The Social Side of Sanctions:

Personal and Social Norms as Moderators of Deterrence

Michael Wenzel

Australian National University, Canberra, Australia

Abstract

In a survey of Australian citizens (valid $N = 1406$), personal and social norms were found to moderate effects of deterrence on tax evasion. Personal, internalized norms of tax honesty were negatively related to tax evasion and moderated the effects of deterrence variables (i.e., sanction severity), suggesting deterrence effects only when individual ethics were weak. Perceived social norms, beyond those internalized as personal norms, were not directly related to tax evasion but moderated the effects of sanction severity. Only when social norms were seen as strongly in favor of tax honesty was sanction severity negatively related to tax evasion. This result held only for respondents who did not identify strongly as Australians. Hence, when internalized, norms delimit effects of deterrence; when considered external to one's self, norms boost deterrence effects, giving social meaning to formal sanctions.

The Social Side of Sanctions:

Personal and Social Norms as Moderators of Deterrence

In theory and practice, the most common approach to explain taxpaying behavior is the rational actor approach and its corresponding regulatory strategy of deterrence. However, while there is supportive, although not always consistent, empirical evidence for deterrence effects on tax compliance (see Fischer, Wartick, & Mark, 1992; Varma & Doob, 1998), there has been growing evidence that decisions to evade tax are also affected by moral considerations and social factors (e.g., Alm, McClelland, & Schulze, 1999; DeJuan, Lasheras, & Mayo, 1994). Beyond the issue of tax compliance, criminal justice research has seen in recent years a new emphasis on social norms and social meaning (see Harcourt, 2000; McAdams, 1997). In a similar vein, the present paper investigates personal and social norms, internalized and externally attributed prescriptions, with regard to their roles in the deterrence process, in order to understand better the limitations and force of this regulatory approach.

Deterrence and Tax Compliance

The rational-actor approach sees taxpayers as outcome-maximizing information processors who choose under uncertainty between two options: being compliant and incurring a certain loss in terms of the taxes paid, or evading taxes with the chance of either a relative material gain if the evasion is undetected or an even greater material loss if the evasion is detected and penalized (e.g., Allingham & Sandmo, 1972). Hence, taxpayers should be deterred from tax evasion when they perceive the chance that their evasion would be detected to be high and the consequences and penalties to be severe and costly. Detection probability and severity of sanctions, or, more specifically, perceptions thereof (perceptual deterrence; see Paternoster, 1987; Williams & Hawkins, 1986), should thus affect taxpaying decisions.

In fact, according to the rational actor approach, detection probability and sanction severity should interact in their effects, as it is their product that defines the expected value and contributes to the expected (dis)utility of tax evasion. The rational actor approach predicts that a certain probability of sanction X will be equally deterring as twice that probability of half X. While, on theoretical grounds, statistical models may thus specify deterrence as an interactive effect (Grasmick & Bursik, 1990; Wenzel, 2002), the evidence for such an interaction between probability of detection and sanction severity is rather mixed (Howe & Brandau, 1988; Howe & Loftus, 1996; Stafford, Gray, Menke, & Ward, 1986). Carroll (1978) concluded on the basis of his findings that detection probability and sanction severity can have additive effects and people focus on one dimension or the other.

There is overall supportive evidence for deterrence effects on tax compliance, notwithstanding the limitations of the various methodological approaches applied (see Andreoni, Erard, & Feinstein, 1998; Franzoni, 2000; Fischer et al. 1992). Specifically, evidence of the effects of audit or detection probability has been found in regression analyses of actual taxpayer data (Witte & Woodbury, 1985), experimental studies (Alm, McClelland, & Schulze, 1992; Alm, Sanchez, & DeJuan 1995; Webley, 1987; Webley & Halstead, 1986), and survey research (Kinsey & Grasmick, 1993; Mason & Calvin, 1978; Sheffrin & Triest, 1992; Varma & Doob, 1998), while there have been also some inconsistent findings (Dubin, Graetz, & Wilde, 1987; Dubin & Wilde, 1988). Similarly, there is evidence for the positive effects of sanction severity on tax compliance (Alm et al., 1995; DeJuan et al., 1994; Friedland, Maital, & Rutenberg, 1978), but findings are here more inconsistent (Elffers, Weigel, & Hessing, 1987; Varma & Doob, 1998; Webley & Halstead, 1986).

Importantly, however, it has increasingly been argued that research needs to incorporate noneconomic factors such as norms, fairness, and morality in order to better understand tax compliance, rather than merely economic self-interest with which the rational

actor approach is preoccupied (Alm et al., 1995; DeJuan et al., 1994; Cowell, 1992;

Falkinger, 1995; Schmölders, 1970; Vogel, 1974; Wallschutzky, 1984). In fact, social factors

may substantially impact on and qualify the deterrence process. For instance, Scott and

Grasmick (1981) reported survey findings showing that legal sanctions had a greater

deterrence effect on tax evasion for respondents who perceived the tax system as unjust and

were thus presumably more motivated to evade tax. Likewise, Wenzel (2002) provided

evidence that perceived deterrence was less effective for respondents who identified strongly

with their nation and were thus presumably less motivated by individual self-interest than the

collective good.

<center>Deterrence and Norms</center>

The present paper focuses on norms in their relation to deterrence. Tax compliance

research has argued for two possible ways in which norms can be related to deterrence

effects. First, deterrence and norms can be regarded as independent or competing processes

whose effects can be independently assessed and compared. Here, it has been argued that

deterrence effects of legal punishments of unlawful behavior are often smaller than the

inhibiting effects of norms. For instance, in their classic field experiment, Schwartz and

Orleans (1967) used survey questions to activate in taxpayers either moral concerns against

tax cheating or the prospect of legal punishments of tax evasion. They concluded that the

appeal to conscience increased tax compliance more effectively (in terms of income reported)

than the legal sanction threat. Grasmick and Scott (1982) used equivalent survey items

measuring the anticipation of guilt, stigma, and legal punishment, respectively, and found

stronger effects for guilt than for the other two threats (see also Grasmick & Bursik, 1990;

Scott & Grasmick, 1981). A number of other studies produced similar findings of internalized

norms and tax ethics increasing tax compliance (e.g., Bosco & Mittone, 1997; Erard &

Feinstein, 1994; Hasseldine & Kaplan, 1992; Kaplan & Reckers, 1985; Reckers, Sanders, & Roark, 1994).

Second, deterrence and norms can be considered as interdependent or interacting processes, where ethics and internalized norms basically render deterrence superfluous. Deterrence, with the implied rational weighting of costs and benefits of different behavioral options, should only be relevant where people's ethics do not discard noncompliance as one such option altogether. That is, deterrence would only be relevant and effective for taxpayers who do not have strong ethical objections against tax evasion. In contrast, taxpayers who have internalized norms against tax evasion would be unaffected by deterrence variables (Carroll, 1987; see Grasmick & Green, 1980). For example, Smith (1990) showed that perceived probability of detection had a stronger effect on self-reported underreporting of income for respondents who regarded income-underreporting as acceptable, while the deterrence effect was smaller for respondents who considered such tax evasion to be less acceptable. Similar findings have been reported for criminal or deviant behavior other than tax evasion (Bachman, Paternoster, & Ward, 1992; Burkett & Ward, 1993; Paternoster & Simpson, 1996; Simpson, 2002).

From these two perspectives, it would emerge thatethics and norms are not only more potent means to achieve compliance with the law than deterrence is, but in fact also delimit the relevance of deterrence. However, in their influential critique of perceptual deterrence research, Williams and Hawkins (1986) warn that the effects of deterrence, on the one hand, and social norms, on the other hand, not be set against each other and compared with each other, as if they were independent mechanisms. Findings that sanctions based on ethics and norms outperform legal sanctions in their effects, or that legal sanctions lose their effect once informal sanctions are controlled for (Paternoster, Saltzman, Waldo, & Chiricos, 1983), should not be taken as simple evidence that norm-based, informal sanctions are more

important than legal sanctions. This would mean to ignore the possibility that legal sanctions partly operate on the basis of social norms; it would mean to underestimate and misconceive the functions of legal sanctions.

Specifically, Williams and Hawkins (1986) differentiate between three general processes through which legal sanctions can inhibit crimes. First, there is the process of "mere deterrence" (Andenaes, 1974) where legal sanctions in and of themselves are counter to one's individual self-interest; the prospect of punishment in terms of its immediate material or physical costs deters the criminal act. Second, there is the process of "normative validation" (Gibbs, 1975) where legal sanctions increase the perception that the criminal act is morally wrong; via this effect on one's ethical views and internalized norms, sanctions inhibit the criminal offence. Here, legal sanctions would operate through the same processes as extra-legal sanctions do. Third, there is a socially-mediated process of deterrence where legal sanctions are "costly" due to others' reaction to one's conviction, arrest, or legal punishment. People are, in their attempts to attain esteem, attachment, and even material goals, dependent on others. If others reacted negatively to one's conviction of a crime, they could stigmatize the offender and end their relationship to, or cooperation with, the offender.

This third effect of legal sanctions, called here socially-mediated deterrence, is particularly intriguing because it seems to be at odds with the previous point that norms delimit the effects of deterrence. Furthermore, it has so far not received much research attention and, according to Nagin and Paternoster (1991), little supportive evidence. For instance, Nagin and Paternoster (1991) themselves used panel self-report data on property theft and drug use among high school students. They found no, or at best only modest, support for an interaction between perceived probability of arrest and "commitment costs", that is the expectation that others' reactions to one's arrest would hamper the realization of one's goals (see Williams & Hawkins, 1986). Likewise, in a study on students' projected

sexual offending, Bachman et al. (1992) did not find any evidence that perceived certainty of formal sanctions would deter more strongly when respondents expected strong social disapproval and loss of respect in case of an arrest for the offence. However, rather than rejecting Williams and Hawkins' (1986) analysis on the basis of these findings, I will take a closer look at it and offer a theoretical differentiation.

<center>Personal Ethics, Social Norms and Social Identification</center>

Similar to Nagin and Paternoster (1991) and Bachman et al. (1992), I argue that socially-mediated deterrence should be reflected in an interaction between variables of deterrence (e.g., sanction probability, sanction severity) and the perceived prescriptive norms regarding the behavior (e.g., paying one's taxes). If socially-mediated deterrence is at work, high perceived sanction probability and sanction severity should deter respondents from evading tax more effectively, when they think prevailing norms oppose tax evasion and others would react very negatively to their conviction. Importantly, we would thus predict an interaction effect of deterrence variables and social norms that is opposite to the interaction between deterrence and norms as discussed earlier (i.e., the delimiting effect of personal ethics). To clarify and reconcile these contrary effects, we need to distinguish between *personal* and *social norms* (Wenzel, 2004).

Personal norms are defined here as people's own moral standards, acquired, for instance, through the internalization of social norms (see Kelman, 1958). Internalization is understood here as occurring through a process of self-categorization in terms of, or identification with, the group to which people attribute the norms; the group becomes part of self, and the person feels committed to norms and values shared within the group (Turner, 1991). *Social norms* are defined here as moral standards attributed to a social group or collective. While these may be internalized as personal norms through self-categorization, part of social norms may remain external to the person. People know about prevailing social

norms without necessarily regarding them as their own, for instance because they do not identify with the respective group. Internalized norms against tax evasion should delimit the effects of deterrence variables, because legal punishment becomes irrelevant when personal ethics already exclude tax evasion from one's behavioral options. In contrast, norms can add social costs to legal sanctions, making them more meaningful and deterring, even without the offender internalizing the norms. Important is rather that other people may decide to lower their esteem of, withhold social support from, or terminate their relationship with, somebody who offended against *their* norms. Thus "externalized" norms can increase deterrence effects, because the imply additional, socially mediated costs of legal sanctions that could deter the individual from acts of tax evasion.

Because opposite interactions with deterrence are predicted for internalized and "externalized" norms, the separation of the two is crucial if we want to find the interaction effect for social norms as it follows from Williams and Hawkins' (1986) analysis. Otherwise the interaction effects for internalized norms and "externalized" norms could offset each other. Note that Bachman et al. (1992) created subgroups of respondents who expected high, medium, or low social disapproval, without controlling for respondents' own moral beliefs in the creation of these groups. They found, against their prediction, significant deterrence effects for high *and* low disapproval groups. It could be that the high disapproval group was indeed more strongly deterred by formal sanctions (compared to the medium disapproval group) because of the reactions they expected from others. In contrast, the low disapproval group might have been more strongly deterred because their own moral standards, likely to be correlated with perceived disapproval, were also low. Personal ethics did not curtail behavioral options and left open a rational appraisal of the costs of formal sanctions.

Operationally, we can separate personal and social norms through three procedures: (a) we measure explicitly people's personal ethics and the (implicitly contrasting) norms they

attribute to most others in the situation; (b) we control statistically for one norm aspect while testing for effects of the other; and (c) we include as a moderating factor whether people identify or not with the group to which they attribute certain norms. All three procedures will be jointly employed in this research. The inclusion of identification as a moderator requires elaboration. When people identify with the group to which they attribute certain norms, they are likely to internalize these norms into their self-concept and regard them as their own ethical views in that situation (Turner, 1991). In this case, all norm effects would be channeled through personal ethics with the result of them delimiting deterrence. There would be no additional impact of social norms, once the effect of personal ethics is accounted for. In contrast, when people do not identify with the group to which they attribute certain norms, a distinctive effect of social norms should become apparent. This is because perceived social norms are then unlikely to be internalized, and all their effects would be channeled through the perceived risk of social costs due to other people's negative reaction to one's rule-breaking. Thus, socially-mediated deterrence should only be apparent for respondents who do not identify with the relevant group.

<div align="center">Summary of Hypotheses</div>

The first hypothesis to be investigated follows directly from the traditional deterrence model:

H1: Variables of perceived deterrence will be negatively related to tax noncompliance. In the present research, the deterrence construct is decomposed into different elements: perceived probability of detection and perceived probability of consequences, as well as perceived severity of consequences (see Nagin & Paternoster, 1993).

The next two hypotheses are in line with the existing evidence on the role of individual morality in compliance processes and its delimiting effect on deterrence:

H2: The personal norm (of tax honesty) will be negatively related to tax

noncompliance.

H3: When personal norms are strong, deterrence components will have no (or weaker)

effects on compliance; but when personal norms are weak, deterrence variables will be

(more strongly) negatively related to tax noncompliance.

That is, next to a main effect, the personal norm was predicted to moderate the effects of the

deterrence components.

In contrast, social norms (separated methodologically and statistically from personal

norms) were not expected to have a significant simple effect on compliance. Being rather

external to one's self, they in and of themselves would not motivate taxpayers to comply with

the laws. However, when social norms are considered to be strongly opposed to tax evasion,

they may add social meaning and social costs to legal sanctions, such as shame and

embarrassment in the face of a conviction of tax fraud. Perceived social norms of tax honesty

would thus boost deterrence effects:

H4: When social norms are weak, deterrence components will have no (or weaker)

effects on compliance; but when social norms are strong, deterrence variables will be

(more strongly) negatively related to tax noncompliance.

It is argued that this moderation of deterrence is a distinctive effect of social norms that are

not internalized into one's own ethical make-up, but that remain rather external to the person.

Assuming that identification is an essential process for the internalization of social norms, the

interaction effect should only hold for respondents who do not identify with the collective

holding these norms, who thus do not act on these norms because they endorse them but

because the norms indicate what adverse reactions they can expect from other people.

H5: When group identification is weak, social norms will have a deterring effect on

taxpayers, boosting deterrence components in their effect on compliance; when

identification is strong, no deterring effect of social norms in combination with deterrence components will occur.

Method

Participants

The data were taken from the Community, Hopes, Fears, and Action Survey (Braithwaite, 2000). The self-completion questionnaire was sent to a random sample of 7754 Australian citizens drawn from the Australian electoral roll. Subtracting cases where the mail was returned to sender, addressees were deceased, etc., 7003 questionnaires were effectively sent out (for procedural details, see Mearns & Braithwaite, 2001). After repeated appeals for participation, 2040 respondents, or 29%, returned their questionnaires. The response rate for this rather long questionnaire compares with experiences from other mail surveys on tax issues in Australia (Wallschutzky, 1984, 1996).

To check the general representativeness for the Australian population, Mearns and Braithwaite (2001) compared the study's sample with relevant data from the Australian census. They found that the sample did not differ from the Australian population in its sex composition (53.1% vs. 51.1% females for census data). However, the sample somewhat underrepresented younger people in the age categories between 18 and 34 years (the largest difference being in the category 18-24, with 6.4% vs. 13.8%); and it overrepresented older people in the age categories between 40 and 64 (the largest difference being in the category 50-54, with 12.0% vs. 7.5%). Likewise, the study's sample had a significantly higher level of education (48.4% vs. 43.3% with post-secondary education). Overall, however, the differences were small and the sample was considered broadly representative.

The present study focused on people's self-reported level of tax compliance. These measures required that participants had filed a tax return for the previous year. Only 1554 respondents (76.2%) reported having filed a return and were thus able to answer questions on

their tax-paying behavior (the vast majority of those who had not filed a return reported minimal personal income). Moreover, among these respondents, there were a number of missing values across the variables considered in the present analyses; in particular for measures of deterrence (between 101 and 85, respectively), personal income (75), and tax compliance (29 missing values). The final listwise N for the present study was 1406 cases.

The participants in the final sample were between 18 and 91 years old ($Mdn = 45$); 49.9% were male, 50.1% were female. They had a median personal income of AUS$25,000 (currently about US$18,000), which was slightly higher than for the Australian population according to Census data.

Procedure

The questionnaire was sent to respondents with a reply-paid envelope and an accompanying letter. The letter explained the intent of the study, declared the independence of the research, and guaranteed strict confidentiality of responses. An identification number on the questionnaire allowed a targeted follow-up (with reminder letters and new questionnaires) for cases where the questionnaire was not returned by a certain deadline. Excluding breaks, which were explicitly recommended at various stages of the questionnaire, respondents would have needed an estimated 1.5 hours to fill it in.

Questionnaire

Tax Compliance

Based on previous work (AUTHOR, 2002), three forms of tax evasion were distinguished: underreporting of *Pay Income*, underreporting of *Non-Pay Income*, and exaggerations of *Deductions*. These behaviors were measured as follows:

Pay income. Four items measured whether or not respondents declared all their pay income: "As far as you know, did you report all the money you earned in your 1998-99 income tax return?" ($1 = yes$, $2 = no$); "Have you worked for cash-in-hand payments in the

last 12 months? By cash-in-hand we mean cash money that tax is not paid on." (1 = *yes*, 2 =

no; reverse-coded); "People earn income from many different sources, […] Think about each

of the sources of income listed below, and select the response that best describes your 1998-

99 income tax return." (1 = *received none*, 2 = *did not declare it*, 3 = *declared some*, 4 =

declared most, 5 = *declared all*; recoded into 1, 4, 3, 2, and 1, respectively): (1) salary, wages;

(2) honorariums, allowances, tips, bonuses, director's fees. Note that for the latter two items,

people who did not have any such income were coded as being compliant. Scores of the four

items were first standardized and then averaged to yield the Pay Income measure (α = .61).

Non-pay income. The previous question was continued for non-pay income (see

AUTHOR, 2002): (3) eligible termination payments; (4) Australian government allowances

like Youth Allowance, Austudy, Newstart; (5) Australian government pension,

superannuation pensions, and other pensions and annuities; (6) interest; (7) dividends (again

re-coded as 1 = *declared all* or *received none*, 2 = *declared most*, 3 = *declared some*, 4 = *did

not declare it*). Scores of the five items were standardized, then averaged to yield the Non-Pay

Income measure (α = .83).

Deductions. Two questions addressed respondents' deduction claims: "As far as you

know, did you exaggerate the amount of deductions or rebates in your 1998-99 income tax

return?" (1 = *a lot*, 2 = *quite a bit*, 3 = *somewhat*, 4 = *a little*, 5 = *not at all*; reverse-coded);

"Think of the deductions and rebates you claimed in your 1998-99 income tax return. Would

you say you were …" (1 = *…absolutely confident that they were all legitimate*, 2 = *a bit

unsure about some of them*, 3 = *pretty unsure about quite a lot*, 4 = *haven't a clue, someone

else did it;* recoded as 1, 2, 3 and missing value). The latter response option was treated as

missing value (*n* = 75), because people did not seem to be in a position to make a judgment.

However, in order not to lose all these cases, and thus to prevent a further drop in the valid *N*,

cases were maintained for analyses by using only their response to the first deduction item (if

valid). Scores of the two items were standardized, then averaged to obtain the Deductions measure ($\alpha = .57$).

 Tax evasion. A summary variable of tax evasion was obtained by aggregating these three measures of taxpaying behavior. Scores for underreporting of Pay Income, underreporting of Non-Pay Income, and false Deduction claims were first standardized and then averaged to obtain a measure of Tax Evasion. This procedure ensured that the three taxpaying behaviors contributed equally to the compound measure ($\alpha = .63$). Note that the alpha coefficient underestimates the reliability of this scale because it does not reflect that the scale is made up of composite subscales. Treating the 11 single taxpaying items as indicators of an aggregate taxpaying scale yields a more appropriate alpha estimate ($\alpha = .75$).

Deterrence

 Perceived deterrence was conceptualized in line with an expectancy-by-value approach (Grasmick & Bursik, 1990; Wenzel, 2002) and comprised three aspects: perceived probability of detection, perceived probability of consequences, and perceived severity of consequences. The three elements were measured in the context of two scenarios. In one scenario, respondents were asked to imagine they had been paid A$5000 in cash for work outside their regular job and did not declare it on their income tax return. In another scenario, they were asked to imagine they had claimed A$5000 as work deductions when the expenses had nothing to do with work. In each scenario, respondents were asked about the probability of getting caught: "What do you think the chances are that you will get caught?" (1 = *about zero [0%]*, 2 = *about 25%*, 3 = *about 50%*, 4 = *about 75%*, 5 = *almost certain [100%]*). Respondents were also asked about the probabilities of certain legal consequences: "If you did get caught, what are the chances that you would have to face the following legal consequences? (a) Taken to court + pay a substantial fine + pay the tax you owe with interest; (b) taken to court + pay the tax you owe with interest; (c) pay a substantial fine + pay the tax

you owe with interest" (with the same percentage scale for each item). Finally, respondents were asked about the severity of the possible consequences (Grasmick & Bursik, 1990): "Look at these legal consequences again. How much of a problem would they be for you? (a)… (b)… (c)… " (1 = *no problem*, 2 = *a small problem*, 3 = *a medium problem*, 4 = *a large problem*).

A factor analysis with Varimax rotation for all deterrence items indicated that a two-factor solution provided the most appropriate representation of the data. While three factors had Eigenvalues greater than 1 (Eigenvalues of 5.50, 3.70, and 1.03), the third factor only just exceeded this criterion. A scree-test showed that only the two stronger factors had discontinuously high Eigenvalues that distinguished them from the rest. Because multivariate regressions would be applied that could be affected by a strong overlap between predictor variables, the two-factor solution was preferred here. It explained 66% of the variance. All items loaded on one of the factors (loadings greater than .54), while there were no substantial cross-loadings (lower than .23). Specifically, all items measuring probability of detection and probability consequences loaded on Factor 1, which is called here Sanction Probability ($\alpha =$ .89). All items measuring severity of consequences loaded on the second factor, which is thus called Sanction Severity ($\alpha = .94$). For each concept, relevant items were averaged to obtain scale scores.

Identification

Two items measured identification with Australians (see Haslam, 2001), which should approximate the group to which the perceived social norms (see below) might be attributed: "Being a member of the Australian community is important to me", and "I feel a sense of pride in being a member of the Australian community" (1 = *do not agree at all*, 7 = *agree completely*). Scores were averaged to obtain a measure of Identification ($\alpha = .93$).

Norms

Social norms. The social norms referred to the perceived prescriptive norms of "most people" and were measured by three items (1 = *no!!*, 5 = *yes!!*): "Do MOST PEOPLE think they should honestly declare cash earnings on their tax return?"; "Do MOST PEOPLE think it is acceptable to overstate tax deductions on their tax return?" (reverse-coded); and "Do MOST PEOPLE think working for cash-in-hand payments without paying tax is a trivial offence?" (reverse-coded). Scores were averaged to obtain a measure of Social Norms (α = .56).

Personal norms. The personal norms referred to one's own prescriptive norms concerning taxpaying and were measured by the equivalent three items (1 = *no!!*, 5 = *yes!!*): "Do YOU think you should honestly declare cash earnings on your tax return?"; "Do YOU think it is acceptable to overstate tax deductions on your tax return?" (reverse-coded); and "Do YOU think working for cash-in-hand payments without paying tax is a trivial offence?" (reverse-coded). Scores were averaged to obtain a measure of Personal Norms (α = .56).

A factor analysis with Varimax rotation for the six norm items confirmed the conceptual distinction between personal and social norms. It yielded a two-factor solution (Eigenvalues of 1.86 and 1.46, respectively) which explained 55% of the variance. All social norm items loaded on one factor, and all personal norm items loaded on the other factor (with factor loadings greater than .65 and no substantial cross-loadings).

<div align="center">Results</div>

Zero-order correlations between relevant variables (excluding demographics) are displayed in Table 1. Most notably and somewhat unexpectedly, personal and social norms were relatively weakly correlated (r = .15, p < .001). This could be due to them being assessed in an implicitly contrasting fashion. If anything, this low correlation should be beneficial for an attempt to separate their different effects. The predictions were tested by

means of hierarchical regression analyses. Step 1 of the analyses controlled for background characteristics Sex, Age, and Personal Income. Findings for these variables will not be reported in the present paper, as they have already been reported and discussed elsewhere (AUTHOR, 2002).[1] Step 2 tested for main effects of the three deterrence variables, the two norm variables, and level of identification. Product terms testing for two-way interactions between each deterrence variable and each norm variable, and between each of these variables and the identification measure, were introduced in Step 3. Finally, in line with Hypothesis 5, Step 4 tested for three-way interactions between each deterrence variable, the social norm variable, and level of identification.

Following Aiken and West's (1991) recommendations for regression analyses testing for interactions, variables were first centered (i.e., transformed to a mean of zero) before building the product (interaction) terms, as this reduces the risk of multicollinearity. Multicollinearity statistics confirmed that there was no such problem in the present analyses. Unstandardized coefficients and standard errors, as reported in Table 2, are based on this analysis with centered variables. To obtain appropriate estimates for standardized coefficients, Aiken and West (1991) recommend that first-order variables be standardized and the products of the standardized variables used as interaction terms. The unstandardized solution of the regression analysis then produces unbiased standardized estimates for first-order variables as well as for interaction effects. (Note that, different from standardized solutions of regressions without interaction terms, the constants can here be non-zero). Figures 1 and 2, illustrating the interaction effects, are based on these standardized solutions to allow an easy comparison of the observed patterns.

The predictions were first tested for each of the three forms of tax compliance. The findings were very consistent between all three dependent variables. In fact, it would have been interesting to document the consistency of findings as a demonstration of the robustness

and reliability of the effects. However, for the sake of economy of presentation, only the results for the summary variable Tax Evasion will be reported.

Main Effects of Deterrence, Norms, and Identification

Step 2 of the regression tested for main effects of deterrence, norm, and identification variables. The results are summarized in the left-hand columns of Table 2. Hypotheses 1 predicted that deterrence variables would be negatively related to tax evasion. Indeed, both Sanction Probability ($\beta = -.06$, $p = .019$) and Sanction Severity ($\beta = -.09$, $p < .001$) showed the predicted negative relationship. The more likely respondents thought it was that tax evasion would be detected and punished, the less they evaded tax. Likewise, the more severe respondents thought the penalties for evading tax would be, the less likely they were to evade tax. The results were consistent with a deterrence approach. Note that it was also explored whether both components interacted in their effects on compliance, as a strict expectancy-by-value model would predict (see Carroll, 1987; Howe & Loftus, 1996). However, the interaction was not significant and thus omitted from the analyses.

Consistent with Hypothesis 2, Personal Norm had a significant negative relationship to self-reported Tax Evasion ($\beta = -.18$, $p < .001$). The more strongly opposed to tax evasion respondents' personal ethics were, the more they complied with the tax laws. In contrast, and as anticipated, no such effect was found for the perceived Social Norm ($\beta = .04$, *ns*), while controlling for the effect of Personal Norm.

Moreover, level of Identification was negatively related to Tax Evasion ($\beta = -.07$, $p = .005$). Respondents who identified more strongly as Australians tended to comply more with the tax laws.

Norms Moderating Deterrence Effects

The results for Step 3 showed that the inclusion of two-way interaction terms significantly contributed to the explanation of variance in Tax Evasion, $\Delta F(8, 1389) = 3.17$, p

= .001 (see the center columns in Table 2). Hypothesis 3 predicted that personal tax ethics

would moderate effects of perceived deterrence, with deterrence effects being stronger when

personal tax ethics were more accepting of tax noncompliance. This prediction received some

empirical support for the Severity component of deterrence, which showed a marginally

significant interaction with Personal Norm (β = .05, p = .082). The effect became more

pronounced and statistically significant in Step 4 of the analysis. Figure 1a depicts the results

of simple slope analyses clarifying the interaction (Aiken & West, 1991).[2] Sanction Severity

was significantly negatively related to Tax Evasion, indicating a deterrence effect, when

respondents' Personal Norm was weak and more accepting of evasion (β = -.13, p < .001). In

contrast, no such relationship was observed for respondents who indicated a strong Personal

Norm against tax cheating (β = .01, ns).

Hypothesis 4 predicted the opposite moderation effect for the perceived social norm:

variables of perceived deterrence would be more effective when social norms were

considered strongly opposed to tax evasion. The significant interaction between Sanction

Severity and Social Norm was in line with this prediction, and consistently so for Step 3 (β =

-.09, p < .001) and Step 4 (β = -.07, p = .006). Figure 1b depicts the simple slope analysis for

this effect. Sanction Severity was practically unrelated to Tax Evasion when the Social Norm

was perceived to be weak and accepting of evasion (β = .02, ns). In contrast, Severity was

significantly negatively related to Tax Evasion, when the Social Norm was considered to be

strongly opposed to tax cheating (β = -.13, p < .001).

There were some further two-way interactions that were, however, unstable over the

different steps of the regression analysis. The interaction between Identification and Sanction

Severity failed to be significant at Step 3, but was significant in the complete model at Step 4.

Conversely, the interaction between Identification and Social Norm was significant in Step 3,

but no longer so in Step 4. As these effects were unreliable and, more importantly, likely to be

implied in or affected by the predicted higher-order three-way interaction, they will not be discussed here further.

Identification and Social Norms of Tax Evasion

As explained above, Step 4 tested in addition for the three-way interactions between deterrence variables, social norms, and level of identification. Hypothesis 5 predicted that the interaction between perceived deterrence and perceived social norm would be further moderated by level of identification. Specifically, social norms strongly opposed to tax evasion should boost the deterring effects of perceived deterrence, only when identification was weak and, thus, when social norms were external to the perceivers and unlikely to be internalized into their ethical make-up.

The results for Step 4, summarized in the right-hand columns of Table 1, showed that the inclusion of the three-way interactions significantly contributed to the variance explained, $\Delta F(2, 1387) = 14.46$, $p < .001$. Specifically, only the interaction between Sanction Severity, Social Norm, and Identification had a significant effect ($\beta = .10$, $p < .001$). To clarify the meaning of this interaction, Figure 2 shows simple slopes of Severity for low versus high levels of Identification and Social Norms. The only significant relationship emerged for low levels of Identification and strong Social Norms of tax honesty ($\beta = -.29$, $p < .001$). For the other combinations of levels of Identification and Social Norms, Severity was not significantly related to Tax Evasion (Identification low, Social Norms low: $\beta = .05$, *ns*; Identification high, Social Norms low: -.04, *ns*; Identification high, Social Norms high: $\beta = .02$, *ns*). The results were in line with Hypothesis 5. Sanction Severity was only negatively related to Tax Evasion, and seemed to have a deterrence effect, when norms of tax honesty were perceived as strong, but where the norms were not internalized or incorporated into one's social self through a process of social identification.

Discussion

The findings of this study were overall consistent with the theoretical predictions concerning the relevance of norms for the deterring effects of legal sanctions against tax evasion. Sanction probability and sanction severity were distinguished empirically as two components of deterrence. Both were generally negatively related to tax noncompliance, in line with a deterrence approach. There was no evidence for an interactive relationship between the two deterrence components, so that they were treated here in terms of their additive effects (Carroll, 1978; however, see Howe & Loftus, 1996). While both deterrence components were negatively related to tax evasion, the effects of sanction severity were significantly qualified by ethics and perceived norms, in line with the theoretical predictions. No such interactions were found for perceived sanction probability.

Norms and ethics indeed proved highly relevant for compliance processes. First, personal norms, or individual morality, were significantly related to one's self-reported taxpaying behavior. Social norms, once personal norms were controlled, had no direct effects on tax compliance. Second, personal norms significantly moderated the effects of sanction severity: there was only a deterrence effect when individual morality was rather lax and, we might say, did not exclude tax evasion from one's behavioral options. Third, social norms significantly moderated the effects of sanction severity: there was only a deterrence effect when social norms were perceived as being strongly opposed to tax evasion. Fourth, this moderating influence of social norms on the deterrent effects of sanction severity held only for respondents who did not identify with their nation.

The findings for the role of personal norms replicated previous evidence in the area of tax evasion (as well as other delinquent acts). The main effect of personal norms is consistent with evidence that individual morality, in and of itself, is a strong determinant of taxpaying behavior (Bosco & Mittone, 1997; Grasmick & Bursik, 1990; Hasseldine & Kaplan, 1992;

Kaplan & Reckers, 1985; Reckers et al., 1994; Schwartz & Orleans, 1967). The effect of

personal norms moderating the impact of deterrence variables has also previously been shown

in the area of tax compliance (Smith, 1990; see also Reckers et al., 1994) as well as other

offences (Bachman et al., 1992; Burkett & Ward, 1993; Paternoster & Simpson, 1996;

Simpson, 2002). Personal norms against tax evasion have a strong impact on taxpaying

behavior, to an extent that they can render considerations of possible negative (or positive)

consequences, such as legal sanctions, irrelevant to the individual. Personal norms represent

one's individual ethics in which one sincerely believes and which one truly values. Of course,

these are not necessarily asocial norms at which one arrives in a process of purely

intraindividual deliberation; rather they develop in the course of one's life-long socialization.

For instance, they are the views of the social groups with which one identifies; through

identification the group becomes part of one's social self and one feels committed to its norms

and values (Turner, 1991). Any suggestion that one might behave in contradiction to these

internalized norms would threaten one's self, one's identity as a member of that group, and

the values that define one's group identity (Wenzel, 2004).

However, the more distinctive contribution of the present study is its demonstration of

an opposite moderating effect for social norms *not* reflected in one's personal norms and *not*

internalized, for instance due to a disassociation from the group to which they are attributed.

Specifically, we did not find a main effect of social norms when personal norms were

controlled. This indicates that social norms in and of themselves do not influence taxpaying

behavior unless they are considered one's own norms, internalized in one's self through a

process of identification with the group holding the norms (Wenzel, 2004). However,

perceived social norms moderated the impact of sanction severity on tax compliance.

Perceived severity of consequences had a stronger, and in fact only a significant, negative

relationship to tax evasion when social norms were perceived to be strongly opposed to tax

evasion. This finding is consistent with Williams and Hawkins' (1986) proposition of a deterrence effect that operates through its implied social costs, as well as earlier contentions by Zimring and Hawkins (1971) or Tittle and Logan (1973; p. 386) that "formal sanctions can be effective only if reinforced by informal sanctions".

Hence, while it was found that strong personal norms reduce the impact of deterrence variables, strong social norms can increase their effects. These effects thus need to be separated statistically to make them apparent, and distinguished analytically to understand them. I contend that the social norm moderation effect is based on norms that are not internalized and incorporated in one's own ethical make-up. The further moderation of this effect by levels of identification with the group to which the norms are attributed confirms this contention. Social norms moderated the deterrence effect of sanction severity only when respondents indicated a low level of identification with their national group. Being less identified with their group, people should be less likely to internalize its norms (a commitment that would make deterrence rather irrelevant). Rather, they should consider the social norms as external to themselves, but nonetheless a social reality that can affect the social meaning of sanctions they would face for acts of tax evasion.

It is not clear why ethics and norms qualified only the effects of sanction severity but not sanction probability. It could be argued that social norms imply social costs in particular for the actual sanctions that follow detection and conviction, as these may cause the offender some degree of public exposure (or the fear of such exposure). Thus, social norms give social meaning to formal sanctions (Kahan, 1996), while detection could be a more private experience. However, personal norms also interacted only with sanction severity, even though considerations of possible detection and its material costs, private as they may be, should also be more irrelevant when individual tax ethics are strong rather than weak. Thus, the fact that

interactions occurred only with one of the deterrence components can only partly be explained at this point. Other factors, including the more specific context, may be responsible.

The present results are consistent with findings by Pate and Hamilton (1992) as well as Sherman, Smith, Schmidt, and Rogan (1992) for the effects of specific deterrence; that is, effects of actually receiving punishments on future behavior and recidivism. Rather than perceived strength of social norms, these authors investigated the moderating effects of the offenders' employment and marital status, and thus, they argued, the *relevance* of social norms and reputations for their future outcomes. The results showed that arrests for spouse assault reduced recidivism only for offenders who were employed and married, that is, for whom public opinion would have more severe consequences. The present study, however, sheds some light on a confusion in Sherman et al.'s (1992) article. The authors concluded that their study yielded evidence that informal sanctions condition and reinforce effects of formal sanctions, whereas the results did not support the alternative notion that informal control replaces social sanctions and makes them irrelevant. The present research shows that, in fact, both processes may hold true, but the underlying processes need to be differentiated. When internalized, norms can indeed render a cost-benefit analysis, as involved in deterrence mechanisms, irrelevant; however, norms external to self can impact on the cost-benefit analysis and thus enhance the deterrent effects of legal sanctions.[3]

As the present findings suggest, the level of social identification with the relevant group determines whether one or the other norm process emerges. While less identified members are less likely to internalize social norms, the norms are not irrelevant to them: as a "majoritarian morality" (Braithwaite, 1989) norms are a social reality and determine how most others evaluate and react to people's conduct. Even though people may not identify with their group, they are still dependent on others for respect, reputation, cooperation, and access to resources and power. Because others can withdraw or withhold these things from those

convicted of an anti-normative offence, norms that are not internalized can yet make formal

sanctions more deterring. However, as an important caveat and issue for future research, it

should be noted that social exclusion and "stigmatization" (Braithwaite, 1989) based on such

norms could drive offenders even further away from the group and undermine the more

desirable internalization of the norms.

The present research has some limitations. Most importantly, the data are of a

correlational nature and therefore do not warrant causal interpretations. Wherever I discussed

findings in terms that suggested a causal interpretation, this should be considered as testing

for consistency with a causal prediction, but where causality cannot be inferred from the data.

Specifically, for deterrence effects a reversed causal influence is quite possible, with

perceptions of deterrence variables being used to rationalize one's behavior and present

oneself as rational and consistent (Hessing, Elffers, Robben, & Webley, 1992). Moreover, this

survey measured self-reported past compliance but current perceptions of deterrence

variables. This has been criticized as actually reversing the temporal sequence, and

prospective compliance measures have been suggested as a better solution for cross-sectional

designs (Grasmick & Bursik, 1990; Williams & Hawkins, 1986). However, it is unclear

whether people's predictions of their future behavior are as reliable as their reports on past

behavior.

On the positive side, the consistency of results across a variety of tax compliance

forms and measures, even though this could not be detailed here for space limitations,

warrants some confidence in the reliability of the findings and encourages further research

into the social determination of deterrence effects. Policymakers might be excused for

despairing at the complexity of the world of interaction effects that surface in these analyses.

However, if the theoretical interpretations emerging in these data were confirmed as robust by

further research, they might imply a simple enough policy: (a) nurture personal norms of

honesty because they underlie voluntary compliance; (b) secure deterrence because this works when personal norms fail; (c) presumptively order regulatory strategy so as to try for the greater power of personal norms first, falling back on deterrence when personal norms fail (Braithwaite, 2002); and (d) build strong identification with one's community and strong communitarian norms because these not only supply the process for building personal ethics but also bolster deterrence when personal ethics fail. The normative implications, therefore, may not be as complex as the explanatory mechanisms that underpin them.

References

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.

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

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, 52*, 141-171.

Alm, J., Sanchez, I., & DeJuan, A. (1995). Economic and noneconomic factors in tax compliance. *Kyklos, 48*, 3-18.

Andenaes, J. (1974). *Punishment and deterrence*. Ann Arbor, MI: University of Michigan Press.

Andreoni, J., Erard, B., & Feinstein, J. (1998). Tax compliance. *Journal of Economic Literature, 36*(2), 818-860.

Bachman, R., Paternoster, R., & Ward, S. (1992). The rationality of sexual offending: Testing a deterrence/rational choice conception of sexual assault. *Law and Society Review, 26*, 343-372.

Bosco, L., & Mittone, L. (1997). Tax evasion and moral constraints: Some experimental evidence. *Kyklos, 50*, 297-324.

Braithwaite, J. (1989). *Crime, shame, and reintegration*. Cambridge: Cambridge University Press.

Braithwaite, J. (2002). *Restorative justice and responsive regulation*. New York: Oxford University Press.

Braithwaite, V. (2000). *The community hopes, fears and actions survey*. Canberra: Centre for Tax System Integrity, Research School of Social Sciences, Australian National University.

Burkett, S. R., & Ward, D. A. (1993). A note on perceptual deterrence, religiously based moral condemnation, and social-control. *Criminology, 31*, 119-134.

Carroll, J. S. (1978). A psychological approach to deterrence: The evaluation of crime opportunities. *Journal of Personality and Social Psychology, 36*, 1512-1520.

Carroll, J. S. (1987). Compliance with the law: A decison-making approach to taxpaying. *Law and Human Behavior, 11*, 319-335.

Cowell, F. A. (1992). Tax evasion and inequity. *Journal of Economic Psychology, 13*(4), 521-543.

De Juan, A., Lasheras, M. A., & Mayo, R. (1994). Voluntary tax compliant behavior of Spanish income tax payers. *Public Finance, 49*, 90-105.

Dubin, J. A., Graetz, M. J., & Wilde, L. L. (1987). Are we a nation of tax cheaters? New econometric evidence on tax compliance. *The American Economic Review, 77*, 240-245.

Dubin, J. A., & Wilde, L. L. (1988). An empirical analysis of federal income tax auditing and compliance. *National Tax Journal, 16*, 61-74.

Elffers, H., Weigel, R. H., & Hessing, D. J. (1987). The consequences of different strategies for measuring tax evasion behavior. *Journal of Economic Psychology, 8*, 311-337.

Erard, B., & Feinstein, J. S. (1994). The role of moral sentiments and audit perceptions in tax compliance. *Public Finance, 49*, 70-89.

Falkinger, J. (1995). Tax evasion, consumption of public goods and fairness. *Journal of Economic Psychology, 16*, 63-72.

Ferber, R. (1948). The problem of bias in mail returns: A solution. *Public Opinion Quarterly, 12*, 669-676.

Fischer, C. M., Wartick, M., & Mark, M. M. (1992). Detection probability and taxpayer compliance: A review of the literature. *Journal of Accounting Literature, 11*, 1-46.

Franzoni, L. A. (2000). Tax evasion and tax compliance. In B. Bouckaert & G. DeGeest (Eds.), *Encyclopedia of law and economics* (Vol. 4, pp. 52-94). Cheltenham, UK: Elgar.

Friedland, N., Maital, S., & Rutenberg, A. (1978). A simulation study of income tax evasion. *Journal of Public Economics, 10*, 107-116.

Gibbs, J. P. (1975). *Crime, punishment, and deterrence*. New York: Elsevier.

Grasmick, H. G., & Bursik jr, R. J. (1990). Conscience, significant others, and rational choice: Extending the deterrence model. *Law and Society Review, 24*(3), 837-861.

Grasmick, H. G., & Green, D. E. (1980). Legal punishment, social disapproval and internalization as inhibitors of illegal behavior. *Journal of Criminal Law and Criminology, 71*, 325-335.

Grasmick, H. G., & Scott, W. J. (1982). Tax evasion and mechanisms of social control: A comparison with grand and petty theft. *Journal of Economic Psychology, 2*, 213-230.

Harcourt, B. E. (2000). After the "social meaning turn": Implications for research design and methods of proof in contemporary criminal law policy analysis. *Law and Society Review, 34*, 179-211.

Haslam, S. A. (2001). *Psychology in organizations: The social identity approach*. London: Sage.

Hasseldine, J., & Kaplan, S. E. (1992). The effect of different sanction communications on hypothetical taxpayer compliance: Policy implications from New Zealand. *Public Finance, 47*, 45-60.

Hessing, D. J., Elffers, H., Robben, H. S. J., & Webley, P. (1992). Does deterrence deter? Measuring the effect of deterrence on tax compliance in field studies and experimental studies. In J. Slemrod (Ed.), *Why people pay taxes: Tax compliance and enforcement* (pp. 291-305). Ann Arbor, MI: University of Michigan Press.

Howe, E. S., & Brandau, C. J. (1988). Additive effects of certainty, severity, and celerity of punishment on judgments of crime deterrence scale value. *Journal of Applied Social Psychology, 18*, 796-812.

Howe, E. S., & Loftus, T. C. (1996). Integration of certainty, severity, and celerity information in judged deterrence value: Further evidence and methodological equivalence. *Journal of Applied Social Psychology, 26*, 226-242.

Kahan, D. M. (1996). What do alternative sanctions mean? *University of Chicago Law Review, 63*, 591-653.

Kaplan, S. E., & Reckers, P. M. J. (1985). A study of tax evasion judgments. *National Tax Journal, 38*, 97-102.

Kelman, H. C. (1958). Compliance, identification, and internalization: Three processes of attitude change. *Journal of Conflict Resolution, 2*, 51 - 60.

Kinsey, K. A., & Grasmick, H. G. (1993). Did the tax reform act of 1986 improve compliance? Three studies of pre- and post-TRA compliance attitudes. *Law and Policy, 15*, 239-325.

Mason, R., & Calvin, L. D. (1978). A study of admitted income tax evasion. *Law and Society, 13*, 73-89.

McAdams, R. H. (1997). The origin, development, and regulation of norms. *Michigan Law Review, 96*, 338-433.

Mearns, M., & Braithwaite, V. (2001). *The community hopes, fears and action survey: Survey method, sample representativeness and data quality*: Centre for Tax System Integrity Working Paper No. 4, Australian National University, Canberra.

Nagin, D. S., & Paternoster, R. (1991). The preventive effects of the perceived risk of arrest: Testing an expanded conception of deterrence. *Criminology, 29*, 561-587.

Nagin, D. S., & Paternoster, R. (1993). Enduring individual differences and rational choice theories of crime. *Law and Society Review, 27*, 467-496.

Pate, A. M., & Hamilton, E. E. (1992). Formal and informal deterrents to domestic violence: The Dade county spouse assault experiment. *American Sociological Review, 57*, 691-697.

Paternoster, R. (1987). The deterrent effect of the perceived certainty and severity of punishment: A review of the evidence and issues. *Justice Quarterly, 4*, 173-217.

Paternoster, R., Saltzman, L. E., Waldo, G. P., & Chiricos, T. G. (1983). Perceived risk and social control: Do sanctions really deter? *Law and Society Review, 17*, 457-479.

Paternoster, R., & Simpson, S. S. (1996). Sanction threats and appeals to morality: Testing a rational choice model of corporate crime. *Law and Society Review, 30*, 549-583.

Reckers, P. M. J., Sanders, D. L., & Roark, S. J. (1994). The influence of ethical attitudes on taxpayer compliance. *National Tax Journal, 47*, 825-36.

Schmölders, G. (1970). Survey research in public finance: A behavioural approach to fiscal theory. *Public Finance, 25*, 300-306.

Schwartz, R. D., & Orleans, S. (1967). On legal sanctions. *University of Chicago Law Review, 34*, 274-300.

Scott, W. J., & Grasmick, H. G. (1981). Deterrence and income tax cheating: Testing interaction hypotheses in utilitarian theories. *Journal of Applied Behavioural Science, 17*, 395-408.

Sheffrin, S. M., & Triest, R. K. (1992). Can brute deterrence backfire? Perceptions and attitudes in taxpayer compliance. In J. Slemrod (Ed.), *Who pays taxes and why? Tax compliance and enforcement* (pp. 193-218). Ann Arbor: University of Michigan Press.

Sherman, L. W., Smith, D. A., Schmidt, J. D., & Rogan, D. P. (1992). Crime, punishment, and stake in conformity: Legal and informal control of domestic violence. *American Sociological Review, 57*, 680-690.

Simpson, S. S. (2002). *Corporate crime, law, and social control*. Cambridge, UK: Cambridge University Press.

Smith, K. W. (1990). Integrating three perspectives on noncompliance: A sequential decision model. *Criminal Justice and Behavior, 17*, 350-369.

Stafford, M. C., Gray, L. N., Menke, B. A., & Ward, D. A. (1986). Modeling the deterrent effects of punishment. *Social Psychology Quarterly, 49*, 338-347.

Tittle, C. R., & Logan, C. H. (1973). Sanctions and deviance: Evidence and remaining questions. *Law and Society Review, 7*, 371-392.

Turner, J. C. (1991). *Social influence*. Buckingham, UK: Open University Press.

Varma, K. N., & Doob, A. N. (1998). Deterring economic crimes: The case of tax evasion. *Canadian Journal of Criminology, 40*, 165-184.

Vogel, J. (1974). Taxation and public opinion in Sweden: An interpretation of recent survey data. *National Tax Journal, 27*, 499-513.

Wallschutzky, I. G. (1984). Possible causes of tax evasion. *Journal of Economic Psychology, 5*, 371-384.

Wallschutzky, I. G. (1996). *Issues in research methods: With reference to income tax research*: Unpublished manuscript. University of Newcastle, Australia.

Webley, P. (1987). Audit probabilities and tax evasion in a business simulation. *Economics Letters, 25*, 267-270.

Webley, P., & Halstead, S. (1986). Tax evasion on the micro: Significant simulations or expedient experiments? *The Journal of Interdisciplinary Economics, 1*, 87-100.

Wenzel, M. (2002). The impact of outcome orientation and justice concerns on tax compliance: The role of taxpayers' identity. *Journal of Applied Psychology, 87*, 629-645.

Wenzel, M. (2004). An analysis of norm processes in tax compliance. *Journal of Economic Psychology*, 25, 213-228.

Williams, K. R., & Hawkins, R. (1986). Perceptual research on general deterrence: A critical review. *Law and Society Review, 20*, 545-572.

Witte, A. D., & Woodbury, D. F. (1985). The effect of tax laws and tax administration on tax compliance: The case of the U.S. individual income tax. *National Tax Journal, 38*, 1-13.

Zimring, F. E., & Hawkins, G. J. (1971). The legal threat as an instrument of social change. *Journal of Social Issues, 27*, 33-48.

Table 1

Descriptive Statistics and Correlations for Relevant Variables (listwise N = 1406)

Variable	*M*	*SD*	1	2	3	4	5	6
1. Tax Evasion	-.01	.73	--					
2. Sanction Probability	3.58	.92	-.11***	--				
3. Sanction Severity	3.62	.59	-.13***	.20***	--			
4. Personal Norm	3.65	.74	-.22***	.11***	.08**	--		
5. Social Norm	2.53	.70	.01	.13***	-.00	.15***	--	
6. Identification	5.83	1.18	-.13***	.18***	.13***	.12***	.01	--

Note. †*p* < .10, **p* < .05, ***p* < .01, ****p* < .001 (two-tailed).

Table 2

Hierarchical Regression Analysis for Tax Evasion

Predictor	Step 2			Step 3			Step 4			
	B	SE_B	β	B	SE_B	β	B	SE_B	β	r^2_{part}
Sanction Probability	-.05	.02	-.06*	-.06	.02	-.07**	-.06	.02	-.07**	.005
Sanction Severity	-.12	.03	-.09***	-.10	.03	-.08**	-.07	.03	-.06*	.003
Personal Norm	-.17	.03	-.18***	-.18	.03	-.18***	-.18	.03	-.18***	.030
Social Norm	.04	.03	.04	.04	.03	.04	.03	.03	.03	.001
Identification	-.04	.02	-.07**	-.04	.02	-.06*	-.04	.02	-.06*	.003
Personal N.5Probability				.01	.03	.01	-.01	.03	-.01	.000
Personal N.5Severity				.08	.04	.05†	.11	.05	.07*	.004
Social N.5Probability				.02	.03	-.02	-.00	.03	-.00	.000
Social N.5Severity				-.17	.05	-.09***	-.12	.05	-.07**	.004
Ident.5Probability				.02	.02	.02	.02	.02	.02	.001
Ident.5Severity				.03	.02	.03	.06	.02	.05*	.002
Ident.5Personal N.				.02	.02	-.03	.03	.02	.04	.001
Ident.5Social N.				-.05	.02	-.05*	-.03	.02	-.03	.001
Ident.5Social N.5Probability						-.02	.02	-.02		.000
Ident.5Social N.5Severity							.15	.03	.10***	.008
(Constant)	-.01	.02	--	-.03	.02	-.02	-.03	.02	-.02	

R^2		.095		.111		.129
ΔR^2		.059		.016		.018
ΔF		18.24***		3.17**		14.46***

| *df* | 5, 1397 | 8, 1389 | 2, 1387 |

Note. Step 1 (including sex, age, and income) is omitted in this table. Unstandardized

coefficients and standard errors were obtained from a model with interaction terms based on

centered variables; standardized coefficients were obtained from a model with interaction

terms based on standardized variables (Aiken & West, 1991). Squared semipartial (part)

correlations for the final model (see last column) were derived from these standardized

coefficients; they indicate the explained variance unique to each predictor, equivalent to a

ΔR^2. N. = Norm; Ident. = Identification. $^{\dagger}p < .10,\ ^{*}p < .05,\ ^{**}p < .01,\ ^{***}p < .001$ (two-tailed).

Figure Captions

Figure 1. Simple slope analyses for two-way interactions between sanction severity and (a) personal norm, and (b) social norm.

Figure 2. Simple slope analyses for the three-way interaction between sanction severity, social norm, and identification.
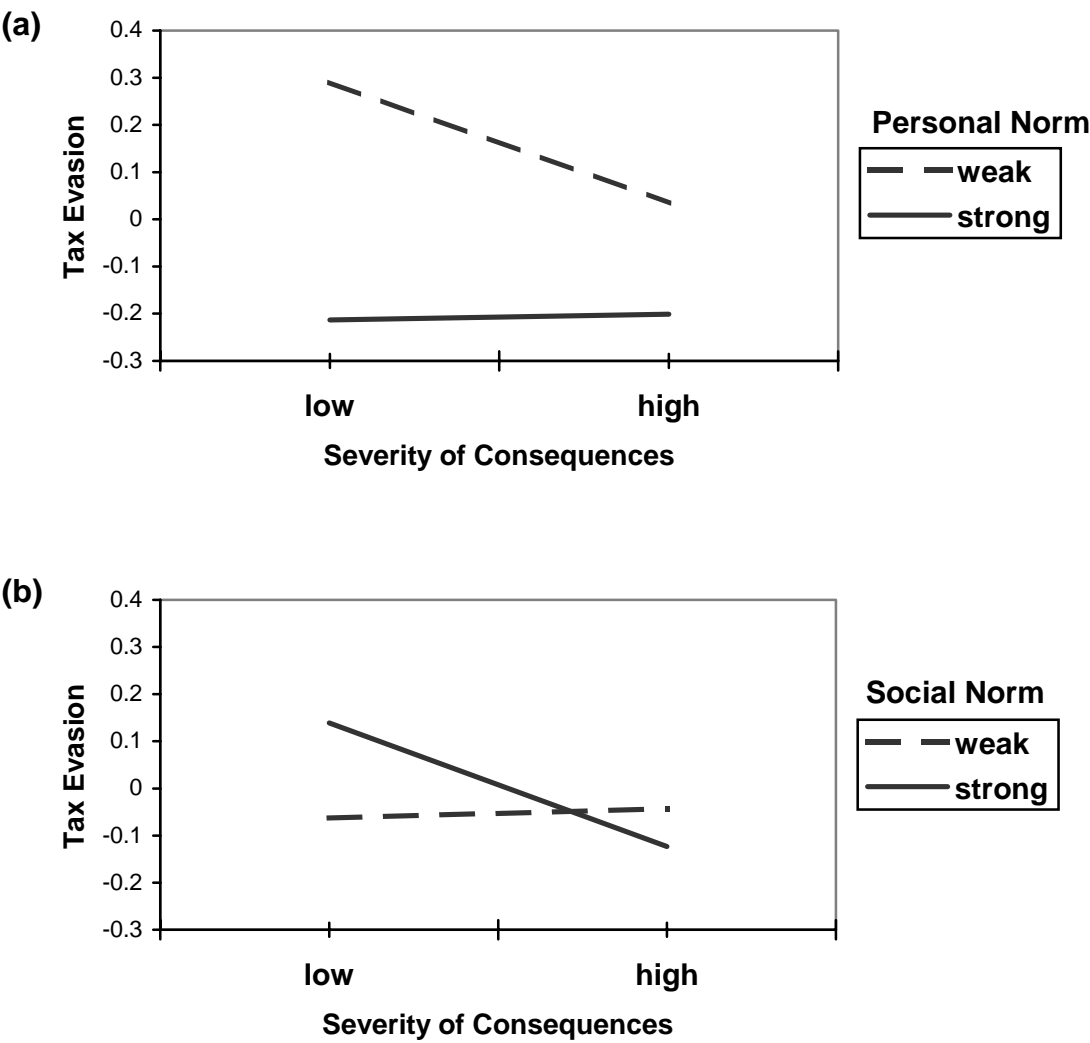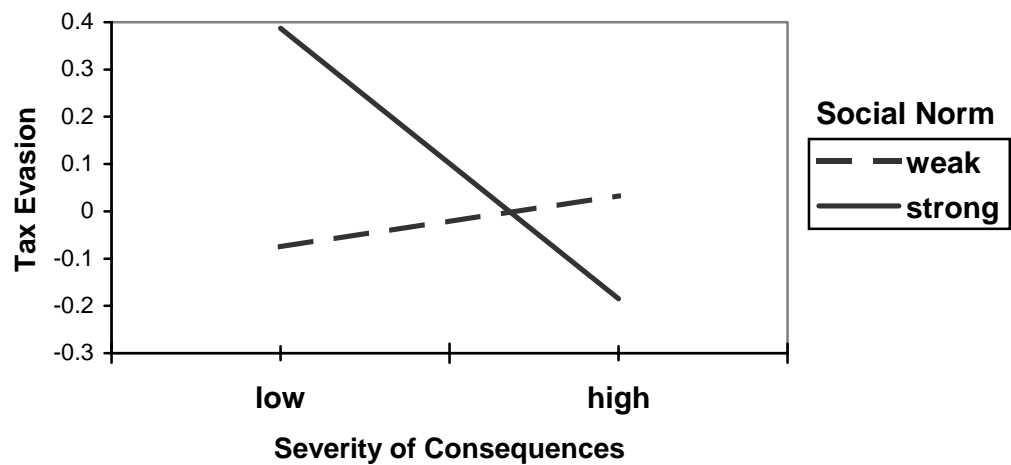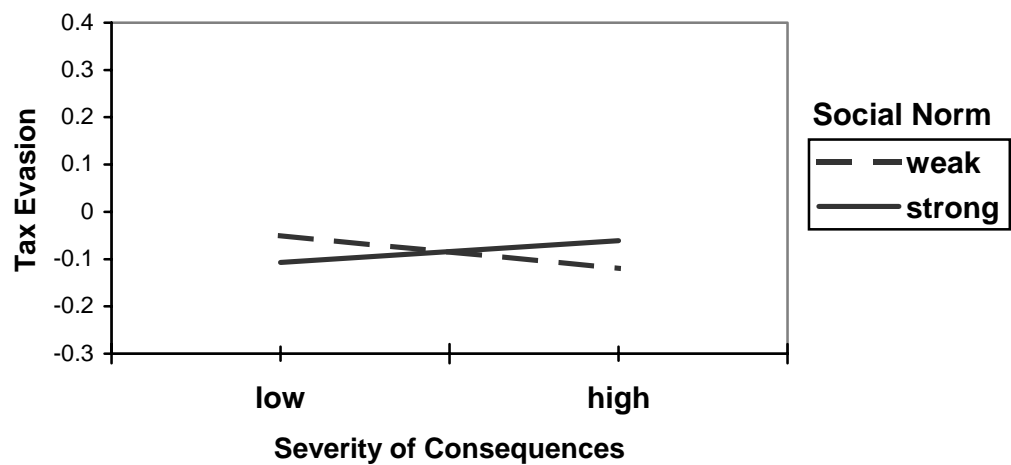
Figure 1

Figure 2

(a) Low level of identification

(b) High level of identification

Footnotes

[1] All three background variables were significantly related to Tax Evasion. Respondents reported being less compliant with the tax laws when they were male (β = -.11), of younger age (β = -.15), and on lower incomes (β = -.11).

[2] For all interactions, simple slopes for one of the interacting variables were calculated at levels of –1 and +1 standard deviation of the other variable of the interaction (Aiken & West, 1991).

[3] It should be added that, while I found no deterrence effect when social norms were considered tolerant of tax evasion, Pate and Hamilton (1992) and Sherman et al. (1992) found a counterproductive effect of arrests when offenders were unemployed and unmarried. A possible reason is that their study investigated effects of specific deterrence and actual sanctions that are more likely to elicit reactance than general deterrence and the mere prospect of a punishment are.