist societies cooperation occurs among members of the same group rather than of different groups. Because of this in-group reciprocity, social sanctions are more effective within the group while the punishment of strangers becomes more effective when institutions take actions (Irwin 2009, Hofstede 1991, Triandis 1995) making in this case institutional trust more effective than generalised trust. In fact, as a typical example of collectivist society, according to our data only 16% of the Palestinians declare to trust people in general while at least 40% trust their clan. It is also argued that institutional trust increases tax morale due to a psychological contract existing between institutions and taxpayers based on loyalty (Torgler 2004). This loyalty might reduce where institutional trust is missing (Mendoza-Botelho, 2012). The joint probability increases also with having friends with political affiliations and with a good friendship network. This is mainly due to the high positive and significant correlation of the variables *affiliation* and *friends* with *association* in the baseline probit model^{xvii}.

When we include the working sectors specifications (*Column II*), the above outcomes remain unaltered expect education that is no longer significant but still positive. In this case working for the public or private sector has a positive marginal effect on the joint probability.

Columns III and IV report that the joint probabilities of holding tax morale and public spirit increases with trust in institutions and the importance of the rule of law. Similarly, in other contexts, Orviska et al. (2002) finds that disapproval of tax avoidance among British citizens increases with civic duty and law abidance while Smith (1992) reports that the willingness to pay taxes is higher among US citizens that trust more public officials. Still, in numerous cross-country analysis including Asia, Europe and Latin America, tax morale increases with institutional trust and confidence in the legal system (Torgler 2005, Torgler and Schneider 2007). The joint probabilities of holding tax morale and public spirit reduces among people with friends with political affiliation, among people with strong family ties and i the case of respondents living in West Bank. Instead, being Muslim seems to have a positive marginal effect on the joint probabilities. This confirms previous empirical findings reporting a positive correlation between Muslim religiosity and different tax morale specified functional forms^{xviii} (Torgler, 2006).

Columns V and VI show that the joint probabilities of not holding tax morale and doing voluntary activity decrease with the importance of the rule of law and increases with family and friends network and with having friends with political affiliations.

4.1 Predicted Conditional Probabilities

The predicted conditional probabilities are computed for a representative male of age 40, with a high school education, married, with no political affiliation, with an average frequency of meeting family and friends, living in the West Bank who trusts people in general. These odd ratios are computed for different working status in response to a change in the parameters of the rule of law and institutional trust. This is because the individual's perception of good governance has been identified as one of the determinants of tax compliance (Cunning et al.

2009). According to our framework, we say that our representative individual has a positive perception of formal institutions when he considers the rule of law very important and has high trust in institutions. Reversely, our representative individual has a negative perception of formal institutions when he considers the rule of law not important and has low trust in institutions.

Table 4

Table 4, section I, shows that when the individual's perception of formal institutions is positive, the probability of being against tax evasion while having public spirit is 36% higher than in the absence of public spirit. This probability increases to 85% when the individual's perception of formal institutions is negative. It seems that under the negative perception of formal institutions the individual needs more public spirit to deal with tax compliance. Still, section 1 reports that the individual's tax morale is lower when he volunteers than when he does not. This probability reduces even more when the individual's perception of formal institutions is negative. Similar results occur in sections II, III and IV where working status are specified.

Comparing sections III and IV it appears that the self-employed individual needs more public spirit than civil servants in order to deal with tax compliance regardless the individual's perception of formal institutions. In fact when the perception is positive, the probability of being against tax evasion holding public spirit is 32% higher than in the absence of public spirit for a self-employed individual (Section IV) and only 23% higher for a civil servants (Section III). When the perception is negative, the probability of being against tax evasion holding public spirit is 69% higher than in the absence of public spirit for a self-employed individual (Section IV) and only 51% higher for a civil servant (Section III). Indeed, from

Cannari et al (2007) it can be argued that civil servants tend to be more against tax evasion because the [reduced tax collection due to tax evasion](#) can be compensated by an increase of tax revenue which is more likely to affect workers in the public [sector](#) than self-employees.

5. Robustness Analysis

We conduct a sensitivity analysis by considering alternative indicators of associational activities and public spirit and by addressing the problem of endogenous relationship existing in the Territories between the role of voluntary organisations and the non-established democratic Palestinian context (Jamal 2007). For additional robustness, we also replicate our baseline model by disentangling the composite indicator of institutional trust and by considering an alternative indicator of institutional trust without the clan item.

5.1 Alternative Indicators of Associational Activities

Because the negative relationship between tax morale and association impact might be due to the harmful effect of the rent-seeking nature of the Olson-group associations, as in Knack and Keefer (1997), we separate the rent-seeking Olson-Group from the “altruistic” Putnam-Group^{xix} associations which are more cooperative oriented in nature. We run our baseline model by replacing the initial variable *associational activity* with the variable *Putnam-active* which assumes value 1 if the respondent is an active member of a Putnam-Group association and 0 otherwise. Our original variable would not be reliable if *Putnam-active* provides opposite results. We also test our baseline model on two other “associational” variables: *membership and volunteer*. *membership* assumes value 1 if the respondent holds at least one membership from the entire list of associations in the survey (without being necessarily

actively involved) and 0 otherwise. This is because individuals might hold a membership under the incentive of potential personal benefit that that membership can provide rather than for pure spirit of civic engagement (Beugelsdijk and Schaik 2005). *volunteer* assumes value 1 if the respondent volunteered in the last 12 months but without holding any membership. In this case we delete the potential rent-seeking value of holding a membership.

Table 5

Table 5 shows that a negative relationship occurs in all these three cases, even though the correlations with *Putnam-active* and *volunteer* are lower in absolute value.

5.2 Tax Morale, Voluntary Organisations and Democratic Spirit

Because of the positive relationship between democratic spirit and tax morale reported in the literature (Lago-Penas et al 2010; Torgler 2005) we include a variable *democratic spirit* in the baseline model. The variable corresponds to the question “what is the importance of achieving democracy in domestic politics?” with a scale (1-3) where 1 corresponds to “not important” and 3 to “very important”. We exclude the variable *rule of law* to avoid collinearity problems and we find that *democratic spirit* is positively and significantly related to *tax morale* but negatively, even though not significantly, related to *association*. This seems to recall the main debate addressed by Jamal (2007) about the endogenous relationship in the Territories existing between the absence of a democratic context and the vertical connections between political members and voluntary associations essential for the latter to operate without institutional obstacles. Within this complicated system, whether the *associational*

activity is able to foster civic engagement and democratic spirit promoted by the traditional social capital theory is puzzling (Jamal 2007).

5.3 Alternative Version of Public Spirit

We conduct a sensitivity analysis by considering alternative indicators of public spirit.

Firstly, because the reported *public spirit* might be affected by the illegal nature of some of the composite items (*bribery at work, no commitment to traffic rules and buying stolen products*) rather than for intrinsic motivations^{xx}, we run our baseline model with the indicator *public spirit2* composed only by items not related to illegal actions. This includes *absence from work without reasonable reasons, abstention in elections* and *finding a wallet but not giving it back to the police*

Secondly, we consider the indicator *public spirit3* whose cut-off is the median rather than the mean.

Finally, the lack of sovereignty and the potential scepticism about the way in which the process of state capacity building has been implemented by the authorities might affect the meaning of public spirit. The disappointment of the Palestinians about the political process might be exercised by not voting in elections and being in favour of tax evasion. If so, the positive relationship between public spirit and tax morale might be not significant and therefore our set-up undermined. Hence, we consider the respondents that answer to the question “What is the main reason not to vote?” with “I am not convinced by the political process”. Notice that this is a reason chosen by almost 170 respondents (7% of the sample). When we run a logit regression, the marginal effect reports that the respondents declaring

being not convinced by the political process have 10% lower probabilities to be against tax evasion. Given this result, we replicate the bivariate probit model for this sub-sample of respondents with indicator, *public spirit4*, in which we omit the item *electoral abstention*.

Table 6

Table 6 shows that in all the three alternative specifications the positive and significant relationship between public spirit and tax morale remain unaltered with non-zero correlations between the residuals that are statistically significant at the 1% level. The LR test rejects the hypothesis of independency between the probit equations of tax morale and each specification of public spirit. The correlations coefficients are slightly lower in the case of *public spirit2* and *public spirit4*: 0.53 and 0.54 instead of 0.59 as originally. In the case of *public spirit3*, given the small difference in the cut-off of 0.6 (median rather than mean), the correlation coefficient remains unaltered at 0.59.

5.4 Institutional Trust

We disentangle the institutional trust indicator and we estimate the marginal effect of each item for at least two reasons. Firstly, the composite indicator might ignore substitutive and complementary relationships between the single components. Secondly, institutions more directly involved in the tax collection might have a higher marginal effect on the joint probabilities.

Table 7

Table 7 shows that all the institutional items have a positive and significant marginal effect on the joint probabilities with the exception of *trust in clan* in the case of tax morale and association which is positive but not significant.

Trust in local government has the highest coefficient in the first joint probabilities, maybe due to the closer and constant relationship between the local administration and the citizens. An efficient local spending plan improving the distribution of taxes among and matching the needs of the citizens can increase their trust on local government and their tax morale (Barone and Mocetti, 2009).

Trust in political parties has the highest coefficient in the second joint probabilities maybe due to their representative role. Empirical evidence reports that in welfare state economies like Sweden, tax morale decreases with distrust in politicians (Hammar, Jagers and Nordblom, 2009). Even though WBGS is not Sweden, given the limited market institutions, the Palestinian Authority has the main responsibility for distributing a large proportion of financial aid provided to the citizens^{xxi}. Hence, like welfare state economies, public interventions in the Palestinian economy can be quite remarkable.

Given the high trust in clans reported by Palestinians, an additional sensitivity analysis requires that we re-estimate our baseline model by omitting this item from institutional trust. We find that the results of our baseline model remain unaltered and, similarly to the initial outcomes, the joint probabilities of holding tax morale and public spirit and of holding tax morale and volunteering increase respectively by 0.007 and 0.008 with trust in institutions.

6. Conclusions

This paper shows that the empirical findings in previous cross-country analyses (Torgler, 2005, Lagos-Penas et al, 2010) are also valid in the case of WBGS with some crucial differences peculiar to the Palestinian geopolitical context.

On the one hand, estimates from the bivariate probit model indicate that tax morale is lower when Palestinians are involved in associational activities. This occurs even when we consider Putnam-group organisations. On the other hand, tax morale increases with public spirit. This outcome is confirmed even with different indicators of public spirit.

Predicted conditional probabilities report that public spirit has more impact when there is a negative perception of formal institutions while more public spirit is required for a self-employee than for a civil servant in order to deal with tax compliance regardless the perception about the formal institutions.

Overall, the analysis highlights the importance of institutional trust and of the rule of law for tax morale and prosocial behaviour even in a context subject to weak formal institutions. This suggests that a consistent process of institutional transparency might help to increase tax compliance. For instance the opinion about the use of bribes at work is one of the items of the public spirit variable. The general perception of widespread corruption can reduce tax morale and undermine the willingness of taxpayers to contribute to the public good. As in Torgler (2005) and Lago-Penas et al (2010), we also show that a democratic spirit can have a positive impact on tax morale. Indeed, the individual's perception of being a stakeholder of the community and of being more involved in the decision-making process can change the approach toward tax compliance.

Our findings are also subject to at least three limitations.

Firstly, there is no available information on the level of tax compliance and the size of the Palestinian shadow economy. D'Hernoncourt and Méon (2012) suggest that the negative

relationship between trust and the shadow economy can partly be explained by the individual's propensity to evade tax. This is in line with Torgler and Schneider (2007) [according to whom](#) tax morale leads to a lower shadow economy.

Secondly, this paper is mainly concerned with the Palestinian context. Caution is needed in generalising the results since, unlike other geopolitical realities, the WBGS are not politically independent. Nevertheless, it seems that the higher credibility of the formal institutions and the legal system plays a crucial role in shaping Palestinians' attitude towards tax compliance. Finally, from our analysis it is not possible to estimate the average level of tax evasion of specific group, self-employed or civil servants. However, this goes beyond the aim of this study whose major goal is to shed light on the attitude of citizens toward tax compliance especially in view of a more consistent process of state-capacity building.

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Appendix A

Tale A1

ⁱ We are very thankful to an anonymous referee for highlighting additional motivations of this work

ⁱⁱ One of the main critiques is that according to Israeli interpretations of the protocol, products initially imported by Israeli companies and then re-exported to WBGS are not included in this mechanism. This, of course, causes substantial loss revenue which is quite difficult to estimate (Kanafani 2001) and induces the PNA to undertake several off-budget fiscal activities with the main consequence of reducing transparency in the PNA's book-keeping (Fjeldstad et al 2002).

ⁱⁱⁱ According to the unified tax law established in January 1, 2005, in the Palestinian Territories the corporate tax is 15% for both residents and non-residents (Yacoub 2011). Tax on properties is levied at a rate of 17% of the assessed value of the rental income. 60% of the property tax is set off against tax liability and 40% is deducted in computing taxable income. Individual income tax is charged at a progressive rate from 5% to 15%. The standard VAT rate is 14.5%. In Palestinian Territories there are no tax treaties (Yacoub, 2011).

^{iv} The independent variables do not necessarily need to be the same in the two equations (Jones, 2007)

^v For a more technical description see Jones (2007).

^{vi} Jones (2007, pp. 39-40) provides a clear explanation of the vast range of options available for interpreting the results in a bivariate model with respective examples.

^{vii} In Nasr et al (2007), the analysis of the data for the West Bank is conducted at the level of sub-groups on the basis of demographic characteristics. For Gaza the analysis is based on the Strip's population as a whole due to political and security reasons. For these reasons the individuals of the sample between the two regions are not equally distributed. 2,304 individuals out of 2,508 are located in the West Bank. This might affect the reliability of a potential regional dummy variable. We do not have access to the survey response rate. However, the survey has been conducted on the basis of the statistical validity and sampling procedures adopted by the PCBS (see Nasr and Hilal 2007). We are confident in the validity of the sampling process also in consideration of the stratification of the representative sample compare to the Palestinian socio-demographic statistics published by the PCBS on a regularly basis (PCBS 2010). For instance, the PCBS socio-demographic statistics reports that 55% of females in WB achieved a higher education against 45% of males. This statistics are very similar in our survey where the proportion is 57% and 43% for female and males respectively. In terms of working status, our survey estimates an unemployment rate among the respondents living in WB of 19.8% very close to that one reported by the socio-demographic report which is of 18.6%. In terms of sampling representation, given the relative large sample size of 2508 observations, the validity of our analysis is also exacerbated by the relative large number of observations relative to the sample size we generally have in our regressions which corresponds to a proportion of about 90% in most of the cases.

^{viii} The six missing individuals not included in the 2,498 are younger than 16 years old.

^{ix} In the application of the binary choice model to health satisfaction, Green and Hansher (2010) construct a variable of health satisfaction (*Healthy*) from a self reported health assessment recorded with a range of values [0 10]. Given the sample mean equal to 6.8, the binary variable *Healthy* = 1 if the health assessment is at least 7 and 0 otherwise.

^x We are aware that the practice of dichotomisation induces to a loss of information. However, in our case we consider a dichotomised measure more appropriate to distinguish the group of individuals self-reporting tax morale from the rest of the sample. In fact, the distinction is between the citizens that do not justify tax evasion under any circumstances and the others. This implies that only the respondents that “can't justify *tax evasion* at all” can be grouped as tax moral. In this sense the binary splitting is not arbitrary but driven by the concept that the variable is aiming to represent.

^{xi} Notice that in this sense Orviska and Hudson (2002, p.88) highlight the importance of “law abidance” indicating the propensity of the citizens to comply with the law, hence tax compliance, because they attribute to the legal authority the legitimate right to dictate their behaviour.

^{xii} The literature shows that institutional and generalised trust are the two main forms affecting pro-social behaviour and cooperation (Lyon and Porter 2009).

^{xiii} Given the remarkable limitations in the movement of Palestinians within the Territories due to the presence of physical obstacles, higher frequency of contacts definitely implies higher geographical proximity

^{xiv} The statistical significance of the unconditional joint probabilities analysis is tested through the Chi Squared approach.

^{xv} Because of the dichotomous nature of the variables of tax morale and social behaviour we compute a tetrachoric correlation. This type of correlation is used for binary data. For a more accurate discussion about tetrachoric correlation measures see 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>

^{xvi} The literature in general refers to individualistic societies Western cultures and to collectivistic societies Asian, Latin American and Arab cultures (Hofstede, 1991)

^{xvii} In fact, in the baseline bivariate probit model the correlations of *affiliation* and *friends* with *tax morale* are negative even though not significant.

^{xviii} In contrast, McGee (1998) argues that tax evasion is not always unethical for Muslims. This occurs especially in the cases of tax policies that favour some restricted groups and lobbies at the expenses of the general public.

^{xix} In the survey we can divide the list of associations between Olson and Putnam-Group as in Knack and Keefer (1997). The question for the respondents is the following: “*Are you a member of any of these associations?*” The respondent can choose from a list of type of associations such as *cultural institutions, religious organisations labour unions etc...* The associations belonging to the Olson-group are political parties, labour and trade unions, professional organisations, lobbies and pressure groups. The associations belonging to the Putnam-Group are parent committees at school, sport clubs, charities, housing societies, environment associations, associations for human rights and virtual groups on the net. In the list there is also the alternative *any other group*. The respondents who have chosen this alternative are of course not distributed between the Olson and Putnam Groups even though the number of these individuals is very small.

^{xx} Even though in the literature of tax morale variables such as *corruption*, *buying stolen products* and *avoiding a fare on public transports* are considered part of an individual's moral obligations (Torgler, 2006).

^{xxi} Financial aid can be provided internally to the Territories as well as provided by external funders through the Palestinian Authority.