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ABSTRACT

What Shapes Attitudes Toward Paying Taxes? Evidence from Multicultural European Countries*

Considerable evidence suggests that enforcement efforts cannot fully explain the high degree of tax compliance. To resolve this puzzle of tax compliance several researchers have argued that citizens' attitudes toward paying taxes defined as tax morale helps to explain the high degree of tax compliance. However, most studies have treated tax morale as a black box without discussing which factors shape it. Additionally, the tax compliance literature provides little empirical research that investigates attitudes toward paying taxes in Europe. Thus, this paper is unique in its examination of citizen tax morale within three multicultural European countries, Switzerland, Belgium and Spain, a choice that allows far more detailed examination of the impact of culture and institutions using datasets from the World Values Survey and the European Values Survey.

JEL Classification: H26, H73

Keywords: tax morale, tax compliance, tax evasion, culture

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Over the last few years, the question of why citizens pay taxes has attracted increased attention in the tax compliance literature. To answer this question, Allingham and Sandmo (1972) developed a formal model that assumes the extent of tax evasion to be negatively correlated with the probability of detection and degree of punishment. However, this groundbreaking model has been widely criticized (e.g., Graetz and Wilde, 1985; Alm, McClelland, and Schulze, 1992; Frey and Feld, 2002). A main point, which is connected to the empirical and experimental findings, is that these deterrence models predict far too little compliance and far too much tax evasion (for an overview, see Alm, 1999; Torgler, 2002). That is, in many countries, the level of deterrence is too low to explain the high degree of tax compliance. Moreover, a large gap exists between the effectively reported degree of risk aversion and the amount required to guarantee compliance. For the United States, the estimated Arrow-Pratt measure of risk aversion is between 1 and 2, but only a value of 30 would explain the observed compliance rate (Graetz and Wilde, 1985; Alm, McClelland, and Schulze, 1992). Similarly, in Switzerland, the relative risk aversion also varies between 1 and 2, but a value of 30.75 would be necessary to reach the observed level of 76.52 percent tax compliance (Frey and Feld, 2002). Elffers (2000) points out that there is a long way before a person becomes a tax evader. Some researchers have argued that many individuals do not even think of tax evasion. Frey (1999) uses the word “ipsative possibility set” (p. 196) and shows that there are taxpayers who do not even search for ways to cheat at taxes. Long and Swinger (1991: 130) argue that some taxpayers are “simply predisposed not to evade.” Moreover, several experiments indicate that there are individuals who always comply (Alm, 1999).

To resolve this puzzle of tax compliance, many researchers have argued that tax morale can help explain the high degree of tax compliance (for an overview see Torgler, 2001). Tax morale, unlike tax evasion, measures not individual *behavior* but individual *attitude*. Tax morale—which is not a new notion but has received surprisingly little attention in the tax

compliance literature—can be defined as a moral obligation to pay taxes, a belief in contributing to society by paying taxes. Preliminary tax morale research in the 1960s (Schmölders, 1970; Strümpel, 1969) tried to bridge economics and social psychology by emphasizing that economic phenomena should be analyzed from a perspective larger than the traditional neoclassical point of view (e.g., Lewis, 1979, 1982). Tax morale is also closely linked to what have been termed *taxpayer ethics*, "the norms of behaviour governing citizens as taxpayers in their relationship with the government" (Song and Yarbrough, 1978: 443). A later empirical analysis found that, compared to other variables, tax morale had the strongest significant impact on the size of the shadow economy (Weck, 1983). Torgler (2003a) also found that tax morale significantly reduced tax evasion. However, these two studies also treated tax morale as an exogenous residual. Thus, much extant research treats tax morale as a black box or residuum rather than analyzing the factors that shape or maintain it (Feld and Frey, 2002a). To empirically address this issue, this study focuses on tax morale as reflected by data from the World Values Survey (WVS 1995–1997) and the European Values Survey (1999–2000).

Previous studies have pointed out that differences in compliance behavior *across* cultures are driven by differences in tax administration and citizen attitudes toward governments (e.g., Alm, Sanchez, and de Juan, 1995; Cummings et al., 2005; Alm and Torgler, 2006). However, by examining tax morale in three multicultural European countries, our analysis focuses rather on cultural and institutional differences *within* countries. Specifically, our dataset encompasses Switzerland, a land with strong direct democratic rights and German-, French-, and Italian- speaking individuals; Belgium, a country with two main linguistic regions (Flanders and Walloonia); and Spain, a nation of regions with strong ethnic identities (the Basque country, Catalonia, Galicia, and Navarre).

Culture and Institutions

Because the potential influence of culture on cooperation, solidarity, or tax morale is central to the issue of tax compliance, our study aims to isolate it in a cross-sectional analysis of individuals living in specific geographic regions. Nonetheless, defining culture can be problematic. One view of it as "the ideas, values, beliefs, behavioral strategies, perceptual models and organizational structures that reside in individual brains, and can be learned by other individuals through imitation, observation (plus inference), interaction, discussion and/or teaching" presents it as a type of language, based on rule systems like ideas, values, and external and internal institutions (e.g., customs and conventions) (Henrich et al., 1999:2). Alternatively, culture can be viewed "as a 'tool kit' of symbols, stories, rituals, and world-views, which people may use in varying configurations to solve different kinds of problems," a symbolic vehicle of meaning that includes not only "beliefs, ritual practices, art forms, and ceremonies" but also "informal cultural practices such as language, gossip, stories, and rituals of daily life" (Swidler, 1986:273). Overall, "culture comprises the symbols and meanings that give coherence to a society ... those forms of expression that link individuals together by serving as a means of understanding how each group or individual relates to another. In this sense, culture or tradition is reproduced through a number of means (such as language) and acts like ballast, providing a sense of collectivity that holds individuals together" (Yengoyan, 1986:372).[1]

How, then, do norms of compliance originate? Sociology stresses that norms are learned through social interaction with others (Williams, 1968; Blau, 1964). Specifically, norm-conforming behavior results from institutionalization and internalization of norms, but it also emerges in social life to reduce insecurity and enhance stability (Opp, 1979). Consequently, a common culture produces predictability and an orderly evolution of corresponding institutions because shared values act as a filter and the "cohesive cement for the evolving internal rules

of society" (Kasper and Streit, 1999:393). Thus, culture transmission may solve the cooperation problem by building a mechanism similar to conformism to maintain common behavior and thus cooperation (Henrich et al., 1999). At the same time, it speeds up learning by reducing individual information costs (e.g., experimentation), meaning that familiarity with the culture and its institutions saves costs (Kasper and Streit, 1999). On the other hand, it also limits choice sets. This restrictive influence of culture on individual probability sets implies it might also influence tax morale.

Even though culture studies are relatively new to the tax compliance literature, the topic has been extensively investigated in anthropology and sociology (e.g., Tyler, 1871/1924; Herskovits and Willey, 1923; Willey, 1929; Ogburn, 1937; Swidler, 1986; Yengoyan, 1986; Wuthnow and Witten, 1988), as well as in political science, which has strongly intensified its investigation (e.g., Banfield, 1958; Almond and Verba, 1963; Putnam et al., 1983; Wildavsky, 1985, 1987; Inglehart, 1988; Berezin, 1997; Wedeen, 2002). Inglehart (1988) criticizes that cultural factors have been de-emphasized in the rational choice models. Moreover, the conceptual framework and empirical methodology of the historical and comparative institutional analysis has provided interesting insights into the role of culture in the emergence and perpetuation of institutional and organizational trajectories (Greif, 1998). Thus, cultural studies "have been animating academic debates, encouraging interdisciplinary exchanges, and inspiring battles over the methods, evidence, and goals of scholarly research" (Wedeen, 2002:713) and have been emphasizing the importance of how cultural elements constrain or facilitate patterns of actions and interact with social structure (Swidler, 1986). In addition, the social capital literature has shown that socially held beliefs can shape not only collective actions but government and economic performance (North 1981; Knack and Keefer, 1997; Landes, 1998; La Porta et al., 1999; Putnam, 1993). Indeed, La Porta et al. (1999:223) argued

[1] Triandis (2000: 13) argued that shared culture can be found among those people who speak "a language dialect, in a certain historic period, and in a defined geographic region."

that some "societies are so intolerant or distrustful that their governments simply cannot function effectively."

The extant compliance literature has focused primarily on cross-country studies using experimental methodology that has the advantage of holding tax-reporting factors constant to better isolate possible cultural differences. Such experiments comparing tax reporting in South Africa and Botswana showed that compliance rates vary between states (Cummings et al., 2005).[2] An experimental comparison of Spain and the United States found differences in the level of and the change in compliance, using same experimental settings (Alm, Sanchez, and De Juan, 1995).[3] A similar comparison of Switzerland and Costa Rica identified significant differences between the countries (Torgler and Schaltegger, 2005). Other compliance studies have been based on survey data. For example, Weck (1983) and Weck, Pommerehne, and Frey (1984) used cross-country survey results for the years 1960, 1965, 1970, 1975, and 1978 to develop an aggregate, country-level "tax immorality" index for several, mostly European, countries. Their results indicate that Romanic countries such as France, Italy, and Spain have a higher tax immorality than most other countries studied.[4] Kirchgässner (1999) argued that these results can be explained by state and religious authority being held mostly by one person in the northern states of Europe—making offenses against the state religious offenses also and therefore a sin, in contrast to dispersed authority in the majority of Catholic countries to the south. These differences between the northern and southern part of Europe are also consistent with previous findings focused on social capital (see, e.g., Inglehart, 1988). In a comparison of the tax morale of East and West German inhabitants following reunification (based on World Values Survey data for 1990 and 1997), Torgler (2003b) found significant differences that seemed to be eroded over time.

[2] These results were supported using additionally survey data.
[3] Alm and Torgler (2006) found similar results using survey evidence.
[4] These results were confirmed by Alm and Torgler (2006), who extended the previous studies using a broader dataset for a multivariate analysis of differences between Romanic and Northern European countries.

Experiments in behavioral economics have produced similarly but mixed results,[5] which indicate the difficulty of isolating cultural relevance and the need to work both empirically and experimentally to provide a broader picture. Focusing on cultural and institutional differences *within*—rather than *between*—countries should better isolate the impact of such determinants on tax morale because many aspects can be held constant. Thus, for example, if language acts as a restriction on individual probability sets, it may also influence individual attitudes toward paying taxes.

Culture is embedded in the existing institutional complex, which, as Greif (1998:82) pointed out, "is not a static optimal response to economic needs, [but rather] a reflection of an historical process in which past economic, political, social, and cultural features interrelate and have a lasting impact on the nature and economic implications of a society's institutions."[6] For example, in Switzerland, the more directly democratic institutions are in the German-speaking region and the lesser in the Latin areas (French- and Italian-speaking regions, see Appendix, Figure A1). Therefore, for the Swiss data, we control for both direct democracy and cultural regions. It can be argued that institutional rights of political participation, which vary strongly between the 26 Swiss cantons, have a strong impact on tax morale. Thus, we predict that direct democracy will have a strong impact on tax morale. In directly democratic cantons, voters can influence tax law either directly or indirectly. That is, exchanging arguments face to face in pre-election discussion raises participants' information levels (Bohnet and Frey, 1994) and allows them to identify others' preferences. Moreover, such active involvement helps taxpayers better monitor and control politicians and thus

[5] For example, Ockenfels and Weimann (1999), Henrich et al. (2001), and Ashraf, Bohnet, and Piankov (2004) all found variation across different cultural groups. In addition, Botelho et al. (2001) found differences among cultures, but these differences interacted strongly with participants' demographic characteristics. In contrast, Brandts, Saijo and Schram (2003) found no cultural differences. To explain such variation, Osterbeek, Sloof, and van de Kuilen (2004) argued that, in most cases, cross-cultural experiments contain data from only one city in each country, so that differences in outcomes may simply reflect differences across different locations rather than differences across countries.

[6] The causality between culture and institutional or social structures is difficult to identify. For example, Inglehart (1988:1204) asked whether "southern Europe [has] low levels of trust because it has not yet developed

reduces the asymmetric information between them and their agents (government), which also reduces discretionary power. For example, Frey (2001) emphasized the importance of the *classe politique*'s inability to block referenda, which constitutes a strong restriction against politicians or the legislature acting in their own interests (Feld and Kirchgässner, 2000). Specifically, because Swiss taxpayers, who are on average outside the group of politicians, can participate in the political process,[7] referenda give them decisional power (Frey and Stutzer, 2002). Thus, it can be hypothesized that under these conditions, tax revenues will be spent more in accordance with taxpayer preference, which in turn increases tax morale. In contrast, initiatives make taxpayers the "agenda setters" (Feld and Kirchgässner, 2000) by helping them express their preferences on tax fund disposition. On the other hand, a lack of taxpayer participation may lead to a lower level of satisfaction with the system and a feeling of powerlessness, which may lower tax compliance (Alm, Jackson, and McKee, 1993). Overall, as amply demonstrated by Tyler's (1990a,b, 1997) work on the importance of legitimacy and allegiance to authority for compliance decisions, rules developed through active citizen involvement enhance obedience and willingness to cooperate with such legislation. In other words, the more involved citizens are in establishing the rules, the stronger their sense of obligation (Lempert, 1972; Cialdini, 1989; Kidder and McEwen, 1989).

Political Attitudes and Religiosity

Because political attitudes and religiosity can also affect tax morale, our study includes as variables trust in state institutions,[8] national pride,[9] and pro-democratic attitudes.[10] Trust in the

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modern organizational structures" or whether its later industrialization and development of "modern organizational structures" resulted "because its traditional culture was relatively low on interpersonal trust."

[7] The WVS dataset included only Swiss citizens. In Switzerland, foreigners and companies, even though they must pay taxes, cannot vote.

[8] Corresponding question: Could you tell me how much confidence you have in the *government in your capital/parliament/legal system*: is it a great deal of confidence, quite a lot of confidence, not very much confidence, or none at all? (4 = a great deal to 1= none at all).

state is examined by relating trust in government, parliament, and the legal system to tax morale. Positive actions by the state are intended to increase positive taxpayer attitudes and commitment to the tax system and tax payment, and thus compliant behavior (see, e.g., Smith and Stalans, 1991; Smith, 1992). Thus, if government acts trustworthily, taxpayers may be more willing to comply with tax laws. On the other hand, perceived unfairness increases the incentive to act against tax laws because psychological costs are reduced. Therefore, the relationship between taxpayers and government can be seen as a relational or psychological contract, which involves strong emotional ties and loyalties. From this perspective, taxes are a price paid for government actions and maintenance of a fair legal system. In sum, if taxpayers trust state's institutions, they are more willing to be honest.

A further aspect is the widespread phenomenon of national pride, whose effect on tax cheating and other aspects of compliance appears to have been little documented in the literature to date: 'The dynamics [that] govern the creation, destruction, and distribution of various forms of pride and shame in society are very little understood, yet nothing perhaps is more crucial to the understanding of the overall dynamics of a particular society than the marked differences which exist among societies in this regard" (Boulding, 1992:93). The sense of group identification produced by national pride encourages cooperative behavior and thereby influences citizen behavior in groups, organizations, and societies (Tyler, 2000). Thus, the greater the national pride, the higher the tax morale might be.

Because religion can be seen as a proxy for such characteristics as work ethic, tolerance, and trust (La Porta et al., 1999), it acts as a sanctioning system that legitimizes and reinforces social values and may also inhibit illegal behavior (Hirschi and Stark, 1969). Religious organizations thus provide moral social constitutions and, to a certain extent, act as

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[9] Corresponding question: How proud are you to be …….? (participant nationality), (1= not at all proud, 2 = not very proud, 3 = quite proud, 4 = very proud).

[10] Corresponding question: Would you say having a democratic political system is a very good, fairly good, fairly bad, or very bad way of governing this country? (4 = very good to 1 = very bad).

"supernatural police" that enforce accepted rules (Anderson and Tollison, 1992). Moreover, the relative costs for religious inputs to produce social goods are quite low, although the demand side is influenced by cultural complexity (Hull and Bold, 1994). For example, individuals in complex communities are less able to recognize the social costs of misbehavior, so the individual gain from proper behavior is lower than in smaller societal groups. Thus, religion has a comparative advantage in producing or encouraging social goods in large cultures of intermediate complexity whose central government is too weak to enforce property rights (Hull and Bold, 1994). Indeed, some criminology studies have found a negative correlation between religious membership and crime (see, e.g., Hull and Bold, 1989; Lipford, McCormick, and Tollison, 1993; Hull, 2000). Thus, because religiosity seemingly affects the degree of rule breaking, we assume it can be a restriction on tax evasion. However, rather than asking the degree of religiosity directly, we include religiosity proxied by frequency of church attendance,[11] which approximates how much time individuals devote to religion, an aspect that traditional research has so far neglected (Iannaccone, 2002).

Empirical Model

The many factors encompassed by the World Values Survey (WVS, 1990–1993 and 1995–1999) and the European Values Survey (EVS, 1999–2000) facilitate isolation of the influence of formal and informal institutions. Thus, besides integrating personality and demographic factors into a multiple regression analysis, we measure individual attitudes toward tax paying by asking *whether cheating if the chance arises is always justified, never justified, or something in between*. The responses are used to produce a 10-scale index of tax morale with the extreme points "never justified" (10) and "always justified" (1). To take into account the ranking of this scaled dependent variable, we use an ordered probit model.

[11] Corresponding question: Apart from weddings, funerals, and christenings, about how often do you attend religious services these days? More than once a week, once a week, once a month, only on special holy days, once a year, less often, never or practically never. (7 = more than once a week to 1 = never or practically never)

Moreover, the high number of responses in all three surveys that cheating on taxes is never justifiable suggests a natural cut-off point at value 10. Thus, we also report the findings of a probit model in which our tax morale variable takes the value 1 for a response that cheating on taxes is "never justified" and zero otherwise.[12]

Of course, the measurement of tax morale is not free of bias. First, because the available data are based on self-reports in which subjects tend to overstate their degree of compliance (Andreoni, Erard, and Feinstein 1998), no objective or observable measure of tax morale is available. Moreover, Elffers, Weigel, and Hessing (1987) found strong differences between actual evasion assessed and evasion reported in survey responses. Nonetheless, because the way we define tax morale is less sensitive than asking whether a person has evaded taxes, we expect the degree of honesty to be higher. Moreover, the dataset is based on wide-ranging surveys, which reduces the probability of respondent suspicion and the framing effects of other tax context questions. It can still be argued, however, that a taxpayer who has evaded in the past will tend to excuse this kind of behavior and report a higher tax morale in the survey.

In general, the use of such a single question has the advantage of reducing problems of index construction complexity, especially as regards measurement procedure or low correlation between items. Nonetheless, it can also be argued that tax morale is a multidimensional concept that requires a multi-item measurement tool and the likelihood of a multi-item index being adversely affected by random errors will produce more reliable measures. However, several previous studies have found consistent results using single-item survey measurements and laboratory experiments (e.g., Cummings et al., 2005; Alm and Torgler, 2006).

[12] We also conducted estimations in which the 10-point scale was recoded first into a 4-point scale (0,1,2,3), with the value 3 standing for "never justifiable." However, because of a lack of variance, units 4–10 were then integrated into value 0. The main results, however, remained robust.

Our model takes the following structure:[13]

$$TM_i = \beta_0 + \beta_1 \cdot CULT_i + \beta_2 \cdot INST_i + \beta_3 \cdot PATT_i + \beta_4 \cdot REL_i + \beta_5 \cdot TS_i + \beta_6 \cdot DEM_i + \beta_7 \cdot ECON_i + \varepsilon_i$$

Besides the primary independent variables already discussed—culture ($CULT_i$), institutions ($INST_i$), political attitudes ($PATT_i$), and religiosity (REL_i)—we include properties of the tax system (TS_i) as measured by individual tax rate, audit probability, and fine rate (the latter two variables only for Switzerland[14]), and economic variables ($ECON_{i)}$.[15] In addition, because predicting the effects of deterrence factors on tax morale is difficult; we integrate deterrence factors based on the assumption that tax morale is a good indicator of tax compliance. For example, many empirical and experimental studies have indicated that higher audit and fine rates lead to greater compliance (for an overview, see Alm, 1999; Torgler, 2002),[16] and Allingham and Sandmo (1972) showed that the extent of tax evasion is negatively correlated with the probability of detection and degree of punishment. However, only the Swiss data allowed inclusion of deterrence variables in our observation of cantonal differences. Moreover, theoretically assessing the effects of tax rate and income on tax evasion is problematic because of its dependence on individual risk preference and the progression of the income tax schedule (see Andreoni, Erard, and Feinstein, 1998). Specifically, a higher marginal tax rate makes tax evasion marginally more profitable, but taxpayer risk aversion can produce a contrary effect influenced by the tax schedule type (e.g., proportional, progressive, or regressive) (Frey and Feld, 2002). Moreover, the relationship between tax evasion and tax rate depends also on the penalty structure (Allingham and Sandmo, 1972;

[13] The economic situation and education variables are explained in Table A1of the Appendix.
[14] Only the Swiss data allowed deterrence variables to be controlled based on sufficient degrees of freedom at the cantonal level.
[15] Class status: dummy variables; income: continuous variable (alternative); financial satisfaction: continuous variable.
[16] Deterrence imposed by the tax authority might crowd out taxpayers' intrinsic motivation to pay their taxes and thus crowd out tax morale. On the other hand, deterrence factors might prevent taxpayers with low tax morale from exploiting the more honest taxpayers. Tax morale is therefore not expected to be crowded out if the honest taxpayers perceive the stricter policy to be directed against dishonest taxpayers (see Frey, 1997).

Yitzhaki, 1974). Another variable we consider is financial dissatisfaction,[17] which may create a sense of distress, especially when taxes must be paid but a discrepancy exists between the actual and the desired financial situation. In such cases, taxes might be perceived as a strong restriction, thereby increasing the incentives for reduced tax honesty.

In addition, we control for demographic factors such as age,[18] gender, education (continuous variable), and marital and employment status (dummy variables). As regards age, we assume that older people who have acquired more social capital (Tittle, 1980) may feel a stronger attachment to the community, which might in turn induce additional restrictions that lead to a positive correlation between age and tax morale (Pommerehne and Weck-Hannemann, 1996). The resulting stronger dependency on others' reactions may impose higher potential (social) costs of sanctions. Moreover, not only has social psychological research suggested that women are more compliant and less self-reliant than men (e.g., Tittle, 1980), but research findings in the past decade have shown that gender may influence tax compliance (Vogel, 1974; Spicer and Becker, 1980; Tittle, 1980; Spicer and Hero, 1985; Baldry, 1987). In addition, more educated individuals, who tend to have greater knowledge of tax law and fiscal connections, are more aware of state-provided benefits and services than uneducated taxpayers. However, besides being potentially more critical of state actions, especially tax revenue expenditures, they may also have a better understanding of the opportunities for evasion and avoidance, which negatively influences tax morale. Moreover, because marital status may influence legal or illegal behavior depending on the extent to which individuals are constrained by their social networks (Tittle, 1980) and it can be seen as a proxy for individual risk perception. Finally, as regards the effect of employment status on tax morale, the tax compliance literature presents a strong argument that self-employed persons have higher compliance costs than employees (e.g., Lewis, 1982). Thus, taxes are

[17] Corresponding question: How satisfied are you with the financial situation of your household? (1 = dissatisfied to 10 = satisfied).
[18] We build four groups:16–29 (reference group), 30–49, 50–64, 65+.

more visible for the self-employed, who have a higher opportunity to evade or avoid them. However, some professions—including doctors, lawyers, and accountants—are heavily regulated and have strong underlying moral codes. Moreover, pensions of retired individuals are incomes provided or at least heavily regulated by the state, so transparency is higher and the control, better.

To correct the samples and achieve a true reflection of the national distribution, we use *weighted* ordered probit and *weighted* probit estimations. Because the equation is nonlinear, only the sign, not the size, of the coefficient can be directly interpreted, meaning that the most appropriate method for finding the quantitative effect of a variable on tax morale is to calculate its marginal effects. Thus, all tables show only the marginal effect for the highest tax morale value ("tax evasion is never justified"). It should also be noted that neutral answers (e.g., "don't know") and missing values have been eliminated in all estimations.

Empirical Results

Switzerland

Analyses of Swiss data are interesting because Switzerland's institutions and culture are not homogeneous; rather, even though major decisions are generally made through direct democratic participation (for a survey, see Kobach, 1994), the degree of institutionalized political participation rights varies strongly between the 26 Swiss cantons. Thus, this study uses a 6-point scale index developed by Frey and Stutzer (2000) that reflects the extent of direct democratic participation (1 = lowest and 6 = highest degree of participation).[19] In addition, Switzerland is a mosaic of different cultures speaking four languages—German, French, Italian, and Romansh. Therefore, we build dummy variables based on the language

[19] The index includes four legal instruments: the popular initiative to change the canton's constitution, the popular initiative to change the canton's law, the compulsory and optional referendum to prevent a new law or change a law, and the compulsory or optional referendum to prevent new state expenditure. The index is based on degree of restriction in the form of signatures needed to use an instrument, the time span for collecting the

spoken during the interview, which, because only Swiss citizens participated, correspond mostly to the three main languages (excluding Romansh). However, Swiss cantons differ not only with respect to language and rights of direct democracy but also in terms of tax system and taxpayer treatment. Such cantonal differences can be controlled for in our empirical analysis of the 1996 World Values Survey data.[20] To take such differences into consideration, we add into the estimations individual tax rates, fine rates, and audit probability; tax system properties that must be controlled for if we are to isolate the influence of our main independent variables on tax morale. That is, because Swiss citizens can vote on tax issues, excluding these variables might confound the effect claimed to reflect direct democratic rights with cantonal tax structure.[21] For each canton *c*, we approximate the probability of detection by the number of tax auditors per taxpayer (in ‰) and the penalty tax rate by the standard legal fine as a multiple of the evaded tax amount (in percentages).[22] In addition, because it can be argued that including our three aggregated cantonal variables—direct democracy, audit probability, and fine rate—will produce downwardly biased standard errors (e.g., Frey and Stutzer, 2000), we address the problem of heteroscedasticity by presenting standard errors adjusted for clustering on cantons.[23]

As Table 1 shows, a one-point increase in the direct democracy index raises the share of persons with the highest tax morale between 2.9 and 6.5 percentage points, meaning that a higher degree of direct democracy leads to higher tax morale. Because a positive correlation

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signatures, and the level of new expenditure that allows use of the financial referendum (for a detailed discussion, see Stutzer, 1999).

[20] However, it should be noted that the Swiss World Values Survey was not random-random but quota-random, based first on a random sample of communes and then on quotas for demographic variables like sex and age in the selected communes. Thus, the smallest cantons (specifically, Appenzell a. Rh., Glarus, Jura, Nidwalden, Uri, and Zug) were not necessarily represented.

[21] Calculations are based on the average weighted value (in percentages) using the WVS income groups and regional information. The differentiation between singles and married people has been included.

[22] Data on the probability of detection and the fine for tax evasion were collected using a questionnaire by Lars P. Feld and Bruno S. Frey, who based the following contributions on this dataset: Feld and Frey (2002a,b) and Frey and Feld (2002).

[23] The advantage of this class of estimators is that they do not require a precise modelling of the heteroscedasticity source. Therefore, they are robust to heteroscedasticity of arbitrary form. In general, cluster estimators tend to increase the reported standard errors by a relatively large amount, which reduces the levels of statistical significance for the estimated coefficients.

between direct democracy and tax morale might be driven by higher trust and national pride, we have included these two variables in specifications (2) and (3) to (6). Including these variables sequentially in the estimations also reduces possible criticism of similarities between them and tax morale as it can be argued that not only national identity and trust tap the feelings of legitimacy for the political system but also tax morale.[24]

Whereas, as is apparent, the correlation remains robust, the different culture variables do not exhibit a similar profile. Rather, French speakers have a lower, but Italian speakers a higher, tax morale than German speakers. Moreover, overall, the results are not fully robust because in the probit estimations, the coefficients lose their statistical significance.[25] The role of cultural variables can also be investigated using a Wald test for coefficient restriction. The chi-squared statistics indicate rejection of the null hypothesis in all specification, meaning that culture plays a significant role in the determination of individual tax morale.

[Table 1 about here]

Trust in government also appears to have a significantly positive effect on tax morale with high marginal effects. A one-unit increase in the trust in government scale increases the share of subjects indicating the highest tax morale by more than 7 percentage points. Moreover, as the findings in Table 1 indicate, a higher national pride value tends to lead to higher tax morale. However, the effect decreases after the trust variable is included in the estimations. Nonetheless, based on a Wald test for joint significance of trust in government and national pride, we can conclude that these two variables play a significant role in the determination of tax morale. As a group, the variables are jointly significant in all estimations at the 1 percent level. Moreover, our findings indicate that religiosity has a significantly positive effect on tax

[24] These variables were also included sequentially in the estimations for Belgium and Spain.
[25] It should be noted that the positive effect strongly decreases when estimations are conducted without controlling for direct democracy.

morale with marginal effects between 2.7 and 4.2 percentage points. This result also confirms the relevance of social norms.

In contrast, the deterrence factors, whose marginal effects are very low, have no strong impact on individual attitudes towards paying taxes. Indeed, the coefficient of the fine rate is negatively significant in most cases, which indicates that higher punishment crowds out tax morale.[26] Individual tax rate and income, which were included sequentially, are missing more values than the other control variables. Thus, in the first three estimations, economic class was used as a proxy for economic situation, while income and tax rate were used in estimations 4 and 6. As Table 1 indicates, neither variable has a statistically significant impact on tax morale. All estimations also include financial satisfaction, which is shown to have a positive effect on tax morale.

In terms of the other control variables, we observe a tendency for women to report a significantly higher level of tax morale than men. Moreover, individuals between 50 and 64 exhibit higher tax morale than the reference (lowest age) group. In addition, married people have higher, albeit not significantly different, tax morale than singles,[27] while part-time employees, retired individuals, and people who stay home tend also to report a high level of tax morale.

Belgium

Our investigation also examines possible differences among the different (Dutch and French) cultural communities in Belgium, which, following independence in 1830, was ruled by the Francophone elite. At the end of the nineteenth century, when the Flemish movements for cultural autonomy gained importance (van Houten, 1999), the concepts of *community* and

[26] However, it can be also argued that *perceived* deterrence factors (especially the perceived probability of detection) may determine tax morale much more strongly than the *objective* measurable factors used in this paper. Scholz and Pinney (1995) found support for the idea that the subjective risk of getting caught is more closely related to sense of duty than to objective risk factors. However, it was not possible to collect this information in our study.

region were introduced into the national constitution (Gérard, 2001). One step in building Belgian federalism was the introduction in the 1960s of a language boundary, with French in the south, Flemish in the north, and Brussels being bilingual. Two decades later, over a 10-year transition process (until 1999), regions received shares of personal and corporate income taxes. However, the tax rates are still set by the federal government and autonomous taxes constitute less than 10 percent of the subnational institutional budgets. Moreover, even though the new income tax system allows regions to place surcharges or discounts on the federal level rates for personal income tax (van Houten, 1999), the regions have not actually made use of this advantage. In fact, despite a further broadening of regional power to establish additional taxes or rebates (the 2001 Lambermont and Saint-Polycarpe agreements), regions have neither modified the tax base or federal tax calculations nor reduced the progressive graduation of tax.

Therefore, this study integrates the individual marginal tax rates into the regressions, for which, in contrast to Switzerland, there are no regional differences.[28] In addition, because relatively few values are missing, we include the income variable directly into the specifications. As outlined in Table 2, we first present two estimations using culture as the main independent variable (see specifications 1 and 4), after which estimations 2 and 3 take into account the variables pride, trust in parliament, and pro-democratic attitudes. The results indicate no statistically significant difference between cultural groups, but some differences do exist between the ordered probit and probit estimations. In the probit estimation, the Flemish population exhibits lower tax morale than the French-speaking inhabitants (which in one instance is statistically significant);[29] however, overall, the difference is not statistically significant, which may be due to a lower degree of institutional difference and autonomy

[27] The coefficient becomes statistically significant when the tax morale variable is coded using a four-point scale.
[28] Calculations were based on the EVS income groups. The differentiation was between singles and couples (an average of 1 or 2 earners).
[29] An ordered probit estimation using a four-point scale indicated a consistently negative, but not statistically significant, coefficient for the variable FLEMISH.

compared to Switzerland. That is, even though the direction of causality is unclear, institutional variations may help cultivate certain cultural differences and a variance in the norms of compliance.

Moreover, instead of trust in government, in this instance, we examine trust in parliament, which allows us to analyze the robustness of the impact of trust on tax morale. As in the results for Switzerland, national pride and trust have a positive impact on tax morale. A one-unit increase in the pride scale raises the share of subjects indicating the highest tax morale by more than 3 percentage points. Trust in parliament is also positively correlated with tax morale, showing high marginal effects between 5.8 and 8.6 percentage points. The EVS also allows investigation of a further variable—attitude toward democracy.[30] As Table 2 shows, pro-democratic attitudes have a highly significant positive effect on tax morale. A one-unit increase in the pro-democracy scale raises the proportion of persons indicating the highest tax morale by 3.2 percentage points in the ordered probit and 5.8 in the probit estimation. Moreover, church attendance is related to significantly higher tax morale in the ordered probit, which is in line with the results for Switzerland. Also consistent with the findings for Switzerland, the tax rate has no significant impact on tax morale. Rather, the economic variables indicate that higher income tends to lead to lower tax morale, an impact that is statistically significant in the probit estimation. As regards the demographic variables, the particularly high tax morale exhibited by the 50-64 age group suggests a positive impact of age. Moreover, women clearly report higher tax morale than men, while, based on the statistically significant coefficients in the ordered probit estimations, married people tend to have higher tax morale than singles.

[Table 2 about here]

[30] Corresponding question: Would you say that having a democratic political system is a very good, fairly good, fairly bad, or very bad way of governing this country? (1 = very good to 4 = very bad).

Spain

The Spanish data provide the opportunity to test Moreno's (2001) claim that Spain lacks a single state identity by looking for differences between historical Spanish nationalities. Based on the 1978 Spanish Constitution, Spain is now divided into 17 autonomous communities (AC), 53 provincial governments, and 8.098 municipalities. Therefore, we use dummy variables for the regions with their own cultural identity—namely, the Basque country, Navarre, Catalonia, and Galicia—and group the other Spanish regions into a reference group. The Basque country and Navarre (both *Charter* regions) are the two self-governing communities whose financial system allows them to regulate and collect their own taxes, even though a certain amount (fixed) of the collected revenue must be transferred to the central government. Moreover, despite this higher level of autonomy, separatist tendencies in these regions may have a negative impact on willingness to cooperate. In contrast, even though Catalonia has a strong sense of identity, separatism is weaker (Moreno, Arriba, and Serrano, 1998). Galicia, also a historical region with its own language (Gallego) and a strong sense of identity, has a similar autonomic status to Catalonia based on Article 151 of the Spanish Constitution, which gives this region a high degree of self-rule (Rodriguez-Pose, 2000). However, the movement towards more autonomy is weaker in Galicia than in Catalonia (Keating, 1999). Indeed, Villadangos (1999) stressed a consensual view of Catalonia, the Basque country, and Galicia as separate nationalities.

This analysis, based on the World Values Survey (1995–1997), uses Spanish data from 1995, at which time no differences existed between the autonomous communities (in contrast to the *Charter* regions) in the setting of statutory tax rates (Esteller-Moré, 2005). However, because we observe differences in the marginal tax rates between the *Charter* regions and other areas, it is important to integrate a tax structure proxy into the estimations. In addition, we differentiate between married and unmarried subjects when calculating the marginal tax rates based on available income information.

In the multivariate analysis for Spain, outlined in Table 3, the Wald test indicates that culture plays a significant role in the determination of individual tax morale. It is also apparent that Navarre and the Basque country have lower tax morale than the reference group. Moreover, the coefficient for Navarre is very robust, showing very high marginal effects, whereas the coefficient for Basque loses its significance in both models after the inclusion of trust, national pride, and pro-democratic attitudes. Thus, controlling for these factors leads to a reduction of cultural differences between the Basque country and the regions in the reference group. Interestingly, Moreno (2001) reported results from a periodic survey by the newspaper *País* that showed Basques to have a stronger feeling of self identity than people from other regions; specifically, 23 percent of Basques declared they felt "only Basque." On the other hand, despite a strong sense of identity in Catalonia, separatism is weaker than in the Basque country. In Catalonia, for example, only 12.5 of the individuals defined themselves as only Catalan. The coefficient is positive showing even a statistical significant impact in the second estimation. As the coefficient for Basque was not as robust as expected, it might be interesting to investigate tax morale using an earlier World Values Survey wave. To visualize what happens between the different tax morale scales, we analyze the World Values Survey for 1990 (see Figure A1 and Table A2 in the Appendix) using the four-point scale described previously. The histogram in Figure A2 presents the distribution of tax morale scores in two different years—1990 and 1995. The results indicate that in the Basque country, tax morale at the lowest level (a score of 0) strongly decreased between 1990 and 1995. We observe particularly higher values for tax morale scores of 2 and 3. In 1995, more than 45 percent of individuals stated that tax evasion is never justifiable, compared to around 30 percent in 1990. In a next step, we test whether our different samples have the same distribution using the Wilcoxon rank-sum test (Mann-Whitney). The results, reported in Table A2, indicate a significant difference between 1990 and 1995 for the Basque country, meaning that tax morale increased significantly over time in that region. We also observe a significantly lower

level of tax morale compared to other Spanish regions. In general, this intertemporal improvement may be based on observed and planned institutional changes (the decentralization process) such as the various reforms during the 1990s that generally increased the regions' autonomy. For example, Law 14/1996 defined regional governments' share in personal income tax as ceded, creating a decreasing degree of their financial dependence on central government (Toboso, 2005). This trend can be expected to have also affected the Basque country's tax morale despite its *Charter* region status.

[Table 3 about here]

In general, however, the findings indicate that higher autonomy does not lead to significantly higher tax morale, a result that is not in line with the findings for Switzerland. However, compared to Switzerland, the fiscal decentralization process in Spain is still unfinished. Moreover, Suárez-Pandiello (1999) argued that decentralization in Spain gives little incentive for fiscal co-responsibility.

As illustrated in Table 3, pride, trust (here, trust in the legal system), and pro- democratic attitudes have a significant positive impact on tax morale. However, contrary to the previous findings, church attendance has no such statistically significant impact. Even though findings for the control variables do suggest a tendency for women to be more compliant than men, individual marginal tax rates have no impact on attitudes toward paying taxes. Widowed individuals show the highest tax morale, and part-time employees tend to have lower tax morale than full-time workers, but this finding is statistically significant in only one estimation. The probit results also relate being upper middle class to the lowest tax morale, showing specifically that it reduces the probability of stating that tax evasion is never justifiable by more than 15 percentage points.

Conclusions

In contrast to most of the emerging cross-cultural research on tax compliance (e.g., Alm et al., 1995; Cummings et al., 2005), this study concentrates on the impact of cultural and institutional variation *within* countries. Thus, it complements previous studies cross-country studies that used mainly laboratory experiments expanding the area of cultural and institutional studies by isolating possible cultural and institutional differences *within* each country using survey. For example, as suggested by previous tax compliance research using cross-country data, cultural and regional differences do affect tax morale in both Switzerland and Spain. Moreover, the finding—robust for all three countries—that trust in the legal system, government, and parliament; national pride; and pro-democratic attitudes all have a positive effect on tax morale provides evidence that higher legitimacy for political institutions leads to higher tax morale.

At the same time, differences do exist between the three countries studied. Whereas in Switzerland direct democracy has a strong impact on tax morale, in Spain more autonomy does not necessarily lead to more support for government taxation, possibly because of separatist tendencies and an unfinished fiscal decentralization process. These results support the argument that active citizen involvement enhances rule obedience and willingness to cooperate.[31] In addition, in Switzerland and Belgium, religiosity appeared to have a robust impact on tax morale, but no such statistically significant impact was found for Spain. Overall, this investigation of tax morale in three multicultural European countries provides new insights into the factors that shape the emergence and maintenance of citizens' willingness to cooperate with tax legislation.

[31] Certainly, it can be argued that direct democratic rights are endogenous in the long run. Given that people can also vote on the extent of direct democratic rights, it may be that the effect of the direct democracy variable reflects values, including tax morale. In general, as Figure A1 indicates, the degree of direct democracy has been quite stable in the long run, which might indicate that the causality runs from direct democratic rights to tax morale rather than vice versa. However, based on this type of dataset, it is not possible to rule out a causality problem.

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Appendix

TABLE A1

Derivation of Major Variables

Variable	Derivation
CLASS	People sometimes describe themselves as belonging to the working class, the middle class, or the upper or lower class. Would you describe yourself as belonging to the: World Values Survey 1. Upper class 2. Upper middle class 3. Lower middle class 4. Working class 5. Lower class European Values Survey 1. Upper, upper middle class 2. Middle, non-manual workers 3. Manual workers, -skilled, semi-skilled, -unskilled, unemployed
INCOME	Here is a scale of incomes (1-10). We would like to know in what group your household is, counting all wages, salaries, pensions and other incomes that come in. Just give the letter of the group your household falls into, before taxes and other deductions. Switzerland 1996 1. Less then 20,000 Swiss Francs 2. 20,000-26,999 3. 27,000-31,999 4. 32,000-37,999 5. 38,000-44,999 6. 45,000-51,999 7. 52,000-59,999 8. 60,000-69,999 9. 70,000-89,999 10. More than 90,000 Spain 1995 1. 45,000 or less ptas 2. 45-75,000 ptas 3. 75-100,000 ptas 4. 100-150,000 ptas 5. 150-200,000 6. 200-275,000 7. 275-350,000 8. 350-450,000 9. 450-1.000,000 10. More than 1,000,000 Belgium 1999 1. less then 25,000 Belgian francs per month 2. 25,000-34,999 francs 3. 35,000-44,999 francs 4. 45,000-54,999 francs 5. 55,000-64,999 francs 6. 65,000-74,999 francs 7. 75,000-89,999 francs 8. 90,000-104,999 francs 9. 105,000-149,999 francs 10. 150,000 francs per month and over

EDUCATION

Spain 1995

What is the highest educational level that you have attained?

1. No formal education
2. Incomplete primary school
3. Completed primary school
4. Incomplete secondary school: technical/vocational type
5. Complete secondary school: technical/vocational type
6. Incomplete secondary: university-preparatory type
7. Complete secondary: university-preparatory type
8. Some university-level education, without degree
9. University-level education, with degree

Switzerland 1996

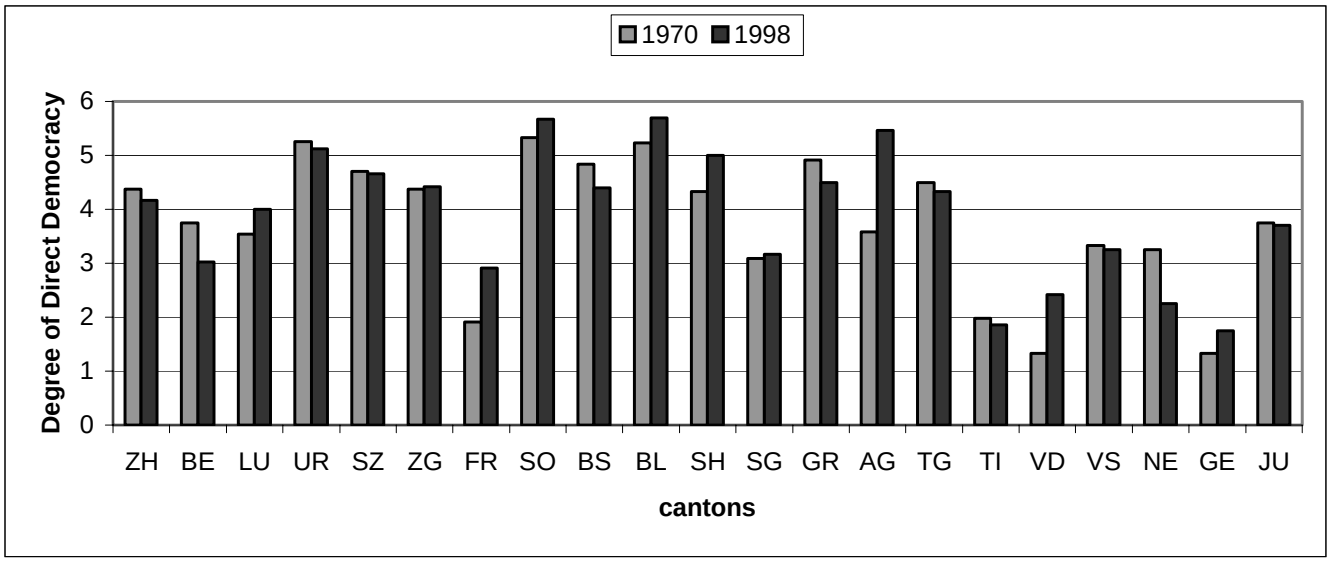
1. Never went to school
2. Incomplete primary school
3. Primary school (up to 12 years of age)
4. Apprenticeship
5. Lower secondary school (up to 16 years of age)
6. Secondary school without diploma (16-19 years)
7. Technical school
8. Secondary school with diploma
9. University or Federal Polytechnical School without degree
10. University or Federal Polytechnical with degree

Belgium 1999

1. Inadequately completed elementary education
2. Completed (compulsory) elementary education
3. (Compulsory) elementary education and basic vocational qualification
4. Secondary, intermediate vocational qualification
5. Secondary, intermediate general qualification
6. Full secondary, maturity level certificate
7. Higher education – lower-level tertiary certificate
8. Higher education – upper-level tertiary certificate

Sources: Inglehart et al. (2000); European Values Study (1999).

Figure A1
Degree of Direct Democracy Between 1970 and 1998



Note: The cantons that have or until recently had the *Landsgemeinde* (town meeting) (Appenzell I. Rh., Obwalden, Glarus, Appenzell A. Rh. and Nidwalden) were not included in these estimations.

Source: calculations based on the index developed by Frey and Stutzer (2002) on the basis of the data from Trechsel and Serdült (1999).

Figure A2

Tax Morale Distribution in Basque Country Over Time

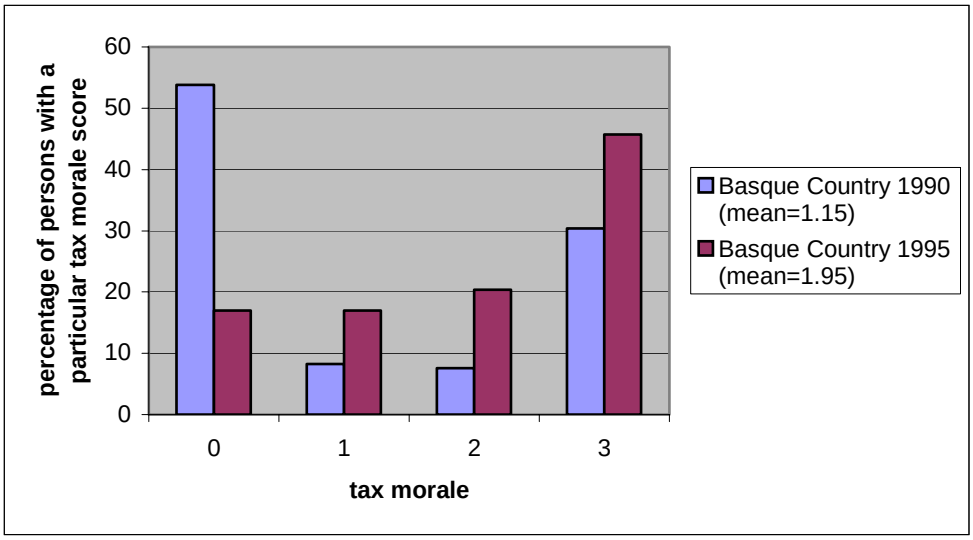


TABLE A2

Two-Sample Wilcoxon Rank-Sum (Mann-Whitney) Test

Hypothesis	*z*-value	Prob > |z|
Over Time		
H_0: TM Basque Country 1995 = TM Basque Country 1990	4.020	0.000
Basque Country (in comparison)		
Spain without the Basque Country in 1990		
H_0: TM[a] Other Regions in Spain 1990 = TM Basque Country 1990	7.837	0.000

[a]TM = tax morale.

TABLES AND FIGURES

TABLE 1

Tax Morale in Switzerland (WVS 1996)

Weighted	Eq. 1		Eq. 2		Eq. 3		Eq. 4		Eq. 5		Eq. 6	
Clustering on cantons	Ordered Probit		Ordered Probit		Ordered Probit		Ordered Probit		Probit		Probit	
Variables	Coeff.	Marg.	Coeff.	Marg.	Coeff.	Marg.	Coeff.	Marg.	Coeff.	Marg.	Coeff.	Marg.
a) Deterrence Factors												
FINE RATE	-0.002**	-0.001	-0.002***	-0.001	-0.001**	-0.001	-0.001	-3e-04	-0.003***	-0.001	-0.002***	-0.001
AUDIT PROBABILITY	3e-04	1e-04	0.001	3e-04	0.001	3e-04	1e-04	8e-05	0.002	0.001	0.001	4e-04
b) Tax Rate												
INDIVID. INC. TAX RATE							0.003	0.001			0.007	0.003
c) Demographic Factors												
AGE 30–49	-0.030	-0.012	-0.059	-0.024	-0.063	-0.025	-0.010	-0.004	-0.092	-0.037	-0.071	-0.028
AGE 50-–64	0.242	0.095	0.254	0.100	0.248	0.097	0.388**	0.150	0.161	0.064	0.270	0.105
AGE 65+	0.092	0.036	0.037	0.015	-0.013	-0.005	0.130	0.051	-0.053	-0.021	0.080	0.031
WOMAN	0.208***	0.083	0.172**	0.068	0.127	0.051	0.234**	0.093	0.078	0.031	0.172	0.068
EDUCATION	-0.011	-0.004	-0.012	-0.005	-0.035	-0.014	0.001	0.000	-0.037	-0.015	0.000	0.000
d) Marital Status												
MARRIED	0.187	0.074	0.168	0.067	0.218	0.086	0.330	0.131	0.280	0.111	0.423	0.167
LIVING TOGETHER	-0.145	-0.058	-0.145	-0.058	-0.093	-0.037	0.039	0.015	-0.130	-0.052	-0.020	-0.008
DIVORCED	0.277	0.108	0.241	0.094	0.273	0.106	0.136	0.053	0.328	0.126	0.263	0.102
SEPARATED	0.244	0.095	0.254	0.098	0.214	0.083	0.253	0.098	0.080	0.031	0.140	0.055
WIDOWED	-0.112	-0.044	-0.130	-0.052	-0.090	-0.036	-0.180	-0.072	-0.196	-0.078	-0.234	-0.093
e) Economic Variable												
UPPER CLASS	0.013	0.005	-0.239	-0.095	-0.305	-0.121			-0.382	-0.151		
UPPER MIDDLE CLASS	-0.200	-0.080	-0.421	-0.166	-0.471	-0.186			-0.681**	-0.266		
LOWER MIDDLE CLASS	-0.086	-0.034	-0.276	-0.110	-0.309	-0.123			-0.471	-0.186		
WORKING CLASS	-0.107	-0.043	-0.332	-0.132	-0.330	-0.131			-0.531*	-0.209		
INCOME							-0.048	-0.019			-0.062*	-0.024
FINAN. SATISFACTION	0.046**	0.018	0.043**	0.017	0.036*	0.014	0.027	0.011	0.056**	0.022	0.051*	0.020
f) Employment Status												
PART-TIME EMPLOYED	0.196	0.077	0.272*	0.106	0.276*	0.107	0.259*	0.101	0.243	0.095	0.265*	0.103
SELF-EMPLOYED	0.116	0.046	0.185	0.072	0.139	0.055	0.244*	0.095	0.015	0.006	0.077	0.030
UNEMPLOYED	0.239	0.093	0.122	0.048	0.113	0.044	-0.171	-0.068	0.399	0.151	0.180	0.070
AT HOME	0.374**	0.144	0.390	0.150	0.386**	0.149	0.239	0.093	0.384*	0.147	0.268	0.104
STUDENT	0.094	0.037	0.151	0.059	0.070	0.028	0.065	0.025	-0.169	-0.067	-0.255	-0.102
RETIRED	0.656	0.245	0.678**	0.252	0.684**	0.254	0.559	0.211	0.653	0.243	0.479	0.183
OTHER	0.178	0.070	0.190	0.074	0.280	0.108	0.654	0.235	0.564	0.207	0.809*	0.278
g) Religiosity												
CHURCH ATTENDANCE	0.106***	0.042	0.103***	0.041	0.093***	0.037	0.085***	0.034	0.080***	0.032	0.068**	0.027
h) Institutional Variable												
DIRECT DEMOCR.	0.116***	0.046	0.109***	0.043	0.104***	0.041	0.164***	0.065	0.073**	0.029	0.118**	0.047
i) Culture												
ITALIAN	0.293**	0.114	0.218**	0.085	0.204*	0.080	0.301*	0.116	0.176	0.069	0.259	0.100
FRENCH	-0.183	-0.073	-0.178*	-0.071	-0.175*	-0.069	-0.136	-0.054	-0.160	-0.064	-0.162	-0.064
j) Further Variables												
PRIDE			0.093*	0.037	0.047	0.019	0.058	0.023	0.069	0.027	0.089	0.035
TRUST IN GOVERNMENT					0.231***	0.092	0.222***	0.088	0.191***	0.076	0.178**	0.071
Wald-Test: Culture	30.57***		17.51***		13.72***		10.97***		5.71*		7.89**	
Wald-Test: Dem. & Culture	39.58***		28.77***		30.62***		52.51***		8.02**		11.91***	
Wald-Test: Trust and Pride					51.25		24.09***		14.48***		9.86***	
Pseudo R^2	0.053		0.055		0.061		0.068		0.113		0.118	
Number of Observations	1070		1010		980		831		980		831	
Prob > $\chi 2$	0.000		0.000		0.000		0.000		0.000		0.000	

Notes: Ordered probit: tax morale on a 10-point scale (10 = cheating on tax is never justifiable). Probit estimation: 1 = cheating on tax is never justifiable. Characteristics of reference group: AGE 18–29, MAN, SINGLE, FULL-TIME EMPLOYED, LOWER CLASS, GERMAN SPEAKING. Significance levels: * 0.05 < p < 0.10, ** 0.01< p < 0.05, *** p < 0.01. Marginal effect in the ordered probit estimations (highest tax morale = 10). Variables at the cantonal level: DIRECT DEMOCRACY, FINE RATE, and AUDIT PROBABILITY.

TABLE 2

Tax Morale in Belgium (EVS 1999)

	Eq. 1		Eq. 2		Eq. 3		Eq. 4	
Weighted	Ordered Probit		Ordered Probit		Probit		Probit	
Variables	Coeff.	Marg.	Coeff.	Marg.	Coeff.	Marg.	Coeff.	Marg.
a) Tax Rate								
INDIV. MARG. TAX RATE	0.001	0.000	-0.001	0.000	0.007	0.003	0.005	0.002
b) Demographic Factors								
AGE 30–49	0.178*	0.068	0.169	0.064	0.206	0.078	0.103	0.039
AGE 50–64	0.215*	0.083	0.251*	0.096	0.220	0.085	0.205	0.078
AGE 65+	0.148	0.057	0.113	0.043	0.189	0.073	0.073	0.028
WOMAN	0.274***	0.104	0.300***	0.113	0.234***	0.089	0.230**	0.086
EDUCATION	0.025	0.009	-0.003	-0.001	-0.004	-0.002	-0.042	-0.016
c) Marital Status								
MARRIED	0.223*	0.084	0.218*	0.081	0.235	0.088	0.224	0.083
DIVORCED	-0.063	-0.024	-0.014	-0.005	0.072	0.027	0.191	0.074
SEPARATED	-0.359*	-0.127	-0.395*	-0.136	-0.542*	-0.181	-0.541	-0.179
WIDOWED	0.114	0.044	0.030	0.011	0.094	0.036	0.056	0.021
d) Economic Variables								
INCOME	-0.042	-0.016	-0.045	-0.017	-0.065**	-0.025	-0.060*	-0.023
e) Employment Status								
PART-TIME EMPLOYED	-0.127	-0.047	-0.106	-0.039	-0.199	-0.073	-0.180	-0.066
SELF-EMPLOYED	-0.228*	-0.083	-0.194	-0.070	-0.398**	-0.140	-0.318	-0.113
UNEMPLOYED	-0.024	-0.009	-0.099	-0.037	0.009	0.003	-0.096	-0.036
AT HOME	-0.103	-0.039	-0.111	-0.041	-0.026	-0.010	0.002	0.001
STUDENT	0.072	0.028	0.115	0.044	-0.022	-0.008	-0.078	-0.029
RETIRED	0.293**	0.113	0.245*	0.094	0.352**	0.136	0.332**	0.127
OTHER	0.456**	0.180	0.455*	0.179	0.420*	0.165	0.500*	0.196
f) Religious Variable								
CHURCH ATTENDANCE	0.035***	0.013	0.031**	0.012	0.014	0.005	0.007	0.002
g) Culture Variables								
FLEMISH	0.014	0.005	0.066	0.025	-0.143*	-0.055	-0.051	-0.019
h) Further Variables								
PRIDE			0.087*	0.033			0.091*	0.034
TRUST IN PARLIAMENT			0.228***	0.086			0.155***	0.058
PRO DEMOCRACY			0.085*	0.032			0.154**	0.058
Wald-Test: Trust, Pride; Pro-Democracy			32.17***				20.43***	
Wald-Test: Trust, Pride; Pro-Democracy, Culture			32.29***				22.63***	
Pseudo R^2	0.020		0.028		0.054		0.068	
Number of Observations	1444		1161		1444		1161	
Prob > $\chi 2$	0.000		0.000		0.000		0.000	

Notes: Dependent variable: ordered probit: tax morale on a ten-point scale (1 to 10, 10=cheating on tax is never justifiable). Probit estimation: 1= cheating on tax is never justifiable. Characteristics of reference group: AGE 15–29, MAN, SINGLE, FULL-TIME EMPLOYED, WORKER, and WALLOON. Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$. Marginal effect in the ordered probit estimations (highest tax morale = 10).

TABLE 3

Tax Morale in Spain (WVS 1995)

	Eq. 1		Eq. 2		Eq. 3		Eq. 4		Eq. 5		Eq. 6	
	Ordered Probit		Ordered Probit		Ordered Probit		Probit		Probit		Probit	
Variables	Coeff.	Marg.	Coeff.	Marg.	Coeff.	Marg.	Coeff.	Marg.	Coeff.	Marg.	Coeff.	Marg.
a) Tax Rate												
INDIV. MARG. TAX RATE					0.004	0.001					0.003	0.001
b) Demographic Factors												
AGE 30–49	-0.012	-0.004	-0.045	-0.015	-0.059	-0.020	-0.110	-0.039	-0.142	-0.050	-0.153	-0.053
AGE 50–64	0.077	0.026	-0.030	-0.011	-0.008	-0.003	-0.055	-0.019	-0.156	-0.055	-0.164	-0.058
AGE 65+	0.187	0.063	0.027	0.009	-0.069	-0.024	0.060	0.021	-0.119	-0.042	-0.218	-0.078
WOMAN	0.158*	0.055	0.218**	0.075	0.258**	0.089	0.157	0.054	0.199*	0.069	0.238*	0.082
EDUCATION	-0.009	-0.003	-0.022	-0.008	-0.036	-0.012	-0.014	-0.005	-0.024	-0.008	-0.043	-0.015
c) Marital Status												
MARRIED	0.132	0.046	0.127	0.044	0.152	0.053	0.096	0.034	0.096	0.033	0.160	0.056
LIVING TOGETHER	0.002	0.001	-0.046	-0.016	0.209	0.068	0.279	0.090	0.265	0.085	0.516*	0.151
DIVORCED	-0.027	-0.010	-0.098	-0.035	-0.228	-0.083	-0.100	-0.036	-0.180	-0.065	-0.129	-0.046
SEPARATED	0.100	0.034	0.173	0.057	0.225	0.073	0.051	0.018	0.167	0.055	0.241	0.078
WIDOWED	0.354	0.112	0.417*	0.128	0.435	0.133	0.396*	0.123	0.466*	0.140	0.558*	0.163
d) Employment Status												
PART-TIME EMPLOYED	-0.112	-0.040	-0.270	-0.098	-0.400*	-0.148	-0.090	-0.032	-0.201	-0.072	-0.331	-0.122
SELF-EMPLOYED	0.028	0.010	-0.008	-0.003	-0.219	-0.079	0.077	0.026	0.103	0.035	-0.047	-0.017
UNEMPLOYED	-0.076	-0.027	-0.126	-0.044	-0.040	-0.014	-0.126	-0.045	-0.125	-0.044	-0.055	-0.019
AT HOME	0.072	0.025	-0.040	-0.014	-0.074	-0.026	0.011	0.004	-0.060	-0.021	-0.093	-0.033
STUDENT	0.041	0.014	-0.029	-0.010	-0.162	-0.058	-0.077	-0.027	-0.128	-0.045	-0.284	-0.104
RETIRED	-0.148	-0.053	-0.163	-0.058	-0.173	-0.061	-0.152	-0.054	-0.146	-0.051	-0.143	-0.050
e) Economic Situation												
UPPER CLASS	-0.658	-0.253	-0.587	-0.224			-0.607	-0.233	-0.526	-0.199		
UPPER MIDDLE CLASS	-0.270	-0.098	-0.273	-0.098			-0.429**	-0.159	-0.413*	-0.152		
LOWER MIDDLE CLASS	-0.082	-0.029	-0.095	-0.033			-0.178	-0.063	-0.197	-0.070		
WORKING CLASS	0.062	0.022	0.062	0.021			-0.003	-0.001	0.005	0.002		
FINANCIAL SATISF.	0.024	0.008	0.025	0.009	0.020	0.007	0.020	0.007	0.020	0.007	0.009	0.003
INCOME					-0.045	-0.015					-0.045	-0.016
f) Religious Variable												
CHURCH ATTENDANCE	0.021	0.007	0.008	0.003	0.018	0.006	0.024	0.008	0.011	0.004	0.025	0.009
g) Culture Variables												
BASQUE	-0.328***	-0.121	-0.098	-0.035	0.094	0.031	-0.592***	-0.225	-0.299	-0.109	-0.079	-0.028
CATALAN	0.106	0.036	0.218**	0.072	0.174	0.058	0.071	0.024	0.166	0.055	0.070	0.024
GALICIA	-0.012	-0.004	-0.075	-0.026	-0.062	-0.022	-0.023	-0.008	-0.080	-0.028	-0.108	-0.038
NAVARRE	-0.711***	-0.274	-0.630***	-0.241	-0.535***	-0.203	-1.267***	-0.472	-1.201***	-0.451	-1.124***	-0.426
h) Further Variables												
PRIDE			0.111*	0.038	0.145*	0.050			0.125**	0.043	0.130*	0.045
TRUST IN LEGAL SYSTEM			0.120**	0.041	0.168**	0.058			0.121**	0.042	0.157**	0.054
PRO DEMOCRACY			0.199***	0.069	0.235***	0.081			0.158**	0.054	0.203***	0.070
Wald-Test: Culture	26.23***		22.05***		14.77***		24.62***		17.31***		11.47**	
Wald-Test: Trust, Pride; Pro-Democracy			21.56***		26.47***				16.60***		19.11***	
Pseudo R^2	0.021		0.031		0.035		0.049		0.058		0.066	
Number of Observations	1102		1004		776		1102		1004		776	
Prob > $\chi 2$	0.000		0.000		0.000		0.000		0.000		0.000	

Notes: Dependent variable: ordered probit: tax morale on a 10-point scale (10 = cheating on tax is never justifiable). Probit estimation: 1 = cheating on tax is never justifiable. Characteristics of reference group: AGE 16–29, MALE, SINGLE, FULL-TIME EMPLOYED, WORKING CLASS, and OTHER SPANISH REGIONS. Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$. Marginal effect in the ordered probit estimations (highest tax morale = 10).