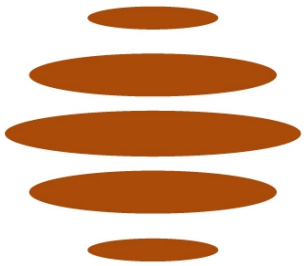


Institute of Local Public Finance
Working Paper 03-2007
November 2007

The Evolution of Tax Morale in Modern Spain

Jorge Martinez-Vazquez and Benno Torgler

Copyright 2007, I.L.P.F. GmbH. No part of the material protected by this copyright notice may be reproduced or utilized in any form or by any means without prior written permission from the copyright owner.

The Evolution of Tax Morale in Modern Spain

by

Jorge Martinez-Vazquez [a] and Benno Torgler [* b,c,d]

[a] *Andrew Young School of Policy Studies, Georgia State University, Atlanta, GA 30303, USA*
[b] *The School of Economics and Finance, Queensland University of Technology, GPO Box 2434, Brisbane, QLD 4001, Australia*
[c] *CREMA – Center for Research in Economics, Management and the Arts, Gellertstrasse 18, CH-4052 Basel, Switzerland*
[d] *CESifo, Poschingerstrasse 5, D-81679 Munich, Germany*

Abstract

This paper studies the evolution of tax morale in Spain in the post-Franco era. In contrast to the previous tax compliance literature, the current paper investigates tax morale as the dependent variable and attempts to answer what actually shapes tax morale. The analysis uses survey data from two sources: the World Values Survey and the European Values Survey, allowing us to observe tax morale in Spain for the years 1981, 1990, 1995, and 1999/2000. The study of the evolution of tax morale in Spain over nearly a 20-year span is particularly interesting because the political and fiscal system evolved very rapidly during that period.

JEL classification: H260, H730, K420, O170, Z130

Keywords: Spain, Tax morale, Tax compliance, Constitutional and political changes, fiscal system, endogenous preferences

* Corresponding author. E-mail addresses: jorgemartinez@gsu.edu, benno.torgler@qut.edu.au, Financial support from Spain's Instituto de Estudios Fiscales (Martinez-Vazquez) and the Swiss National Science Foundation (Torgler) is gratefully acknowledged.

1. Introduction

Spain has undergone fundamental changes in the public sector since the transition to a democratic system after the death of General Francisco Franco in 1975. These very significant changes in Spanish society during the last 30 years offer an opportunity to examine citizens' attitudes toward paying taxes – what is sometimes termed their "tax morale" – and the ways in which these attitudes are affected by changes in government policies and institutions. In this paper we use survey data from the World Values Survey (WVS) and the European Values Survey (EVS) to observe the evolution of tax morale in Spain at four benchmark years: 1981, 1990, 1995, and 1999/2000. Although these years do not coincide with any particular key event in the recent history of Spain, they cover a period long enough to incorporate many of the important reforms of the Spanish public sector.

Some researchers have argued that tax morale—the intrinsic motivation one has to pay his/her tax—can help to explain the high degree of tax compliance observed in many countries (e.g., Schwartz and Orleans 1967, Lewis 1982, Roth, Scholz and Witte 1989, Alm et al. 1999, Frey 2003, Frey and Feld 2002, Feld and Tyran 2002, Torgler 2007). It is therefore of interest to analyze what may shape tax morale among taxpayers.

The study of the evolution of tax morale in modern Spain is particularly interesting because the constitutional and political changes after Franco died in 1975. the advent of a fully democratic state, deep tax policy and tax administration reforms, a significant push for decentralization, joining the European Community and so on provide excellent benchmarks for institutional changes that are expected in the compliance literature to change tax morale.

The issue of tax morale in Spain so far has attracted little attention in the literature. To our knowledge there have not been many previous studies in this area (see Prieto Rodriguez et al. 2005, Molero and Pujol 2005, Alm and Torgler 2006). In contrast to these previous studies, in this paper we focus on the inter-temporal evolution of tax morale in a country using data from different survey waves.

The rest of the paper is organized as follows. Section 2 provides an overview of institutional change in Spain. Section 3 discusses the connection between tax morale, endogenous preferences and institutional changes. Section 4 describes the available data on the level of tax morale in Spain used in this paper. Section 6 presents an econometric analysis of the individual determinants of tax morale in Spain. Section 6 offers some concluding comments.

2. An Overview of Institutional Change in Spain

The last 30 years represent a period of radical transformation for Spain, which could have affected profoundly the way citizens view the state and ultimately their tax morale. The state of tax morale was quite low at the end of Franco's regime. As reported by Comin (2007) at the end of the 1970s tax evasion in Spain was estimated at 40 percent of tax receipts and above 90 percent of all Spanish taxpayers recognized the existence of fiscal fraud. In addition, at the time the fiscal system provided ample tax evasion opportunities for the wealthy, and there was no political will to prosecute fiscal fraud. In particular, tax evasion was not a criminal offense and evaders only received small administrative sanctions. After Franco's death, the first democratic elections took place in 1977 and were won by a center-right coalition (the UCD—Unión de Centro Democrático). The highlight of this period was the coalescence of all political forces in the country in what became known as the Moncloa Pacts of 1977. These Pacts set the foundations for political reform, with a new Constitution being

approved in 1978. These Pacts also set the blueprints for deep fiscal reform, including legislation making tax evasion a crime. The goals of the Moncloa Pacts were to introduce policy and institutional reforms in the public and private sectors that would bring Spain to par with the system Spain's European neighbors had put in place almost three decades earlier following the end of World War II.[1] The period immediately following the Moncloa Pacts was one of political indecision, poor economic performance, and political turmoil, including a failed coup by a small group of security forces in 1981. It appeared that the government had withdrawn from its commitments made in the Moncloa Pacts in terms of policy reforms, including the modernization of the tax administration and the fight against tax evasion.[2]

Fiscal and other institutional reforms gained momentum with the new Socialist Party: Partido Socialista Obrero Español (PSOE) government after their election victory in 1982. The PSOE would stay in power until the general elections of 1996. Several important changes and reforms took place during this period. Perhaps the most significant event was joining the European Economic Community (EEC) in 1986. The accession to the EEC meant, among other things, the introduction for the first time in Spain of the Valued Added Tax (VAT), required by the harmonization of Spain's tax system with EEC rules.

But even before the accession to the EEC the government embarked on a series of fiscal reforms. The first Socialist government tax reforms that took place between 1983 and 1987 developed the vision of the Moncloa Pacts. Besides the introduction of the VAT, the Personal Income Tax was overhauled with an emphasis on vertical equity and progressivity. Also important for the evolution of tax morale in this period, a major effort got under way to modernize the tax administration

[1] See Comin (2005).
[2] Nevertheless, in the tax policy arena new personal income and corporate income taxes were introduced in 1978.

apparatus. These reforms in tax administration included the territorial reorganization of the tax agency, the computerization of services, upgraded professional careers for tax officials, and setting up other instruments for increasing voluntary taxpayer compliance and fighting tax evasion.[3] Following the Supreme Court ruling declaring unconstitutional the use of the "family" as the unit of taxation, the 1998 tax reform sought to slow down the pace of government growth, lower tax rates and broaden tax bases to increase economic efficiency and horizontal fairness, and in general to bring the Spanish tax system in line with the then existing reform trends in Organization for Economic Cooperation and Development (OECD) countries.

As noted by Comin (2007), the 1998 reform package represented an end to the Spanish welfare state even before the task had been completed. In a way, Spain was still trying to catch up with its European peers when the rules of the game had shifted. Thus, the fiscal reforms of the first twenty years of democracy were now also in need of reforms. Although many of these needed reforms were introduced by the Socialist government, some had to wait for the change in government. After the right-center Partido Popular (PP) took office in 1996, fiscal reform continued to move in the direction of increasing the relative importance of indirect over direct taxes and reducing budget deficit and debt levels in order to join the European Monetary Union. The PP would remain in power until the general elections of March 2004 in the aftermath of the tragic terrorist attacks of Madrid by Muslim radicals. When the PP won the general elections in 1996 the need for reform was still present, imposed by capital mobility and other globalization forces. These economic realities had already forced many of Spain's European neighbors to follow suit with tax changes in the United States and elsewhere in the world lowering rates, broadening tax bases, putting more emphasis on consumption taxes, and containing the costs associated with social

[3] See Onrubia (2007).

insurance contributions. Potentially more important for tax morale, these reforms worldwide were now accepting the limitations of significant income redistribution through progressive income taxes. The tax reforms initiated by the PP embraced all these principles. For example, tax rates on capital gains were reduced in 1996 and in 1998, and a new, more favorable, tax regime for small and medium sized companies was enacted. The PP reforms of the Personal Income Tax in the first years of the new millennium were further oriented to reducing the tax burden, especially at the low end of the income distribution; more visible were the reductions of marginal tax rates across the board, including the top rate. The PP government at the time also pursued strict budget discipline, generating low deficits or surpluses and reducing the outstanding public debt, in order to meet the EU's requirements in the Stability and Growth Pact.

Aside from these reforms, there were many other events that potentially shaped ordinary citizens' views of the state. These included the already mentioned coup attempt in 1981; a sizable bout of corruption by public officials during the last Socialist government in the mid-1990s; and a profound fiscal, administrative and political decentralization enabled by the 1978 Constitution. The state also had to contend with centrifugal separatist forces in the historical regions, especially in the Basque Country with the terrorist activity by Euskadi Ta Askatasuna (ETA). On the side of general performance of the economy, the country witnessed massive and much needed privatization of state-owned enterprises and a rise in unemployment due to a rigid system of labor institutions. Nevertheless the Spanish economy continued to experience high rates of economic growth for most of the transition period.

The dramatic increase in tax effort in a relatively short period of time in Spain accompanied by improved taxpayer morale can provide useful lessons to developing countries in Latin America and elsewhere for how to do fiscal reform increasing tax

revenues to finance basic public services and infrastructure underpinning sustainable economic growth.

3. Tax Moral, Endogenous Preferences and Institutional Change

The literature that investigates the formation of preferences is still in its infancy although the idea of endogenous preferences is historically not new. For example, in the Athenian polis Aristotle observed the relevance of discussion as an act of convincing and persuading (see Faber, Manstetten and Petersen 1997). To Aristotle, preferences therefore were not exogenous and he was well aware of the importance of institutions and habits in the formation of "good" citizen. According to him virtue is not given. It is the process, the way towards virtue which is as important as virtue itself (see van Staveren 2001). He has also analysed in the *Rhetoric* and the *Nicomachean Ethics* emotions such as anger, hate, fear and shame (Torgler 2003). For many years mainstream economics has assumed preferences as given (see, e.g., Stigler and Becker 1977). Bowles (1998, p. 102)) stresses that economists "have followed Hume, rather than Aristotle, in positing a given and self-regarding individual as the appropriate behavioral foundation for considerations of governance and policy." In recent years the literature on habits and rules or social norms has attempted to bring more light into what shapes the formation of preferences (see, e.g., Bowles 1998, Frank and Sunstein 2001, Hodgson 2003, Palacios-Huerta and Santos 2004). These studies go beyond assuming that the "preference function is already 'there', ready to deal with unpredictable and unknowable circumstances" (Hodgson 2003, p. 162). More and more economists recognize that it is difficult to explain a number of economic phenomena without taking into account the relevance of social values or preference formation (Palacios-Huerta and Santos 2004; Akerlof and Kranton 2005). The economic literature on tax compliance based on the economics-

of-crime paradigm (Allingham and Sandmo 1972) has failed to predict the relative high level of tax compliance that we observe; this model predicts far too little compliance and far too much tax evasion (Alm and Torgler 2006). To resolve this puzzle of tax compliance, many researchers have argued that tax morale can help to explain the high degree of tax compliance (Torgler 2007). Furthermore, tax compliance experiments mostly report a higher level of income declaration than the expected utility model would predict (for a survey see Torgler 2002). This high level of co-operation is not specific to the tax compliance literature. Experimental economics has gathered strong evidence that refutes the self-interest hypothesis showing that a substantial fraction of individuals exhibit social preferences (Fehr and Fischbacher 2002; and Ochs and Roth, 1989; Roth, 1995 for ultimatum experiments; Ledyard, 1995; and Davis and Holt 1993, for public good experiments).[4] Leading economists, such as Adam Smith, Karl Marx, Thorstein Veblen or James Duesenberry, have long expressed the importance of the relative position and social concerns (for an overview see Frank and Sunstein 2001). Frey and Torgler (2007) find that taxpayers are willing to pay their taxes conditionally, depending on the pro-social behavior of other taxpayers. The more other taxpayers are perceived to be honest, the more willing individuals are to pay their own taxes. These results are consistent with the literature on conditional cooperation (see, e.g., Falk et al.2003, Fischbacher et al. 2001; Fischbacher and Gächter 2006). Traditional tax compliance models have the disadvantage that they treat taxation as an isolated case. Subjects do not act as isolated individuals playing a game against nature. The social context or institutional structure in which tax compliance takes place would seem to be very important.

[4] Baldry (1987), among others, identifies a need to revise the theory rather than questioning the experimental method. See also Fehr and Gächter (2000a and 2000b) where the self-interest model models have failed to give satisfactory explanations of many forms of social interaction.

Therefore, it is highly interesting to investigate whether institutional change in any particular country, in our case Spain, affects tax morale and therefore moral values. If the time factor matters, we can conclude that individuals' values are not stable or exogenous over time. This would support the argument that socio-economic systems lead to preference and perception changes. Hodgson (2003, p. 162) stresses that socio-economic systems "*create and re-create individuals*… the individual is changed in the process".[5] The reform of the fiscal system in Spain led to a strong re-learning process of social interaction vis-à-vis the role of the state, and in line with this argumentation we hypothesize that this process led to changes in taxpayers' preferences and values. This hypothesis is in line with Bowles' (1998) model in which economic institutions influence the evolution or change of norms.

4. Some Data on Tax Morale in Spain

Spain is a particularly interesting country to analyze because there have been a number of major changes that have occurred in its system over the past 30 years. Whether some major changes such as these have served to increase or decrease tax morale is the focus of the present study. Isolating the reasons for possible differences in tax morale is not an easy task. However, the existence of several data sets, the WVS and the EVS, allows us to empirically examine at the individual level tax morale development over time and some of the factors that may affect citizens' tax morale. The WVS builds on the EVS, first carried out in 1981-1984. A second wave of surveys was completed in 1990-1993, a third one in 1995-1997 and a fourth in 1999-2001. The latest EVS has been conducted in 1999-2000. Both are based on representative national samples of at least 1000 individuals in a country, and have been conducted meanwhile in more than 80 countries. All surveys are done via face-

[5] Buchanan (1999) makes essentially the same argument.

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.[6]

Spain, contrary to many other countries, participated in all these surveys. This brings us the unique opportunity of investigating the development of tax morale over time, as we have said, focusing on the four time periods 1981, 1990, 1995 and 1999-2000.[7] We use a multivariate analysis setting with several independent variables to better isolate a possible time effect.

The general question used in the surveys to assess the level of tax morale 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 taxes if you have the chance (% "never justified" – code on a scale of 1 to 10, where 1=never and 10=always)."

It should be noted that our tax morale variable is not free of biases. Subjective surveys are always prone to significant reporting errors. A taxpayer who has engaged in some illegal behavior in the past may tend to excuse (even justify) this kind of behavior and so declare a high tax morale. Furthermore, people might overstate their willingness to pay taxes, as there are no sanctions involved; similarly, individuals may be reluctant to respond honestly to a survey question, given the delicate nature of

[6] The weighting variable is provided by the World Values Survey. For a comprehensive and detailed discussion see Inglehart et al. (2000).

[7] This allows us to study the evolution of tax morale for a more extended period of time than is usually the case in the literature. In fact, we are not aware of a study in the previous literature that investigates tax morale over time using four different time periods. The 1990 data consists of two surveys.

tax compliance. No objective or observable measure of tax morale is available. Elffers, Weigel, and Hessing (1987) found strong differences between actual evasion assessed and evasion reported in survey responses. However, the way by which the tax morale variable is generated is less intrusive than if we were to ask more directly whether a person has or has not evaded taxes. In addition, it should be noted that economists have increasingly focused on surveys (see, for example, the happiness research, environmental or social capital literature). One reason might be that survey research uses more sophisticated statistical techniques and designs compared to early years. Moreover, Jackson and Milliron (1986) point out that compliance variables appear to be highly correlated which makes multivariate rather than univariate testing appropriate.

A further advantage of our approach is that both the WVS and EVS data sets cover a wide variety of questions on different topics, which helps reduce framing effects that may be present in surveys based only on tax compliance questions. We recognize that there may be advantages to working with a multi-item index instead of a single question to measure tax morale (see Kirchler 1997, 1999). However, a single question approach also has the advantage of avoiding the problems associated with the construction of an index, especially regarding issues of measurement procedure, low correlation between the items included in the index, overall complexity, and so on.

5. Individual Determinants of Tax Morale

Before examining the determinants of individual tax morale using multiple regression analysis, it is instructive to examine the distribution of aggregate tax morale scores in Spain for the years 1981, 1990, 1995, and 1999/2000. *Figure 1* presents the mean values in these four time periods, calculated as the simple average across all

individuals in the data sets. 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. This justifies the use in the next section of a probit model to estimate the determinants of tax morale. Nevertheless, we are also going to explore the robustness of the results using an ordered probit model with the original scale. We observe a strong increase in tax morale in Spain between 1981 and 1990 and a further increase between 1990 and 1995. On the other hand, there is a decrease observable between 1995 and 1999-2000.

[FIGURE 1 ABOUT HERE]

If high tax morale is supposed to be an explanation of why tax compliance rates are high, it might be interesting in turn to "endogenize" tax morale and analyze what forces *shapes* it. The descriptive analysis in the previous section only gives us information about the *raw effects* and not the *partial effects*. The natural question is what may have changed over time in Spain that can explain the steady increases in the overall level of tax morale from 1980 to 1985 and then the decline observed in 1999/2000. Was it changes in the political and fiscal environments? Or may it have been some thing else? Actually the observed differences over time might be explained in terms of a number of factors than can be controlled in a multivariate regression analysis. Doing that should enable us to disentangle the effects of other factors from a possible time effect.

As mentioned, *Figure 1* indicated 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 a probit estimation approach.[8] In the estimations 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 different time periods, the observations are also weighted to get an equal number of observations for each wave.[9] To obtain the quantitative impacts for each of the explanatory variables, below we calculate the marginal effects corresponding to each of the variables. One final issue with the data is that "I don't know" answers and missing values were omitted in all estimations.

In the regressions below we include a wide range of independent variables as determinants of TAX MORALE (TM_i), although it is justifiable to state that further variables could have been included. However, using all four waves reduced the number of possible independent variables to include. There is no established theory on the determinants of tax morale that can guide us in the election of relevant explanatory variables. In the choice of explanatory variables we are also limited by the other information or other variables included in the WVS and the EVS. The baseline specification has the following structure:

$$TM_i = \beta_0 + \beta_1 \cdot PERS_i + \beta_2 \cdot ECOSIT_i + \beta_3 \cdot HUMANC_i + \beta_4 \cdot SOCIALC_i + \beta_5 \cdot TIME_t + \varepsilon_i \quad (1)$$

The explanatory variables chosen can be grouped in three categories.[10] First, we include personal/family characteristics ($PERS_i$) and income status ($ECOSIT_i$). This type of variables is routinely used in tax evasion studies.[11] Second, we include a set

[8] Note that we also used a weighted order probit model, in which the ten-point scale is recoded into a four-point scale (0 to 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 from those obtained with a binomial dependent variable and a simple probit model.

[9] 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.

[10] Previous studies have discussed the relevance of control variables. See, for example, Torgler (2006a. 2006b).

[11] See, for example, Alm (1998) and Andreoni et al. (1998).

of variables representing individual human capital ($HUMANC_i$), such as employment status and so on. Third, we include a set of variables that measure the level of "social capital" ($SOCIALC_i$), measuring such things as trust in government institutions, the level of national pride or religiosity. Our main interest is to establish whether, after controlling for these potential determinant factors of tax morale, the time dummy variables ($TIME_i$, TIME 1990, TIME 1995, TIME 1999) are still statistically significant. Given the important changes in the political regimes and the fiscal and economic environments over all these years, we expect the time dummies to be significant. Of course using time dummies does not allow us to identify what particular changes in fiscal policy and overall governance may have produced the changes in tax morale. In fact we cannot separate among any effects coming from those sources and any other changes that may have happened in Spanish society over the intervening years, other than those captured by our control variables. The descriptive statistics of the independent variables are presented in Appendix Table A1.

The regression results are presented in Table 1. As a test of robustness we report the results from a number of alternative specifications. In the basic specification, in column 1 of Table 1, we introduce as control variables age, gender, marital status, and employment status. In addition we include our variables of interest, the dummy variables to investigate time effects (with 1981 as the reference period): TIME 1990, TIME 1995 and TIME 1999.

The results for the control variables are in line with those found in previous studies in tax morale and tax evasion. A higher age is correlated with higher tax morale, although the marginal effects are small—less than one percentage point. We checked for non-linearity for age including a quadratic term, but the results clearly indicated that there is a linear relationship between age and tax morale. We also

observe a significant effect for gender; the coefficient for FEMALE is positive and statistically significant in all regressions, with the marginal effects as high as 4 percentage points. On the other hand, the relationship between marital status and tax morale, with MARRIED status being the control group, is not a strong one; although SEPARATED and SINGLE individuals may show relatively lower tax morale than the control group, in most cases the estimated coefficients are not statistically significant. Similar results are obtained for employment status. Although the estimated coefficients for SELF-EMPLOYED and UNEMPLOYED are negative, which would show a lower level of tax morale than for the control group (full time employed), these coefficients are not statistically significant; therefore no differences in the level of tax morale are observable.

For the time effects, in the basic regression all coefficients are statistically significant which indicates that tax morale was at the lowest level in 1981. Thus, after controlling for other potential determinants of tax morale, our main finding is that tax morale in Spain was significantly higher in 1990, 1995 and 1999/2000 than in 1981. The marginal effects are high, especially for the year 1995 showing a value of 19.3 percentage points.

In the second specification (column 2 of Table 1), we further investigate whether the differences over time are largely driven by changes in the level of social capital. With that goal we add several variables to the basic specification; these social capital variables can be seen as indicating the extent to which citizens can identify themselves with the state, the national institutions or the country itself. The first variable in this group measures the degree of individuals' TRUST IN THE PARLIAMENT and thus is closely linked to the way taxpayers feel they are treated

by the state.[12] This variable measures the relationship between the state and its citizens. We would expect that if the parliament is seen to be acting in a trustworthy way, taxpayers' trust in the state increases and so would their willingness to comply with their tax obligations. The relationship between the taxpayers and the parliament (relational contract) can be maintained by positive actions, well functioning institutions, implementing a positive social capital atmosphere. As a proxy for national identification we use NATIONAL PRIDE.[13] Identification with the state may induce cooperation among taxpayers and thus induces similar mechanisms as the trust variables. However, contrary to the trust variables, which have been thoroughly analyzed by *social capital* researchers, the variable pride has been completely neglected although it is a widespread phenomenon. Finally, as a measure of norms enforced by non-governmental institutions or values that promote compliance and punish misbehavior we use RELIGIOSITY.[14] The church as an institution induces behavioral norms and moral constraints among their community. Religiosity can thus be seen as a restriction on engaging in tax evasion (see Torgler 2006). The empirical results indicate that social capital variables matter in determining tax morale. The estimated coefficients for the three variables are positive and highly statistically significant. An increase in religiosity by one unit increases the probability of stating tax evasion is never justifiable by not less than 8.5 percentage points. The variable PRIDE indicates marginal effects of more than 7.6 percentage points. This means that an increase in the pride scale by one unit increases the share of subjects indicating the highest tax morale by 7.6 percentage points. Finally, TRUST IN THE

[12] The question asked in the surveys 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? (1 = 'none at all'; 4 = 'a great deal'). "

[13] This question in the survey asked: "How proud are you to be a citizen of SPAIN?" (4= Very proud; 1=Not at all proud).

[14] This question in the survey asked: "Independently of whether you go to church or not, would you say you are: 1. A convinced atheist, 2. Not a religious person, 3. A religious person."

PARLIAMENT has also a positive impact on tax morale, with marginal effects of 3.1 percentage points. Using a Wald-test for coefficient restrictions testing for joint significance we can conclude that social capital plays a significant role in the determination of individuals' tax morale.

As can be seen from the second column of Table 1, the time effects are still quite visible in the presence of social capital variables. All coefficients remain highly statistically significant; only the marginal effects of the strongest effect observable in 1995 decreases from 19.3 to 17.1 percentage points.

In the final specification (column 3 of Table 1) we add the economic status variables to the regressions.[15] The interesting result here is that "lowest economic status class" appears to have the highest tax morale, while the "upper class" has the lowest tax morale followed by the upper-middle and lower-middle classes, in that order. Being in the upper class rather than the lower class reduces the probability of stating that tax evasion is never justifiable by 7.2 percentage points. The Wald-test also provides supportive evidence on the relevance of the economic status situation in understanding individuals' differences in tax morale. One may speculate as to why the results for economic status are stacked in this way; it could be different moral standings or could be different perceptions of what the balance of expenditures and taxes brings to different groups; of course, we have no information to differentiate between these or other alternative explanations.

Personal characteristics and social capital factors remain statistically significant in this set of regressions. The results for the time effects remain also statistically significant, showing the robustness of these estimates; interestingly, the marginal effects of the 1999/2000 dummy variable increase from 6.6 to 7.2

[15] As can be seen at the bottom of Table 1, the economic status variables contain a relatively high number of missing values.

percentage points. On the other hand, the marginal effects of the year 1995 decrease from 17.1 to 15.8 percentage points.

To better visualize tax morale differences over time, we change three times the reference group (year 1990 instead of 1981 in the first part, in the second part 1999 instead of 1981 and in the third part 1995 instead of 1981). These results are shown in Table 2. For simplicity, we only report the time variables. Of course, the regression results are perfectly comparable to the findings presented in Table 1. 1995 reports the highest level of tax morale. We can observe a significant increase in tax morale between 1990 and 1995, but a decay of tax morale over time between 1995 and 1999/2000. On the other hand, the differences between 1990 and 1999/2000 are not statistically significant. Using the year 1995 as a reference group indicates that tax morale has decreases.

The changes in the overall level of tax morale would seem to fit well, perhaps with the possible exception of the downswing in the last half of the 1990s, with what had been happening to and around Spanish citizens in the transition years to a democratic regime and thereafter.[16] In 1981 citizens' tax morale was relatively low. By that date the fiscal system had advanced little from its dismal performance during the late years of Franco's dictatorship, with widespread perceptions of tax evasion, failing economic performance and an inadequate social welfare system, all of which naturally should have reduced any intrinsic motivation to pay taxes. In addition, at the beginning of the transition to democracy Spain lacked a tradition of voluntary compliance and self-filing. Another legacy from the Franco years was that the

[16] However, not every thing related to tax compliance improved over this period. It is interesting to contrast these improvements in reported tax morale with the evolution of the size of the underground economy in Spain. In the most recent study of the scale of the underground economy in Spain, Gomez de Antonio and Alañón Pardo (2004) find that the relative size of the underground economy in Spain kept growing from 1980 through 2000. The ratio of the gross value added in the underground to the formal sector was 15.5 percent and had increased to 19.8 percent in 1990. Subsequent changes were smaller with the ration standing at 20.1 percent in 1995 and 20.9 percent in 2000.

connection between the payment of taxes and the provision of public goods had been largely concealed also reducing the willingness to pay taxes.

Our results show a sharp increase in tax morale from our first year of observation in 1981 through 1995. The increase in tax morale during these 14 years would seem to be consistent with the relevance of social norms in tax compliance. The socio-economic conditions for Spanish citizens improved across the board, as the level and quality of public services also improved steadily. The strengthening of institutional structures, in particular the reform of the tax system and tax administration with increased overall fairness likely produced an affirmation of the public beliefs in government, at the same time income opportunities improved for a large share of the population. Quite likely, taxpayers reacted favorably to the economic and tax policy changes and public expenditure initiatives that were intended for bringing Spain closer to the economic performance of most of its European partners. In summary, the restoration of democracy, the strengthening of social and economic institutions, the process of fiscal decentralization and the creation of a welfare state could have brought a higher level of trust in the state and more positive individual attitudes toward paying taxes through 1995.

However, there was some backtracking in the level of tax morale between the surveys conducted during 1995 and those conducted during 1999/2000. We do not have a good explanation for what may have been the cause of this relatively drop, but nevertheless significant, in the level of tax morale. During the last socialist administration in the mid-1990s, there was considerable institutional deterioration, including corruption scandals of top government officials. Perhaps what we observe is a lagged response to that environment with a decrease in tax morale. The change in government in 1996 when the PSOE lost the elections to the PP in 1996 would seem to have brought a marked change in direction and the reestablishment of a reputation

for good management in government. Other plausible causes for the decline in tax morale include the high unemployment rate during this period, the partial dismantling of the never fully achieved welfare state, or perhaps even the perception of unfairness associated with the tax reforms reducing rates and broadening tax bases that also got started right in this period.[17]

To check the robustness of the previous findings, we report in Table 3 additional estimations extending Eq. 3 with factors such as subjective well-being/happiness or financial satisfactions[18]. The results indicate that overall happiness and financial satisfaction is not driving the changes in tax morale. The time dummy coefficients are still highly statistically significant with similar marginal effects. Table 3 shows a strong impact of financial satisfaction on tax morale. An increase in the scale by one unit raises the probability of reporting the highest tax morale by 1.3 percentage points. The variable happiness loses its significance after controlling for financial satisfaction. However, the Wald-test for coefficient restrictions indicates that satisfaction as a group plays a significant role in the determination of individuals' tax morale.

The use of the time dummy variables can be criticized because they may simply reflect a range of macro or external factors, such as the inflation rate or the unemployment rate, that have evolved in time and that are not fully covered by our control variables; in particular, Figure A1 reports a certain level of variation of such macro variables during the period under investigation. Fortunately, most of the used

[17] Tax amnesties may have an impact on tax morale. However, there were no tax amnesties in Spain over this period. Lopez-Laborda and Rodrigo (2003) have examined the impact of the main Spanish tax amnesty that took place in 1991 within the context of the 1989-1991 reform program of the personal income tax and concluded that the amnesty had no short or long terms effects on income tax compliance and collections.

[18] Happiness: Taking all things together, would you say you are: Very happy (4), quite happy (3), not very happy (2), and not at all happy (1); financial satisfaction: How satisfied are you with the financial situation of your household? (scale 1 = dissatisfied to 10=satisfied).

surveys provide the information in which Spanish REGION an individual lives.[19] Thus, the regional unemployment rate and inflation rate for all 17 SPANISH REGIONS (the Autonomous Communities) are included as additional control variables for the years 1990, 1995 and 1999/2000.[20] The possibility of including three surveys also generates enough degrees of freedom to include such macro variables into the previous specifications. Table 4 presents the results. In line with previous tables, we report specifications with and without the economic situation proxies. In addition, because it can be argued that including these two aggregated regional variables will produce downwardly biased standard errors, we address the problem of heteroscedasticity by presenting also results with standard errors adjusted for clustering on regions. The results show that the unemployment and inflation rate and have a negative impact on tax morale. The marginal effects indicate that inflation has in particular a stronger impact on tax morale. The fact that we already control the unemployment situation at the individual level may explain the lower impact of the unemployment rate at the macro level. Moreover, it is worthwhile to note that the previous results remain robust. The patterns observed for the development of tax morale in the 90s remain in line with previous estimations[21]. Similarly, factors such as the economic situation or social capital also matter in these extended specifications.

The recoding process might be a further point of criticism. Recoding the original scale 10-point scale into a 2-point one may lead to biases and a lost of information despite the fact that a natural cut-off point is clearly visible. Thus, we present in Table 5 regression results using the original 10-point scale. In this case, ordered probit model ranking information of the scaled dependent variable is

[19] Only the 1981 and one of the two 1990 surveys does not provide this information.
[20] To our knowledge, this would be the first time that the impact of these macro variables on tax morale is actually explored.
[21] It is a pity that we were not able to control for these macro variables in the 1981 survey. This would have provided a better robustness check.

appropriate. As can be seen, the results remain robust. The time trend is consistent with previous results, the macro variables unemployment and inflation have a strong negative impact on tax morale. Similarly, trust in the parliament, religiosity and national pride matter. Focusing on the control variables we can also observe an age, gender and income effect. Thus, the ordered probit results are consistent with the ones obtained in the previous tables using a probit model.

6. Conclusion

The transition and further consolidation of the democratic state in Spain and deep reforms of its fiscal system provide an interesting setting for studying evolution of citizens' attitudes toward paying taxes, or tax morale.

In this paper we analyze tax morale in Spain over the period 1981-2000 using survey data from the WVS and the EVS. Our estimation results support the conjecture that during this time Spain succeeded in designing general institutional reforms, including tax policy and tax administration reforms that led to significant increases in tax morale, even though some deterioration of tax morale was present between the 1995 and 1999/2000 observations. In general, the results have to be considered cautiously taking into account that we are working with survey data using an attitudinal variable as dependent variable.

At the individual level we also find other factors that are important determinants of tax morale. Personal characteristics such as age and gender (female) are correlated with higher tax morale, results that are in line with previous studies of tax morale and tax evasion in Spain and elsewhere. What we have called "social capital" variables, the extent to which citizens can identify themselves with the state, the national institutions or the country itself, play a strong positive effect on tax morale. Moreover, individuals' satisfaction is positively correlated with tax morale.

At the regional macro level we observe as a novelty that inflation and unemployment is negatively correlated with tax morale.

A key empirical result in this paper is the significant changes in tax morale in Spain over time as reflected by the time effects estimated across the four time periods when the surveys were conducted. The time effects remain statistically significant in different specifications of the estimating equation conducting also several robustness tests. Tax morale increased steadily from1981 to 1995 and then declined slightly but nevertheless significantly through 1999/2000. The tax and other institutional reforms that got started with the Moncloa Pacts and continued through the accession to the European Economic Community quite likely helped boost Spanish citizens' tax morale. The small but significant decline in tax morale during the second half of the 1990s remains somewhat of a puzzle although some likely causes include institutional changes such as corruption in the public sector, a perception of lower levels of tax fairness, or even high levels of unemployment in the economy. The observed change in tax morale also indicates that preferences are affected by policy or institutional changes. Thus, these results support Bowles' (1998) argument that "we can neither accurately predict nor coherently evaluate the likely consequences of new policies or institutions without taking account of preference endogeneity" (p. 75).

Some previous studies have found that tax morale has one of most significant impacts on the size of the shadow economy or on tax evasion (Weck 1983, Torgler and Schneider 2007, Torgler and Schaffner 2007). However, in such studies tax morale is treated as an exogenous residual. To derive any policy implications out of these results it is important to analyze tax morale as dependent variable and thus to analyze the factors that shape tax morale. Bowles (1998) stresses that "effectiveness of policies and their political viability may depend on the preferences they induce or evoke" (p. 104). Our paper provides support that institutional changes have a strong

impact on tax morale. Economic institutions affect social norms and our study provides empirical support that institutional changes have an impact on preferences.

There can be little doubt that the success of Spanish tax reforms and tax administration modernization efforts in practically doubling tax effort for general revenues in the country from 22 percent of GDP in 1976 to 39.9 percent of GDP in 2002 has a lot to do with improved tax morale of Spanish citizens. We have argued that the level of tax morale is an endogenous variable affected by, among other things, tax policy and tax administration reforms. Clearly, keeping tax morale high is a valuable asset for the entire country.

It is our hope that this paper will provoke further research on the evolution of tax morale in Spain and that future studies will be able to lead us to a better understanding of citizens' attitude toward paying taxes. For this, it is useful to go beyond the assumption of exogenous preferences. Bowles (1998, p. 102) states that "The implicit premise that policies and constitutions do not affect preferences has much to recommend it: the premise provides a common if minimal analytical framework applicable to a wide range of issues of public concern, it expresses a prudent antipathy toward paternalistic attempts at social engineering of the psyche, it modestly acknowledges how little we know about the effects of economic structure and policy on preferences, and it erects a barrier both to ad hoc explanation and the utopian thinking of those who invoke the mutability of human dispositions in order to sidestep difficult questions of scarcity and social choice. Realism, however, cannot be among the virtues invoked on behalf of the exogenous preferences premise".

TABLE 1

Determinants of Tax Morale in Spain

Weighted Probit	***Coefficient***	***z Statistic***	***Marginal Effects***	***Coefficient***	***z-Statistic***	***Marginal Effects***	***Coefficient***	***z Statistic***	***Marginal Effects***
Independent Variables	***1***			***2***			***3***		
Demographic Factors									
Age	0.008***	6.05	0.003	0.005***	3.37	0.002	0.005***	3.07	0.002
Female	0.119***	3.17	0.046	0.064	1.57	0.025	0.083*	1.89	0.032
Economic Variable									
Upper Class							-0.183***	-2.66	-0.072
Upper Middle Class							-0.105**	-2.11	-0.041
Lower Middle Class							-0.078*	-1.77	-0.03
Marital Status									
Divorced	-0.154	-0.91	-0.061	-0.063	-0.36	-0.025	-0.141	-0.75	-0.055
Separated	-0.245**	-2.02	-0.097	-0.163	-1.22	-0.064	-0.174	-1.21	-0.068
Widowed	0.076	1.18	0.029	0.105	1.57	0.04	0.106	1.49	0.04
Single	-0.110**	-2.5	-0.043	-0.080*	-1.67	-0.031	-0.063	-1.22	-0.024
Employment Status									
Part Time Employed	0.027	0.36	0.011	0.017	0.21	0.007	-0.023	-0.26	-0.009
Self-Employed	-0.07	-1.25	-0.027	-0.085	-1.43	-0.033	-0.088	-1.37	-0.034
Unemployed	-0.056	-0.93	-0.022	-0.035	-0.54	-0.014	-0.068	-0.96	-0.027
At Home	0.088*	1.72	0.034	0.031	0.57	0.012	-0.011	-0.19	-0.004
Student	-0.051	-0.79	-0.02	-0.082	-1.15	-0.032	-0.098	-1.25	-0.038
Retired	0.02	0.32	0.008	0.009	0.14	0.003	-0.032	-0.44	-0.012
Other	0.122	0.66	0.047	0.088	0.44	0.034	0.414	0.87	0.147
Social Capital									
Religiosity				0.219***	7.37	0.085	0.238***	7.31	0.092
Trust in The Parliament				0.079***	4.13	0.031	0.076***	3.66	0.029
Pride				0.197***	9.11	0.076	0.198***	8.46	0.076
Time									
Spain 1990	0.216***	6.21	0.083	0.229***	6.18	0.088	0.233***	6.13	0.088
Spain 1995	0.519***	10.73	0.193	0.458***	8.89	0.171	0.424***	7.76	0.158
Spain 1999/2000	0.175***	4.51	0.067	0.174***	4.21	0.066	0.191***	3.72	0.072
Wald-Test:Joint for Time Factors	117.76***			84.67***			69.40***		
Wald-Test: Joint for Social Capital				204.41***			182.00***		
Wald-Test: Joint for Economic Class							8.41**		
Number of observations	9753			8780			7501		
Probability > chi2	0.000			0.000			0.000		
Pseudo R2	0.041			0.059			0.062		

Notes: Dependent variable: tax morale on a two-point scale. In the reference group are Male, Married, Full Time Employed, Lowest Class, Spain 1981. Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$.

TABLE 2

Time Effects and Tax Morale

Probit Independent Variables	Coefficient 1b	Marginal Effects	Coefficient 2b	z-Statistic	Marginal Effects	Coefficient 3b	z-Statistic	Marginal Effects
All other factors included								
Time								
Spain 1981	-0.216***	-0.085	-0.229***	-6.18	-0.09	-0.233***	-6.13	-0.091
Spain 1990	ref. group		ref. group			ref. group		
Spain 1995	0.303***	0.115	0.229***	4.82	0.087	0.191***	3.75	0.073
Spain 1999/2000	-0.041	-0.016	-0.055	-1.48	-0.021	-0.042	-0.87	-0.016
All other factors included								
Time								
Spain 1981	-0.175***	-0.068	-0.174***	-4.21	-0.068	-0.191***	-3.72	-0.074
Spain 1990	0.041	0.016	0.055	1.48	0.021	0.042	0.87	0.016
Spain 1995	0.345***	0.130	0.284***	5.59	0.108	0.233***	3.98	0.088
Spain 1999/2000	ref. group		ref. group			ref. group		
All other factors included								
Spain 1981	-0.519***	-10.73	-0.458***	-8.89	-0.180	-0.424***	-7.76	-0.165
Spain 1990	-0.303***	-6.77	-0.229***	-4.82	-0.089	-0.191***	-3.75	-0.074
Spain 1995	ref. group		ref. group			ref. group		
Spain 1999/2000	-0.345***	-7.26	-0.284***	-5.59	-0.112	-0.233***	-3.98	-0.091

Notes: Dependent variable: In the reference group are Male, Married, Full Time Employed, Lowest Class, Spain 1981. Significance levels: * 0.05 < p < 0.10, ** 0.01< p < 0.05, *** p < 0.01.

TABLE 3

Robustness Test						
	Coefficient	***z Statistic***	***Marginal Effects***	***Coefficient***	***z Statistic***	***Marginal Effects***
Weighted Probit						
Independent Variables	***4***			***5***		
Satisfaction						
Subjective Well-Being/Happiness	0.050*	1.79	0.019	0.024	0.81	0.009
Financial Satisfaction				0.033***	3.66	0.013
Demographic Factors						
Age	0.005***	3.29	0.002	0.005***	3.22	0.002
Female	0.089**	1.99	0.034	0.089**	1.98	0.034
Economic Variable						
Upper Class	-0.180**	-2.59	-0.070	-0.236***	-3.30	-0.093
Upper Middle Class	-0.118**	-2.34	-0.046	-0.147***	-2.86	-0.057
Lower Middle Class	-0.081*	-1.83	-0.031	-0.099**	-2.20	-0.038
Marital Status						
Divorced	-0.132	-0.70	-0.052	-0.096	-0.50	-0.038
Separated	-0.163	-1.13	-0.064	-0.142	-0.99	-0.056
Widowed	0.113	1.55	0.043	0.127*	1.73	0.048
Single	-0.062	-1.17	-0.024	-0.073	-1.38	-0.028
Employment Status						
Part Time Employed	-0.010	-0.11	-0.004	-0.006	-0.06	-0.002
Self-Employed	-0.069	-1.07	-0.027	-0.061	-0.94	-0.024
Unemployed	-0.057	-0.79	-0.022	-0.026	-0.36	-0.010
At Home	-0.016	-0.28	-0.006	-0.014	-0.24	-0.005
Student	-0.087	-1.10	-0.034	-0.095	-1.19	-0.037
Retired	-0.039	-0.54	-0.015	-0.034	-0.47	-0.013
Other	0.412	0.87	0.146	0.462	0.97	0.162
Social Capital						
Religiosity	0.237***	7.24	0.091	0.228***	6.89	0.088
Trust in the Parliament	0.076***	3.64	0.029	0.069***	3.30	0.027
Pride	0.193***	8.11	0.074	0.189***	7.89	0.073
Time						
Spain 1990	0.238***	6.20	0.090	0.223***	5.76	0.084
Spain 1995	0.427***	7.78	0.159	0.419***	7.61	0.157
Spain 1999/2000	0.191***	3.70	0.072	0.163***	3.14	0.062
Wald-Test: Joint for Satisfaction				16.22***		
Number of observations	7408			7322		
Probability > chi2	0.000			0.000		
Pseudo R2	0.063			0.064		

Notes: Dependent variable: In the reference group are Male, Married, Full Time Employed, Lowest Class. Significance levels: * 0.05 < p < 0.10, ** 0.01< p < 0.05, *** p < 0.01.

TABLE 4

The Impact of Unemployment and Inflation

	Coefficient	*z Stat.*	*Marg. Effects*	*Coefficient*	*z Stat.*	*Marg. Effects*	*Coefficient*	*z Stat.*	*Marg. Effects*
Weighted Probit									
Independent Variables	***6***			***7***			***Clusterig 8***	***over***	***Region s***
Satisfaction									
Subjective Well-Being/Happiness	0.003	0.07	0.001	0.010	0.25	0.004	0.010	0.26	0.004
Financial Satisfaction	-0.0004	-0.04	-0.0002	0.008	0.67	0.003	0.008	0.59	0.003
Regional Macro Factors									
Unemployment Rate	-0.009**	-2.09	-0.003	-0.009**	-1.98	-0.003	-0.009	-1.52	-0.003
Inflation Rate	-0.137***	-3.33	-0.051	-0.160***	-3.72	-0.060	-0.160**	-2.02	-0.060
Demographic Factors									
Age	0.002	1.00	0.001	0.003	1.21	0.001	0.003*	1.91	0.001
Female	0.046	0.82	0.017	0.071	1.24	0.026	0.071*	1.94	0.026
Economic Variable									
Upper Class				-0.345***	-3.33	-0.134	-0.345**	-2.23	-0.134
Upper Middle Class				-0.293***	-4.36	-0.112	-0.293**	-2.61	-0.112
Lower Middle Class				-0.085***	-1.48	-0.032	-0.085	-0.84	-0.032
Marital Status									
Divorced	-0.116	-0.50	-0.044	-0.114	-0.49	-0.043	-0.114	-0.45	-0.043
Separated	-0.047	-0.27	-0.018	-0.101	-0.59	-0.038	-0.101	-0.63	-0.038
Widowed	0.136	1.41	0.050	0.112	1.14	0.041	0.112	0.92	0.041
Single	-0.113*	-1.67	-0.043	-0.099	-1.42	-0.037	-0.099**	-2.08	-0.037
Employment Status									
Part Time Employed	-0.044	-0.41	-0.016	-0.066	-0.60	-0.025	-0.066	-0.67	-0.025
Self-Employed	-0.059	-0.64	-0.022	-0.052	-0.55	-0.020	-0.052	-0.45	-0.020
Unemployed	0.035	0.39	0.013	-0.015	-0.16	-0.006	-0.015	-0.12	-0.006
At Home	0.069	0.89	0.026	-0.001	-0.01	0.000	-0.001	-0.01	0.000
Student	-0.048	-0.45	-0.018	-0.034	-0.31	-0.013	-0.034	-0.45	-0.013
Retired	0.028	0.31	0.011	-0.046	-0.49	-0.017	-0.046	-0.87	-0.017
Other	0.074	0.13	0.027	0.068	0.13	0.025	0.068	0.17	0.025
Social Capital									
Religiosity	0.179***	4.17	0.067	0.186***	4.21	0.069	0.186***	5.08	0.069
Trust in the Parliament	0.058**	2.03	0.022	0.057*	1.96	0.021	0.057***	3.09	0.021
Pride	0.196***	6.13	0.073	0.189***	5.76	0.070	0.189***	5.11	0.070
Time									
Spain 1990	0.670***	3.09	0.237	0.855***	3.77	0.292	0.855**	2.35	0.292
Spain 1995	0.684***	4.97	0.251	0.754***	5.26	0.275	0.754***	3.37	0.275
Number of observations	4870			4602			4602		
Probability > chi2	0.000			0.000			0.000		
Pseudo R2	0.045			0.051			0.051		

Notes: Dependent variable: tax morale on a four-point scale. In the reference group are Male, Married, Full Time Employed, Lowest Class, Spain 1999. Significance levels: * 0.05 < p < 0.10, ** 0.01< p < 0.05, *** p < 0.01.

TABLE 5

Robustness Test Rescaling Tax Morale

Weighted Probit Independent Variables	*Coefficient 9*	*z stat.*	*Marg.*	*Coefficient 10*	*z stat.*	*Marg.*	*Coefficient 11*	*z stat.*	*Marg.*
Satisfaction									
Subjective Well-Being/Happiness				-0.002	-0.07	-0.001	-0.019	-0.51	-0.007
Financial Satisfaction				0.032***	3.73	0.012	0.011	0.97	0.004
Regional Macro Factors									
Unemployment Rate							-0.011***	-2.68	-0.004
Inflation Rate							-0.129***	-3.31	-0.048
Demographic Factors									
Age	0.006***	4.34	0.002	0.006***	3.99	0.002	0.004**	2.04	0.002
Female	0.080**	2.17	0.031	0.100**	2.45	0.039	0.087	1.63	0.032
Economic Variable									
Upper Class				-0.233***	-3.61	-0.092	-0.335***	-3.43	-0.130
Upper Middle Class				-0.135***	-3.00	-0.053	-0.257***	-4.38	-0.098
Lower Middle Class				-0.084**	-2.10	-0.033	-0.065	-1.25	-0.024
Marital Status									
Divorced	-0.128	-0.77	-0.050	-0.140	-0.78	-0.055	-0.120	-0.57	-0.046
Separated	-0.188	-1.62	-0.074	-0.134	-1.09	-0.052	-0.126	-0.84	-0.048
Widowed	0.047	0.74	0.018	0.057	0.81	0.022	0.036	0.38	0.013
Single	-0.093**	-2.15	-0.036	-0.097**	-2.02	-0.038	-0.110*	-1.70	-0.041
Employment Status									
Part Time Employed	-0.022	-0.27	-0.008	-0.029	-0.35	-0.011	-0.038	-0.37	-0.014
Self-Employed	-0.084	-1.62	-0.033	-0.074	-1.28	-0.029	-0.102	-1.16	-0.039
Unemployed	-0.006	-0.10	-0.002	0.007	0.11	0.003	0.011	0.13	0.004
At Home	0.063	1.31	0.024	0.026	0.49	0.010	0.042	0.58	0.015
Student	-0.015	-0.24	-0.006	-0.011	-0.16	-0.004	0.021	0.21	0.008
Retired	0.005	0.08	0.002	-0.024	-0.36	-0.009	-0.051	-0.59	-0.019
Other	0.071	0.37	0.027	0.496	1.13	0.172	0.165	0.41	0.059
Social Capital									
Religiosity	0.189***	7.21	0.073	0.200***	6.85	0.077	0.155***	3.93	0.058
Trust in the Parliament	0.125***	6.92	0.049	0.119***	5.97	0.046	0.118***	4.15	0.044
Pride	0.191***	10.03	0.074	0.182***	8.71	0.070	0.179***	6.17	0.067
Time									
Spain 1990	0.196***	5.92	0.075	0.182***	5.30	0.069	0.610***	2.95	0.215
Spain 1995	0.468***	10.02	0.175	0.429***	8.72	0.160	0.653***	5.06	0.240
Spain 1999/2000	0.246***	6.82	0.093	0.207***	4.46	0.078			
Number of observations	8780			7322			4602		
Probability > chi2	0.000			0.000			0.000		
Pseudo R2	0.035			0.038			0.032		

Notes: Dependent variable: tax morale on a ten-point scale. In the reference group are Male, Married, Full Time Employed, Lowest Class, Spain 1981 (specification 9 and 10), Spain 1999 (specification 11). Significance levels: * $0.05 < p < 0.10$, ** $0.01 < p < 0.05$, *** $p < 0.01$. Marg.: Marginal effect for the highest tax morale value (10).

TABLE A1

Summary Statistics

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Age	10062	43.484	17.731	18	97
Female	10070	0.523	--	0	1
Upper Class	8519	0.079	--	0	1
Upper Middle Class	8519	0.238	--	0	1
Lower Middle Class	8519	0.37	--	0	1
Divorced	10064	0.008	--	0	1
Separated	10064	0.015	--	0	1
Widowed	10064	0.078	--	0	1
Single	10064	0.279	--	0	1
Part Time Employed	10051	0.045	--	0	1
Self-employed	10051	0.083	--	0	1
Unemployed	10051	0.074	--	0	1
At Home	10051	0.255	--	0	1
Student	10051	0.081	--	0	1
Retired	10051	0.142	--	0	1
Other	10051	0.006	--	0	1
Religiosity	9642	2.607	0.575	1	3
Trust in the Parliament	9730	2.337	0.833	1	4
National Pride	9659	3.355	0.786	1	4
Subjective Well-Being/Happiness	9903	3.035	0.627	1	4
Financial Satisfaction	8736	6.074	2.075	1	10
Regional Macro Variables					
Unemployment Rate	6785	18.059	5.910	8.69	33.49
Inflation Rate	6785	4.423	2.359	0.63	7.89

Aggregate Tax Morale in Spain over Time (1981-2000)

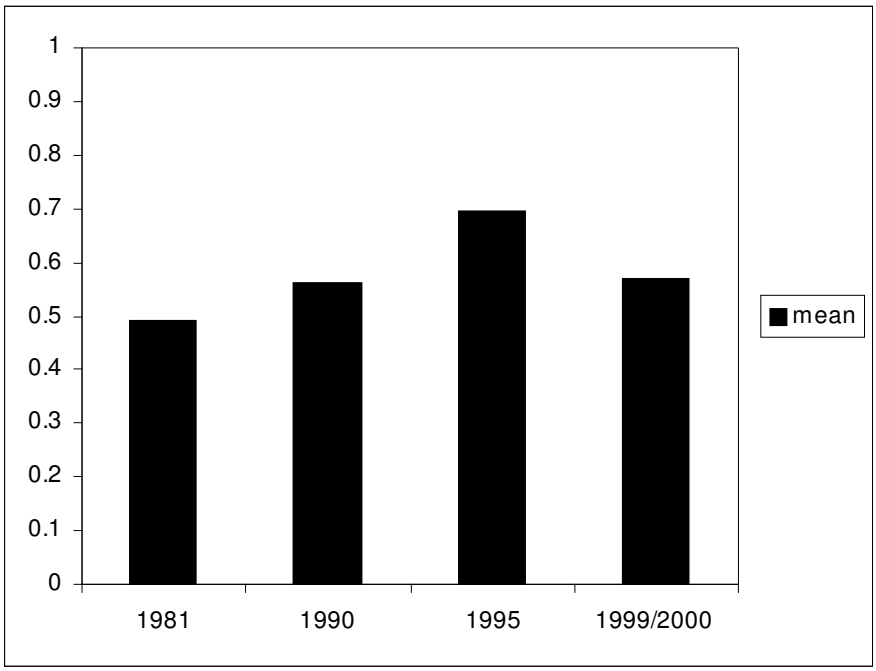
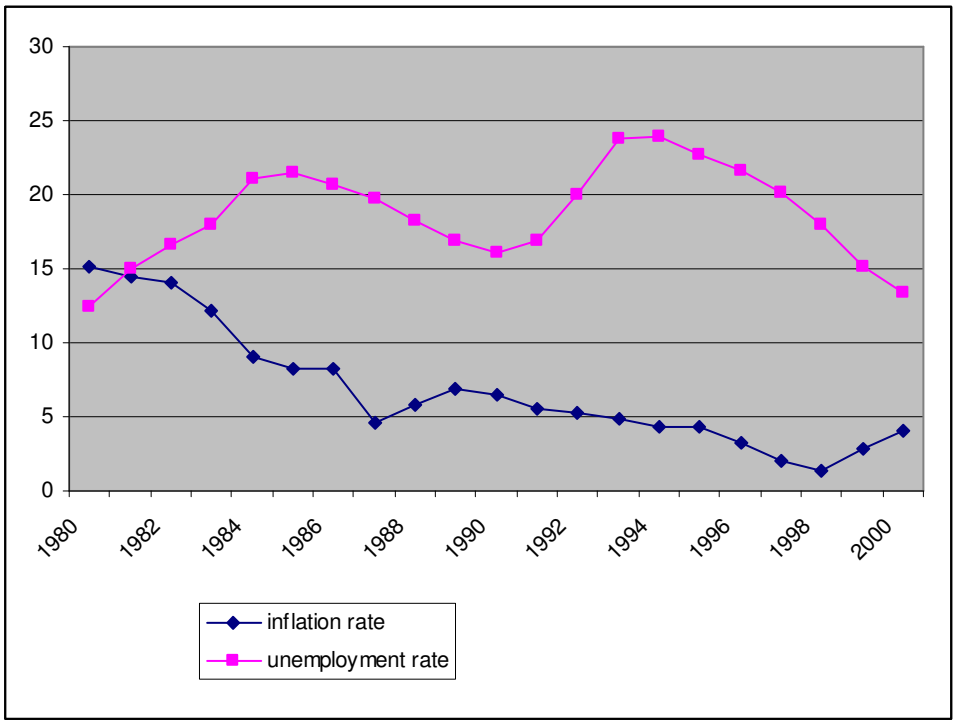


FIGURE A1

Inflation and Unemployment Rate in Spain



References

Akerlof, G. A. and Kranton, R. E. (2005), 'Identity and the Economics of Organizations', *Journal of Economic Perspectives,* **19**(1): 9-32.

Allingham, M. G., Sandmo, A. (1972), 'Income tax evasion: A theoretical analysis', *Journal of Public Economics*, **1**: 323-338.

Alm, J. (1998), 'Tax Compliance and Administration', in W. B. Hildreth and J. A. Richardson (eds), *Handbook on Taxation*, New York: Marcel Dekker, Inc., pp 741-768.

Alm, J. and B. Torgler (2006), 'Culture Differences and Tax Morale in the United States and Europe', *Journal of Economic Psychology*, **27**: 224-246.

Andreoni, J., B. Erard, and J. Feinstein (1998), 'Tax Compliance', *Journal of Economic Literature,* **36(2)**: 818-860.

Aristotle (1991), *The 'Art' of Rhetoric*, Cambridge: Harvard University Press.

Aristotle (2000), *Nicomachean Ethics*, Cambridge: Cambridge University Press.

Baldry, J. C. (1987), 'Income tax evasion and the tax schedule: Some experimental results', *Public Finance*, **42**: 357-383.

Bowles, S. (1998), 'Endogenous Preferences: The Cultural Consequences of Markets and Other Economic Institutions', *Journal of Economic Literature*, **36(1):** 75-111.

Buchanan, J. M. (1999). 'Taxpayer Apathy, Institutional Inertia, and Economic Growth', *Journal of Public Finance and Public Choice,* **17**: 3-10.

Comin, F (2007), 'Reaching A Political Consensus in Spain: The Moncloa Pacts, Joining the European Union and The Rest of the Journey,' in Martinez-Vazquez, J and J.F. Sanz-Sanz (eds), *Fiscal Reform in Spain*, Edward Elgar: Cheltenham, UK.

Davis, D. D., Holt, C. (1993), *Experimental Economics*, Princeton, NJ: Princeton University Press.

Elffers, H., R. H. Weigel, and Dick H., (1987), 'The Consequences of Different Strategies for Measuring Tax Evasion Behavior', *Journal of Economic Psychology*, **8**: 311–337.

Faber, M., R. Manstetten and T. Petersen (1997), 'Homo Oeconomicus and Homo Politicus. Political Economy, Constitutional Interest and Ecological Interest', *KYKLOS,* **50**: 457-483.

Falk, Armin, Fischbacher, Urs, Gächter, Simon, (2003), Living in two neighborhoods – Social interaction in the lab. CESifo Working Paper No. 954, May 2003, Munich.

Feld L. P. and J. R. Tyran (2002), 'Tax Evasion and Voting: An Experimental Analysis', *KYKLOS,* 55: 197-222.

Fehr, E. and F. Urs (2002), 'Why Do Social Preferences Matter – The Impact of Non-Selfish Motives on Competition, Cooperation and Incentives', *Economic Journal*, **112**: C1-C33.

Fehr, E. and G. Simon (2000a), 'Fairness and Retaliation: The Economics of Reciprocity', *Journal of Economic Perspectives,* **14(3)**: 159-81.

Fehr, E. and G. Simon (2000b), 'Cooperation and Punishment in Public Goods Experiments', *American Economic Review*, 90: 980-995.

Fischbacher, U and G. Simon (2006), 'Heterogeneous social preferences and the dynamics of free riding in public goods', CeDEx Discussion Paper No. 2006-01. Centre for Decision Research and Experimental Economics, Nottingham.

Fischbacher, U and G. Simon and F. Ernst (2001), 'Are people conditionally cooperative? Evidence from a public goods experiment', *Economics Letters*, **71**: 397–404.

Frank, R. H. and C. R. Sunstein (2001), 'Cost-Benefit Analysis and Relative Position', *University of Chicago Law Review*, **68**: 323–374.

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. and L. Feld. P. (2002), 'Deterrence and Morale in Taxation: An Empirical Analysis', CESifo Working Paper No. 760, August.

Frey, B. S. and B. Torgler (2007), 'Tax Morale and Conditional Cooperation', *Journal of Comparative Economics*, **35(1)**: 136-159.

Gomez de Antonio, M. and A. Alañón Pardo (2004), 'Evaluación y Analisis Espacial del Grado de Incumplimiento Fiscal para las Provincias Españolas (1980-2000)', *Hacienda Pública Española/Revista de Economía Pública*, **171(4)**: 9-32.

Hodgson, G. M. (2003), 'The Hidden Persuaders: Institutions and Individuals in Economic Theory', *Cambridge Journal of Economics*, **27(2)**: 159-75.

Jackson, B. R. and V. C. Milliron (1986), 'Tax Compliance Research: Findings, Problems, and Prospects', *Journal of Accounting Literature*, **5**: 125-166.

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. (1999), 'Reactance to Taxation: Employers' Attitudes Towards Taxes', *Journal of Socio-Economics,* 28: 131-138.

Inglehart, R. et al. (2000), *Codebook for World Values* Survey, Ann Arbor, MI: Institute for Social Research.

Ledyard, J. (1995), 'Public goods: A survey of experimental results', in: Kagel, John H., Roth, and Alvin E. (eds.), *The Handbook of Experimental Economics*, Princeton: Princeton University Press, pp. 111-194.

Lewis, A. (1982), *The Psychology of Taxation.* Oxford: Martin Robertson.

Lopez-Laborda, J. and F. Rodrigo (2003), 'Tax Amnesties and Income Tax Compliance: The Case of Spain', *Fiscal Studies,* 24(1): 73-96.

Martinez-Vazquez, J and J.F. Sanz-Sanz (eds.) (2007). *Fiscal Reform in Spain*. Cheltenham, UK: Edward Elgar.

Molero, J. C. and F. Pujol. (2005), 'Walking Inside the Potential Tax Evader's Mind', Working Paper N. 01/05, Facultad de Ciencias Económicas y Empresariales, Universidad de Navarra, Spain.

Ochs, Jack, Roth, Alvin E. (1989), 'An experimental study of sequential bargaining', *American Economic Review*, **79**: 355-384.

Onrubia, J. (2007), 'The Reform of the Tax Administration in Spain', in Martinez-Vazquez, J and J.F. Sanz-Sanz (eds), *Fiscal Reform in Spain*, Edward Elgar: Cheltenham, UK.

Palacios-Huerta, I. and T. J. Santos (2004), 'A Theory of Markets, Institutions, and Endogenous Preferences', *Journal of Public Economics*, **88**: 601– 627.

Prieto Rodríguez, J., M.J. Sanzo Pérez and J. Suárez Pandiello (2005), 'Análisis Económico de la Actitud hacia el Fraude en España', *Hacienda Pública Española/Revista de Economía Pública*, **177(2)**: 107-128.

Roth, A. E. (1995), 'Bargaining experiments', in: Kagel, John H., Roth, Alvin E. (eds.), *The Handbook of Experimental Economics*, Princeton: Princeton University Press, pp. 253-342.

- Roth, J. A., J. T Scholz, and A.D. Witte, (eds.) (1989), *Taxpayer Compliance, Vol. 1 and Vol. 2*. Philadelphia: University of Pennsylvania Press.

Schwartz, R. and S. Orleans (1967), 'On Legal Sanctions', *University of Chicago Law Review,* **34**: 282-300.

Stigler, G. J. and G. S. Becker (1977), 'De Gustibus Non Est Disputandum', *American Economic Review*, **67**: 76-90.

- Torgler, B. (2003), 'Ancestors of the Contemporary Homo Economicus', *Homo Oeconomicus*, **19**: 519-541.

Torgler, B. (2002), 'Speaking to Theorists and Searching for Facts: Tax Morale and Tax Compliance in Experiments', *Journal of Economic Surveys*, **16**: 657-684.

Torgler, B. (2006), 'The Importance of Faith: Tax Morale and Religiosity', *Journal of Economic Behavior and Organization,* **61**: 81-109.

Torgler, B. (ed.). (forthcoming), *Tax Compliance and Tax Morale: A Theoretical and Empirical Analysis*, Cheltenham, UK: Edward Elgar,.

Torgler, B. and F. Schneider (2007), 'Shadow Economy, Tax Morale, Governance and Institutional Quality: A Panel Analysis', CREMA Working Paper Series, 2007-02, Center for Research in Economics, Management and the Arts (CREMA).

Torgler, B. and M. Schaffner (2007), 'Causes and Consequences of Tax Morale', CREMA Working Paper Series, 2007-11, Center for Research in Economics, Management and the Arts (CREMA).

Van Staveren, I. (2001), *The Values of Economics*, London: Routledge.