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The effect of tax enforcement on tax morale

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ABSTRACT

In this paper we argue that tax enforcement is an additional contextual factor affecting tax morale, one of the most important determinants of tax compliance. By using a unique dataset that merges a representative sample of Italian households with administrative data on tax enforcement, we first find that tax morale is positively correlated with tax enforcement. Second, to deal with possible endogeneity of tax enforcement, we show that results are confirmed in an IV specification using the change in the tax gap at the provincial level as an instrument for tax enforcement. Finally, we provide evidence that the impact of tax enforcement and social environment is stronger at low quantiles of tax morale. Our results show that besides that of lowering the expected value of tax evasion, tax enforcement has an additional and indirect effect on tax compliance through its effect on tax morale.

1. Introduction

Tax morale has been proposed in the literature as one of the key explanatory variables for the observed level of tax compliance. Tax morale is a non-monetary factor that has been defined as the *intrinsic* motivation to pay taxes (Cummings et al., 2005), since at first glance it has nothing to do with the system of external rewards and punishments. In some studies tax morale has been treated as an exogenous characteristic of the individual. It can be thought as a moral obligation towards tax compliance or it can be justified by the positive feeling of contributing to the society. In fact, as shown by Lubian and Zarri (2011), tax morale is also positively correlated with reported happiness.

More recently tax morale has also been related to the characteristics of the environment in which the taxpayer takes his decision and a substantial effort has been exerted in order to identify external variables that play a significant role in shaping tax morale besides that played by individual characteristics (age, religiosity, gender, marital and occupational status) that have been regularly found to correlate with it. A combination of microdata on tax morale with aggregate data on contextual factors has been used in Feld and Frey (2002) and Torgler (2005) who examine the relationship between direct democratic rights and tax morale. Güth et al. (2005) and Torgler et al. (2010) examine the relationship between some indicator of local autonomy (*i.e.* fiscal autonomy, decentralization) and tax morale. Barone and Mocetti (2011) discuss how public spending inefficiency of local authorities affects tax morale.

Tax morale has been shown to react to trust in the legal system (Alm and Torgler, 2006) and to the behavior of the other taxpayers (Frey and Torgler, 2007) on a reciprocity basis. The fact that the other taxpayers are perceived to report fairly their income increases one's tax morale. The intuition is very similar to the conditional cooperation mechanism that systematically emerges in the experiments about

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the provision of public goods, in which individual contributions tend to correlate positively, although not perfectly, with the behavior of the opponents.[1] Similarly, Traxler and Winter (2012) report that the frequency of the occurrence of a norm violation negatively affects individuals' inclination to punish the violation.

Our paper contributes to the stream of literature that improves the understanding of the determinants of tax morale focusing on contextual variables. We use microdata on opinions about taxation included in the Survey on Household Income and Wealth, conducted in 2004 by the Bank of Italy. We calculate an index of tax morale at the individual level and, based on this measure, we aim at testing whether the degree of tax enforcement affects tax morale. The importance to answer such questions is immediately evident. Besides providing a better understanding of tax morale and indirectly of tax compliance, it could offer a rationale for part of the cross-country variance in the average reported levels of tax morale that would otherwise be confounded with other cultural characteristics. Moreover, interesting policy implications can be derived, as policy makers may find instruments to influence those variables that have an impact on tax morale.

More in general, the link between tax enforcement and tax morale can be encompassed in the analysis of the relationship between formal and informal institutions. Within our framework, both types of institutions are already recognized to play a major role. In fact, compliance with tax laws is not only shaped by formal sanctioning, *i.e.* tax enforcement, but also by informal institutions such as social and individual norms (like tax morale). The original contribution of this paper is to analyze whether, and in case to what extent, these two types of institutions interact, a topic that has received surprisingly little attention in the literature.[2] Using field data on the Italian economy, our paper aims at analyzing whether stricter formal law enforcement may support or hinder tax morale, thereby exerting an additional indirect effect on tax compliance. There is no theoretical *a priori* as for the significance and the sign of the relationship between tax enforcement and tax morale. Hence, we look for an empirical answer, also trying to support a causal interpretation of the results. In fact, we control for possible endogeneity of our measure of tax enforcement. First, even if tax enforcement is likely to be exogenous to individual tax morale, it is possible that the tax authority allocates more resources in detecting tax evasion where morale is lower. Hence we use the change in tax gap at the province level between 2003 and 2002 (*i.e.* the fiscal years preceding the time of the SHIW interview on tax opinions) as an instrument for tax enforcement in 2004. Second, to avoid possible problems involved in using individual subjective perceptions, we build an objective measure by using information on the activity of the Italian tax police in each province after partialling out its correlation with local GDP, population size and tax crime rate at the local level.

Results show that indeed tax enforcement and other contextual variable affect tax morale and that high as opposed to low levels of tax morale are less affected by tax enforcement. Hence, our results suggest that stronger tax enforcement, besides making evasion less profitable, also shapes taxpayers' behavior reinforcing their motivation to truthfully declare their income.

We believe that these results significantly add to the understanding of tax morale, since there are very few contributions in the literature concerning tax enforcement and with no conclusive evidence. The effects of the characteristics of the tax system on tax morale have been studied, for instance, by Lago-Penas and Lago-Penas (2010), who find that a high tax burden makes the taxpayers feel entitled to evade. They also find that the degree of regional redistribution matters since the citizen of regions that are net contributors may find more acceptable not to pay taxes in order to increase the fairness of the system at the national level. The role played by tax enforcement in explaining tax morale has instead received surprisingly little attention, most likely because of limited data availability. In some cases available data include the *subjective* perception of the probability of being caught. Its use in empirical analysis is, however, flawed by serious endogeneity problems since, as shown for instance by Scholz and Pinney (1995), citizens reporting a higher tax morale tend to overestimate their probability of being audited. To the best of our knowledge the only contributions that use an objective measure of the probability of being audited are Torgler (2005) and Torgler and Schneider (2007) but they do not find any significant effect.[3]

The outline of the paper is as follows. In Section 2 we describe the conceptual framework of our paper. In Section 3 we describe our dataset and in Section 4 we present the results. Section 5 briefly concludes.

2. Theoretical framework

Since the seminal contribution of Allingham and Sandmo (1972) the behavior of a taxpayer is commonly described as the rational choice of an expected utility maximizer. His choice X amounts to how much to report in the tax declaration given his actual level of income W:

$$E[U] = (1-p)U(W-\theta X) + pU(W-\theta X-\pi(W-X)), \tag{1}$$

where p is the probability of being audited, θ is the tax rate, and π is the fraction of the undeclared income levied if the taxpayer is found evading: π is higher than the tax rate θ as it also includes the fine. It can be easily shown that $p\pi < \theta$ makes rational risk neutral taxpayers to fully declare their income. In contrast, if $p\pi > \theta$, a positive amount declared should rely upon taxpayers' risk aversion. This model has been recently extended by Kleven et al. (2011) to allow for the key distinction between third-party- and self-reported income, showing that tax evasion is substantial for the latter. These results allow reconciling the evidence about

[1] See for instance Fischbacher and Gachter (2010) and references therein.

[2] One of the few examples is Kube and Traxler (2011), who provide experimental evidence that the introduction of formal sanctions crowds out punishment based on social norms.

[3] Data refer to Switzerland and the authors use an objective proxy, namely the number of tax auditors as a percentage of the total number of taxpayers based on data gathered by Frey and Feld (2002) sending a questionnaire to tax authorities.