



Culture differences and tax morale in the United States and in Europe

James Alm ^{a,*}, Benno Torgler ^{b,c}

^a *Department of Economics, Andrew Young School of Policy Studies, Georgia State University, P.O. Box 3992, Atlanta, GA 30302-3992, USA*

^b *Yale Center for International and Area Studies and Leitner Program in International & Comparative Political Economy, Yale University, New Haven, CT 06520, USA*

^c *Center for Research in Economics, Management and the Arts (CREMA), Gellerstrasse 24, CH-4052, Basel, Switzerland*

Received 29 June 2005; received in revised form 15 September 2005; accepted 21 October 2005
Available online 27 December 2005

Abstract

Much recent research has investigated whether values, social norms, and attitudes differ across countries and whether these differences have measurable effects on economic behavior. One area in which such studies are particularly relevant is tax compliance, given both the noted differences across countries in their levels of tax compliance and the marked inability of standard economic models of taxpayer compliance to explain these differences. In this paper we estimate the determinants of an individual's intrinsic willingness to pay taxes – what is sometimes termed “tax morale” – using information from the World Values Survey for a wide range of countries over several years of data. We first analyze a cross-section of individuals in Spain and the United States. In line with previous experimental results, our findings indicate a significantly higher tax morale in the United States than in Spain, controlling in a multivariate analysis for additional variables. We then extend our multivariate analysis to include an additional 14 European countries. Our results again indicate that individuals in the United States have the highest tax morale across all countries, followed by Austria and Switzerland. We also find a strong negative correlation between the size of shadow economy and the degree of tax morale in those countries.

© 2005 Elsevier B.V. All rights reserved.

* Corresponding author. Tel.: +1 404 651 0420; fax: +1 404 651 4985.
E-mail address: jalm@gsu.edu (J. Alm).

JEL classification: H260; H730

PsycINFO classification: 2900; 3000; 4200

Keywords: Tax morale; Tax compliance; Tax evasion; Culture

1. Introduction

In recent years much research has investigated whether values, social norms, and attitudes differ across countries and whether these differences have measurable effects on “real” economic behavior. One area in which such studies are particularly relevant is tax compliance, given both the noted differences across countries in their levels of tax compliance and the marked inability of standard economic models of taxpayer compliance to explain these differences. Tax compliance seems to depend upon numerous factors beyond the standard economic ones of deterrence, and, given the level fines and audit rates in most countries (in combination with available estimates of risk aversion), deterrence models predict far too little compliance and far too much tax evasion (Alm, McClelland, & Schu- lze, 1992; Frey & Feld, 2002). Long and Swingen (1991, p. 130) argue that some taxpayers are “. . . simply predisposed NOT to evade”, and thus these individuals do not even search for ways to cheat at taxes (Frey & Foppa, 1986). Pyle (1991, p. 173) criticizes the assumption that individuals are amoral utility maximizers: “Casual observation suggests that not all individuals think quite like that. . . indeed, it seems that whilst the odds are heavily in favour of evaders getting away with it, the vast majority of taxpayers behave honestly”.

In the face of these difficulties, many researchers have suggested that the intrinsic motivation for individuals to pay taxes (Frey, 1997) – what is sometimes termed their “tax morale” – differs across countries; that is, if taxpayer values are influenced by cultural norms, with different societal institutions acting as constraints and varying between different countries, then tax morale may be an important determinant of taxpayer compliance and other forms of behavior. However, isolating the reasons for these differences in tax morale is notoriously difficult.

Several approaches have been used to examine this notion. In a common approach, studies sometimes referred to as “cultural studies” have often relied upon controlled laboratory experiments conducted in different countries because such experiments can be set up with identical experimental protocols to allow cultural effects to be isolated. For example, Alm, Sanchez, and De Juan (1995) compare identical tax compliance experiments conducted in Spain and the United States, two countries with very different cultures and histories of compliance but with broadly similar systems of taxes, especially income taxes. They find that subjects in the United States consistently exhibit higher compliance than subjects in identical experiments in Spain, and attribute these differences to a higher “social norm” of compliance in the United States. However, while informative, the use of experimental methods to investigate tax morale is limited by the ability to conduct such experiments in numerous countries. There have also been studies based on information from individual countries (e.g., East versus West Germany, Switzerland). However, by focusing on a small number of countries (often a single country) and a single year of information, such studies necessarily give a somewhat piecemeal and disjointed view of the role of tax morale in compliance.

In this paper we try to bring together these disparate findings by using a data set – the World Values Survey (WVS) – that contains information on individuals in a wide range of countries over several different years of data. Our intention is to demonstrate the important role of culture differences across countries as determinants of an individual's attitude toward paying taxes, and also to demonstrate the “real” consequences of differences in tax morale.

We first analyze a cross-section of individuals in Spain and the United States using the WVS data, since it seems likely that survey data on Spain and the United States should show a similar picture as the experimental results. If tax compliance differences are attributed to a higher social norm of compliance in the United States, as found experimentally by [Alm et al. \(1995\)](#), then WVS data on tax morale should show similar tendencies. For this, we analyze a cross-section of individuals in both countries using the WVS data for the three different waves (or years) of the survey, 1990, 1995, and 1999–2000. However, our paper goes beyond a simple comparison of the United States and Spain. We extend our multivariate analysis to include individuals in an additional 14 European countries in the estimations, countries with broadly similar levels of economic development and systems of taxation; we also investigate the consequences of tax morale by examining its possible relationship to the size of the underground economy.

In the next section we briefly discuss previous work cross-country findings. In Section 3 we introduce the concept and determinants of tax morale. In Section 4 we present our empirical results, first on Spain versus the United States and then on the full sample of European countries. In Section 5 we provide some concluding remarks.

2. Some previous work on the existence and the effects of cultural differences

In economics, there is often a lack of evidence on the existence and the effects of cultural differences across countries. In this section we give a brief and selected overview of some of this work, focusing first on research on cross-country studies on tax compliance and then more broadly on selected experimental work on other types of cross-country differences.

In the area of tax compliance, cross-cultural studies are especially new, and most work is found in the experimental literature. Laboratory experiments are able to hold relevant tax-reporting factors constant, and so are able to better isolate possible culture differences.

Such “cultural” experiments on tax compliance have been conducted in several countries. As noted earlier, [Alm et al. \(1995\)](#) use experimental methods to explore the role of social norms in Spain and the United States. In addition, [Cummings, Martinez-Vazquez, McKee, and Torgler \(2004\)](#) combine experimental and survey data from the United States, Botswana, and South Africa to investigate whether cross-cultural differences can explain tax compliance behavior across these countries. Their results indicate that the observed differences in tax compliance behavior and tax morale can be explained by differences in the fairness of tax administration, in the perceived equity of the fiscal exchange, and in the overall attitude towards the respective governments across the countries.

There is also a considerably larger, and mainly experimental, literature that examines differences in behavior across countries in other economic research areas, especially in behavioral economics. These studies show a remarkably mixed and diverse picture. For example, [Ockenfels \(1999\)](#) and [Ockenfels and Weimann \(1999\)](#) perform public good and solidarity experiments in East and West Germany, and find that East Germans are less cooperative than West Germans. In another work, [Henrich et al. \(2001\)](#) undertake a large cross-cultural experimental study of behavior using ultimatum, public good, and

dictator games. They find large variations across the different cultural groups, and they argue that preferences and/or expectations are affected by group-specific conditions such as institutions or cultural fairness norms. Botelho, Harrison, Hirsch, and Rutström (2001) reconsider previously conducted experiments on bargaining behavior in different cultures; they find that there are differences across cultures but that the differences strongly interact with the demographic characteristics of participants. Ashraf, Bohnet, and Piankov (2003) analyze trust in investment games, dictator games, and risky choice tasks in Russia, South Africa, and the United States. Reciprocity seems to drive Americans' trustworthiness, while in Russia and South Africa trustworthiness is related to kindness.

In contrast, the experimental findings of Brandts, Saijo, and Schram (2004) on voluntary contributions to public goods in different countries (e.g., Japan, the Netherlands, Spain, and the United States) do not exhibit any cultural differences. Similarly, Oosterbeek, Sloof, and van de Kuilen (2004) present a meta-analysis of 37 papers from ultimatum game experiments covering 25 different countries. They find no statistical differences across regions in the proposer's behavior, but a difference for the respondent's behavior.

These cultural studies have added significantly to our understanding of culture and behavior. However, the findings of this work necessarily give a somewhat piecemeal and disjointed view of the general impact of culture on behavior, and of the more specific impact of culture on tax morale. In general, the disparate findings suggest that a substantial body of evidence is needed to get a general idea of the impact of societal institutions. Also, these studies typically focus on a single country (or a small number of countries) at a single point in time. Relatedly, Oosterbeek et al. (2004) argue that cross-cultural experiments contain in most cases data from only one city of each country, so that differences in outcomes may simply reflect differences across different locations rather than differences across countries. These studies also sometimes give conflicting results, as demonstrated in the bargaining studies of subjects in Japan and the United States by Roth, Prasnikar, Okuno-Fujiwara, and Zamir (1991) versus those of Buchan, Croson, and Johnson (2004).¹

We believe that surveys such as the WVS help us to bring together these disparate findings because the WVS allows us to work with a representative set of individuals within a country, across a number of countries, and over several years of data. We also believe that the WVS allows us to take a significantly different approach to the issue of cultural differences than the largely experimental focus of previous studies. Accordingly, we use the WVS survey data in multivariate analysis of a large number of similar countries, we check the robustness of our results using different survey waves, and we examine the relationship between tax morale and the size of shadow economy to investigate whether possible differences in tax morale across countries are reflected in differences in observed behavior.

3. The concept of tax morale

The notion of "tax morale" is not a new one, but it has received surprisingly little attention in the tax compliance literature. Some preliminary tax morale research was conducted during the 1960s by the "Cologne school of tax psychology" (Schmolders, 1960, 1970;

¹ It should be noted that there is typically little systematic attempt to explain the different experimental results. Common explanations focus on differences in experimental design, including such things as the levels of subject compensation, the number of rounds, use of computerization versus pencil-and-paper experiments, and the specific subject pools.

Strümpel, 1969), which tried to build a bridge between economics and social psychology by emphasizing that economic phenomena should not only be analyzed from the traditional neoclassical point of view. In particular, they saw tax morale as an important and integral attitude that was related to tax non-compliance.

For example, Schmolders (1960) analyzed tax morale among self-employed workers in Europe, and he concluded that self-employed taxpayers had lower levels of tax morale than taxpayers who worked for other people or organizations. Strümpel (1969) also analyzed tax morale among European taxpayers. He conducted an international comparative survey in Europe, in which he compared both the tax systems of the various European countries and the level of tax morale among each country's taxpayers. He found that tax morale in Germany was comparatively low, whereas in England it was comparatively high. Strümpel (1969) went on to suggest that the major difference between the German and English tax systems at the time was that the German government made use of coercive tax enforcement techniques, while the English system treated taxpayers with more respect and less control. Strümpel (1969) also argued that the enforcement strategies used by the Germans served to alienate the public, and that this alienation had a negative influence on their tax morale. He suggested that the English system, in contrast, helped to cultivate tax morale (although he did note that such a system might have offered easy opportunities for avoidance and evasion).

Tax morale is closely linked to what some other authors refer to as "taxpayer ethics", defined by Song and Yarbrough (1978, p. 443) as "the norms of behavior governing citizens as taxpayers in their relationship with the government". It has also been suggested that tax morale is likely to be affected by the nature of the fiscal exchange between taxpayers and government. For example, Feld and Frey (2002) argue that the way in which government treats taxpayers (e.g., is the exchange viewed by taxpayers as fair or unfair?) affects taxpayer morale. They also argue that the demonstration that the government trusts taxpayers will be rewarded by greater taxpayer trust in government, which also improves tax morale. Relatedly, Smith (1992) and Smith and Stalans (1991) present some evidence that reciprocity (e.g., positive rewards for honest behavior) can be an important inducement for compliance.

Several more contemporary tax compliance scholars have mentioned the concept of tax morale. Even so the concept has been largely neglected.²

In sum, Feld and Frey (2002, pp. 88–89) point out that

...most studies treat 'tax morale' as a black box without discussing or even considering how it might arise or how it might be maintained. It is usually perceived as being part of the meta-preferences of taxpayers and used as the residuum in the analysis capturing unknown influences to tax evasion. The more interesting question then is which factors shape the emergence and maintenance of tax morale.

This paper attempts to fill this gap by identifying cultural (and other) factors that affect tax morale. Our working definition is that tax morale can generally be understood as describing the moral principles or values that individuals hold about paying their tax. We argue that tax morale is likely to be influenced by such factors as perceptions of fairness, trust in the institutions of government, the nature of the fiscal exchange between taxpayers and government, and a range of individual characteristics. Importantly, we

² For some important exceptions, see Kirchler (1997, 1998, 1999), Lewis (1982), and Vogel (1974).

argue that tax morale is likely to differ across countries because of cultural differences across these countries. The next section presents our empirical approach to estimating the determinants of tax morale.

4. Estimating the determinants of tax morale

The WVS allows us to analyze tax morale as a dependent variable. The survey is a worldwide investigation of socio-cultural and political change that collects comparative data on values and belief systems among peoples around the world. It is based on representative national samples of at least 1000 individuals in a country, and has been conducted in more than 80 countries. All surveys are done via face-to-face interviews at the respondents' homes and in their respective national languages. The sampling design consists of a multi-stage, random selection of sampling points with a number of individual observations drawn from all administrative regional units, after stratification by region and by degree of urbanization. The survey results can be weighted to represent national population parameters.³

Because the WVS asks the identical question to respondents in the various countries, the survey gives us a unique opportunity to examine cross-country (and cross-year) comparisons of societal attitudes about religion, culture, and, especially for our purposes, tax compliance.

The general question to assess the level of tax morale from the WVS is:

Please tell me for each of the following statements whether you think it can always be justified, never be justified, or something in between: ... Cheating on tax if you have the chance (% “never justified” – code 1 from a ten-point scale where 1 = never and 10 = always).

In our case, the natural cut-off point is at the value 1 because many respondents assert that cheating on tax is “never justified”. Our TAX MORALE variable therefore takes the value 1 if the respondent says that cheating on tax is “never justified”, and 0 otherwise.

We believe that the WVS data sets have the distinct advantage that they are designed as wide-ranging surveys, which reduces the probability of participants being suspicious and of creating framing effects from other tax context questions. We also believe that the use by the WVS of a single question has the advantage that problems with complexity that are associated with the construction of an index can be reduced, especially regarding the measurement procedure or a low correlation between the items.

Even so, we recognize that there are some good reasons to use a multi-item index instead of a single question to measure tax morale.⁴ Tax morale is likely to be a multi-dimensional concept, which may require a multi-item measurement tool, as in psychometric studies. In this context, a single-item measure like ours has some disadvantages compared to a multi-item index (Jackson & Milliron, 1986; Lewis, 1982). For example, a single-item measure may have difficulty in capturing adequately the interrelated facets of tax morale, and may also be adversely affected by random errors in measurement. Further, a multi-item index has the advantage that errors should tend to average out,

³ For a comprehensive discussion of the WVS, see Inglehart et al. (2000).

⁴ For example, Kirchler (1997, 1999) uses several items to measure tax morale. He confronted subjects with various scenarios, in which a fictitious individual overspends/underreports income on a tax return. After reading the scenarios, subjects could express their disagreement with or acceptance of tax evasion.

therefore producing a more reliable measure. Compared to a single-item measure, a multi-item index likely provides better score reliability by pooling together information that the items have in common; a multi-item tool also increases validity by providing a more representative sample of information about the underlying concept, and it increases precision by decreasing score variability.⁵

Indeed, we recognize that single-item measures in cross-cultural comparisons should be treated with some caution. For example, in countries where tax revenues are collected to finance a “dictator’s war machine”, tax evasion might be justifiable, and there could even be a “moral duty” not to pay taxes. Similarly, in authoritarian political systems people will search for “voice” or “exit” mechanisms via tax resistance to express their preferences (Torgler, 2001). Because Europe and United States can be seen as relatively homogeneous countries with similar tax systems, we believe that such problems are likely reduced. Furthermore, we work with more than one survey and thus consider different time periods, and this allows us to analyze the robustness over time of tax morale determinants. Even so, there is still the potential problem in the WVS that some individuals may excuse their non-cooperative behavior in the past by declaring relatively high tax morale values.

Our initial focus is on the United States versus Spain, and then on the United States versus Spain and 14 other European countries. We use this approach for several reasons. First, we wish to see if the experimental results of Alm et al. (1995) on the United States and Spain are found in a significantly different approach that uses WVS data in a multivariate analysis. Second, and more importantly, we wish to see whether there are differences in tax morale across countries with similar levels of economic development and tax systems, and whether these differences can be linked to specific factors (e.g., trust, religion, socio-economic status).^{6,7}

4.1. Tax morale in Spain and in the United States

Before examining the multiple regressions, we display in Fig. 1 a histogram that refers to the distribution of tax morale scores in the United States and in Spain for the years 1990, 1995, and 1999–2000. Fig. 1 presents the percentage of individuals that argue that tax evasion is never justifiable. We observe for all WVS waves that tax morale is higher in the United States than in Spain. However, this purely descriptive analysis gives information about the raw effects and not the partial effects. The observed differences between United States and Spain might be explained in terms of differences in socio-demographic

⁵ We are grateful to an anonymous referee for emphasizing these points.

⁶ Although the specific features of the tax systems of these countries obviously differ, all of the countries that we examine rely at the central government level mainly on progressive individual income taxes, corporate income taxes, social insurance taxes, and taxes on consumption. The main difference in tax systems stems from European use of the value-added tax; there is also some variation in the unit of taxation in the income tax.

⁷ It would have been possible to include other regions with stronger possible differences in values and traditions, such as countries in South America, Asia, or Africa. However, in line with our earlier comparison of the United States and Spain, we believe that it is more appropriate to focus on European countries, especially given the marked differences in development and in tax systems for such countries. In this context, it should be noted that cross-country comparisons of regions with strong value differences are not immune to many possible biases. For example, individuals differ significantly across countries in their familiarity with – and their honesty in responding to – questions about tax evasion (Lewis, 1982). As some evidence, the WVS wave for 1999–2001 indicates that many developing countries have in fact a higher tax morale index than most European countries.

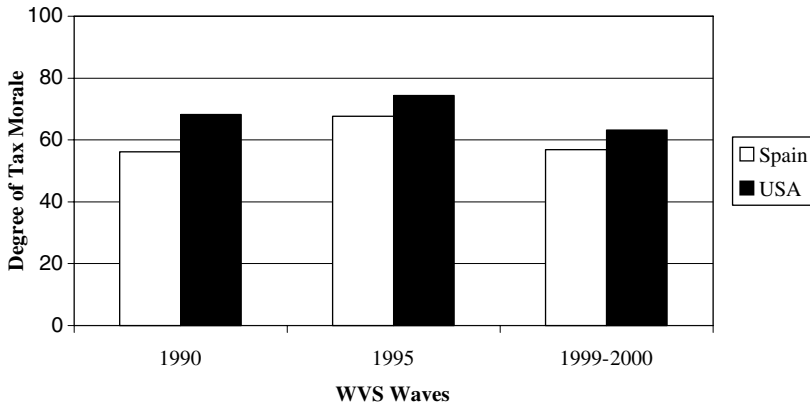


Fig. 1. Tax morale in Spain and in the United States.

and socio-economic factors. Thus, multiple regressions help us to disentangle the effects of socio-demographic and socio-economic factors from a possible culture difference.

We estimate separately the determinants of TAX MORALE at the individual level for the combined United States and Spain data set for three different time periods: 1990, 1995, 1999–2000. The analysis of three time periods helps give us a robust picture of the levels of tax morale in the United States and Spain and the determinants that shape tax morale in the countries.⁸ Fig. 1 indicates that the natural cut-off point for TAX MORALE is at the value 1, showing that many respondents believe that cheating on taxes is never justifiable. We therefore utilize probit estimation methods.⁹ We also use a weighting variable on all observations to adjust the data to reflect the national population. In order to control for differences in the number of participants between the countries, the observations are also weighted to get an equal number of observations for each country.¹⁰ To obtain the quantitative impacts of the explanatory variables, we calculate the marginal effects of each variable. We have also tried to present similar specifications for all three waves to better check the robustness of the results.¹¹ Table 1 presents descriptive statistics on the WVS data.

We are especially interested in whether there are statistically significant differences between the two countries. For each year, we include a separate dummy variable SPAIN,

⁸ It should be recognized that tax morale may also vary *within* a country. For example, individual states in the United States have very different tax laws and tax systems (e.g., states with and without an income tax). Similarly, Spain has two regions (Basque and Navarre) that have more independence, and so a greater ability to regulate and to collect their own taxes, than the other 15 regions. Such intra-country differences may affect the level of tax morale. However, a regional comparison would be difficult because there are regional but no state classifications in the United States WVS data. Furthermore, the lower number of observations at the regional level may affect the quality of the empirical analysis.

⁹ We have also estimated weighted order probit models, in which the 10-point scale is recoded into a 4-point scale (0–3), with the value 3 standing for “never justified” and where the value of 0 is an aggregation of the last seven scale points of the original variable. Our results are unaffected.

¹⁰ This was done by taking the original weighting variable and multiplying it by a constant for each survey. If the data were not weighted, the resulting pooled estimates could be biased. The weighting variable is provided by the WVS.

¹¹ As discussed later, for the year 1999–2000 we had to use a slightly different estimation because the variables that capture “Economic Situation” and “Trust” have not been collected fully in both countries.

Table 1
Descriptive statistics for the World Values Survey

	Mean	Standard deviation	Minimum	Maximum	Cases
Spain and the United States 1990					
TAX MORALE	0.587	–	0	1	5986
TRUST IN THE LEGAL SYSTEM	2.479	0.830	1	4	5928
TRUST IN THE PARLIAMENT	2.289	0.818	1	4	5784
AGE	43.620	17.501	18	91	5949
FEMALE	0.524	–	0	1	5946
MARRIED	0.618	–	0	1	5984
FULL-TIME EMPLOYED	0.390	–	0	1	5920
LOWER MIDDLE CLASS	0.396	–	0	1	5593
CHURCH ATTENDANCE	3.864	2.181	1	7	5959
Spain and the United States 1995					
TAX MORALE	0.708	–	0	1	2753
TRUST IN THE LEGAL SYSTEM	2.355	0.787	1	4	2657
TRUST IN THE PARLIAMENT	2.200	0.748	1	4	2609
AGE	46.459	18.641	0	91	2753
FEMALE	0.509	–	0	1	2753
MARRIED	0.618	–	0	1	2749
FULL-TIME EMPLOYED	0.369	–	0	1	2715
WORKING CLASS	0.426	–	0	1	2640
CHURCH ATTENDANCE					
Spain and the United States 1999–2000					
TAX MORALE	0.590	–	0	1	3550
TRUST IN THE PARLIAMENT	2.401	0.800	1	4	3436
AGE	44.669	17.599	18	97	3609
FEMALE	0.534	–	0	1	3609
MARRIED	0.550	–	0	1	3605
FULL-TIME EMPLOYED	0.386	–	0	1	3604
LOWER EDUCATION	0.380	–	0	1	3603
CHURCH ATTENDANCE	4.380	2.630	1	8	3586
Europe and the United States					
TAX MORALE	0.518	–	0	1	26,968
AGE	43.805	17.203	18	91	27,274
FEMALE	0.525	–	0	1	27,328
MARRIED	0.600	–	0	1	27,350
FULL-TIME EMPLOYED	0.451	–	0	1	27,055
CHURCH ATTENDANCE	3.454	2.090	1	7	27,122

Note: For socio-economic and socio-demographic variables the dummy with the highest mean values among all categories has been reported.

equal to 1 if the WVS respondent is a resident of Spain and 0 if the respondent is a resident of the United States. As suggested by the experimental results of Alm et al. (1995), our expectation is that residents of Spain will, other things equal, exhibit a lower TAX MORALE than residents of the United States.

Table 2 presents the results for 1990, Table 3 for 1995, and Table 4 for 1999–2000. We report a large number of alternative specifications, and all specifications show the marginal effects of the explanatory variables on the highest value of tax evasion (e.g., tax evasion is “never justified”).

Table 2
Determinants of tax morale in Spain and in the United States, 1990

Weighted probit	Coefficient			t-Ratio			Marginal effect			Coefficient			t-Ratio			Marginal effect		
	(1)			(2)			(3)			(4)								
<i>Independent variables</i>																		
<i>Culture variable</i>																		
SPAIN	-0.253***	-6.80	-0.096	-0.241***	-6.42	-0.092	-0.216***	-5.68	-0.082	-0.237***	-5.98	-0.090						
<i>Demographic factors</i>																		
AGE	0.010***	6.89	0.004	0.010***	6.76	0.004	0.010***	6.69	0.004	0.010**	6.510	0.004						
WOMAN	-0.007	-0.18	-0.003	-0.005	-0.14	-0.002	0.002	0.05	0.001	0.011	0.271	0.004						
<i>Marital status</i>																		
MARRIED	0.178***	3.48	0.068	0.175***	3.40	0.066	0.157***	3.02	0.060	0.167***	3.14	0.064						
LIVING TOGETHER	0.019	0.16	0.007	0.019	0.16	0.007	0.025	0.21	0.009	0.043	0.36	0.016						
DIVORCED	-0.107	-1.10	-0.041	-0.110	-1.12	-0.042	-0.109	-1.09	-0.042	-0.116	-1.15	-0.044						
SEPARATED	-0.150	-1.19	-0.057	-0.158	-1.25	-0.060	-0.172	-1.35	-0.066	-0.147	-1.14	-0.056						
WIDOWED	0.178	1.60	0.053	0.141	1.60	0.054	0.133	1.50	0.051	0.110	1.21	0.042						
<i>Employment status</i>																		
PARTTIME EMPLOYED	0.004	0.05	0.001	-0.003	-0.050	-0.001	-0.025	-0.35	-0.009	0.017	0.24	0.007						
SELFEMPLOYED	-0.138*	-1.72	-0.052	-0.139*	-1.73	-0.053	-0.116	-1.44	-0.044	-0.135	-1.61	-0.051						
UNEMPLOYED	0.028	0.37	0.011	0.015	0.19	0.006	0.013	0.17	0.005	0.002	0.02	0.001						
AT HOME	0.107*	1.79	0.041	0.086	1.43	0.033	0.094	1.55	0.036	0.057	0.91	0.022						
STUDENT	0.066	0.77	0.025	0.067	0.78	0.026	0.028	0.32	0.011	0.082	0.91	0.031						
RETIRED	0.022	0.34	0.008	0.020	0.31	0.008	0.018	0.27	0.007	0.005	0.07	0.002						
OTHER	-0.197	-0.86	-0.075	-0.255	-1.10	-0.097	-0.255	-1.08	-0.097	-0.620**	-2.12	-0.236						
<i>Economic situation</i>																		
UPPER CLASS										-0.139*	-1.95	-0.053						
UPPER MIDDLE CLASS										-0.115*	-1.95	-0.044						
LOWER MIDDLE CLASS										-0.014	-0.25	-0.005						
<i>Religiosity</i>																		
CHURCH ATTENDANCE	0.040***	4.81	0.015	0.039***	4.65	0.015	0.039***	4.57	0.015	0.047***	5.38	0.018						
<i>Trust</i>																		
TRUST IN LEGAL SYSTEM				0.072***	3.43	0.028				0.060***	2.72	0.023						
TRUST IN PARLIAMENT							0.107***	4.98	0.041									
Number of observations	5824			5767			5632			5392								
Prob (LM-statistic)	0.000			0.000			0.000			0.000								

Notes: The dependent variable is TAX MORALE. In the reference group for all dummy variables are MAN, SINGLE, FULL TIME EMPLOYED, WORKING CLASS, and USA. The marginal effect is calculated at the highest TAX MORALE score. Significance levels are: *0.05 < p < 0.10, **0.01 < p < 0.05, ***p < 0.01.

Table 3
Determinants of tax morale in Spain and in the United States, 1995

Weighted probit	Coefficient	<i>t</i> -Ratio	Marginal effect	Coefficient	<i>t</i> -Ratio	Marginal effect	Coefficient	<i>t</i> -Ratio	Marginal effect	Coefficient	<i>t</i> -Ratio	Marginal effect
	(5)			(6)			(7)			(8)		
<i>Independent variables</i>												
<i>Culture variable</i>												
SPAIN	-0.137**	-2.42	-0.047	-0.138**	-2.37	-0.047	-0.139**	-2.39	-0.048	-0.155**	-2.57	-0.053
<i>Demographic factors</i>												
AGE	0.002	0.96	0.001	0.002	0.99	0.001	0.002	0.94	0.001	0.002	0.92	0.001
WOMAN	0.153**	2.56	0.052	0.154**	2.54	0.053	0.153**	2.51	0.053	0.170***	2.73	0.058
<i>Marital status</i>												
MARRIED	0.203***	2.65	0.070	0.193**	2.47	0.066	0.172**	2.20	0.059	0.213***	2.68	0.072
LIVING TOGETHER	-0.021	-0.14	-0.007	-0.028	-0.19	-0.010	-0.055	-0.36	-0.019	-0.094	-0.62	-0.032
DIVORCED	0.102	0.71	0.035	0.134	0.91	0.046	0.098	0.66	0.034	0.118	0.80	0.040
SEPARATED	-0.010	-0.05	-0.003	-0.016	-0.08	-0.006	-0.052	-0.26	-0.018	-0.012	-0.06	-0.004
WIDOWED	0.318**	2.30	0.109	0.388***	2.66	0.132	0.380***	2.60	0.130	0.376**	2.49	0.128
<i>Employment status</i>												
PARTTIME EMPLOYED	-0.100	-0.97	-0.034	-0.082	-0.79	-0.028	-0.081	-0.76	-0.028	-0.103	-0.98	-0.035
SELFEMPLOYED	0.100	0.74	0.034	0.105	0.77	0.036	0.092	0.67	0.032	0.120	0.85	0.041
UNEMPLOYED	0.042	0.44	0.014	0.049	0.51	0.017	0.024	0.25	0.008	-0.022	-0.22	-0.007
AT HOME	0.058	0.62	0.020	0.049	0.52	0.017	0.055	0.57	0.019	-0.001	-0.01	0.000
STUDENT	-0.046	-0.36	-0.016	-0.035	-0.27	-0.012	-0.097	-0.75	-0.033	-0.015	-0.11	-0.005
RETIRED	0.038	0.39	0.013	0.050	0.50	0.017	0.020	0.19	0.007	0.003	0.03	0.001
OTHER	0.346	0.90	0.119	0.351	0.90	0.120	0.307	0.79	0.105	0.346	0.88	0.118
<i>Economic situation</i>												
UPPER CLASS										-0.228	-0.89	-0.078
UPPER MIDDLE CLASS										-0.178**	-2.47	-0.060
LOWER MIDDLE CLASS										-0.210***	-3.28	-0.071
<i>Religiosity</i>												
CHURCH ATTENDANCE	0.035***	2.75	0.012	0.029**	2.16	0.010	0.033**	2.52	0.012	0.032**	2.32	0.011
<i>Trust</i>												
TRUST IN LEGAL SYSTEM				0.091***	2.65	0.031				0.082**	2.37	0.028
TRUST IN PARLIAMENT							0.029	0.81	0.010			
Number of observations	2674			2587			2539			2498		
Prob (LM-statistic)	0.000			0.000			0.000			0.000		

Notes: The dependent variable is TAX MORALE. In the reference group for all dummy variables are MAN, SINGLE, FULL TIME EMPLOYED, WORKING CLASS and LOWER CLASS, and USA. The marginal effect is calculated at the highest TAX MORALE score. Significance levels are: *0.05 < *p* < 0.10, **0.01 < *p* < 0.05, ****p* < 0.01.

Table 4
Determinants of tax morale in Spain and in the United States, 1999–2000

Weighted probit	Coefficient			t-Ratio			Marginal effect		
	(9)	(10)	(11)	(9)	(10)	(11)	(9)	(10)	(11)
<i>Independent variables</i>									
<i>Culture variable</i>									
SPAIN	-0.126**	-2.38	-0.049	-0.146***	-2.71	-0.057	-0.173***	-2.99	-0.067
<i>Demographic factors</i>									
AGE	0.007***	3.09	0.003	0.006***	2.85	0.002	0.006**	2.52	0.002
WOMAN	0.207***	3.83	0.080	0.190***	3.45	0.073	0.195***	3.52	0.075
<i>Marital status</i>									
MARRIED	0.168**	2.48	0.065	0.173**	2.49	0.067	0.167**	2.39	0.065
LIVING TOGETHER	-0.064	-0.50	-0.025	-0.066	-0.51	-0.026	-0.060	-0.46	-0.023
DIVORCED	0.100	0.82	0.038	0.111	0.89	0.042	0.124	1.00	0.047
SEPARATED	0.014	0.08	0.005	0.021	0.13	0.008	0.022	0.13	0.009
WIDOWED	-0.053	-0.42	-0.021	-0.090	-0.69	-0.035	-0.104	-0.80	-0.041
<i>Employment status</i>									
PARTTIME EMPLOYED	0.164*	1.82	0.062	0.191**	2.10	0.072	0.199**	2.19	0.075
SELFEMPLOYED	-0.124	-1.20	-0.049	-0.116	-1.10	-0.045	-0.110	-1.05	-0.043
UNEMPLOYED	0.139	1.55	0.053	0.132	1.45	0.050	0.123	1.35	0.047
RETIRED	0.148	1.63	0.056	0.177*	1.91	0.067	0.172*	1.85	0.065
AT HOME	0.069	0.85	0.026	0.083	0.99	0.032	0.060	0.72	0.023
STUDENT	-0.011	-0.10	-0.004	0.000	0.00	0.000	0.019	0.16	0.007
OTHER	0.478**	2.57	0.168	0.517***	2.72	0.181	0.489**	2.59	0.172
<i>Education</i>									
UPPER EDUCATION							-0.108	-1.57	-0.042
MIDDLE EDUCATION							-0.131**	-2.12	-0.051
<i>Religiosity</i>									
CHURCH ATTENDANCE	0.043***	4.33	0.016	0.041	4.03***	0.016	0.041***	4.08	0.016
<i>Trust</i>									
TRUST IN PARLIAMENT				0.074	2.42**	0.029	0.076**	2.46	0.029
Number of observations	3521			3363			3357		
Prob (LM-statistic)	0.000			0.000			0.000		

Notes: The dependent variable is TAX MORALE. In the reference group for all dummy variables are MAN, SINGLE, FULL TIME EMPLOYED, LOWER EDUCATION, and USA. The marginal effect is calculated at the highest TAX MORALE score. Significance levels are: *0.05 < p < 0.10, **0.01 < p < 0.05, *** p < 0.01.

The variable of most interest is SPAIN. The estimated coefficient on SPAIN is negative and highly significant across all specifications, and indicates that tax morale is significantly higher in the United States than in Spain. The marginal effect indicates that being from Spain rather than from the United States reduces the probability of stating that tax evasion is never justified by between 8.7 percentage and 9.6 percentage points in 1990, between 4.7 percentage and 5.3 percentage points in 1995, and between 4.9 percentage and 6.7 percentage points in 1999–2000. Thus, our findings show that tax morale is unambiguously higher in the United States for all survey waves, with the strongest difference between both countries for the year 1990.

To investigate whether the difference between Spain and the United States is largely driven by higher trust in the United States, we include several trust variables together with the SPAIN dummy variable in the same equations. It can be argued that positive actions by the state are intended to increase taxpayers' positive attitudes and commitment to the tax system and that this "reciprocity" can increase compliant behavior (Smith, 1992; Smith & Stalans, 1991); if the state acts in a trustworthy way, then taxpayers might be more willing to comply with the taxes. Conversely, treatment seen by individuals as unfair may lead to resentment. For example, Murphy (2004) studied the effect of tax officials using authoritarian enforcement strategies on taxpayers' behavior, and found that punitive enforcement measures can induce widespread resistance to decisions and rules.

We use two trust variables, TRUST IN LEGAL SYSTEM¹² and TRUST IN PARLIAMENT,¹³ to check the robustness of the trust variables; TRUST IN LEGAL SYSTEM is available only for 1990 and 1995, and TRUST IN PARLIAMENT is available for all three waves of the WVS. These variables allow us to analyze trust at the constitutional level (e.g., trust in the legal system), thereby focusing on how the relationship between the state and its citizens is established; they also allow us to analyze trust more closely at the current politico-economic level (e.g., trust in the parliament). Note that Torgler and Murphy (2004) find that trust is an important factor that positively shapes tax morale in Australia and that tax morale increased in Australia between 1981 and 1995 (and more so than in many other OECD countries). They suggest that a more efficient and customer-focused tax administration in Australia, a move towards a more self-regulatory and trusting system of control in the 1980s (e.g., introduction of a self-assessment system to taxation), and substantial tax reforms are possible reasons for the positive impact over time on Australia's tax morale.

In all estimations both trust variables have a significantly positive effect on tax morale with marginal effects between 2.3 and 3.1 (TRUST IN LEGAL SYSTEM) and between 1.0 and 4.1 (TRUST IN PARLIAMENT) percentage points. Therefore, our study also finds support for the notion that trust matters for tax morale.

Also robust across all specifications is the positive correlation between TAX MORALE and religion. Religiosity might influence people's habits, and might make individuals reluctant to engage in tax evasion. As the religious variable, we use the variable frequency of

¹² The WVS survey question is: "Could you tell me how much confidence you have in the 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)."

¹³ The WVS survey question is: "Could you tell me how much confidence you have in the parliament: 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)."

CHURCH ATTENDANCE, which measures how much time individuals devote to religion.¹⁴ These results are consistent with those of Torgler (forthcoming) and Torgler and Murphy (2004), who find that a higher religiosity is correlated with a higher tax morale. Similarly, some empirical studies have tended to show that states and counties with higher rates of religious attendance and memberships have significantly less violent and non-violent crime (Hull, 2000; Hull & Bold, 1989; Lipford, McCormick, & Tollison, 1993). Our results are in line with these previous studies.

We include additional variables that attempt to proxy for income. The income variable is scaled differently in Spain and in the United States, so that a direct measure of income cannot be included. However, we have included variables in which people had to self-classify themselves in different income groups (e.g., LOWER CLASS, WORKING CLASS, LOWER MIDDLE CLASS, UPPER MIDDLE CLASS, UPPER CLASS).¹⁵ The effects of income on tax morale are difficult to predict a priori, and greater income may either increase or decrease tax morale, depending on such factors as risk preferences, income tax rate progression, and opportunity costs of time. For example, in countries with a highly progressive income tax, taxpayers with a higher income realize a higher dollar return by evading, but with possibly less increase in utility due to declining marginal utility with income. On the other hand, lower income taxpayers might have lower social “stakes” or restrictions, but are also less able to take these risks because of a higher marginal utility loss from a reduction in income if they are caught and penalized (Jackson & Milliron, 1986). Furthermore, a rational choice theory of crime predicts that individuals in lower income classes are more likely to engage in criminal activities due to their lower opportunity costs.

In general, our estimation results indicate that the lowest economic class has the highest tax morale. Because it is not possible to use the economic situation as a variable for the year 1999–2000, we use education (e.g., UPPER EDUCATION, MIDDLE EDUCATION, LOWER EDUCATION) as an alternative variable for this wave,¹⁶ and the estimation for 1999–2000 using education shows the same tendencies as the other years; that is, individuals with the lowest education have the highest tax morale. Also, women and older individuals tend to exhibit a higher TAX MORALE, but the coefficients on WOMEN and AGE are not statistically significant in all estimations. Marital status might influence legal or illegal behavior depending on the extent to which individuals are constrained by their social networks (Tittle, 1980), and such a constraint might affect tax morale. However, MARITAL STATUS might interact with the tax system because of different tax treatments of married versus single individuals. Evidence from the United States and Spain in all tables indicates that married people have a higher tax morale than singles.

Overall, then, our estimation results in Tables 2–4 consistently indicate that TAX MORALE in Spain is significantly lower than in the United States. Certainly, working with survey data has the disadvantage that we cannot control for such traditional factors as the audit probability (because this is not known for each individual) and the fine rate

¹⁴ The WVS survey question is: “Apart from weddings, funerals and christenings, about how often do you attend religious services these days? (1990 and 1995: 7 = more than once a week to 1 = never, practically never; 1999: 8 = 7 = more than once a week to 1 = never, practically never).”

¹⁵ The WVS survey question is: “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: . . .?”

¹⁶ This variable has only been collected for the year 1999–2000.

(because this is identical for all individuals in a country). Furthermore, because we do not have detailed information about each individual's income, we cannot include the individual's marginal tax rate as a potential determinant of his or her tax morale, even though tax rates may influence fairness perceptions and thus tax morale (Seidl & Traub, 2001). Even so, our estimation results are very robust across the three waves of the WVS, and are also consistent with the experimental results of Alm et al. (1995) who do in fact control for such factors in their experiments.

4.2. Tax morale in the United States and in Europe

There are few studies that systematically analyze tax morale in different nations. In important and related work, Frey and Weck-Hannemann (1984), Weck (1983), Weck, Pommerehne, and Frey (1984) use cross-country survey results for the years 1960, 1965, 1970, 1975, and 1978 in order to develop an aggregate, country-level "tax immorality" index for various countries. For lack of comparable data, the United States, Canada, Japan, and Ireland are attributed a median rank, lying between the Scandinavian countries and including Britain, Netherlands, and German-speaking countries, and it is assumed that the same decline of tax morale over time in the United States took place in all other countries so that the ranking of the countries is unchanged over time.¹⁷ Their index exhibits great variance across the countries.¹⁸ Romanic countries such as France, Italy, and Spain have a higher tax immorality than most other countries. In this context, Kirchgässner (1999) argues that state and religious authority were largely held by one person in the northern states of Europe (in contrast to the majority of Catholic countries in the South).

¹⁷ The United States index is based on the following questions (Frey & Weck-Hannemann, 1984): "Do you consider the amount of federal income tax which you have to pay too high?", "Do you think that governments waste a lot of money?", "Do you think that the government is untrustworthy?", and "Do you think that the government does not care much what people like you think?".

¹⁸ For example, Weck (1983) constructs the following tax immorality indices:

Country	Year					
	1960	1965	1970	1975	1978	1960–1978
Austria	5.5	6.7	9.0	10.6	10.9	5.4
Belgium	7.1	8.6	11.6	13.7	14.0	6.9
Denmark	2.2	2.7	3.6	4.2	4.4	2.2
West Germany	5.5	6.7	9.0	10.6	10.9	5.4
Finland	2.2	2.7	3.6	4.2	4.4	2.2
France	8.7	10.6	14.3	16.9	17.3	8.6
Great Britain	2.2	2.7	3.6	4.2	4.4	2.2
Ireland	3.8	4.7	6.3	7.4	7.6	3.8
Italy	10.4	12.6	17.0	20.1	20.6	10.2
Japan	3.8	4.7	6.3	7.4	7.6	3.8
Canada	3.8	4.7	6.3	7.4	7.6	3.8
Netherlands	5.5	6.7	9.0	10.6	10.9	5.4
Norway	2.2	2.7	3.6	4.2	4.4	2.2
Sweden	2.2	2.7	3.6	4.2	4.4	2.2
Switzerland	0.6	0.7	1.0	1.2	1.2	0.6
Spain	7.1	8.6	11.6	13.7	14.0	6.9
United States	3.8	4.7	6.3	7.4	7.6	3.8

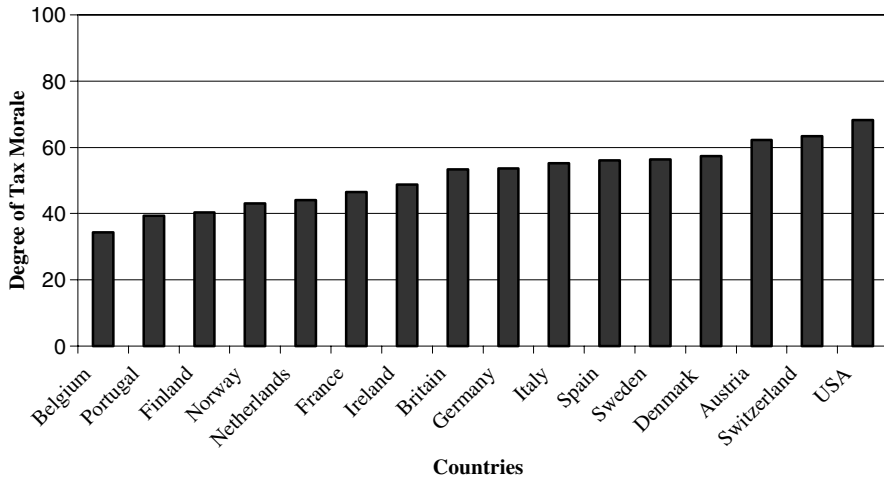


Fig. 2. Tax morale in the United States and in Europe.

Offenses against the state were therefore also religious offenses and consequently a sin. Our study extends this work by examining individual-level measures of tax morale, and by investigating in a multivariate analysis the determinants of tax morale across individuals, countries, and time, thereby allowing us to control for many possible influences on tax morale.

With the WVS wave 1990–1993, we can combine the largest number of Western European countries into an empirical study using multiple regression analysis. As with the Spain–United States estimation, we include country dummy variables using the United States as the reference (and omitted) group. Fig. 2 presents a histogram of the average tax morale scores in the United States and in each of the Western European countries, calculated from the WVS.

In a further estimation we differentiate between Romanic and Northern Countries, with a dummy variable excluding the United States to check whether previous findings with data from the 1960s and 1970s (e.g., Weck, 1983) can be confirmed.¹⁹ Data from a later WVS in 1995–1997 do not allow such a comparison, as a smaller number of European countries participated in the 1995–1997 WVS. To maximize the number of countries in the estimations, some previously used control variables in the United States and Spain estimations have been excluded. Table 5 presents the results.

As indicated in Table 5, the United States has the highest tax morale among all countries. Only Switzerland shows a coefficient that is not significant with low marginal effects. Belgium exhibits the strongest differences compared to the United States, with marginal effects of than 30 percentage points lower than the United States. It is noteworthy that the highest tax morale is observed in the United States and in Switzerland, two countries with very strong direct democratic traditions. Taxpayers are treated as “citizens” with

¹⁹ For this estimation, we define Italy, France, Portugal and Spain as Romanic countries; Austria, Denmark, Finland, Great Britain, Ireland, Netherlands, Norway, Sweden, and Germany are defined as Northern countries. Switzerland and Belgium have been excluded from this estimation because these two countries have both Romanic and Northern regions in their territory.

Table 5
Determinants of tax morale in the United States and in Europe

Weighted probit	Coefficient			Marginal effect		
	(12)			(13)		
<i>Independent variables</i>						
Countries						
AUSTRIA	-0.164***	-3.40	-0.065			
BELGIUM	-0.829***	-16.98	-0.330			
DENMARK	-0.121**	-2.49	-0.048			
FINLAND	-0.605***	-12.34	-0.241			
FRANCE	-0.443***	-9.14	-0.177			
GERMANY	-0.313***	-7.42	-0.125			
GREAT BRITAIN	-0.295***	-6.12	-0.118			
IRELAND	-0.539***	-11.17	-0.215			
ITALY	-0.268***	-5.60	-0.107			
NETHERLANDS	-0.576***	-11.87	-0.230			
NORWAY	-0.544***	-11.17	-0.217			
PORTUGAL	-0.642***	-13.40	-0.256			
SPAIN	-0.195***	-4.03	-0.078			
SWEDEN	-0.136***	-2.71	-0.054			
SWITZERLAND	-0.005	-0.09	-0.002			
Culture						
ROMANIC				-0.034*	-1.66	-0.013
Demographic factors						
AGE	0.011***	14.59	0.004	0.012***	13.92	0.005
FEMALE	0.235***	12.84	0.094	0.249***	12.36	0.099
Marital status						
MARRIED	0.079***	3.22	0.032	0.059**	2.20	0.024
LIVING TOGETHER	-0.158***	-4.21	-0.063	-0.163***	-3.96	-0.065
DIVORCED	0.057	1.24	0.023	0.073	1.42	0.029
SEPARATED	-0.059	-0.78	-0.024	-0.072	-0.81	-0.029
WIDOWED	0.092	2.15	0.037	0.101**	2.09	0.040
Employment status						
PARTTIME EMPLOYED	-0.051	-1.49	-0.020	-0.070*	-1.85	-0.028
SELFEMPLOYED	-0.163***	-4.21	-0.065	-0.114***	-2.68	-0.045
UNEMPLOYED	-0.007	-0.18	-0.003	0.043	0.94	0.017
AT HOME	-0.021	-0.71	-0.008	-0.041	-1.29	-0.016
STUDENT	-0.070*	-1.69	-0.028	-0.093**	-2.05	-0.037
RETIRED	0.096***	3.04	0.038	0.099***	2.80	0.039
OTHER	0.029	0.50	0.011	0.017	0.28	0.007
Religious variable						
CHURCH ATTENDANCE	0.042***	9.49	0.017	0.035***	7.56	0.014
Number of observations	25,695			20,366		
Prob (LM-statistic)	0.000			0.000		

Notes: The dependent variable is TAX MORALE. In the reference group for all dummy variables are MAN, SINGLE, FULL TIME EMPLOYED, USA, and NORTHERN COUNTRIES. The marginal effect is calculated at the highest TAX MORALE score. Significance levels are: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$.

extensive rights and obligations (Frey, 2003). The possibility of taxpayers voting on fiscal issues, and thereby being involved directly in the political decision process might enhance

their sense of civic duty (Feld & Frey, 2002) and thus their tax morale. The instrument of direct democracy helps spend taxes according to citizen preferences, and the motivation to pay taxes may increase.

Our results are similar to some previous findings. For example, Pommerehne and Weck-Hannemann (1996) use cross-section/time series regressions with Swiss data, and they find that tax evasion is lower in cantons with a higher degree of direct political control. Torgler (2003) also finds with Swiss survey data that a higher direct democracy leads to a higher tax morale. Feld and Frey (2002) analyze how tax authorities treat taxpayers in Switzerland, and find that tax authorities of cantons with more direct participation rights, compared to cantons with less direct democracy, treat taxpayers more respectfully, are less suspicious if taxpayers report too low incomes, and more heavily fine unsubmitted tax declarations. Alm, McClelland, and Schulze (1999) and Feld and Tyran (2002) use experimental methods, and show that voting on tax issues has a positive effect on tax compliance.

The estimation in specification (13) in Table 5 is also consistent with previous findings. People from Northern Europe have a higher tax morale than people from Southern Europe. The marginal effects indicate that being from a Romanic country rather than from Northern Europe reduces the probability of stating that tax evasion is never justified by 1.3 percentage points.

As for other variables, we observe results in line with the findings obtained in Tables 2–4. Age has a positive effect on tax morale, women have a higher tax morale than men, and married people have a higher than singles. The coefficient CHURCH ATTENDANCE is also statistically significant with a positive sign. Interestingly, compared to full-time employees, the share of self-employers reporting the highest tax morale is 6.5 percentage points lower. The results correspond to the standard argument that self-employed taxpayers exhibit lower tax compliance, based on higher compliance and opportunity costs of being honest, a result that supports the findings of Schmolders (1960) more than 40 years ago.

5. Conclusions

A significant body of research on tax compliance has been accumulated. Much work has concentrated on traditional topics, such as the impact of audit, penalty, and tax rates on compliance. However, there is overwhelming evidence that observed tax compliance behavior cannot be explained entirely with the traditional economic analysis that focuses mainly on deterrence components. Instead, there are several other factors that help explain why many people are compliant, especially the notion of “tax morale”. However, previous experimental and empirical attempts to examine the role of these other factors have often focused on a single country or a small number of countries at a single point in time, and have also examined only a few factors that might explain compliance. We attempt to bring together the numerous – but contrasting and jumbled – insights from this earlier work by examining the many social and institutional factors in tax morale across a wide range of countries. In particular, we use data sets from the WVS that contains information on individuals in multiple countries. We conduct a cross-country comparison of tax morale with these data. Tax morale, or “the intrinsic motivation to pay taxes”, might help explain the puzzle of why so many individuals pay their taxes. Interestingly, this factor until now has mostly been discussed as a residual explanation without investigating factors that shape tax morale. By analyzing tax morale as a dependent variable, we hope to fill a large, and largely unexplored, gap in the tax compliance literature.

Previously, Alm et al. (1995) demonstrated that subjects in laboratory economic experiments in the United States consistently exhibited higher compliance than subjects in identical experiments in Spain, and they attributed these results to higher tax morale in the United States. However, they were not able to test directly this suggestion. Using WVS data on Spain versus the United States from three different waves, we are able to estimate directly the determinants of tax morale in Spain and the United States. We find consistent evidence that individuals in the United States have a statistically significant higher tax morale than those in Spain, controlling in a multivariate analysis for additional factors, with quite high marginal effects of SPAIN. Together with the experimental results, our estimation results clearly support the notion there is a higher social norm of compliance in the United States than in Spain.

We then extend our multivariate analysis to include an additional 14 European countries in the estimations. Our results show that individuals in the United States have the highest tax morale across all countries in our sample, followed by those in Austria and Switzerland. The high tax morale values in the United States and in Switzerland might indicate that strengthening direct democratic elements helps increase tax morale, a result that has been found experimentally (Alm et al., 1999; Feld & Tyran, 2002). Such institutional and political methods may enhance individuals' identification and loyalty with the state, based on actively participating in the political process and expressing their preferences. Our results also indicate a higher tax morale in Northern European countries than in Romanic countries.

A relevant issue is whether these clear differences in tax morale across countries are reflected in any differences in real, or observed, behaviors in these countries. One area in which tax morale might be expected to have such real effects is in the size of the informal (or shadow) economy. As argued by Alm, Martinez-Vazquez, and Schneider (2004), the size of the underground economy can serve as a useful, if somewhat imperfect, measure of the extent of tax evasion, so that a negative correlation between the size of the shadow economy and tax morale indicates the extent to which individuals' revealed actions are related to their attitudes about paying taxes. The number of countries (16) used in Table 5 allows us to exploit TAX MORALE at the aggregated level, by using the average within each country of the percentage of people stating that tax evasion is never justifiable to analyze the simple correlation between tax morale and the size of shadow economy. The size of the shadow economy is measured as a percent of official GDP, using the estimates of the shadow economy from Schneider and Klinglmair (2004).²⁰ Fig. 3 shows that there is a strong negative correlation (Pearson $r = -0.460$) significant at the 0.05 level. Analyzing the linear relationship in a simple regression indicates that the variable tax morale can explain more than 20% of the total variance of the variable size of shadow economy. Thus, the degree of tax morale has consequences for real behavior, and might be responsible for the size of shadow economy: if tax morale is declining, then the shadow economy is likely to increase.²¹

²⁰ See also Schneider and Enste (2002) for a detailed description of the DYMIMIC (dynamic multiple-indicators and multiple-causes) and the currency demand approaches that are used.

²¹ We also examined simple correlation coefficients between tax morale and a number of additional variables, such as total tax revenues as a percent of GDP, per capita total tax revenues, and the shares of the major taxes in total tax revenues or in GDP. Although these correlations were generally of the expected signs (e.g., tax morale was negatively correlated with total tax revenues as a percent of GDP), they were seldom statistically significant.

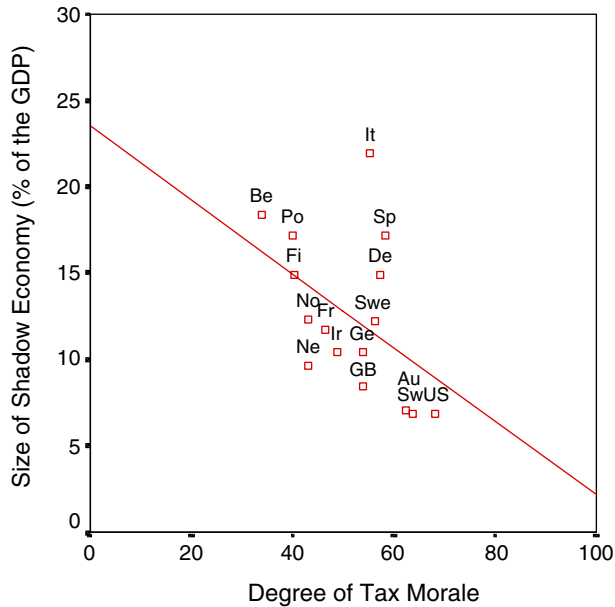


Fig. 3. Correlation between tax morale and the size of shadow economy (Notes: Au: Austria, Be: Belgium, De: Denmark, Fi: Finland, Fr: France, Ge: Germany, GB: Great Britain, Ir: Ireland, It: Italy, Ne: Netherlands, No: Norway, Po: Portugal, Sp: Spain, Sw: Switzerland, Swe: Sweden, US: USA).

In summary, our results indicate that tax morale differs significantly and systematically across countries. Our results also indicate a range of strategies by which tax morale can be increased. For example, we also find a strong relationship between tax morale and trust, which implies a clear policy strategy: induce trust at the constitutional level and at the politico-economic level. Such a relationship between the state and the taxpayers can be maintained by positive actions by the government, well-functioning state institutions, and the maintenance of a positive social capital atmosphere. And such a strategy will be rewarded with a higher tax morale and so a greater willingness of individuals to pay their taxes. Relatedly, treating taxpayers as clients rather than as offenders by the tax administration likely enhances their sense of civic duty and thus their tax morale (Alm et al., 2004).

The relatively high tax morale in the United States and in Switzerland, two countries with a strong direct democratic tradition, provides further policy implications. Improving the ability of individuals to participate in the political arena might be another fruitful strategy to improve tax morale. Citizen involvement in the political process helps to build a closer relationship between citizens and the state. Thus, a sustainable tax system is based on a fair tax system and responsive government, achieved with a strong connection between tax payments and the supply of public goods. If taxpayers perceive that their preferences are adequately represented and they are supplied with public goods, their identification with the state increases, and thus the willingness to pay taxes rises.

Religious organizations can also affect the moral state, including the social capital, of a society. Religion provides a certain level of enforcement to act in the lines of accepted rules, and acts as a “supernatural police” (Anderson & Tollison, 1992). Our results support the conclusion that higher church attendance leads to greater willingness to pay taxes.

More broadly, our results suggest that the improvement of tax morale requires a multi-faceted approach, one that goes beyond the neoclassical focus on deterrence to one that recognizes the multitude of factors that are responsible for deviant, criminal behavior like tax evasion. Understanding individual behavior requires that these many factors be considered.

Acknowledgments

We are grateful to Doris Aebi, participants of the Annual Meeting of the Public Choice Society 2004 in Baltimore (especially Daniel Arce, Stephen Knack, Christopher Westley, and Mario Ferrero), and participants of the 2004 Annual Conference of the National Tax Association in Minneapolis (especially Jon Davis and Richard Bird) for many helpful comments and discussions. Financial support from the Swiss National Science Foundation, the Max Geldner-Stiftung, the Janggen-Pöhn-Stiftung, the Freiwillige Akademische Gesellschaft (FAG), and the University of Basel (Fonds zur Förderung des Akademischen Nachwuchs) is gratefully acknowledged.

References

- Alm, J., Martinez-Vazquez, J., & Schneider, F. (2004). "Sizing" the problem of the hard-to-tax. In J. Alm, J. Martinez-Vazquez, & S. Wallace (Eds.), *Taxing the hard-to-tax: Lessons from theory and practice* (pp. 11–75). Amsterdam: Elsevier/North Holland.
- Alm, J., McClelland, G. H., & Schulze, W. D. (1992). Why do people pay taxes? *Journal of Public Economics*, 48, 21–38.
- Alm, J., McClelland, G. H., & Schulze, W. D. (1999). Changing the social norm of tax compliance by voting. *KYKLOS*, 48, 141–171.
- Alm, J., Sanchez, I., & De Juan, A. (1995). Economic and noneconomic factors in tax compliance. *KYKLOS*, 48, 3–18.
- Anderson, G. M., & Tollison, R. D. (1992). Morality and monopoly: The constitutional political economy of religious rules. *Cato Journal*, 13, 373–391.
- Ashraf, N., Bohnet, I., & Piankov, N. (2003). Is trust a bad investment? Unpublished manuscript.
- Botelho, A., Harrison, G. W., Hirsch, M. A., & Rutström, E. E. (2001). Bargaining behaviour, demographics and nationality: A reconsideration of the experimental evidence. University of Minho, Working Paper Series No. 16.
- Brandts, J., Saijo, T., & Schram, A. (2004). How universal is behavior? A four country comparison of spite and cooperation in voluntary contribution mechanisms. *Public Choice*, 119, 381–424.
- Buchan, N. R., Croson, R. T. A., & Johnson, E. J. (2004). When do fairness beliefs influence bargaining behavior: Experimental evidence from Japan and the United States. *Journal of Consumer Research*, 31, 181–190.
- Cummings, R. G., Martinez-Vazquez, J., McKee, M., & Torgler, B. (2004). Effects of culture on tax compliance: A cross check of experimental and survey evidence. CREMA Working Paper Series, 2004-13, Basel.
- Feld, L. P., & Frey, B. S. (2002). Trust breeds trust: How taxpayers are treated. *Economics of Governance*, 3, 87–99.
- Feld, L. P., & Tyran, J.-R. (2002). Tax evasion and voting: An experimental analysis. *KYKLOS*, 55, 197–222.
- Frey, B. S. (1997). *Not just for the money—An economic theory of personal motivation*. Cheltenham, UK: Edward Elgar Publishing.
- Frey, B. S. (2003). The role of deterrence and tax morale in taxation in the European Union. Jelle Zijlstra Lecture, Netherlands Institute for Advanced Study in the Humanities and Social Sciences (NIAS).
- Frey, B. S., & Feld, L. P. (2002). Deterrence and morale in taxation: An empirical analysis. CESifo Working Paper No. 760, Munich.
- Frey, B. S., & Foppa, K. (1986). Human behaviour: Possibilities explain action. *Journal of Economic Psychology*, 7, 137–160.

- Frey, B. S., & Weck-Hannemann, H. (1984). The hidden economy as an “unobserved” variable. *European Economic Review*, 26, 33–53.
- Henrich, J., Boyd, R., Bowles, S., Camerer, C., Fehr, E., & Gintis, H. (2001). In search of homo economics: Behavioral experiments in 15 small-scale societies. *The American Economic Review*, 91, 73–78.
- Hull, B. B. (2000). Religion still matters. *Journal of Economics*, 26, 35–48.
- Hull, B. B., & Bold, F. (1989). Towards an economic theory of the church. *International Journal of Social Economics*, 16, 5–15.
- Inglehart, R. et al. (2000). *Codebook for world values survey*. Ann Arbor, MI: Institute for Social Research.
- Jackson, B. R., & Milliron, V. C. (1986). Tax compliance research: Findings, problems, and prospects. *Journal of Accounting Literature*, 5, 125–166.
- Kirchgässner, G. (1999). Schattenwirtschaft und moral: Anmerkungen aus ökonomischer perspektive. In S. Lamnek & J. Luedtke (Eds.), *Der sozialstaat zwischen “markt“ und “hedonismus“?* (pp 425–445). Opladen: Westdeutscher Verlag.
- Kirchler, E. (1997). The burden of new taxes: Acceptance of taxes as a function of affectedness and egoistic versus altruistic orientation. *Journal of Socio-Economics*, 26, 421–436.
- Kirchler, E. (1998). Differential representations of taxes: Analysis of free associations and judgments of five employment groups. *Journal of Socio-Economics*, 27, 117–131.
- Kirchler, E. (1999). Reactance to taxation: Employers’ attitudes towards taxes. *Journal of Socio-Economics*, 28, 131–138.
- Lewis, A. (1982). *The psychology of taxation*. Oxford: Martin Robertson.
- Lipford, J., McCormick, R. E., & Tollison, R. D. (1993). Preaching matters. *Journal of Economic Behavior and Organization*, 21, 235–250.
- Long, S., & Swingen, J. (1991). The conduct of tax evasion experiments: Validation, analytical methods, and experimental realism. In P. Webley, H. Robben, H. Elffers, & D. Hessing (Eds.), *Tax evasion: An experimental approach* (pp. 128–138). Cambridge: Cambridge University Press.
- Murphy, K. (2004). The role of trust in nurturing compliance: A study of accused tax avoiders. *Law and Human Behavior*, 28, 187–209.
- Ockenfels, A. (1999). *Fairness, reziprozität und eigennutz*. Tübingen: Mohr Siebeck.
- Ockenfels, A., & Weimann, J. (1999). Types and patterns: An experimental East–West-German comparison of cooperation and solidarity. *Journal of Public Economics*, 71, 275–287.
- Oosterbeek, H., Sloof, R., & van de Kuilen, G. (2004). Culture differences in ultimatum game experiments: Evidence from a meta-analysis. *Experimental Economics*, 7, 171–188.
- Pommerehne, W. W., & Weck-Hannemann, H. (1996). Tax rates, tax administration and income tax evasion in Switzerland. *Public Choice*, 88, 161–170.
- Pyle, D. J. (1991). The economics of taxpayer compliance. *Journal of Economic Surveys*, 5, 163–198.
- Roth, A. E., Prasnikar, V., Okuno-Fujiware, M., & Zamir, S. (1991). Bargaining, market behavior, and human decision processes. *The American Economic Review*, 72, 256–279.
- Schmölders, G. (1960). *Das irrationale in der öffentlichen finanzwissenschaft*. Hamburg: Rowolt.
- Schmölders, G. (1970). Survey research in public finance: A behavioral approach to fiscal theory. *Public Finance*, 25, 300–306.
- Seidl, C., & Traub, S. (2001). Taxpayers’ attitudes, behavior, and perception of fairness. *Pacific Economic Review*, 6, 255–267.
- Strümpel, B. (1969). The contribution of survey research to public finance. In A. T. Peacock (Ed.), *Quantitative analysis in public finance* (pp. 14–32). New York: Praeger Publishers.
- Schneider, F., & Enste, D. H. (2002). *The shadow economy – An international survey*. Cambridge: Cambridge University Press.
- Schneider, F., & Klinglmair, R. (2004). Shadow economies around the world: What do we know? CREMA Working Paper Series, 2004-03.
- Smith, K. W. (1992). Reciprocity and fairness: Positive incentives for tax compliance. In J. Slemrod (Ed.), *Why people pay taxes – Tax compliance and enforcement* (pp. 223–258). Ann Arbor, MI: University of Michigan Press.
- Smith, K. W., & Stalans, L. J. (1991). Encouraging tax compliance with positive incentives: A conceptual framework and research directions. *Law and Society Review*, 13, 35–53.
- Song, Y., & Yarbrough, T. E. (1978). Tax ethics and taxpayer attitudes: A survey. *Public Administration Review*, 38, 442–457.
- Tittle, C. (1980). *Sanctions and social deviance: The question of deterrence*. New York: Praeger.

- Torgler, B. (2001). Is tax evasion never justifiable? *Journal of Public Finance and Public Choice*, 19, 143–168.
- Torgler, B. (2003). Tax morale and institutions. CREMA Working Paper Series 2003–9, Basel.
- Torgler, B. (forthcoming). The importance of faith: Tax morale and religiosity. *Journal of Economic Behavior and Organization*.
- Torgler, B., & Murphy, K. (2004). Tax morale in Australia: What factors shape it and has it changed over time? *Journal of Australian Taxation*, 7, 298–335.
- Vogel, J. (1974). Taxation and public opinion in Sweden: An interpretation of recent survey data. *National Tax Journal*, 27, 499–513.
- Weck, H. (1983). *Schattenwirtschaft: Eine möglichkeit zur einschränkung der öffentlichen verwaltung? Eine ökonomische analyse, finanzwissenschaftliche schriften* 22. Bern: Lang.
- Weck, H., Pommerehne, W. W., & Frey, B. S. (1984). *Schattenwirtschaft*. München: Franz Vahlen.