

**Ain't that a Shame:
False Tax Declarations and Fraudulent Benefit Claims**

Lory Barile, John Cullis & Philip Jones

November 2022

No: 1435

Warwick Economics Research Papers

ISSN 2059-4283 (online)

ISSN 0083-7350 (print)

“Ain’t that a Shame”: False Tax Declarations and Fraudulent Benefit Claims.

Some Analysis and Evidence.

Lory Barile^a, John Cullis^b, Philip Jones^b.

^a Department of Economics, University of Warwick, Coventry, CV4 7AL, UK.

^b Department of Economics, University of Bath, Claverton Down, Bath, BA2 7AY, UK.

Abstract

This paper begins by listing three ‘uncomfortable’ implications of the standard expected utility model of individual decision-making concerning participation in fiscal crimes: that tax evasion and benefit fraud can be treated identically; fiscal crimes should be endemic; and that all individuals, depending on parameter values, should be either honest or dishonest. Levitt and List’s (2007) utility function relating to decisions with a moral dimension is adapted to offer insight into these implications involving an individual’s ‘optimal honesty’ and ‘moral hinterland’. Predictions are developed that include moral costs as a determinant of dishonest intentions and are tested with reference to some 2,942 questionnaire responses to a 2016 national (UK) survey. This paper offers insight into the way moral costs inform perceptions of the intrinsic value of ‘doing the right thing’ thereby providing a richer analysis of fiscal crimes. The account has particular relevance for policy prescriptions that involve aspects of ‘shame’.

Keywords: benefit fraud; tax evasion; optimal honesty; moral costs.

JEL Classification: D01, H2, K42.

1. Introduction

An ‘economic’ literature (premised on the assumptions that individuals are: (i) amoral and (ii) instrumental in pursuit of self-serving goals) offers insights into the decisions to evade tax and to commit benefit fraud. As taxpayers, individuals consider the net expected gain of under-reporting income. As benefit claimants (of cash and in-kind benefits), individuals consider the net expected gain of under-reporting income. The ‘economic’ analysis of the decision to commit criminal activity focuses on expected *outcomes* (Becker, 1968). For tax evasion, the approach is exemplified in the Allingham and Sandmo (1972) model of optimal tax declaration¹. However, for all the merits of this approach, it seems to present three implications that are problematic.

First, Halla and Schneider (2014, p. 412) note, “... tax evasion and benefit fraud are almost identical in the standard neoclassical model of compliance”. If individuals experience the same financial loss from benefit fraud as from tax evasion, there is no reason in the neoclassical world to assume that individuals’ perceptions and attitude to these fiscal crimes will differ. But they do. Empirical studies indicate that citizens are *far* more condemnatory of benefit fraud than of tax evasion, even though the estimated financial loss from tax evasion is greater than the estimated financial loss from benefit fraud (e.g., see Cullis et al., 2015). By comparison, the ‘economic’ approach (based on amoral instrumental motivations) predicts that citizens will be more condemnatory of the activity (tax evasion) that produces the greatest financial loss (*ceteris paribus*).

Second, Alm et al. (1992) complain that the ‘economic’ analysis of an ‘evasion gamble’ predicts that *most* individuals will evade, when, in practice, *most* declare income honestly. In Andreoni et al.’s (1998) seminal literature review, the authors note that, in 1995, the audit rate in the USA for individual tax return was 1.7 per cent, and the civil penalty for underpayment

¹ Hereafter in this paper, denoted as the Allingham-Sandmo (1972) model.

of taxes was 20 per cent of the underpayment. They emphasize the implicit prediction that *many* more individuals were likely to evade tax than the number estimated for 1995. These papers are not the only publications that draw attention to this failure to predict the full extent of taxpayer compliance. Brizi et al. (2015, p. 22) note the increasing number of papers that refer to "... this so called 'puzzle of compliance'..."

Third, the model cannot predict a separating equilibrium in which some individuals tax evade alongside others who do not. It generates pooled equilibria in which, depending on parameter values, all individuals will evade or all individuals will comply with the law. Unfortunately, for the theory it is the former separating equilibrium that is widely observed. In the face of these discrepancies, it is not surprising that many have sought to amend the theory in various ways.

Gordon (1989) has individuals with an honesty characteristic who suffer a private stigma cost when they tax evade. Further they incur public reputation costs depending on the strength of evolving evasion norms that surround them. Privately they feel shame and publically they are shamed. These themes are explored elsewhere. Spicer (1986) and Kirchler (2007) argued that individuals experience a 'psychic cost' when they engage in tax evasion. Cullis et al. (2012) have citizens experiencing discomfort when they feel they are not complying with a social norm. Another strand in the literature draws attention to the intrinsic value that individuals derive when acting honestly. Deci (1971, p. 105) argues that an individual is "...intrinsically motivated to perform an activity when... (the individual) ... receives no apparent reward except the activity" (see also Deci and Ryan, 1980).

If this broader analysis is to shed insight (and be more than a tautology), it is important to focus on the determinants of perceptions of the intrinsic value of action. It has been argued that moral beliefs are a determinant of individuals' perceptions of the intrinsic value of action. Brekke et al. (2003, p. 1969) argue: "People want to think of themselves as socially responsible

(‘What kind of person am I?’). They argue that “... individuals first determine their morally ideal effort by asking themselves the following question: ‘What would the consequences for social welfare be if everybody acted like me?’”. Essentially a Kantian perspective. Individuals choose to trade-off their wish to be socially responsible against the cost they will incur (in terms of consumption and leisure).

Frey (1997) emphasizes that individuals’ perceptions of the intrinsic value of action also depends on recognition -i.e., on an awareness that others acknowledge their action. To date, analysis has focused largely on the impact of *acknowledgement* of individuals’ *action*. When paying taxes, individuals are far more likely to act honestly, the more they see that others act honestly (Kirchler, 2007). By comparison, less attention has been paid to the relevance of morality and to the way in which moral beliefs are likely to influence the decision to evade taxes and the decision to commit benefit fraud. An important contribution here is Rabin (1995) who follows the logic of viewing acting morally as an ‘internal constraint’ on what otherwise would be narrowly self-interested behaviour. In the light of these and other contributions noted below this paper asks how relevant are moral matters and how important are perceptions of the intrinsic value of acting honestly when individuals decide to make false income declarations and fraudulently claim benefits?

In section 2 of the paper, a utility function canvassed by Levitt and List (2007) is employed to illustrate the impact of both instrumental and moral/intrinsic motivation in determining optimal honesty with a view to forming some testable predictions. Section 3 presents initial empirical evidence that feeds into econometric testing outlined as section 4. Results are presented in section 5 with conclusions and policy implications reserved for discussion in section 6.

2. 'Optimal' honesty: The relevance of moral costs

Following Levitt and List (2007), an individual, i , has a choice over action a (here to be tax evader or benefit fraudster) that generates two sources of utility. First, there is the utility derived from income (Y). Second, there is a non-pecuniary source of utility derived when acting honestly². The cost of honest compliance (when paying tax or claiming a state benefit) is the loss of income that might otherwise have been realised. The cost of acting dishonestly is the non-pecuniary utility loss (the 'psychic cost', M) that might have been realised if the individual had acted honestly. Clearly, both Y and M depend on the value of the financial sum (v) that might be achieved if the individual were to act dishonestly.

Alm (2019, p. 353) provides an extensive literature survey focused on the question: "what motivates tax compliance?". When focusing on 'social interactions', Alm highlights the importance of a social norm (n). It is also the case that Levitt and List's (2007) first consideration is the impact of a social norm.

Alm (2019, p. 360) defines a social norm n as "...a pattern of behaviour that is judged in a similar way by others and that is sustained in part by social approval...". Honesty will be motivated when "...internalising social norms of proper conduct... (is possible) ...via...shame or guilt" (ibid). The greater the *shame* associated with dishonesty, the greater the moral cost of dishonesty.³

The likelihood that individuals will experience shame increases as v increases. The size of v in the M part of the utility function indicates that moral costs are greater the bigger your crime and the more a decision imposes a financial externality *on others*. Moral cost (M) is also likely

² Bott et. al. (2022) report a field experiment that employs a somewhat similar set up but both in terms of focus (a single specific tax in Norway) and conception of moral suasion (appeal to 'fairness' and emphasizing the 'fiscal connection') have a much narrower perspective than is explored here.

³ In a series of articles, Wenzel (2004, 2005a, 2005b) theoretically and empirically, using Australian data, finds a complex relationship between personal and social norms in relation to tax compliance. For example, social norms become more relevant when they are attributed to a group with which an individual identifies.

to increase as scrutiny s increases. The individual's additively separable utility function is described in equation (1):

$$U_i = Y_i(a, v) + M_i(a, v, n, s). \quad (1)$$

In the absence of a 'moral dimension', the utility function collapses to an 'income' (or 'wealth') maximizing utility function. When moral considerations are relevant, individual choices are likely to deviate from a pure income-maximizing choice. The moral costs increase with the size of the deception, v ; the strength of the (honesty) norm, n ; and the extent of scrutiny/stigma costs, s . Pecuniary gains naturally increase as v increases.

Alm (2019, p. 361) also argues that individuals might be motivated to comply with taxation if there is "...an intrinsic motivation to cooperate". In this case, the psychic cost of dishonesty is the loss of utility (M) experienced by acting dishonestly. The intrinsic value of honest action depends on a moral judgement and also on the observation that others *acknowledge* the relevance of the intrinsic value of action (by acting honestly) (Frey 1997). The more that individuals believe that others *acknowledge* the intrinsic value of action (by acting honestly), the greater the intrinsic value of honesty and the greater the utility loss when behaving dishonestly.

In the empirical work reported below, data on attitudes and intentions with respect to tax evasion and benefit manipulation are analysed. The focus is differences in attitudes to these two crimes and their determinants. Given this, it is reasonable to extend the list of variables affecting moral costs. In particular political affiliation (p), religion (r), and moral rectitude (mr) suggest themselves as relevant factors.

Your political leaning provides a lens through which you view tax evasion and benefit fraud. A right-wing leaning is associated with a "low tax small spending government", "standing on

your own two feet”, “carrying your own pack” etc., predicting a weaker disapproval of tax evasion compared with benefit fraud. The equivalent caricature on the left-leaning perspective is a “high tax big spending government”, “we are our brother’s keeper”, “take from the rich to give to the poor” etc., predicting a weaker disapproval of benefit fraud compared to tax evasion. In short, other things equal, left-leaning individuals will be less inclined to view fraud benefit as ‘wrong’ and more likely to perceive tax evasion as ‘wrong’ than right-leaning individuals.

Where moral costs arise, religion ought to matter. After all, the eighth commandment says “thou shalt not steal”. It is the case that most religions see stealing as morally wrong. Given this, it can generally be predicted that religious individuals are less likely to be tax evaders or benefits fraudsters and be more disapproving of these activities.

Finally, there is the moral stance an individual adopts. Much of economics has a largely amoral actor that seems at odds with the notion of people as moral beings. Individuals differ. The saying “being more Catholic than the pope” captures the notion that individuals display different degrees of moral rectitude in making choices. With these amendments, equation (1) can be modified to:

$$U_i = Y_i(a, v) + M_i(a, v, n, s, p, r, mr), \quad (2)$$

where p refers to political affiliation, r is for religion, mr reflects individuals’ moral rectitude, and the variables n , s , p , r , and mr are seen here as defining an individual’s ‘moral hinterland’. The trick being to proxy these variables in an econometric setting as they are seen as determining the size of moral costs (see below) felt by an individual (thereby affecting their optimal honesty).

Focusing (in the first instance) on the decision to evade tax (ignoring for the moment the curves MCB in panel (a) and TCb in panel (b) of Figure 1), it is possible to illustrate the relevance of moral/intrinsic and instrumental/money motivations in Figure 1. The utility costs are illustrated on the y-axis and the extent of dishonesty is illustrated on the x-axis (running

from ‘total honesty’, at the origin, to ‘total dishonesty’). If the individual is ‘totally honest’, (‘psychic’) moral costs (MCt) are zero. The more that the individual is dishonest, the greater the moral costs; with ‘total dishonesty’ generating very high costs. Income costs (YC) are essentially tY , where t is the tax rate and Y represents income (for the benefit fraud case, YC would be the value of potential benefits not fraudulently claimed). When the individual becomes more dishonest $YC = tY$ falls. This cost is zero when the individual is ‘totally dishonest’⁴.

For any individual, ‘optimal honesty’ occurs where total costs ($YC + MCt$), captured as TCt in Figure 1 (b), are minimized. This will occur where the absolute values of the slopes of MCt (the moral costs) and YC (the income costs) are equalized. As drawn, optimal honesty is at Ht^* in Figure 1(b) which represents a high degree of honesty. Recent empirical evidence, using different research methods, accord with this depiction. In an ‘indirect’ applied econometrics approach, Engström and Hagen (2017) analyse the consumption patterns of the ‘tax evader tarred’ self-employed. They try to establish whether their consumption is consistent with their reported income. Employing a permanent income concept, they find, for their Swedish data, that correcting for transitory income fluctuations in current income, leads to an overestimate of income underreporting by as much as 40%. Clearly this is a substantial correction in the ‘honesty’ direction.

In a ‘direct’ behavioural approach Cohn et al. (2019) had researchers drop 17,000 apparently “lost wallets” in 355 cities in 40 countries. Surprisingly, the majority of wallets containing money were reported with reporting rising with the size of the ‘find’. Some 72% of wallets containing a \$100 were reported compared to 61% of wallets with just over \$13. Interestingly only 46% of wallets containing no money were brought forward. It appeared that individual honesty was not dependent on economic gain (the instrumental-pecuniary

⁴ As noted in section 6, equation (4), below, YC can be equated to the standard Allingham-Sandmo (1972) model of optimal tax declaration in a more sophisticated presentation.

motivation) but rather how bad the act of dishonesty made them feel (the intrinsic-psychic motivation). One explanation was altruism so that individuals show empathy for the (other) person who lost the wallet. More consistent with the framework outlined here, and favoured by the authors themselves, is that individuals want to maintain a positive image of themselves as honest moral beings, so that not reporting wallets containing more money engenders greater shame or moral costs to themselves. However, not all individuals are the same. The optimal honesty approach allows ‘corner’ solutions.

For individuals displaying ‘total honesty’ there is an infinitely steep MCt curve. These ‘saints’, whose moral rectitude is beyond reproach, always incur YC and enjoy $MCt = 0$. Compulsive ‘sinners’, the morally bankrupt, are at the other end of the scale; MCt is the x-axis, so that cost minimization predicts complete dishonesty. In practice, it is likely that an individual’s ‘optimal honesty’ will lie somewhere in the interior.

The picture is of a minority of saints and sinners alongside a majority of individuals who dabble with a socially acceptable level of tax evasion. Or as psychologist Abigail Marsh put it, commenting on the lost wallets study noted above: “...what I like about this study is that it supports so much of the data out there... that most people are trying to *do the right thing* most of the time” (Quoted in Fieseler, 2019, emphasis ours). The optimal honesty approach, so far, sheds light on the second and third implications above – fiscal crimes will not be endemic and not all will act in the same way. But what about the first implication? How is an asymmetrical attitude to tax evasion and benefit fraud to be explained?

Cullis et al. (2015) provide a hedonic coding explanation of this implication. Tax evasion is about illegally not putting into the community pot whereas benefit fraud is about illegally taking out of the community pot. With the former coded as a foregone gain and the latter as a loss, the particular shape of the Kahneman and Tversky (1979) value function does the rest. Illegal monetary gains of equal size are labelled by their different source/ mental account.

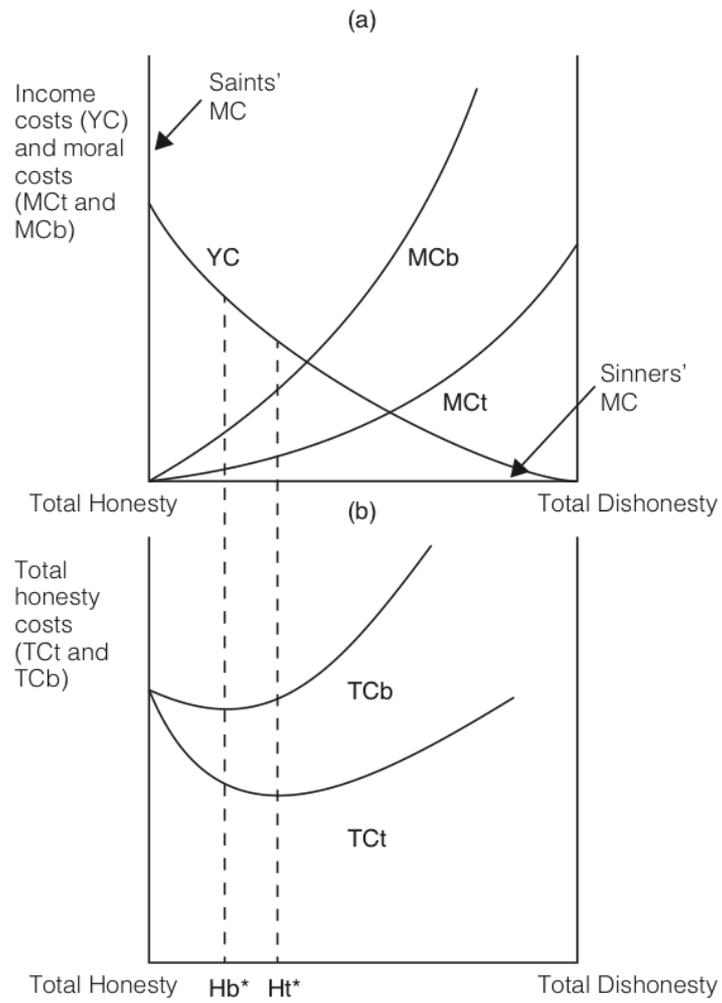


Figure 1 'Optimal' Honesty

However, can this coding be given more fundamental moral foundation? Zamir (2012) has considered why tort law is more developed than unjust enrichment law and why there is more constitutional protection of civil and political rights compared to social and economic rights. He argues that the explanation is premised on moral intuition. He draws attention to the concept (in moral philosophy) of ‘common sense morality’. If morality is relevant, there is every likelihood that individuals will be *more* condemnatory of benefit fraud than of tax evasion *ceteris paribus*.

By definition, ‘common sense morality’ is deontological. It focuses on action rather than outcome. Zamir (2012, p. 877) explains that: “Deontology does not primarily judge the morality of an action (or anything else) according to its outcomes but rather focuses on the morality of the action itself”. With ‘common sense morality’, individuals weight the possibility of “...intentionally or actively harming other people...” (p. 876) far more heavily than the benefits that might be achieved. Zamir (2012) provides many examples. The first of these is the “...instinctive immorality of killing one person to harvest organs that will save the lives of three others”. He notes (p. 876) that such acts are “...*inherently* wrong, they are impermissible even as a means to furthering the overall good.” (our emphasis). Common sense morality “...distinguishes between harming a person and not benefiting her” (p. 877).

When focusing on individuals’ preferences the “... law conforms to prevailing moral intuitions... (that)...are closely linked to notions of reference points and loss aversions...” (Zamir 2012, p. 876). The implication is that individuals are likely to perceive tax evasion as a *foregone or unrealized gain* to the community (via ‘not benefiting’ the public purse) while benefit fraud is likely to be perceived as a *loss* to the community (via ‘harming’ the public purse). The moral costs of *taking* from the public purse are *instinctively* greater than the moral costs of *not contributing* to the community. As the intrinsic value of honesty, when claiming government benefits, is likely to be greater than the intrinsic value of paying tax honestly, the

moral costs of dishonesty *when fraudulently claiming government benefits* are likely to be greater than the moral costs of dishonesty *when making false income declarations*.

The implications are that, in Figure 1, MCb (the costs of acting dishonestly) *when committing benefit fraud* are: (i) greater than MCt (the costs of acting dishonestly) when evading tax, and (ii) that MCb will increase at a faster rate *when committing benefit fraud* than MCt *when committing equivalent tax evasion* (see Figure 1(a)). As a consequence, in Figure 1(b) in the cost-minimizing model the ‘optimal’ level of honesty will be greater when individuals consider benefit fraud than when they consider tax evasion (referring to TCb the ‘optimal level of honesty’ will be higher at Hb* compared to TCt and Ht* in Figure 1(b)). The impact of perceptions of the ‘wrongness’ of benefit fraud as a brake on criminal activity are likely to be greater than the impact of perceptions of ‘wrongness’ of tax evasion as a brake on tax evasion. However, are the *a priori* considerations of this section consistent with the empirical world? Do individuals display a significant moral hinterland so that attitudes and intended actions are constrained by moral costs?

3. Empirical considerations and evidence

In what follows the important consideration is whether some recent data are consistent with predictions formed in the context of an ‘optimal honesty’ framework. The data are taken from the British Social Attitudes Survey 2016 (NatCen Social Research, 2017). The survey was conducted in England, Scotland and Wales using face-to-face interviews and self-completion methods mainly between July-October 2016⁵. In all, 2942 interviews were completed. The survey was carried out among the adult population of individuals (of age 18 or above) and the sample of respondents was selected using probability random methods. While the objective

⁵ Unfortunately, more recent data sets do not include the questions described in (i)-(iv) below. Therefore, data analysis is limited to data collected in 2016.

here is to predict actual fiscal criminal behaviour on the basis of attitudes and declared intentions, the link between these elements is much debated. Clearly, where criminal behaviour is discussed, ‘devilish’ respondents might claim that they are on the side of the angels when surveys rely on direct questioning (Korndörfer et al., 2014). There are however some reasons not to be too dismissive of the data used. The questionnaire involved: a semantic differential rating scale of answers; the behaviour at issue is described in quite specific ways; and scenarios used put respondents in a context where they could enact their attitudes and intentions. These features should foster congruity between attitudes/intentions and actual behaviour (for a much fuller discussion of these issues in the context of tax evasion see Onu, 2016).

With respect to implication one – tax evasion and benefit fraud being different – what is the evidence? When focusing on benefit *fraud* and tax *evasion*, Geiger et al. (2017) note that, while the literature reports that, in general, individuals are usually more condemnatory of benefit fraud than of tax evasion, studies have not considered this question like-for-like. They note that (p.5):

“The only studies that have compared the perceived morality of tax and benefit fraud simultaneously are Edlund (1999) and Halla and Schneider (2014), both of which use one item apiece on tax and benefits. For example, Edlund compared responses to the questions “Do you feel it is wrong or not if... (i) A taxpayer does not report all of his income in order to pay less income tax?”, (ii) A person gives the government incorrect information about himself to get government benefits that he is not entitled to?” Majorities in both the USA and Norway agreed that both of these were “wrong” or “seriously wrong”, although the wrongness of benefit fraud was felt to be slightly higher”.

Geiger et al. (2017) also emphasize that in the study by Halla and Schneider (2014) respondents were similarly asked to consider benefit fraud and tax evasion quite generally (e.g., with questions about “...claiming state benefits which you are not entitled to...” and

“...cheating on tax...”). Again, in Halla and Schneider’s study (ibid), both activities were perceived as ‘wrong’ and benefit fraud was less justifiable, but questions were not like-for-like.

In the British Social Attitudes Survey 2016 (NatCen Social Research, 2017) respondents were offered two scenarios:

(i) *An unemployed person on benefits takes a casual job and is paid in cash. He does not report it to the benefit office and is £500 in pocket.*

and

(ii) *A person in paid work takes on an extra weekend job and is paid in cash. He does not declare it for tax and so is £500 in pocket.*

They were then asked how wrong they deemed them. Table 1 summarises the responses. When respondents were asked this question, 56% said that it was ‘wrong or seriously wrong’ not to declare the income to the tax office, while 68% said it was ‘wrong or seriously wrong’ not to declare the income to the benefits office. On the other hand, 7 per cent said it was ‘not wrong’ to declare the income to the tax office, while only 4 per cent said it was not wrong to declare the income to the benefits office. In the British Social Attitudes Survey 2016 (NatCen Social Research, 2017) the advantage is that the same (identical) sum of money (£500) is involved. This seems to be evidence supporting the relative locations of MC_t and MC_b in Figure 1. But do these differential judgements simply reflect socio-economic variables?⁶ One response to this is to consider another question from the survey which solicits a moral judgement used as an empirical proxy for moral rectitude (*mr*) below.

⁶ Four meta-analyses of survey studies in 111 countries show, for example, that socio-demographic characteristics (such as age, sex, education and income) have little impact on compliance (Hofmann et al., 2017).

Table 1
Attitudes to the morality of cash-in-hand work

Not declaring £500...		
	...to benefits office	...for tax purposes
How wrong to not declare cash-in-hand job...	%	%
Wrong or seriously wrong	68	56
A bit wrong	23	31
Not wrong	4	7
<i>Unweighted base</i>	1,591	1,591

Note: Authors' elaboration on Geiger et al. (2017, p.8).

In the British Social Attitudes Survey 2016 (NatCen Social Research, 2017) respondents were asked:

- (iii) *Suppose someone used a loophole in the system to reduce the amount of tax they pay, without breaking the law. What would your view of this be? (1 = always wrong, 5 = never wrong).*

and

- (iv) *Suppose someone used a loophole in the system to increase their benefit payments, without breaking the law. What would your view of this be? (1 = always wrong, 5 = never wrong).*

Governments encourage some activities (e.g., giving to charities, spending on home ownership, saving for a pension in old age, purchasing motor cars with low pollution emissions) by reducing the tax that individuals pay if they engage in these activities. The loss of tax revenue is described as a 'tax expenditure'. Taxpayers have the opportunity to rely on these 'loopholes'

to reduce their tax payments. However, often there is more than a suspicion that the *only* motivation to engage in these activities is to reduce taxation. The activities are not illegal. However, individuals are often criticized for acting ‘dishonestly’ if the *only* reason to choose these options is to reduce tax payments. This suggests a high degree of moral rectitude is being displayed by some⁷.

Geiger et al. (2017) describe the responses to the questions that refer to *tax avoidance* and *benefit manipulation* (i.e., (iii) and (iv)). These descriptive results are presented in Table 2. A clear majority (61%) thought that it was ‘usually or always wrong’ for benefit claimants to use legal loopholes to increase their payments. A smaller proportion (48%) thought it was ‘usually or always wrong’ for taxpayers to use loopholes to avoid tax. But, at the other end of the spectrum, 21% thought it was ‘rarely or never wrong’ to use loopholes to reduce tax, while only 14% thought it was ‘rarely or never wrong’ to use loopholes to increase benefits.

Table 2
Attitudes to the morality of exploiting legal loopholes

	...using loopholes to reduce tax	...using loopholes to increase benefits
How wrong...	%	%
Usually or always wrong	48	61
Sometimes wrong	30	23
Rarely or never wrong	21	14
<i>Unweighted base</i>	2,942	2,942

Note: Authors' elaboration on Geiger et al. (2017, p.7).

It is important to emphasize that respondents are not being asked if they deem this activity ‘wrong’ because they are *criminal* activities. If an action was criminal, the response might be

⁷ Kirchler et al. (2004) investigate whether tax avoidance, tax evasion and tax flight (i.e., business relocation, and use of tax havens) are perceived as socially different despite having identical economic consequences (i.e., lost tax revenue). At odds, with the data used here, tax avoidance was perceived as legal and moral being associated with intention to save taxes, cleverness and a good idea – in all, a positive interpretation.

quite unambiguous. The action is ‘wrong’ because it is breach of the law. Rather questions **(iii)** and **(iv)** focus on ‘loopholes’ for tax payments and for claiming government benefits. In the survey the questions emphasize that the individual’s only objective is to rely on tax loopholes *to reduce tax*. Individuals are ‘dishonest’ because they abuse the loopholes to reduce their tax payments to the community and to maximize their net of tax income. In other words, as suggested by Alm (2019), they might be not intrinsically motivated to cooperate. In the same way, benefit claimants might change their behaviour (e.g., increase their family size by more than they would otherwise choose) purely to increase the likelihood that they will receive social housing (as a benefit financed by the government). As noted, responses to these questions form an empirical proxy for moral rectitude in equation (2). But what of the other variables?

Fortunately, there are questions in the British Social Attitudes Survey 2016 (NatCen Social Research, 2017) which allow other moral hinterland considerations to be proxied. Participants were asked about: (i) their ‘political ideology’ (e.g., whether they are ‘right-wing’, or ‘left-wing’) and (ii) their attitude towards ‘liberal’ - as compared to ‘authoritarian’- behaviour (e.g., their attitudes to the moral proposition that individuals *should* abide by rules and regulations). Information on the perceived prevalence of fiscal crimes was also garnered. These questions are described in more detail in the next section of the paper and tied to the moral hinterland variables noted in section 2.

If moral considerations are relevant when individuals form judgements about others, how important are they when individuals consider whether *they* ‘should’ engage in the criminal activities of tax evasion and benefit? As part of scenarios **(i)** and **(ii)** above, respondents were then asked:

And how likely do you think it is that you would do this, if you found yourself in this situation? (1 = very likely, 4 = not at all likely).

When faced with this question, the focus falls on criminal activity. Instrumental individuals will consider the net expected gain from criminal action (Becker, 1968). By comparison, those who are also motivated by moral costs and prize the intrinsic value of honesty will consider these costs if they act dishonestly rather than honestly. The key test here is whether moral hinterland variables affect judgements about willingness to potentially commit tax evasion and benefit fraud.

4. Econometric Testing

In line with the optimal honesty discussion, implications two and three are accommodated in the presence of high moral costs for most and no, or infinite, moral costs for a few. This, at minimum, suggests any equations should allow moral hinterland variables to compete alongside socioeconomic (more instrumental) ones as explanatory variables. If the moral hinterland variables have no purchase, then the argument of section 2 is called into doubt, at least, for this data set. Given this the following models have been considered:

$$\text{dep}_i = \beta_0 + \beta_1 \text{socioecon}_i + \beta_2 \text{morallhint}_i + \varepsilon_i, \quad (3)$$

where dep_i relates to **(i)** and **(ii)** above being the reported likelihood of engaging in illegal actions (i.e., tax evasion and benefit fraud) in the estimated regressions discussed below, and socioecon_i and morallhint_i represent respectively socio-demographic/economic variables and moral hinterland variables derived, as stated, from individual responses to the British Social Attitudes Survey 2016 (NatCen Social Research, 2017) questionnaire. The variables included in the model are described in Table 3 alongside their descriptive statistics.

y).

Table 3
Description of the independent variables

Variables	Description of variable	Obs	Mean	SD	Min	Max
<i>Socio-demographic/economic variables</i>						
Age	Respondents' age in numbers	2,934	52.250	18.815	18	95
Age2	Respondents' age in numbers squared and rescaled (divided by 1000)	2,934	3.058	1.935	0.324	9.025
Gender	1 = female, 0 = male	2,942	0.561	0.496	0	1
Income	Respondent' s household total income before tax (1 = £591-£770, ... 20 = £7,201 or more) - pcm and from all sources	2,263	11.006	5.808	1	20
Children	1 = respondent has child, 0 = otherwise	2,942	0.319	0.466	0	1
Education	Respondents' highest educational qualification (1= No education, 2 = O Level or Equivalent/CSE, 3 = Higher education below degree/A level, 4 = Degree (Post/First))	2,858	2.564	1.072	1	4
Married	1 = married/living as a couple, 0 = otherwise	2,942	0.550	0.498	0	1
Employed	1 = full time/part time employed, 0 = otherwise	2,941	0.429	0.495	0	1
Unemployed	1 = unemployed, 0 = otherwise	2,941	0.044	0.204	0	1
Self-employed	1 = full time/part time self-employed, 0 = otherwise	2,941	0.084	0.277	0	1
Retired	1 = retired, 0 = otherwise	2,941	0.302	0.459	0	1
Home	1 = looking after home, 0 = otherwise	2,941	0.061	0.238	0	1
<i>Moral hinterland variables</i>						
Religiosity (<i>r</i>)	1 = respondent is religious, 0 = respondent is not religious	2,930	0.492	0.500	0	1
Strength of norm (<i>n</i>)	Numerical variable derived from 'Thinking about the whole of Britain, out of every 100 people who pay tax/receiving benefits, how many do you think have used a loophole in the rules to reduce the amount of tax they pay/to increase their benefits payment, without breaking the law? (Please enter a value between 0-100).'	2,691	33	27	0	100
Moral rectitude (<i>mr</i>)	Categorical variable derived from (iii) and (iv) in section 3 (1= never wrong, 5 = always wrong)	2,907	3.4	1.27	1	5
Political positioning (<i>p</i>)	Index number for left/right political orientation (1=left-wing oriented, 5=right-wing oriented)	2,350	2.491	0.768	1	5
Scrutiny/Stigma costs (<i>s</i>)	Index number for libertarian/authoritarian political orientation (1=libertarian orientation, 5=authoritarian orientation)	2,356	3.537	0.724	1	5

In the original questionnaire, answers to the questions related to the ‘wrongness’ of actions were collected using a 5-point Likert scale (1 = always wrong, to 5 = never wrong), whereas those related to the likelihood to engage in tax evasion and commit benefit fraud (respectively, **(i)** and **(ii)**) were collected using a 4-point Likert scale (1 = very likely, to 4 = not at all likely). These were rescaled so that in the regressions below a high value in the scale is interpreted as: 1) a higher perception of the intrinsic value of acting honestly (i.e., it is always wrong to avoid taxes and manipulate benefits); and 2) a higher probability of engaging in tax evasion and/or benefit fraud (i.e., it is very likely that the respondent would engage in tax evasion and/or benefit fraud). Data were analysed using ordered probit⁸. Estimated parameters provide information in terms of the effects generated on respondents’ likelihood to engage in the illegal actions of tax evasion and benefit fraud. Thus, marginal effects were also included to measure the impact of the regressors on the dependent variables. For simplicity, the marginal effects are only presented for the highest score of the likelihood of undertaking the illegal actions (i.e., 4 = very likely)⁹.

In line with previous research on tax evasion and benefit fraud, socio-demographic/economic variables include age, gender, income, education, marital and employment status (see e.g., Alm and Torgler, 2006; Richardson, 2006; Halla and Schneider, 2008, 2014; Heinemann, 2008; Halla et al., 2010; Torgler and Valev, 2010; and Geiger et al., 2017).

As discussed in section 2, moral hinterland variables include religion, the perception of the level of prevalence of tax avoidance and benefit manipulation (i.e., the ‘strength of the (honesty) norm’), left-wing versus right-wing leanings (i.e., political positioning of respondents), liberal

⁸ Data was weighted using the provided weight *Wtfactor*, which controls for selection bias, non-response bias and adjust the sample to the regional sex and age profiles of the population. For a discussion, see technical notes on British Social Attitudes survey 2016 (NatCen Social Research, 2017).

⁹ Following standard academic practice, although unlike the policy in the British Social Attitudes reports themselves, missing data (refusal/don’t knows) is excluded from the regressions.

versus authoritarian views (i.e., scrutiny/stigma costs) and moral rectitude (derived from (iii) and (iv) above). Religiosity (r in equation (2)) of respondents was captured using a dummy variable indicating the respondent was religious if they stated they belong to a particular religion (e.g., Church of England/Anglican, and Roman Catholic), and were considered not religious if they mentioned they did not have religious beliefs.

Torgler (2006, p. 86) points out that “Religious guidance measures the obligation to follow particular rules that define what is good and evil. It coordinates behavior by enforcing rules, allowing the formation of more stable expectations about individuals’ behavior”. Thus, it is expected to find a positive relationship between religiosity and honest compliance.

The n in equation (2) relates to the costs of violating a societal norm and here is proxied by the perceived prevalence of fiscal crimes. Where perceived prevalence is high n is seen as low – the absence of a strong honest compliance norm lowering moral costs. The perception of prevalence of tax avoidance and benefit manipulation was obtained using the following questions in the British Social Attitudes Survey 2016 (NatCen Social Research, 2017):

“Thinking about the whole of Britain, out of every 100 people who pay tax/receiving benefits, how many do you think have used a loophole in the rules to reduce the amount of tax they pay/to increase their benefits payment, without breaking the law? (Please enter a value between 0-100).”

Finally, a proxy for political positioning (p in equation (2)) and scrutiny (s in equation (2)) was provided by two attitude scales included in the dataset aimed at measuring where respondents stood on certain underlying value dimensions: left–right and libertarian–authoritarian. The scales were built as follows. Participants were asked how much they agreed/disagreed with the following statements:

Government should redistribute income from the better off to those who are less well off.

Big business benefits owners at the expense of workers.

Ordinary working people do not get their fair share of the nation's wealth.

There is one law for the rich and one for the poor.

Management will always try to get the better of employees if it gets the chance.

Answers were collected on a 5-point Likert scale (1 = strongly agree, to 5 = strongly disagree).

The scores to all the questions were added and then divided by the number of items in the scale, to form the left-right scale, with respondents who strongly agreed with the statements being left-wing oriented, and those who strongly disagreed with them being right-wing oriented.

Similarly, the libertarian-authoritarian scale was formed using the following statements:

Young people today don't have enough respect for traditional British values.

People who break the law should be given stiffer sentences.

For some crimes, the death penalty is the most appropriate sentence.

Schools should teach children to obey authority.

The law should always be obeyed, even if a particular law is wrong.

Censorship of films and magazines is necessary to uphold moral standards.

The index scale can be seen as capturing s (scrutiny/stigma/shame costs) in equation (2) if it is accepted that scrutiny, implied by requiring deference to values and laws, and stigmatising non-conformers, implied by the desire to 'punish', are more of an authoritarian than liberal trait. Authoritarians expect and accept greater scrutiny of their behaviour and expect and accept sanction for any 'deviant' behaviour they display. Hence a more authoritarian perspective is viewed as a high s value. Answers (1 = strongly agree, to 5 = strongly disagree) were rescaled¹⁰ by scoring the most libertarian as 1, and the most authoritarian as 5. A test of reliability of these scales (as measured by Cronbach's alpha) indicates that the level of reliability can be considered moderate -Cronbach's alpha (unstandardized items) = 0.68 -for the left-right scale, and

¹⁰ Indeed, for this set of questions, the more respondents agreed to the statements the more they showed an authoritarian orientation.

respectable for the libertarian authoritarian scale -Cronbach's alpha (unstandardized items) = 0.77¹¹.

5. Results

Tables 4 and 5 show three sets of regression results. The first regression considers the impact of socio-demographic/economic variables. The second shows results for the full model, including moral hinterland variables. Finally, the third regression disentangles the effect of individuals' moral judgments ((iii) and (iv)) on the willingness to evade taxes and engage in benefit fraud¹².

The results on the individual-level control variables are robust across different model specifications. All results concerning the willingness to evade taxes are generally in line with those reported in earlier studies about tax morale (see e.g., Torgler and Schaltegger, 2006). Similarly, those related to the willingness to engage in benefit fraud replicates some results previously reported on benefit morale (see e.g., Halla et al., 2010).¹³ This said, there are some differences in the way people see tax evasion and benefit fraud (implication one in section 1). It turns out that some control variables equivalently influence both variables, while some others exert a statistically significant impact on only one variable.

¹¹ The scales were also tested in the British Social Attitudes Survey 2015 and returned a good level of reliability for the left-right scale -Cronbach's alpha (unstandardized items) = 0.83 – and a respectable level of reliability for the libertarian authoritarian scale -Cronbach's alpha(unstandardized items) = 0.76. For a discussion, see technical notes on British Social Attitudes Survey 2016 (NatCen Social Research, 2017).

¹² The tables also report the Ramsey RESET test and the Linktest (*_hatsq*) test for the full model specification (i.e., Regression 2). Note that the Ramsey RESET test was performed introducing the predicted values of the dependent variable in their second, and third power into the regression and testing the joint significance of the respective coefficient estimates (using a Wald test). Both tests suggest the model is well specified and does not suffer from omitted variables (i.e., Prob > χ^2 and Prob > |z| are > 0.1 in both cases).

¹³ The assumption here being that a higher tax and benefit morale should lead to lower tax evasion and benefit fraud.

Table 4: Ordered Probit results - Likelihood to evade taxes

Independent variables	Regression 1		Regression 2		Regression 3	
	Beta	ME ^a	Beta	ME	Beta	ME
<i>Socio-demographic/economic variables</i>						
Age	-0.021*	-0.002*	-0.026**	-0.003**	-0.026**	-0.003**
	(0.074)	(0.077)	(0.034)	(0.037)	(0.037)	(0.040)
Age ^{2b}	0.236*	0.028*	0.297**	0.035**	0.294**	0.038**
	(0.067)	(0.069)	(0.030)	(0.032)	(0.032)	(0.034)
Gender ^c	-0.405***	-0.048***	-0.394***	-0.047***	-0.397***	-0.051***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Income	0.027***	0.003***	0.024***	0.003***	0.024***	0.003***
	(0.000)	(0.000)	(0.002)	(0.002)	(0.002)	(0.002)
Children	-0.011	-0.001	0.011	0.001	0.010	0.001
	(0.879)	(0.879)	(0.884)	(0.885)	(0.902)	(0.902)
Education	-0.043	-0.005	-0.092**	-0.011**	-0.090**	-0.011**
	(0.245)	(0.246)	(0.030)	(0.032)	(0.034)	(0.037)
Married	-0.257***	-0.032***	-0.247***	-0.031***	-0.247***	-0.031***
	(0.001)	(0.002)	(0.002)	(0.005)	(0.002)	(0.003)
Employed	0.020	0.002	-0.034	-0.004	-0.035	-0.004
	(0.871)	(0.871)	(0.797)	(0.797)	(0.790)	(0.790)
Unemployed	-0.097	-0.010	-0.184	-0.019	-0.179	-0.023
	(0.631)	(0.605)	(0.379)	(0.311)	(0.394)	(0.395)
Self-employed	-0.155	-0.016	-0.254	-0.026*	-0.250	-0.032
	(0.343)	(0.294)	(0.130)	(0.075)	(0.138)	(0.141)
Retired	-0.337*	-0.034**	-0.338*	-0.035**	-0.334*	-0.043**
	(0.050)	(0.025)	(0.058)	(0.030)	(0.062)	(0.035)
Home	0.017	0.002	-0.065	-0.007	-0.066	-0.008
	(0.932)	(0.933)	(0.765)	(0.754)	(0.762)	(0.762)
<i>Moral hinterland variables</i>						
Religiosity (<i>r</i>)			-0.099	-0.011	-0.102	-0.013
			(0.179)	(0.176)	(0.165)	(0.168)
Strength of norm (<i>n</i>)			-0.001	-0.000	-0.001	-0.000
			(0.187)	(0.190)	(0.167)	(0.171)
Moral rectitude ^d (<i>mr</i>)			-0.099***	-0.011***		
			(0.000)	(0.001)		
Never (base category)						
Rarely					-0.041	-0.007
					(0.769)	(0.768)
Sometimes					-0.124	-0.019
					(0.275)	(0.291)
Usually					-0.296**	-0.041**

Always			(0.013)	(0.022)
			-0.359***	-0.047***
			(0.003)	(0.008)
Political positioning (<i>p</i>)		-0.018	-0.002	-0.021
		(0.699)	(0.699)	(0.652)
			(0.652)	(0.653)
Scrutiny/Stigma costs (<i>s</i>)		-0.139***	-0.016**	-0.135**
		(0.009)	(0.011)	(0.012)
			(0.012)	(0.014)
Sample Size	1,180	1,096	1,096	
Prob> chi2	0.000	0.000	0.000	
Pseudo R2	0.028	0.038	0.038	
Prob > χ^2 Ramsey RESET Test		0.108		
Prob> z Linktest ($\hat{\rho}$) Test		0.230		
Prob> z Linktest ($\hat{\rho}^2$) Test		0.917		

Notes: ^a dy/dx for factor levels is the discrete change from the base level; ^b Age squared has been divided by 1000; ^c dy/dx is for discrete change of dummy variable from 0 to 1; ^d This variable relates to the wrongness of tax avoidance (see (iii) in section 3); *p<0.10, **p<0.05 and ***p<0.01.

Table 5: Ordered Probit results - Likelihood to engage in benefit fraud

Independent variables	Regression 1		Regression 2		Regression 3	
	Beta	ME ^a	Beta	ME	Beta	ME
<i>Socio-demographic/economic variables</i>						
Age	-0.017 (0.146)	-0.001 (0.151)	-0.022* (0.087)	-0.001* (0.092)	-0.021 (0.100)	-0.001 (0.105)
Age ^{2b}	0.184 (0.163)	0.015 (0.167)	0.247* (0.076)	0.019* (0.082)	0.242* (0.082)	0.021* (0.088)
Gender ^c	-0.388*** (0.000)	-0.032*** (0.000)	-0.359*** (0.000)	-0.027*** (0.000)	-0.363*** (0.000)	-0.032*** (0.000)
Income	0.027*** (0.000)	0.002*** (0.001)	0.025*** (0.001)	0.001*** (0.003)	0.025*** (0.001)	0.002*** (0.003)
Children	-0.112 (0.159)	-0.009 (0.155)	-0.030 (0.717)	-0.002 (0.716)	-0.024 (0.777)	-0.002 (0.777)
Education	0.013 (0.715)	0.001 (0.716)	-0.032 (0.445)	-0.002 (0.447)	-0.034 (0.425)	-0.003 (0.426)
Married	-0.319*** (0.000)	-0.029*** (0.001)	-0.337*** (0.000)	-0.028*** (0.001)	-0.336*** (0.000)	-0.030*** (0.000)
Employed	0.300** (0.025)	0.025** (0.030)	0.269* (0.055)	0.020* (0.061)	0.273* (0.052)	0.024* (0.058)
Unemployed	0.239 (0.271)	0.024 (0.358)	0.149 (0.512)	0.013 (0.561)	0.145 (0.525)	0.013 (0.527)
Self-employed	0.417** (0.013)	0.046* (0.057)	0.351** (0.044)	0.034 (0.113)	0.365* (0.038)	0.033** (0.043)
Retired	0.112 (0.532)	0.009 (0.556)	0.087 (0.642)	0.007 (0.657)	0.080 (0.668)	0.007 (0.668)
Home	0.188 (0.376)	0.018 (0.442)	-0.028 (0.902)	-0.002 (0.899)	-0.020 (0.932)	-0.001 (0.932)
<i>Moral hinterland variables</i>						
Religiosity (<i>r</i>)			-0.192** (0.012)	-0.014** (0.013)	-0.199*** (0.009)	-0.018** (0.012)
Strength of norm (<i>n</i>)			0.000 (0.527)	0.000 (0.528)	0.001 (0.462)	0.000 (0.463)
Moral rectitude (<i>mr</i>)			-0.160*** (0.000)	-0.012*** (0.000)		
Never (base category)						
Rarely					0.032 (0.857)	0.004 (0.857)
Sometimes					-0.199 (0.149)	-0.024 (0.181)
Usually					-0.302**	-0.034*

Always			(0.027)	(0.053)
			-0.588***	-0.054***
			(0.000)	(0.002)
Political positioning (<i>p</i>)		-0.026	-0.002	-0.030
		(0.587)	(0.588)	(0.534)
			(0.534)	(0.535)
Scrutiny/Stigma costs (<i>s</i>)		-0.142**	-0.010**	-0.134**
		(0.013)	(0.017)	(0.020)
			(0.020)	(0.024)
Sample Size	1,086	1,081	1,081	
Prob> chi2	0.000	0.000	0.000	
Pseudo R2	0.039	0.052	0.053	
Prob > χ^2 Ramsey RESET Test		0.353		
Prob> z Linktest ($\hat{\rho}$) Test		0.033		
Prob> z Linktest ($\hat{\rho}^2$) Test		0.578		

Notes: ^a dy/dx for factor levels is the discrete change from the base level; ^b Age squared has been divided by 1000; ^c dy/dx is for discrete change of dummy variable from 0 to 1; ^d This variable relates to the wrongness of benefits manipulation (see (iv) in section 3); *p<0.10, **p<0.05 and ***p<0.01.

Considering the socio-demographic/economic variables, the willingness to evade taxes shows a U-shaped relationship with the variable age, meaning that people are less likely to engage in tax evasion the more they get older, though the slope changes and gradually increases as age reaches 46 (see Table 4, regression 2). However, an ANOVA analysis ($F(8, 2343) = 6.62, p < 0.001$) indicates that the extent of scrutiny statistically significantly differs among different age groups¹⁴, with older individuals being more likely to make, or act, on moral judgments as compared to younger ones¹⁵. Therefore, rather than a *life-cycle effect* (Tittle, 1980) by which older people might be less likely to enjoy the long-term benefits of being compliant, this result may be a consequence of the fact that people in the middle age (between 44 and 59)¹⁶ may simply consider £500 to be too small a sum to be worth declaring. This is also supported by the fact that, in general, retired people state they are less likely to engage in tax evasion (between 3.4% and 4.3%, see regressions 1-3). The variable age has a similar impact on benefit fraud, though the effect is smaller in size and significance level ($p < 0.10$). Gender seems to be a key determinant for both outcomes, with females generally being less likely to engage in tax evasion and benefit fraud. However, in line with previous research (see Halla and Schneider, 2008), the estimated quantitative effects are greater in the tax evasion regressions, thus suggesting that females are less likely to approve tax evasion (between 4.7% and 5.1%) relative to benefit fraud (between 2.7% and 3.2%), or, put it differently, they seem to exhibit a higher tax morale. Income has a positive correlation with both outcomes. Results suggest that high-income households are likely to engage in both illegal activities. As suggested by previous

¹⁴ Respondents' age was grouped as follows: 18-24, 25-34, 35-44, 45-54, 55-59, 60-64, 65-74, 75-84, 85+. The test excludes those individuals who refused to indicate their age (8 observations). The mean score of the liberal-authoritarian scale changes from 3.31 for the group aged 18-24, to 3.76 for the group aged 85+ ($t=4.23, p < 0.01$), with those in the middle age (44-59 years old) reporting a score of 3.5 on average.

¹⁵ The estimated median values of the liberal-authoritarian scale for different age groups (18-24, 25-34, 35-44, 45-54, 55-59, 60-64, 65-74, 75-84, 85+) are also increasing with age (from 3.33 for the group aged 18-24, to 3.83 for the groups aged 75+). The Kruskal-Wallis test confirms that these differences are statistically significant ($\chi^2(8) = 51.83, p < 0.001$).

¹⁶ The median values of the liberal-authoritarian scale for these groups change between 3.5 (for the group aged 45-54) to 3.6 (for the groups aged 55-59).

research (see Halla and Schneider, 2008; and Geiger et al., 2017), for people with high income the exploitation of tax loopholes and/or tax evasion is more profitable as compared to those with lower income who are most likely beneficiaries of benefit manipulation/fraud. Therefore, economic interests help explain the positive effect of income on the likelihood of evading taxes. However, according to Geiger et al. (2017), they are unable to explain why people with high income are also likely to engage in benefit fraud, as rich households are less likely to be eligible for many types of benefits and may face higher probability of being caught for benefit fraud compared to a household at the bottom of the income distribution (see Halla and Schneider, 2008). The hypothesis that individuals with higher incomes might be more liberal (as suggested by Geiger et al., 2017) and therefore less likely to act on moral judgments was investigated. The independent between-groups ANOVA yields a statistically significant difference in the extent of scrutiny (s) of different income groups ($F(3, 1901) = 22.19, p < 0.001$)¹⁷, with high income individuals being more liberal (mean score of the liberal-authoritarian scale = 3.33) as compared to those with low income (mean score of liberal-authoritarian scale = 3.64)¹⁸.

Education seems to play a role for tax evasion, but not for benefit fraud. In particular, people who are on average more educated are less likely to state that they will engage in tax evasion (by 1.1% point, see Table 4, regressions 2 and 3). Indeed, more educated people may be more aware of the government benefits thus showing a higher *tax morale*. Being married is negatively related to the probability of undertaking both illegal actions though, in all model specifications, the effect is stronger for tax evasion. In line with the effect of education on tax evasion, the literature offers controversial results on the impact of marital status on tax evasion. However,

¹⁷ For the test the exact pre-tax household income quartiles have been used instead of the pre-tax household total income. The variable includes the following categories: Lowest (less than £1,200 per month), 2nd lowest (£1,200-£2,200 pcm), 2nd highest (£2,201-£3,700 pcm), and Highest (more than £3,700). The test excludes those individuals who refused to indicate their income (449 observations).

¹⁸ The Tukey's post-hoc comparisons show that this difference is statistically significant ($t = -6.80, p < 0.001$). To check the robustness of these results, a Kruskal-Wallis test is also considered. Results support the conclusion that the extent of scrutiny (s) statistically significantly differs among different income groups ($\chi^2(3) = 61.65, p < 0.001$). Indeed, the median value of the liberal-authoritarian scale is 3.3 for the highest household income quartile, and 3.6 for the lowest income quartile.

this analysis seems to support the view that married people appear to be more compliant as they might be generally more constrained by their social network (see Tittle, 1980).

Occupational status appears not to affect the likelihood of intending to evade taxes, though being employed and self-employed increases the likelihood of intending to engage in benefit fraud. Furthermore, in contrast with other research that reveals no statistically significant differences in the level of benefit morale of self-employed and employed people (see Halla and Schneider, 2008; and Halla et al., 2014), the effect here seems to be stronger for the self-employed (see all model specifications).

Considering the *moral hinterland variables*, according to predictions, religiosity (r) and the strength of the (honesty) norm (n)¹⁹ exert a negative impact on the intended likelihood to evade taxes (though not statistically significant). In regressions not reported here²⁰, it was possible to notice that the effect of these variables ($p < 0.10$) gradually decreases when controlling for political affiliation (p) and the extent of scrutiny (s), with the extent of scrutiny being the most dominant regressor in the analysis. This suggests that religious people might also have stronger authoritarian beliefs (and implicitly higher scrutiny/stigma/shame costs). An independent samples t-test is used to test this hypothesis (t-test = -6.95, $p < 0.001$). Results suggest that religious people have a significantly higher (3.64) mean score of the liberal-authoritarian scale relative to those who state they do not belong to any religion (mean score of liberal-authoritarian scale = 3.44)²¹, thus supporting the conclusion that religious people are also more authoritarian.

Religiosity seems to be a decisive factor for not intending to engage in benefit fraud, with the estimated coefficients being statistically significant (at 5% level or lower) in all model

¹⁹ Unfortunately, the British Social Attitudes Survey 2016 (NatCen Social Research, 2017) does not offer a better indicator for the perception of prevalence of tax evasion. Therefore, the perception of prevalence of tax avoidance has been used here as a predictor in the analysis. For consistency, in Table 5, the perception of prevalence of benefit manipulation has been used as a proxy for the perception of prevalence of benefit fraud.

²⁰ Regressions are available upon request.

²¹ Again, a non-parametric test was also run here to check the robustness of these results. The Wilcoxon's rank sum test supports the conclusion of the independent t-test in that the extent of scrutiny (s) may differ among people with different religious views ($z = -6.166$, $p < 0.001$). Also, the median values of the liberal-authoritarian scales are 3.6 and 3.5, respectively for religious people and those who states they do not belong to any religion.

specifications. However, the strength of the norm (n) captured by the perception of prevalence of benefit manipulation does not have a major impact on the likelihood of willingness to commit benefit fraud. The British Social Attitudes Survey 2016 (NatCen Social Research, 2017) asks respondents to provide their view on: 1) how many people in their local neighbourhood, out of every 100 people receiving benefits, have broken the law by knowingly giving false information to support their claim, and 2) how many people in the whole of Britain, out of every 100 people receiving benefits, have broken the law by knowingly giving false information to support their claim. Both questions clearly refer to the act of breaking the law, which is more in line with the idea of undertaking an illegal action as in the case of benefit fraud. Answers to these questions were also used to check the effect of prevalence on the willingness to undertake benefit fraud. Results show that a higher perception of prevalence in the whole of Britain significantly decreases the probability of being willing to engage in benefit fraud (at 5% level), though the effect is relatively small (-0.3% points). However, the perception of prevalence in the respondents' local neighbourhood is not significantly affecting the willingness to engage in benefit fraud²².

Tables 4 and 5 show that moral rectitude (mr) is strongly significant (at 1% level or lower) when considering the likelihood of tax evasion and benefit fraud. Thus, results show that a higher degree of moral rectitude (mr) - measured by individuals' stated perception of the wrongness of tax avoidance (**iii**) and benefit manipulation (**iv**) - is negatively associated with the willingness to engage in tax evasion and benefit fraud. Our findings corroborate those of previous studies looking at the impact of moral motivation on tax evasion (e.g., Dulleck et al, 2016 and Bott et al., 2020). However, in our study we find that the effect of moral suasion is slightly stronger for benefit fraud (i.e., 1.2% against 1.1%)²³. Predicted probabilities show that

²² All other estimated coefficients show the same sign and significance level. Regression analyses are available upon request.

²³ Note that the marginal effects here are calculated only for the highest outcome of the dependent variable (i.e., very likely). These differences become stronger when considering the dependent variable and the predictors for

almost 22% of people saying that tax avoidance is always wrong are fairly /very likely to evade taxes (16.8% and 5.2% respectively), compared to 14.2% of people saying that benefits manipulation is always wrong and are fairly /very likely to engage in benefits fraud (11.8% and 2.4% respectively). Furthermore, those who state tax avoidance is always wrong are 4.7% less likely to evade taxes compared to those who state tax avoidance is never wrong, whereas those who state benefit manipulation is always wrong are 5.4% less likely to engage in benefit fraud compared to those who states benefits manipulation is never wrong (see Tables 4 and 5, regression 3). Results are therefore in line with the expectation that people are more likely to disapprove of a benefit claimant concealing money from the benefit office than they are to disapprove of a taxpayer failing to declare tax revenue to the tax authority. Results suggest also that being more authoritarian makes you more likely to disapprove of tax evasion (between 1.6% and 1.7% points)²⁴.

6. Discussion and conclusions

Decisions with a moral dimension raise the question of the moral costs of the choices that individuals make. Here individuals display optimal honesty if they weight illegal pecuniary gain alongside non-pecuniary intrinsic/moral costs associated with crimes in a cost-minimizing way. More specifically, this paper explores the role of moral beliefs and costs in defining ‘optimal’ honesty in the context of tax evasion and benefit fraud. The framework is consistent with shedding light on three uncomfortable implications of the ‘standard’ expected utility approach to fiscal crimes by suggesting: a high level of individual honesty, allowing for honest, mostly honest and dishonest individuals to be observed alongside one another, and rationalizes benefit fraud as being viewed as more morally wrong than pecuniary equivalent tax evasion.

moral rectitude (*mr*) grouped in three categories. In particular, a higher perception of wrongness of tax avoidance decreases the likelihood to engage in tax evasion by 5.8% points, and a higher perception of wrongness of benefit manipulation decreases the likelihood to engage in benefits fraud by 6.3% points.

²⁴ The effect is stronger for the tax evasion regression (see Tables 4 and 5, regressions 2 and 3).

Econometrically, proxies for variables that define an individual's moral hinterland in a Levitt and List (2007) inspired utility function were employed (alongside socio-economic variables) to explain the willingness to commit tax evasion and benefit fraud. The results suggest that, of the moral hinterland variables, moral rectitude and religiosity variables are the strongest econometric performers imparting a negative impact on the likelihood of committing fiscal crimes²⁵. Scrutiny/stigma/shame costs as proxied by an individual's location on an authoritarian *versus* liberal scale were also significant deterrents to the stated likelihood of committing fiscal crimes. While it is clearly possible to argue about the suitability of the proxy variables for their task in the model, it seems clear that econometrically they are worth their place. The Italians have a saying that 'public spending is like holy water - everyone helps himself'. But this seems not to be the case. Why should this matter?

The policy relevance of this paper can be captured by reference to Figure 1. In the standard Allingham-Sandmo (1972) model the *YC* income costs line would, in effect, become the expected utility (*EU*) maximizing income declaration (*D*) out of actual income (*Y*) determined by:

$$EU = (1 - p) U(Y - tD) + pU(Y - tD - F[Y - D]) \quad (4)$$

where *t* is a proportional tax rate, *p* is the probability of detection and *F* is the fine rate that exceeds *t*. This narrowly instrumental approach naturally directs policy towards setting *t*, *p* and *F* to influence *D*. Ideal policy would result in, *D*=*Y*, no false declarations. It relies on one blade of a scissors. This formulation ignores the MC curves in Figure 1, highlighting the limitation of ignoring intrinsic/moral costs.

The policy options are now more varied. Most studies identify two important determinants of the perceptions of the intrinsic value of action (e.g., Frey 1997; Luttmer and Singhal, 2014). The first is the value individuals attach to the moral (or social) norm *itself* -i.e., to acting

²⁵ Note that, although not significant in the tax evasion equation, results suggest that the (negative) effect of religiosity is captured by the scrutiny costs variable.

honestly. The second is the importance individuals attach to evidence that *others acknowledge* honest behaviour. Government policies might focus on one (or both) of these two determinants of citizens' perceptions of the moral costs of dishonesty. "You should be ashamed of your behaviour" and "What on earth would people think if they knew you behaved badly like this" are common admonitions, often directed at children, that are consistent with inculcating morally acceptable behaviour.

Using these as cues, as a first consideration, policy might focus *directly* on the *value* individuals place on the moral norm itself. The more that there is evidence that individuals (themselves) believe that they *should* adhere to the moral norm (honesty), the more it is likely that a broad policy of *shaming* an individual who acts dishonestly will prove an effective sanction. In this paper, *religiosity* and *moral rectitude* are significant determinants of honesty and *scrutiny/stigma* costs appear relevant. The importance of religiosity has been recognized in other studies (e.g., Stack and Kposowa, 2006; Alt and Lama, 2015; Schneider et al., 2015; Kirchmaier et al., 2018). One hallmark of many religions is the mantra that caring for others is more important than caring for oneself. It follows that citizens are likely to be even more disapproving when considering benefit fraud than when considering tax evasion (because benefit fraud appears to be theft from the cohort of 'deserving' recipients of state benefits). Once again, 'common sense morality' (as discussed in section 2) is relevant. Similar comments can be attached to the notion of moral rectitude employed here. The expectation is that government policies that focus on shaming are likely to be effective. Coricelli et al. (2014) report evidence that shaming is effective (especially if, after shaming, attempts are made to reintegrate miscreants into the community).

A second consideration relates to policies designed to change individuals' perceptions of the extent to which *others* acknowledge the intrinsic value of honesty. The results reported here are that higher perceptions of prevalence (*n*) are not statistically significant when focusing on

the likelihood of tax evasion²⁶. Whilst these are results from only one specific data set the finding is not isolated. Perez-Truglia and Troiano (2018, p. 120) consider the behaviour of ‘tax delinquents’ (citizens with tax debt). They report that shaming (“...increasing the visibility of delinquency status...”) increased compliance for individuals who had debts below \$2500. By comparison, the policy of providing information about the tax debts of others (neighbours) “...had no effect on payment rates”. With reference to Luttmer and Singhal’s (2014, p. 159) assessment, field experiments focusing on tax compliance (by writing to taxpayers to notify them that over 90 percent of individuals comply) “...have failed to find that information on peer group behaviour had any significant treatment effects (Blumenthal et al., 2001; Fellner et al., 2013)”. This is not to say that there are *no* examples of studies that report that these policies are effective. Hallsworth et al. (2017) report that information of the behaviour of a peer group increased compliance. The argument is that, *on balance*, the strength of the moral norm (proxied by religiosity and by moral rectitude), together with evidence that scrutiny and stigma are significant determinants of honest behaviour, is indicative that broad policies to shame those who act dishonestly are likely to prove more effective than changing perceptions of the prevalence of honest action.

The discussion so far fits with a two-strand analysis that incorporates moral dispositions/costs into an individual’s utility function (as, for example, elaborated in section 2) and a non-instrumental/passive approach to the receipt of information messages about criminal behaviour. Koszegi (2000) has individuals, consistent with the first strand of the analysis, desiring positive views about themselves, but are instrumental (self-serving) with respect to information. They will avoid information when they are happy with themselves (self-image protection) and seeking positive information when they are dissatisfied (self-image

²⁶ They do show that these perceptions (for the whole of Britain) significantly decrease the likelihood of engaging in benefit fraud (at 5% level) but that the effect is very small (-0.3% points). Prevalence in a respondents’ neighbourhood is not statistically significantly.

enhancement). Rabin (1995) relaxes both strands having narrowly self-interested individuals who face moral considerations as an internal constraint on choice. Where there is an informational choice, individuals will self-servingly seek information to loosen any ‘moral’ fetter. In the present context, policy is about tightening moral fetters. Rabin (1995) suggests three types of information interventions that can be exemplified in the current ‘honesty encouraging’ context. First, there is ‘moral priming’ where individuals are encouraged to think about moral principles independent of knowing where their own particular self-interest lies. Table 2 above (which reports attitudes to the use of legal loopholes and forms the variable ‘moral rectitude’) seems to fit this perspective. Second, ‘salience injection’, in effect, forces ‘tightening’ information on individuals – emphasising the criminality of false declarations and benefit frauds. Extending the quotation of the, dubious grammar, lyrics of the Fats Domino hit in this paper’s title “**You’re** the one to **blame**. Ain’t that a **shame**.” (emphasis ours). Third, ‘moral dogmatism’ is about discouraging individuals from thinking about alternative information as they will simply seek ‘fetter loosening’ sources. In this respect the Public Choice School message that tax evasion reflects individuals constraining a Leviathan government should not be ‘advertised’.

Overall making sure false declarers and fraudulent claimers feel stigma and shame should deter *others* as well as potential fiscal criminals themselves. More positively, getting tax filers and benefit claimants to sign ‘honesty declarations’, depending on your perspective, plays on their view of themselves as inherently ‘good’ individuals and/or provides a ‘salience injection’ as to moral constraints on their otherwise narrowly self-serving behaviour. Public recognition of the honesty of those who comply honestly might also prove effective especially for those seeking self-image enhancement - and which of us isn’t?

References

- Allingham, M. G., and Sandmo, A. (1972). Income tax evasion: A theoretical analysis. *Journal of Public Economics*, 1, 323-38.
- Alm, J. (2019). What motivates tax compliance? *Journal of Economic Surveys*, 33(2), 353-388.
- Alm J., McClelland G. H., and Schulze W. D. (1992). Why do people pay taxes? *Journal of Public Economics*, 48(1), 21-38.
- Alm, J., and Torgler, B. (2006). Culture differences and tax morale in the United States and in Europe. *Journal of Economic Psychology*, 27(2), 224-246.
<https://doi.org/10.1016/j.joep.2005.09.002>
- Alt, F., and Lama, D. (2015). *Ethics are more important than religion*. Benevento publishing house, Salzburg.
- Andreoni, J., Erard, B., and Feinstein, J. (1998). Tax Compliance. *Journal of Economic Literature*, 36(2), 818-60. <https://www.jstor.org/stable/2565123>
- Becker, G. S. (1968). Crime and Punishment: an Economic Approach. In: Fielding N.G., Clarke A., Witt R. (eds), *The Economic Dimensions of Crime*. Palgrave Macmillan, London.
https://doi.org/10.1007/978-1-349-62853-7_2
- Blumenthal, M., Christian, C., and Slemrod, J. (2001). Do normative appeals affect tax compliance? Evidence from a controlled experiment in Minnesota. *National Tax Journal*, 54(1), 125-138. <https://www.jstor.org/stable/41789537>
- Bott, K. M., Cappelen, A. W., Sørensen, E. Ø., and Tungodden, B. (2020). You've got mail: A randomized field experiment on tax evasion. *Management Science*, 66(7), 2801-2819.
- Brekke, K. R., Kverndokk, S., and Nyborg, K. (2003). An economic model of moral motivation. *Journal of Public Economics*, 87 (9-10), 1967-1983. [https://doi.org/10.1016/S0047-2727\(01\)00222-5](https://doi.org/10.1016/S0047-2727(01)00222-5)

- Brizi, A., Giacomantonio, M., Schumpe, B. M., and Mannetti, L. (2015). Intention to pay taxes or to avoid them: The impact of social value orientation. *Journal of Economic Psychology*, 50, 22-31. <https://doi.org/10.1016/j.joep.2015.06.005>
- Cohn, A., Maréchal, M. A, Tannebaum, D., and Zünd, C. L. (2019). Civic honesty around the globe. *Science*, 365(6448), 70-73. DOI: 10.1126/science.aau8712.
- Coricelli, G., Rusconi, E., and Villeval, M. C. (2014). Tax evasion and emotions: An empirical test of re-integrative shaming theory. *Journal of Economic Psychology*, 40, 49-61. <https://doi.org/10.1016/j.joep.2012.12.002>
- Cullis, J., Jones, P., and Savoia, A. (2012). Social Norms and Tax Compliance: Framing the Decision to Pay Tax. *Journal of Socio Economics*, 41(2), 158-169. <https://doi.org/10.1016/j.socec.2011.12.003>
- Cullis, J., Jones, P., Lewis, A., Castiglioni, C., and Lozza, E. (2015). Do Poachers make Harsh Gamekeepers? Attitudes to Tax Evasion and Benefit Fraud. *Journal of Behavioral and Experimental Economics*, 58, 124-31. <https://doi.org/10.1016/j.socec.2015.08.003>
- Deci, E. L. (1971). Effects of Externally Mediated Rewards on Intrinsic motivation. *Journal of Personality and Social Psychology*, 18, 105-115. <https://doi.org/10.1037/h0030644>
- Deci, E. L., and Ryan, D. M. (1980). The Empirical Exploration of Intrinsic Motivational Processes. *Advances in Experimental Social Psychology*, 10, 39-80.
- Dulleck, U., Fooker, J., Newton, C., Ristl, A., Schaffner, M., and Torgler, B. (2016). Tax compliance and psychic costs: Behavioral experimental evidence using a physiological marker. *Journal of Public Economics*, 134, 9-18.
- Engström, P., and Hagen, J. (2017). Income underreporting among the self-employed: a permanent income approach. *European Economic Review*, 92, 92-109.

Fellner, G., Sausgruber, R., and Traxler, C. (2013). Testing enforcement strategies in the field: Threat, moral appeal and social information. *Journal of the European Economic Association*, 11(3), 634-660. <https://doi.org/10.1111/jeea.12013>

Fieseler, C. (2019). Scientists used 17,000 “lost” wallets to study how honest people really are, *The Washington Post*, June 21. Available at: <https://www.sciencealert.com/scientists-dropped-17-000-wallets-to-understand-how-honest-we-really-are>

Frey, B. S. (1997). *Not Just for the Money*. Edward Elgar: Cheltenham.

Geiger, B. B., Reeves, A., and de Vries, R. (2017). Tax avoidance and benefit manipulation: Views on its morality and prevalence. *BSA 34 Report*. Available at: https://bsa.natcen.ac.uk/media/39144/bsa34_benefit_tax_final.pdf.

Gordon, J. P. (1989). Individual morality and reputation costs as deterrents to tax evasion. *European Economic Review*, 33(4), 797-805.

Halla, M., Lackner, M., and Schneider, F. G. (2010). An empirical analysis of the dynamics of the welfare state: the case of benefit morale. *Kyklos*, 63(1), 55-74.
<https://doi.org/10.1111/j.1467-6435.2010.00460.x>

Halla, M., and Schneider, F. G. (2008). Taxes and benefits: two distinct options to cheat on the state? IZA Discussion Papers, No. 3536, Institute for the Study of Labor (IZA), Bonn. Available at: <http://ftp.iza.org/dp3536.pdf>

Halla, M., and Schneider, F.G. (2014). Taxes and benefits: Two options to cheat on the state. *Oxford Bulletin of Economics and Statistics*, 76(3), 411-431.
<https://doi.org/10.1111/obes.12024>

Hallsworth, M., List, J. A., Metcalfe, R. D., Vlaev, I. (2017). The behavioralist as tax collector: Using natural field experiments to enhance tax compliance. *Journal of Public Economics*, 148, 14-31. <https://doi.org/10.1016/j.jpubeco.2017.02.003>

- Heinemann, F. (2008). Is the Welfare State Self-Destructive? A Study of Government Benefit Morale. *Kyklos*, 61(2), 237–257. <https://doi.org/10.1111/j.1467-6435.2008.00400.x>
- Hofmann, E., Voracek, M., Bock, C. and Kirchler, E. (2017). Tax compliance across sociodemographic categories; Meta-analyses of survey studies in 111 countries. *Journal of Economic Psychology*, 62, 63-71. <https://doi.org/10.1016/j.joep.2017.06.005>
- Kahneman, D., and Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk, *Econometrica*, 47, 263-191. https://doi.org/10.1142/9789814417358_0006
- Kirchler, E. (2007). *The Economic Psychology of Tax Behaviour*. Cambridge: Cambridge University Press.
- Kirchler, E., Maciejovsky, B., and Schneider, F. (2004). Everyday representations of tax avoidance, tax evasion and tax flight: do legal differences matter? *Journal of Economic Psychology*, 24(4), 535-53. [https://doi.org/10.1016/S0167-4870\(02\)00164-2](https://doi.org/10.1016/S0167-4870(02)00164-2)
- Kirchmaier, I., Prüfer, J., and Trautmann, S. T. (2018). Religion, moral attitudes and economic behavior. *Journal of Economic Behavior & Organization*, 148, 282-300. <https://doi.org/10.1016/j.jebo.2018.02.022>
- Korndörfer, M., Krumpal, I., and Schmukle, S.C. (2014). Measuring and explaining evasion: Improving self-reports using the crosswise model. *Journal of Economic Psychology*, 45, 18-32. <https://doi.org/10.1016/j.joep.2014.08.001>
- Koszegi, B. (2000). *Essays in Behavioral Economics*. Cambridge, Mass: M.I.T.
- Levitt, S. D., and List, J. A. (2007). What do laboratory experiments measuring social preferences reveal about the real world? *Journal of Economic Perspectives*, 21(2), 153-74. DOI: 10.1257/jep.21.2.153
- Luttmer, E. F., and Singhal, M. (2014). Tax morale. *Journal of Economic Perspectives*, 28(4), 149-68. DOI: 10.1257/jep.28.4.149

- NatCen Social Research. (2017). British Social Attitudes Survey, 2016. [data collection]. UK Data Service. SN: 8252, <http://doi.org/10.5255/UKDA-SN-8252-1>
- Onu, D. (2016). Measuring Tax Compliance Attitudes: What Surveys Can Tell Us about Tax Compliance Behaviour. *Advances in Taxation*, 23, Emerald Group Publishing Limited, Bingley, 173-190. <https://doi.org/10.1108/S1058-749720160000023006>
- Perez-Truglia, R., and Troiano, U. (2018). Shaming tax delinquents. *Journal of Public Economics*, 167, 120-137. <https://doi.org/10.1016/j.jpubeco.2018.09.008>
- Rabin, M. (1995). Moral preferences, moral constraints and self-serving biases. Working Paper No. 95-241 UC Berkeley. Available at: <https://escholarship.org/content/qt97r6t5vf/qt97r6t5vf.pdf>
- Richardson, G. (2006). Determinants of tax evasion: A cross-country investigation. *Journal of International Accounting, Auditing and Taxation*, 15(2), 150-169. <https://doi.org/10.1016/j.intaccaudtax.2006.08.005>
- Schneider, F., Linsbauer, K., and Heinemann, F. (2015). Religion and the shadow economy. *Kyklos*, 68(1), 111-141. <https://doi.org/10.1111/kykl.12075>
- Spicer, M. (1986). Civilization at a discount: the problem of tax evasion. *National Tax Journal* 39(1), 13-20. <https://www.jstor.org/stable/41792154>
- Stack, S., and Kposowa, A. (2006). The effect of religiosity on tax fraud acceptability: A cross-national analysis. *Journal for the Scientific Study of Religion*, 45(3), 325-351. <https://doi.org/10.1111/j.1468-5906.2006.00310.x>
- Tittle, C. (1980). *Sanctions and social deviance: The question of deterrence*. New York: Praeger.
- Torgler, B. (2006). The importance of faith: Tax morale and religiosity. *Journal of Economic Behavior and Organization*, 61(1), 81-109. <https://doi.org/10.1016/j.jebo.2004.10.007>

- Torgler, B., and Schaltegger, C. A. (2006). Tax Morale: A Survey with a Special Focus on Switzerland. *Swiss Journal of Economics and Statistics*, 142(3), 395–425.
- Torgler, B., and Valev, N. T. (2010). Gender and public attitudes toward corruption and tax evasion. *Contemporary Economic Policy*, 28(4), 554-568. <https://doi.org/10.1111/j.1465-7287.2009.00188.x>
- Wenzel, M. (2004). An analysis of norm processes in tax compliance. *Journal of Economic Psychology*, 25(2), 213-28.
- Wenzel, M. (2005a). Motivation and rationalization. Causal relations between ethics, norms and tax compliance. *Journal of Economic Psychology*, 26(4), 491-508.
- Wenzel, M. (2005b). Misperceptions of the social norms about tax compliance: From theory to intervention. *Journal of Economic Psychology*, 26(6), 862-83.
- Zamir, E. (2012). Loss Aversion and the Law. *Vanderbilt Law Review* 65, 829-878.