Trust and tax morale in

Latin American & Caribbean countries

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Abstract

Recent literature has been showing that conditional cooperation is essential for tax compliance. Only coercion mechanisms could not explain the willingness of people to pay tax. On the other hand enforcement costs of tax payments would be excessive high if governments depend only on coercion to collect. Based on the literature on tax morale and conditional cooperation this paper analyzes one crucial point on this discussion, which is the relationship between tax morale and perceptions on government response to tax payments and voice in Latin American and Caribbean countries. The data utilized came from Latinobarometro 2005, which is a survey carried on for several years in all LAC countries. The survey presents many useful questions concerning perception on tax morale. The results obtained show that there is a strong correlation between tax morale and the perception that money collected is well spend and voice. On the other hand the perception on being caught for not paying tax does not affect tax morale. Also demographic variables were important to the explanation of tax morale. These results show that there are some differences between LAC tax morale determinants pattern and the patterns observed in other regions of the world.

1 Introduction

Since Allingham and Sandmo (1972) wrote their important article much has been discussed about tax compliance. The hypotheses that people pay taxes for fear of punishment is now under serious contention given the robust results obtained by the tax morale literature.

The tax morale literature arises from the tax compliance literature and has been stressing the importance of low levels of tax collection. This, however, would not be the only problem with fiscal systems. Some governments are able to collect significant amount of taxes only through undesirable forms of tax collection as indirect taxes, cumulative taxes, or taxes with income concentration effects and notwithstanding this may go along with high levels of tax evasion.

The reason why governments depend on these unacceptable taxes could also be related to tax morale. The argument put forward is that governments rely on unsuitable taxes because people do not accept to be charged in other ways. In this case governments establish taxes that are not easy to evade, like the income tax collected directly from the wage bill, or cascade taxes over goods and services. If this is true high tax revenues should be observed together with low tax morale.

This argument establishes another sort of relationship between tax morale and tax compliance. The question that arises is why people refuse to pay fair taxes, and the answer to this question is basically related to the way taxes are spent.

The objective of this article is to ascertain if tax morale is related to the perception people have about how taxes are spent in Latin America and the Caribbean (LAC) countries. LAC countries offer an interesting sample to provide evidence on the tax compliance because in 2006 17 out of 25 LAC countries collected more than 20% of their GDP in taxes. Some countries, like Bolivia, Brazil, Venezuela, Paraguay and Colombia, collected more than 30% of GDP in that year (see Appendix I). If we consider only the arguments of the tax compliance literature we should say that LAC countries do not seem to have fiscal problems since they collect an adequate amount of resources to fund their needs of public goods and services needs.

The point is that, however, there is a broad consensus that in LAC countries the provision of public goods and services is not adequate.

LAC is not one of the poorest regions of the world[1] but it has some characteristics that rise doubt about its capacity to continue improving its population's standards of living (See Appendix II). Firstly, it is the region where last years' growth (4.8%) was slower in comparison to other underdeveloped regions. Secondly it has the worst income distribution around the planet. For example, the Gini coefficient is 46.04 while the second most unequal region, the Sub-Saharan Africa, has a Gini coefficient of 39.91. Also poverty headcount rate is very high (24.55) when compared to Middle East and Northern Africa Region (19.31), which has an average income 11% lower than LAC's. Taken together these features show a quite unpromising perspective and indicate that we need to improve our knowledge on the processes historically occurring in LAC region that could explain these undesirable results.

We argue that the problem of provision of public goods in the majority of LAC countries does not rest on low collection of taxes, but on the way taxes are spent.

Herrera and Pang (2005) estimate the efficiency of public spending in less developed countries. Their results show that in the comparison to other less developed countries LAC

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[1] LAC countries average per capita income is around U$ 9,200.00 PPP.

countries have lower levels of inefficiency both for education and health indicators. However LAC countries could be attaining the same level of outcomes if they spend 10% less. Herrera and Pang also did the same exercise including developed countries in the case of education. Once the developed countries are included countries like Chile, Czech Republic and Hungary that were in the frontier become inefficient. The authors also try to understand the determinants of spending efficiency. According to their results inefficiency is significantly related with: larger expenditures levels, larger fraction of total expenditure going to wage bill, larger share of total expenditures coming from public financing, among others. They also try to ascertain the impact of institutional variables on spending efficiency, but none of them were statistically significant.

Also Ribeiro (2008) comparing Brazil with other LAC countries using DEA method concludes that this country is inefficient compared to Chile and Costa Rica, the countries that are in the frontier when only LAC countries are considered.

Using a different method Rajkumar (2002) argues *"How important is the public sector's institutional capacity - in particular, human resources – in providing effective services that lead to better development outcomes?"* (pp. 6). The answer to his question was searched using regression methods and the results pointed first that the level of expenditures is not significant to explain outcomes and second that governance has a strong impact on outcomes in less developed countries.

The highlighted evidence suggests that there is room to explore the hypothesis put forward in the first paragraph. This paper seeks to contribute to this discussion assessing the importance attributed by people to the governments' responses. It is organized as follows. The second section briefly presents some facts about some LAC countries' fiscal structures. The third section summarizes the literature on conditional cooperation and tax morale. The fourth section presents the data used and the fifth section discusses the empirical evidence regarding the determinants of the tax morale, that is, on the people's willingliness to pay taxes in Latin America and the Caribbean. The sixth section presents the conclusions and suggests some further issues that could be explored in the future.

2 Tax structure in LAC countries

There is a considerable amount of evidence pointing that the fiscal structure is inadequate in LAC countries. For instance, the OECD Latin America Economic Outlook 2009 comparing OECD countries and Latin America countries states that: *"Whereas tax structures are fairly well balanced between direct and indirect taxes in most OCDE countries, direct taxation is particularly low in Latin America. … Direct taxation contributes about one-third of tax revenues (social-security revenues not included) in Latin America, compared with more than half in OECD countries, on average."* (pp. 42)

Besides the common problems, LAC countries have specific problems as well, that is, there is also heterogeneity among the countries.

In Argentina, to begin with, export taxes are still important. Bés (2007) explains that export taxes were eliminated in 1991; but however economic crises bring them back in 2002. In Bés words: "export taxes should be seen as a pragmatic response to the practical limitations and weaknesses of administrating income taxes in the agriculture and energy sectors as well as the dual goal of moderating the domestic price level in the context of weaker real exchange rate." (pp. 13)

Brazil also has many shortcomings in its fiscal structure: i) the high level of tax collection injures competitiveness; ii) fiscal war is common between states and municipalities (Affonso and Rezende 2007); iii) there are many cascade taxes (Varsano et all, 2001); iv) there is a huge gap in social security system (Giambiagi et all, 2007). However, according to Affonso and Barroso (2007): *"The most perverse side of this system can be seen in the distribution of the tax burden amongst households, where the poorest families pay proportionally more tax relative to their household income than the richest families – and this in a country that is already marked by a high level of poverty and social inequality."* (pp.3)

Chile in its turn suffers also with a regressive tax system determined mainly by the predominance of indirect taxes and an almost-exemption of personal income. Besides it has a huge deficit on social-security system (Cominetta, 2007).

Colombia managed to increase its tax burden mainly through direct corporation income tax notwithstanding this was a temporary change. According to Bernardi and Fumagalli (2007) in Colombia income tax and wealth tax should be extended to middle income tax payers in order to make the system fairer.

In Mexico the main problem is the low level of tax collection but it also shares the other shortcomings of other LAC countries (Alvarez, 2007).

Finally, although Costa Rica which is considered to be one the fairer country in LAC region, it also presents low tax collection (Cornick, 2007).

Along the 90's and the 2000's several fiscal reforms were undertaken. Many countries managed to increase tax burden but the fiscal system maintained its regressive characteristic and further changes faced strong resistance.

This bring us back to the reasons why a highly concentrate region is unable to deal with the most undesirable features of its fiscal systems namely inequality. To discuss this issue we will turn our attention to tax morale and conditional cooperation.

3   Tax morale and conditional cooperation

The literature on tax morale appears as an alternative view to the hypothesis that people pay taxes for fear of being punished, and has been growing in the last years. The traditional explanation was put forward by Allingham and Sandmo (1972), and since the begging of the 90's has been questioned on the basis that people pay much more taxes than the existing model would predict.

The main argument of the tax morale literature is that cultural and institutional factors should be considered as important determinants of paying taxes instead of punishment and coercion. In fact those elements are the determinants of tax morale defined as *"the intrinsic motivation to pay taxes."* (Torgler, 2002, pp. 4) Many works have shown a strong correlation between tax compliance and tax morale (Torgler and Schneider, 2004 and Alm and Torgler, 2006).

Once it was largely accepted that tax morale is an important determinant of tax compliance the literature tried to establish the determinants of tax morale. Del'Anno (2009) suggests that tax morale can be explained along two main lines of arguments. The first would be exogenous from an economic point of view and related to the demographic, religious, historical, cultural and educational backgrounds of taxpayers. The second was proposed by Feld and Frey (2006) and argue that tax morale *"a complicated interaction between taxpayers and the government establishing a fair, reciprocal exchange that involves giving*

and taking of both parties" (p. 3). Following the proposals to explain tax morale the answers to that question have been searched along two main hypotheses: interpersonal trust and government trust. Those lines of research hypothesize that informal norms and formal rules, which are responsible for the good or bad quality of institutions, are the basis for understanding tax morale.

The empirical work on these grounds shows an impressive collection of significant results. Even though there are slightly differences among them.

The hypothesis that interpersonal trust is a key determinant of tax morale came out from game theory and laboratory experiments on individuals' rationality. Ostron (2000) summarizing results from game theory, experiments and field research asserts that cooperation is most probably to occur when some conditions are present. In her words: *"By now seven general findings have been replicated so frequently that these can be considers the core facts that theory needs to explain."* (Ostron, 2000, p. 140) The first is that there is vast evidence that between 40 to 60% of the individuals cooperate in one shot game as well as in finitely repeated games. The second is that contributions tend to decrease after the first round but is maintained well above zero up to the last round. The third is that those individuals that believe that the others will cooperate are more likely to cooperate themselves. The fourth is that information and learning improve cooperation. The fifth is that face-to-face interaction increases contributions. The sixth is that when the game allows, individuals will expend personal resources to punish those that do not contribute. Finally, the rate of contribution is affected by a variety of circumstances of the game structure like, rules of punishment, allocation of benefits, information available among others. These results show that a considerable amount of knowledge was amassed considering cooperation and that it can be used to ascertain certain aspects of many issues. Tax morale is one of them.

These findings were used to provide two hypotheses about the importance of interpersonal trust as a determinant of cooperation in fiscal issues. The first is that people act in **reciprocity** to one another. According to Frey and Torgler (2002): *"Adapted to the tax compliance context, this would mean that, if many citizens pay their taxes, a taxpayer would fell also obligated to contribute and pay his/her taxes."* (pp. 5) The other hypothesis is that people act in **conformity** with standard patterns that were established. Bradsley and Sausgruber

(2006) assert that: *"a conformist would contribute to a useless public "good", which benefits no-one, if he observes enough other making contributions."* (p. 4) In the case of reciprocity people react to the perceived behavior of others, while in the case of conformity individuals try to fit their behavior to the perceived norms that orientated the others' behavior. Both reciprocity and conformity are connected to the way people behave in relation to one another, and not to some corporate actor as the state. (Coleman, 1990)

The literature presents many results in support of both hypotheses. These results are taken from laboratory experiments conducted mainly with students. The aim of these experiments was to ascertain if conditional cooperation exists and what are the reasons that explain it. Applied to fiscal issues field conditional cooperation was supposed to occur when individuals trust other people. At this level of analysis usually researchers use surveys conducted in countries to certify if high levels of interpersonal trust are related to high levels of tax morale.

Frey and Torgler (2006) tested general trust variables as determinants of tax morale using data from European Value Survey 1999-2001. Along with trust they also used perceived tax evasion as an independent variable. All variables were significant at 1% and presented the right sign. Torgler, et all (2008) using Taxpayer Opinion Survey[2] found that trust in other people was significant at 5%. In addition Henrik, Jagers and Nordblom (2005) studying the Swedish case conclude also that interpersonal trust is important to explain tax morale.

The other line of research emphasizes individuals' reaction to the action of a corporate actor as the state. As Feld and Frye (2006) propose tax morale can be understood as *"a function of (1) the fiscal exchange where taxpayers get public services for the tax prices they pay, (2) the political procedures that lead to this exchange and (3) the personal relationship between the taxpayers and the tax administrators."* (p.19). The classification proposed opened three paths of research. The first one actually implies a transaction between government and citizens, where citizens pay for the services they get from governments. In this case people will be willing to pay more if they get more of the services they want. It is important to observe that not necessarily people are willing to pay only for services they will consume.

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[2] Taxpayer Opinion Survey –TOS is an American data base.

Taxpayers could reason that it is fair to pay taxes because they will be spent in benefit of most needed people. The second one is related to the way taxes are collected and refers to the operational procedures adopted by tax authority. If taxpayers view procedures as fair they will be more prone to pay taxes. Also if they believe that operational processes on auditing are efficient they will be less prone to evade. The third depends on personal relations. If tax officials treat taxpayers well they will have a positive attitude towards paying taxes.

A number of studies tested these hypotheses. Torgler (2003) used trust in government and trust in justice from World Value Surveys WVS 1995-1997 data for Switzerland, where Trust in government was used as a proxy to the exchange hypothesis and trust in justice as a proxy to political procedures. Both variables were statistically significant at 1%. In addition Hammar, Sverker and Nordblom, (2005) studying Swedish tax structure and performance find evidence that trust in politicians and political institutions are more important to explain tax morale than trust in people. Torgler et all (2008) used trust in public officials to test the personal relation between taxpayers and tax officials. Their results show that trust in public officials is significant at 1% to explain tax morale. Alm at all (2005) used trust in justice and trust in parliament, and found that both variables were significant at 1%. Martinez-Vazquez e Torgler (2005) analyzing Spain found that trust in parliament is significant at 1%. Alm and Torgler (2006) comparing USA and Europe also identify trust in justice and trust in parliament as significant at 1%. Finally, Frey and Torgler (2007) arrive to the same results as Alm and Torgler for East and Western Europe countries.

All these results for most important that they are do not actually catch the relationship between tax morale and the perception on how taxes are spent. Among the variables that the authors use probably trust in government is the one that is closest related to a variable that could represent taxpayers' perception on government expenditures adequacy. We believe that trust in parliament and trust in justice are good proxies for perceived government fairness but not for governments' expenditures adequacy. Trust in public officials by its turn is a good proxy for personal relation between taxpayers and tax officials. The best information that could be found in surveys concerning the exchange between government and taxpayers is the one that can be found in *Latinobarometro*. This is

an annual survey that has been conducting in Latin America and Caribbean countries since 1997. This data source has a question that is much more adequate to capture the influence of government responsiveness to tax collection. Next section presents the data we use in this article.

4 Empirical evaluation: data analysis

The *Latinobarómetro* survey carried out in 2005 has questions that allow picture the degree of tax morale as well as questions that can be used to explain it, that is, can be used as independent variables.

Tax morale (the intrinsic motivation to pay taxes) is captured through question p 80st: *"Within a 1 to 10 scale, where 1 means "not at all justifiable" and 10 means "totally justifiable", how much justifiable do you think tax evading is?"*

Given the ranking information of the scaled dependent variable tax morale we use an ordered logit estimation. We invert the answers order in a way that 1 corresponds to the lower tax morale, 2 the next, till 10 the highest and make them compatible to a scale from the worst result to the best and consequently make the interpretation of the results easier. Table 1 shows the distribution of answers to this question.

Table 1   Distribution of answers – Tax morale

Values	Distribution
1 (totally justifiable)	3.69%
2	1.22%
3	2.95%
4	3.47%
5	4.57%
6	11.21%
7	8.31%
8	9.63%
9	9.39%
10 (not at all justifiable)	36.07%

Although a great part of people believe that tax evasion[3] is not justifiable at all, most of people believe that cheating on taxes is justifiable, although in different degree. The picture is quite different between countries in what concerns the highest tax morale. Table 2 shows for each country the percentage of individuals responding that tax evasion is never justifiable.

Table 2   Tax morale by country

Tax evasion is never justifiable	
El Salvador	53.37%
Chile	51.92%
Costa Rica	50.00%
Venezuela	45.75%
Argentina	45.58%
Uruguay	41.50%
Paraguay	40.58%
Nicaragua	39.00%
Mexico	38.50%
Brazil	36.29%
Panama	33.03%
Colombia	28.00%
Dominican Republic	27.90%
Honduras	27.50%
Ecuador	25.33%
Peru	24.50%
Guatemala	23.40%
Bolivia	17.25%

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[3] Although *Latinobarómetro* deals with tax avoidance, understood as a legal strategy to escape from taxes, we will not distinguish tax avoidance and tax evasion.

As stated before our variable of interest is benefits from public spending. We want to know how tax compliance is influenced by the benefits individuals receive from the government in the form of public goods and services compared to the price they pay for them (taxes). Tax morale is expected to decrease if cost is perceived as higher than the benefit. In order to capture taxpayers' trust in the way government uses taxes we will use questions p79[st]: *"Do you believe that tax money will be well spent by the government?"*. Table 3 shows the distribution of answers to this question. As can be seen the great majority of the individuals do not believe that they will receive much back from the government.

Table 3   Money from taxes is well spent distribution

Answers	Distribution
Yes	20.59%
No	71.98%
Do not know	7.43 %

Several variables are used as control.

1) Tax burden: Torgler (2005) points out that the main reason why individuals evade taxes is the burden of taxation. On average, 46.8% of individuals in Latin America mentioned that a high tax burden is the reason for not paying taxes.[4]

We use question p77[st] *"Do you believe that the level of the taxes paid in your country are too high, high, low, too low, or they are just right?"* to assess the impact of taxation burden.

2) Corruption: Torgler (2005) shows that on average 44.2% of the individuals in Latin America state that tax evasion is due to corruption. [5]

In order to get an idea on corruption standard we use question p84[st] *"Imagine that there are 100 public employees in your country. How many of these 100 would you say is corrupt?"*

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[4] Torgler (2002) finds empirical evidence that individuals living in Swiss cantons with a higher fiscal burden have lower tax morale.

[5] In what concerns firms instead of individuals, Friedman, Johnson, Kaufmann and Zoido-Lobaton (2000) argue that bureaucracy and corruption are the main determinants of firms' decision to go informal.

3) Detection and punishment: The tax compliance literature in general associates tax evasion to the probability of detection and punishment (see among others Allingham and Sandmo, 1972; Klepper and Nagin 1989).

In order to assess issue we use question p40[sta] in which is asked to the person to judge if *"the judiciary system punishes all the people equally, no matter who they are"*. If the judiciary system is impartial we can infer that it works well and therefore the higher is the probability of punishment.

4) Interpersonal trust: Many authors have tested general trust as a determinant of tax morale. These authors studied the cases of Europe, USA, Sweden and Switzerland and all obtain results showing that higher generalized trust increases tax morale (Frey and Torgler, 2006; Torgler et all, 2008; Henrik, Jagers and Nordblom, 2005).

We use ps14st *"Generally speaking, would you say that you can trust most people, or that you can never be too careful when dealing with others?"* to test this hypothesis.

5) Voice: Frey and Torgler (2006) also used measures of the process by which governments are selected, monitored and replaced as voice and accountability, political stability and absence of violence, taken from Kaufman, Kraay and Mastruzzi (2004). In these authors' studies voice and accountability was measured as the *"perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media."*(Kaufman, Kraay and Mastruzzi, 2008. p.7) Frey and Torgler found that Voice was highly significant to explain tax morale. Other authors used this variable to explore its relationship to shadow economy (Torgler and Schneider, 2004), to decentralization (Torgler 2003) and to tax effort (Bird, Martinez-Vazquez and Torgler, 2005). Although the variable voice and accountability is able to capture the perceptions to participate in selecting governments it is not quite adequate to capture citizens' perceptions of the extent of their influence on government actions.

The voice concept propose by Hirschman (1970) goes far beyond selecting the government. In his words: *"It is becoming clear, as was already pointed out in the introductory chapter, that voice is nothing but a basic portion and function of any political system, known sometimes also as "interest articulation""* (p. 30). As he also states, *"voice option includes vastly different degrees of activity and leadership in the attempt to achieve change "from within""*

(p. 38). And it involves a decision that take into consideration an evaluation of the chances of success in the use of voice and the judgment if it is worthwhile to spend resources on this alternative compared to exit. This means that the use of voice requires that people believe that they can influence outcomes. *Latinobarometro* has a question that is more appropriate to capture whether Voice (Question ps50st): *"Some people say that the way you vote can change the way things will be in the future. Others say that no matter how you vote, things will not improve in the future. Which statement is closest to your way of thinking?"* can measure people's influence perception.

Besides these variables we also use variables that capture demographic factors, marital status, employment and wealth status. The inclusion of these variables is justified by the great amount of empirical research on the correlation between taxpayers' profile and tax evasion conducted for the American economy. For example, Mason and Calvin (1978) analyze the behavior of individuals in Oregon and conclude that tax evasion is greater among the younger, the poorer, men and the ones who believe that the probability of being caught is small. Slemrod (1985) confirms that tax evasion is inversely correlated to the probability of auditing and non-linearly related to income (only for very low and very high incomes the result is significant). In order to evaluate income we rather use the interviewer´s perception of the respondent socio-economic status instead of the respondent self placement in the income scale. Although both answers must be very imprecise it is well known that individuals tend to underreport their income when questioned about them.

Table 4 summarizes the variables used.

Table 4   Description of independent variables

Variable	Values
Institutional variables	
Trust in government (Trust)	1 if respondent answers that taxes are well spent and 0 if the respondent answers that taxes are ill spent
Tax burden*	
Level1	1 if respondent answers that the level of taxes is too high and 0 otherwise
Level2	1 if respondent answers that the level of taxes is high and 0 otherwise
Level3	1 if respondent answers that the level of taxes is low and 0 otherwise
Level4	1 if respondent answers that the level of taxes is too low and 0 otherwise
Corruption (Corrupt)	Number of public employees considered by the respondent corrupt out of 100 public employees
Trust in justice (Justice)	1 if respondent answers that he/she totally believes that the judicial system is impartial and 0 if respondent answers that he/she totally distrust the impartiality of the judicial system
Interpersonal Trust	1 if respondent answers that can trust most people and 0 otherwise
Voice	1 if respondent answers that vote can change things an 0 otherwise
Demographic factors	
Age	Age declared by the respondent
Female	1 if respondent is a woman and 0 if the respondent is a man
Education**	
Educ2	1 if respondent has 6,7,8 or 9 years of education and 0 otherwise
Educ3	1 if respondent has 10, 11 or 12 years of education and 0 otherwise
Educ 4	1 if respondent completed university and 0 otherwise
Marital status*	
Married/living together (Married)	1 if respondent is married or lives as married and 0 otherwise
Divorced/widowed (Divorced)	1 if respondent is divorced or widowed and 0 otherwise
Religion and Religiosity	
Religious	1 if respondent answers that he/she follows a religion, no matter which one and 0 otherwise
Devout	1 if the respondent declares that he/she is devout (very, just or not very) and 0 if he/she declares that is not devout at all
Employment** and wealth status*****	
Selfemployed (Selfemp)	1 if respondent is self-employed
Public	1 if respondent works in public sector
Private	1 if respondent works in a private enterprise
Retired	1 if the respondent is retired
House	1 if the respondent is in charge of household
Student	1 if the respondent is a student
Wealth1	1 if the interviewer believes the respondent has a very good socio-economic level
Wealth2	1 if the interviewer believes the respondent has a good socio-economic level
Wealth3	1 if the interviewer believes the respondent has a regular socio-economic level
Wealth4	1 if the interviewer believes the respondent has a bad socio-economic level

* The reference category is taxes are just right
** The reference category is 1,2,3,4 or 5 years of education
***The reference category is single
**** The reference category is unemployed
***** The reference category is very bad

5 Empirical evaluation: econometric results

Table 5 shows the results of the estimated ordered logit model. Initially we only use as independent variables what we called institutional variables. In these estimations we do not use voice for we want first to compare the variables that are more usually employed in these kinds of estimates.

Table 5   Determinants of tax morale – Institutional variables

Variables	Equation 1	Equation 2	Equation 3	Equation 4
Trust	0.2110	0.1874	0.18911	0.2362
	(0.000)	(0.000)	(0.000)	(0.000)
Interpersonal	-0.0273	-0.0329	-0.0323	0.0119
Trust	(0.434)	(0.351)	(0.361)	(0.817)
Level1		-0.2234	-0.2226	-0.1570
		(0.000)	(0.000)	(0.000)
Level2		-0.2416	-0.2410	-0.1166
		(0.000)	(0.000)	(0.135)
Level3		-0.3233	-0.3228	-0.1230
		(0.000)	(0.000)	(0.259)
Level4		-0.4161	-0.4146	-0.5539
		(0.002)	(0.002)	(0.006)
Corruption			-0.00003	0.00004
			(0.528)	(0.567)
Justice				-0.2035
				(0.000)

P-value in parenthesis

The results indicate that if the individuals believe that taxes will be well spent tax morale is higher as expected. All the estimated equations present a positive coefficient associated to the trust variable.

The variable interpersonal trust has the wrong sing but is not statistically significant. Evidence for Europe and the United States have shown that interpersonal trust is important to explain tax morale (Frey and Torgler, 2006; Torgler et all, 2008; Henrik, Jagers and Nordblom, 2005). Apparently this is not the case for LAC countries. Buarque de Hollanda (1995) argues that Latin Americans have a common Iberia Peninsula characteristic, that is, they are extremely self-centered individuals and have difficulties in cooperation with one

another.In his words for the Portuguese and Spanish people "the index of man's value is inferred, over all, in not depend on the others, in not need anyone, in being self-sufficient" (p. 32).[6] This can help explain why for LAC countries general trust is not important to explain tax morale.

The hypothesis that taxpayers are often concerned about the burden of taxation is, however, only partially true as can be seen in equation 2. A very high and high tax burden decrease tax morale, but so does a low and very low tax burden. Therefore, anti-tax feelings are not associated to high taxes. People do not seem to enjoy paying taxes at all.

Equation 3 captures the effect of corruption. As expected corruption decreases tax morale, although the impact is not statistically significant.

Finally, equation 4 includes also the variable that captures the perception of being caught. This variable has the wrong sign, and its inclusion changes the sign of the corruption variable that previously was negative as expected.

We then drop all the variables that are not significant and/or presented the wrong sign and re-estimate the model including the socio-demographic variables. The results are presented in Table 6.

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[6] Authors' translation.

Table 6   Determinants of tax morale – All variables

Variables	Equation 1	Equation 2	Equation 3	Equation 4	Equation5	Equation6
Trust	0.1701	0.1731	0.1783	0.1731	0.1786	0.1492
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Age	0.0095	0.0086	0.0091	0.0088	0.0092	0.0095
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Female	-0.0318					
	(0.258)					
Educ2	0.1089	0.1062	0.1029	0.0959	0.0987	0.1380
	(0.002)	(0.002)	(0.003)	(0.006)	(0.005)	(0.000)
Educ3	0.1922	0.1925	0.1711	0.1596	0.1749	0.1853
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Educ4	0.3235	0.3262	0.2819	0.2473	0.2800	0.3128
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Married		0.0926	0.0724	0.0768	0.0845	0.0647
		(0.006)	(0.013)	(0.011)	(0.004)	(0.037)
Divorced		0.0763				
		(0.174)				
Religious					0.0407	
					(0.372)	
Devout						-0.0381
						(0.208)
Selfemp				-0.0152		
				(0.799)		
Public				0.1318		
				(0.083)		
Private				0.1008		
				(0.113)		
Retired				0.1033		
				(0.222)		
Home				0.0192		
				(0.758)		
Student				0.0181		
				(0.814)		
Wealth1			0.2507	0.2380	0.2483	0.1851
			(0.010)	(0.015)	(0.011)	(0.029)
Wealth2			0.2941	0.2808	0.2767	0.2086
			(0.000)	(0.001)	(0.001)	(0.019)
Wealth3			0.2165	0.2076	0.2045	0.1286
			(0.008)	(0.011)	(0.012)	(0.143)
Wealth4			0.1684	0.1612	0.1557	0.0843
			(0.050)	(0.061)	(0.072)	(0.365)

Obs: p-value in parenthesis

The results obtained indicate that:

1) Taxpayers are sensitive with respect the way the government uses the taxes. In all the equations the variable that captures the belief that the taxes will come back in the form of public goods is positively correlated to tax morale. Tax morale increases if people believe taxes are well spent.

2) Regarding demographic factors, the impact of gender is not significant. Tax morale on the other hand seems to increase with age and with education. These two variables show as statistically significant in all equations.

3) Married people have statistically significant higher tax morale than singles.

4) If the person is religious or not or if the person is devout or not does not matter for tax morale.

5) Self-emplyoees seem to have lower tax morale than the unemployed people, and employed seem to have higher tax morale than the unemployed. Although both the coefficients present the expected signs, they are not statistically significant.

6) Socio-economic status is important. Wealthier individuals seem to have higher tax morale than poorer individuals.

After having tested the usual institutional variables and also the socio-demographic variables we test the voice variable. Table 7 presents the estimation results that include this variable. The coefficient of voice is highly significant and has the right sign. This means that people who believe that her or his vote can change things has higher levels of tax morale. In these equations trust variable continues to be an important determinant of tax morale. The results for tax burden are also consistent with the other estimations and corruption apparently does not influence tax morale. [7]

Table 7   Testing the voice hypothesis

Variables	Equation 1	Equation 2	Equation 3
Trust	0.1792	0.1560	0.1569
	(0.000)	(0.000)	(0.000)
Voice	0.2111	0.2132	0.2130
	(0.000)	(0.000)	(0.000)
Level1		-0.2204	-0.2199
		(0.000)	(0.000)
Level2		-0.2486	-0.2483
		(0.000)	(0.000)
Level3		-0.3189	-0.3184
		(0.000)	(0.000)
Level4		-0.4201	-0.4193
		(0.002)	(0.002)
Corruption			-0.00002
			(0.750)

Obs: p-value in parenthesis

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[7] In fact, we reestimate all the equations including the Voice variable and the results are the same. The variables Trust and Voice always have positive and significant coefficients. The results are available from the authors upon request.

To ascertain the impact of the two most important variables on the regressions estimated we calculate the marginal effects of trust and voice. The results are shown in Table 8. Equation 1 includes only the two variables. As can be observed in the table both trust and voice have significant impacts on tax morale. The impact of voice is slightly larger than the impact of trust, 5.22% versus 4.33% respectively. When the other significant variables are included the impacts of trust and voice diminish a little but continue to be significant, confirming that both variables are very important to explain tax morale in LAC countries.

Table 8   Marginal effects

Variables	Equation 1	Equation 2
Trust	0.0433	0.0361
	(0.000)	(0.000)
Voice	0.0522	0.0479
	(0.000)	(0.000)
Other variables	Not included	Included*

Obs.: p-value in parenthesis. Marginal effect=highest tax morale score (10)
* Education, age, married, occupation, wealth

6 Conclusion

Tax morale became relevant to explain tax compliance and thus it turn out to be important to understand the determinants of tax morale. However, tax morale may also be important to explain inadequate fiscal structures. As pointed out in LAC countries it is possible to observe high tax collection together with low tax morale.

The empirical literature on tax morale stresses the importance of institutional as well as socio-demographic variables: interpersonal trust, trust in government, corruption, perceptions about justice, gender, age, marital status, religiosity. In this paper we propose that along with the variables in LAC countries there is a relationship between tax morale and people's perception on how governments spent money. If they think governments spent well their tax morale is higher. This variable captures not if people trust government in general but the individuals' opinion about government's spending. Or, in other words, it displays the individuals' view about the transaction between taxpayers and government. In

circumstances where fiscal structures are unfair, characterized by regressive and cumulative taxation, is reasonable to ascertain that people refuse to pay fair taxes. They just pay taxes that are difficult to evade. And why do they refuse to pay fair taxes? Because they thing that the money collected is not well spent. This line of argument leads to the hypothesis that people that think that government spends well should show higher tax morale. The results for this variable in all equations were significant and showed the expected sign.

In addition we decided to test another variable we called Voice. The Voice variable we use is different from the one Frey and Torgler (2006) used. The voice and accountability variable used by those authors measures the extent people thing they can select government. The variable used in this paper displays the extent people think that they can influence government's actions. The hypothesis in this case is that if people think they can influence government should they exhibit high tax morale. Also in this case the results were significant and with the expected sign.

Considering the other variables the results are general trust is not significant, corruption is not significant, the variable that tries to capture punishment and detention has the wrong sign, gender is not relevant to explain tax morale, age and education are positively related to tax morale, married people have statistically significant higher tax morale than singles, wealthier individuals seem to have higher tax morale than poorer individuals, religion does not affect tax morale as well as employment status.

These results indicate that the tax morale determinants in LAC countries are somehow different than the determinants of tax morale in other regions of the world.

One promising route of investigation could be to relate tax morale with inequality. As it was shown in the beginning most of LAC countries have very regressive fiscal structures as well as huge income distribution concentration. It may be possible that the perception of exclusion from public goods consumption may be connected to low levels of tax morale. This paper indicates that there is still much room to accurately establish tax morale determinants.

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Appendix

Appendix I

Revenues as % of GDP

Country:	2006
Guyana	43.6%
Bolivia	39.2%
Venezuela	37.4%
Brasil	36.9%
Paraguay	33,0%
Trinidad and Tobago	32.9%
Barbados	32.6%
Colombia	30.2%
Argentina	28,0%
Uruguay	27.7%
Ecuador	27,0%
Jamaica	26,0%
Chile	25.8%
Panama	25,0%
Belize	24.8%
Nicaragua	22.8%
Mexico	21.8%
Peru	19.2%
Honduras	18.1%
Bahamas	17.4%
El Salvador	17.4%
Dominican Rep	16.2%
Costa Rica	13.9%
Guatemala	12.7%
Haiti	9.9%

Source: Inter-American Development Bank

Appendix II

General Economic Indicator for World Regions

Region	GDP PC PPP	GINI	HDI	GDP growth	Poverty headcount ratio	Unemployment total	Tax revenue (% of GDP)	Life expectancy at birth
East Asia & Pacific	3.767,72	41,90	0,69	5,10	51,07	5,19	15,00	67,43
Eastern Europe & Central Asia	10.872,30	29,37	0,81	7,81	20,00	8,93	17,72	71,30
Latin America & Caribbean	9.291,94	46,04	0,80	4,80	24,55	10,26	18,97	72,88
Middle East & North Africa	8.301,32	32,71	0,74	4,85	19,31	16,78	19,23	70,60
Other (High Income)	32.029,05	32,92	0,94	3,25	2,00	5,33	21,96	78,94
South Asia	3.021,29	30,40	0,60	7,58	71,90	3,70	10,80	63,75
Sub-Saharan Africa	3.475,39	39,91	0,52	4,87	70,73	13,93	17,03	54,38
Total	11.959,95	36,83	0,74	5,03	40,65	9,12	18,24	68,57

Source: Inter-American Development Bank - IDB