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Wealthy Tax Non-Filers in a Developing Nation: The Roles of Taxpayer Knowledge, Perceived Corruption and Service Orientation in Pakistan

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Abstract

Although tax non-filing and the resulting tax evasion are a challenge to public welfare of developing countries, scholarly knowledge on the subject is minimal. The present paper compares rich self-employed identified as non-filers with a randomized group of tax filers in terms of two bases of perceived tax system legitimacy: knowledge of taxpayers' rights and perceived corruption. The results indicate that both factors relate to tax non-filing and moreover, that perceived service orientation of the tax administration, which reduces citizens' ignorance of tax rights and doubts about authorities' correct behaviour might foster perceived legitimacy and in turn increase tax compliance.

Keywords: Wealthy tax non-filers, tax morale, tax compliance, tax knowledge, knowledge of rights, corruption, tax evasion, developing countries, Pakistan

JEL classification: H26, O17, E26, H70, I30

Introduction

Taxes are essential for financing public goods, particularly in developing countries, which are afflicted by an extensive shadow economy and ample tax evasion (Alm, Bahl, and Murray, 1991; Gordon and Li, 2009; Schneider, Buehn, and Montenegro, 2010). Such nations urgently need sufficient tax funds to build up their infrastructure and provide essential public goods like health care, education and social security (Bräutigam, 2009). Nevertheless, a substantial part of the tax gap in these countries is the result of non-filers, potential taxpayers in the informal sector who not only evade taxes but fail to even register as taxpayers (Erard and Ho, 2001). The estimates of tax non-filing in developing countries are alarming; for example, in India, only about one in six potential taxpayers actually files a tax return (Chattopadhyay and Das-Gupta, 2002). Yet despite being a serious problem for developing countries, tax non-filing has gained little attention in the research and empirical evidence on determinants of tax non-filing in developing countries is rare, primarily because it is difficult to obtain data on wealthy non-filing residents with substantial taxable income. It is, however, possible to draw indirect conclusions on the legitimacy/non-filing relation based on experimental results (Alm, Cherry, Jones, and McKee, 2010), U.S. Internal Revenue Service (IRS) statistics (Dubin, Graetz, and Wilde, 1990; Erard and Ho, 2001) and surveys and field experiments on the informal economy in developing countries (de Andrade, Bruhn, and McKenzie, 2014; De Giorgi and Rahman, 2013; de Mel, McKenzie, and Woodruff, 2013; Fajnzylber, Maloney, and Montes-Rojas, 2009; McCulloch, Schulze, and Janina, 2010; McKenzie and Sakho, 2010; Monteiro and Assunção, 2012).

This present study investigates the reasons for, and possible measures against, tax non-filing by comparing a sample of wealthy known tax non-filers with a comparable sample of registered self-employed taxpayers in Pakistan, a developing country with high rates of corruption and particularly low numbers of registered taxpayers (Javaid, 2010, Transparency

International, 2014, Waris, 2013). Given that less than one percent of every 180 million Pakistani residents file a tax return (Waris, 2013), this comparison seems a promising approach to gaining first insights into the determinants and potential dynamics of non-filing. To the best of our knowledge, studies on non-filing have yet been conducted in developing countries and no empirical evidence exists on the relation between legitimacy and tax non-filing or the role of a tax administrations' service orientation in fostering legitimacy.

The literature does, however, suggest certain key contributors to the high rate of citizens whose feelings of disengagement from their state makes them unwilling to pay taxes, including a lack of basic political legitimacy and related deficiencies in tax collection legitimacy and the use of tax money (Bird, Martinez-Vazquez, and Torgler, 2008; Cummings, Martinez-Vazquez, McKee, and Torgler, 2009; Grindle, 2004). Tax collection legitimacy is related to the rights of citizens to voice their concerns over perceived corruption and lack of accountability (Bird et al., 2008; Bräutigam, 2009; Cummings et al., 2009; Dreher and Schneider, 2010; McKenzie and Sakho, 2010). Such legitimacy – as it relates to both governing authorities in general and tax collection in particular – can be fostered in developing countries by good governance (Grindle, 2004, OECD, 2010) and in particular, by empowering citizens through involvement in public decision-making and improving both their lives and confidence in the state (Bovaird and Löffler, 2003; Bräutigam, 2009; Grindle, 2004). To achieve this goal, tax collection should be administered by service-oriented tax authorities who act professionally, treat taxpayers fairly and respectfully, provide assistance and educate taxpayers on taxation procedures and tax law (Bird et al., 2008; Cummings et al., 2009; Erard and Ho, 2001; Gangl, Hofmann, and Kirchler, 2015; Gangl et al., 2013).

Based on the above observations, this study examines the legitimacy of tax collection – defined as taxpayers' knowledge of their rights and the corruption they perceive in the tax administration – as a possible cause of tax non-filing in the developing country of Pakistan. It

also examines the influence of a good governance approach – as measured by the tax administration’s perceived service orientation – in increasing legitimacy and thus tax morale. This perceived orientation is expected to foster knowledge of rights and decrease perceptions of tax administration corruption, which should indirectly reduce non-filing behaviour. Our analysis thus tests two major assumptions on a sample of 847 non-filers and filers in Pakistan. First, it assumes that ignorance of one’s own rights as a taxpayer and perceived tax administration corruption are threats to tax collection legitimacy and thus possible causes of non-filing in developing countries. Second, it assumes that a tax administrations’ service orientation may serve as a potential countermeasure to non-filing. We report the results of these tests after reviewing the relevant literature and then draw practical conclusions about their implications for combatting non-filing.

Tax non-filing in developing countries

Because the legitimacy of tax collection is an important determinant of tax compliance, perceived illegitimacy may be a driver of tax non-filing in developing countries (Bird et al., 2008; Cummings et al., 2009; Levi et al., 2009). Thus, two precursor conditions to perceiving the tax authorities as trustworthy and tax collection as fair and legitimate are taxpayer knowledge about their rights and taxpayer perceptions of the tax authorities as not being corrupt (Levi et al., 2009). Tax knowledge, assumed to be one of the most important determinants of tax compliance (Kirchler, 2007; Loo, McKerchar, and Hansford, 2009, Niemirowski, Baldwin, and Wearing, 2003), includes knowing about the registration process, taxable income and tax rate, and understanding legal rights such as privacy protection, the right to claim refunds and make deductions, or the right to a comprehensible assessment of tax liability. According to the literature, the positive relation between tax knowledge and tax compliance stems from positive attitudes towards taxation, including

perceived legitimacy, trust and fairness, which probably co-vary with knowledge about taxation. Quasi-experimental evidence, for example, indicates that students who attend a course on tax law rather than marketing have more knowledge of tax duties and rights, hold more positive attitudes towards taxation and perceive the tax system as fairer (Eriksen and Fallan, 1996; Fallan, 1999). Training in tax law also leads students to judge their own tax evasion and that of others more strictly (Eriksen and Fallan, 1996; Fallan, 1999). Survey data likewise suggest that tax ethics and tax compliance increase with accurate knowledge of the tax rate (Lewis, 1978; Song and Yarbrough, 1978).

Knowledge of rights is particularly important for the perceived legitimacy of tax collection because taxpayers who know their legal rights are more able to participate and have a voice in the tax collection process and thus more likely to feel that their tax payments are legitimate rather than a tribute to corrupt authorities (Levi et al., 2009). Knowledge of rights also increases citizens' willingness to rely on legal mechanisms, thereby increasing their access to the justice system and preventing taxpayers from being exploited by others (Banik, 2009; Singh, 2008). In particular, awareness of rights, being a first step towards exercising those rights, makes the law and tax authorities seem less socially distant and hostile, and gives legitimacy to their tax collecting role (Banik, 2009; Levi et al., 2009; Singh, 2008; Trautner, Hatton, and Smith, 2013). Such awareness is low, however, in developing countries, with surveys in Brazil and Bolivia revealing that many citizens not only do not know how to register for a tax number but have no understanding of the tax number concept (de Andrade et al., 2014; McKenzie and Sakho, 2010). Likewise, in Sri Lanka, only 2% of informal businesses know the correct tax rate on their profits (de Mel et al., 2013).

Another threat to perceived tax collection legitimacy and willingness to pay taxes in developing nations is corruption (Levi et al., 2009): corrupt administrations are likely to collect fewer taxes than non-corrupt administrations because businesses bribe tax officials

instead of paying their taxes (Dreher and Schneider, 2010; Hindriks, Keen, and Muthoo, 1999) and public confidence (and thus taxpayer tax morale) is destroyed by the perception of corruption and widespread tax evasion (Cummings et al., 2009). Corruption also destroys trust in the honesty of fellow citizens (Dong et al., 2012; Levi et al., 2009). If tax collectors are suspected of pocketing revenues meant for the public, and if other citizens are believed to pay bribes instead of their taxes, taxpayers will question their own tax honesty (Levi et al., 2009) or willingness to be corrupt (Dong et al. 2012). Hence, corruption in the tax administration weakens personal and social norms of tax compliance and has the potential to produce a vicious circle of law violation (Bird et al., 2008; Cummings et al., 2009; Levi et al., 2009; Torgler and Schneider, 2009). Corruption thus fuels tax evasion, which in turn fuels even more corruption.

This relation between corruption and tax non-filing in the informal economy has wide empirical support (Bird et al., 2008; Dreher and Schneider, 2010, Torgler and Schneider 2007, 2009), with both cross-sectional data and panel data indicating that the two go hand in hand, particularly in developing countries (Bird et al., 2008; Dreher and Schneider, 2010). Empirical studies also suggest that corruption leads to lack of confidence and legitimacy; for example, survey data from Mexico show that experience with corruption among officials is negatively related to trust in fellow citizens and trust in public institutions (Morris and Klesner, 2010). Experiences with corruption also threaten the perceived legitimacy of state institutions (Seligson, 2003).

In sum, a lack of knowledge about taxpayer rights and widespread corruption challenge not only the perceived fairness and trustworthiness of tax collection but also the legitimacy that is a basic determinant of tax compliance (Bird et al., 2008; Cummings et al., 2009; Levi et al., 2009). Such factors can thus be expected to be important contributors to non-cooperation with the state in the form of not registering as a taxpayer and not paying

taxes (Eriksen and Fallan, 1996; Levi et al., 2009). Conversely, measures of good governance and a more positive service orientation within the tax administration may increase the perceived competence, trustworthiness and legitimacy of tax authorities and consequently lead to increased tax ethics and taxpayer cooperation.

Service orientation as a means of increasing cooperation

Being service oriented means that the tax administration educates and assists taxpayers through office, website and telephone services, simplifies tax laws and tax procedures and treats taxpayers with friendliness and respect (Alm and Torgler, 2011; Braithwaite, 2009; Feld and Frey, 2002; Gangl et al., 2015). Such services, by facilitating compliance with tax laws and engendering higher fulfilment of payment obligations (Alm et al., 2010; Alm and Torgler, 2011; Braithwaite, 2003; Erard and Ho, 2001), directly impact tax compliance in developed countries (Alm et al., 2010; Braithwaite, 2003; Gangl et al., 2015; Plumley and Steuerle, 2004). For example, laboratory experiment with students in the U.S., suggest that information services clarifying participants' true tax burdens enhances their willingness to file a tax return to a greater extent than a control condition of not being offered this service (Alm et al., 2010).

Nevertheless, in developing countries, such services may only reduce the time cost of compliance related to filing, not the monetary compliance cost of actually paying taxes (Chattopadhyay and Das-Gupta, 2002). For example, Chattopadhyay and Das-Gupta (2002), proponents of several theories of tax filing in the developing world, argue that these services have no direct impact on non-filing in developing countries. This assumption is supported by empirical evidence from field experiments in Bangladesh, Brazil and Sri Lanka (de Andrade et al., 2014; De Giorgi and Rahman, 2013; de Mel et al., 2013), in which information on how

to formally register a company, the costs and benefits of formally registering and the reimbursement of registration costs did not increase the number of formal firms.

According to the slippery slope framework of tax compliance, the provision of services might increase tax compliance indirectly (Gangl et al., 2015; Kirchler, 2007; Kirchler, Hoelzl, and Wahl, 2008) by enhancing legitimacy and trust in tax authorities (Gangl et al., 2015), thereby fostering voluntary compliance with tax filing and payment obligations (Kirchler et al., 2008; Wahl, Kastlunger and Kirchler, 2010). Within this framework, tax authorities engaging in service provision are likely to be perceived as competent and fair enough to enforce the rules and regulations in a targeted manner (Gangl et al., 2015; Levi et al., 2009). Tax authorities who provide professional assistance to their taxpayer clients on tax law compliance also promote good governance. In this way, service-oriented tax authorities foster perceptions of fairness and honesty in the tax system and give citizens' confidence that other taxpayers are also complying with the established rules (Gangl et al., 2015; Levi et al., 2009). The slippery slope framework thus postulates that a climate of service-based interaction between tax authorities and taxpayers leads to a positive perception of these authorities as trustworthy and legitimate (Gangl et al., 2015). Such a synergistic climate is likely to make taxpayers more willing to co-operate voluntarily with the tax authorities by registering and paying taxes (Kirchler et al., 2008).

This indirect effect of a service orientation (Gangl et al., 2013) is indeed supported by data showing an indirect relation between a perceived service orientation within the tax administration and tax compliance intentions via perceived trustworthiness of the tax administration (Gangl et al., 2013). In fact, both experimental and survey data indicate that trust in tax authorities elicited by a service orientation increases voluntary tax cooperation (Kogler et al., 2013; Muehlbacher, Kirchler and Schwarzenberger, 2011; Wahl et al., 2010). In this paper, therefore, we emphasize both a lack of legitimacy and trust in public

institutions as a main cause of the high rates of tax evasion in developing countries (Bird et al., 2008; Cummings et al., 2009; Grindle, 2004; Levi et al., 2009) and the slippery slope (Gangl et al., 2015) prediction that a service orientation increases legitimacy and trust. Based on these assumptions, we test whether a service orientation within the tax administration may serve as an indirect countermeasure against the high rate of tax non-filing in developing countries.

Method

Sample and procedure

The main sample consists of 847 taxpayers in Pakistan of whom 97 (11.5%) are non-filers and 750 (88.5%) are filers. In line with Erard and Ho's (2001) finding that non-filing is most widespread among self-employed taxpayers (who are more likely to hide it than employed taxpayers), our subsample of filers consists of registered self-employed taxpayers and our subsample of non-filers, of individuals with signs of wealth but no taxpayer registration. The majority of the main sample is male (97.4%), aged on average 40.85 years ($SD = 8.57$), with approximately 74.7% resident in large cities (Karachi, 27.5%; Islamabad, 20.2%; Faisalabad, 9.9%; Lahore, 8.5%; Peshawar, 8.6%) and around 25.3% in smaller cities. In terms of education, about 63.7% have an undergraduate (49.9%) or graduate degree (13.8%), 30.9% have a secondary school diploma and 5.3% have completed only primary school.

The data were collected in 2012 by student assistants trained and supervised by senior researchers from several universities in Pakistan. The sample of filers was randomly drawn by Pakistan's Federal Board of Revenue (FBR) from their database of self-employed business owners. The identification of non-filers follows the approach of Italian tax authorities, who detect tax evaders by auditing owners of expensive real estate, cars, boats and planes

(Piancaldini and Picerno, 2009). In our case, the wealthy non-filer sample was randomly drawn by the registration office (NADRA), which transferred the contact data to the FBR, mostly for citizens not registered as taxpayers who own real estate in wealthy city districts, take frequent foreign flights and/or pay tuition fees for private schools. These non-filers can be expected to have much higher incomes than other citizens and should thus be registered as taxpayers. The data for both filers and non-filers were then transferred to the University of Lahore from which they were disseminated to students of different universities in Pakistan. In rare cases, the assistants were also able to conduct a survey via email or telephone. In most instances, however, only the postal address was available so participants were visited at their homes and the survey was administered as a household survey with the head of the household. During these interviews, the research assistants were aware of the participant's filing status but used the same procedure and questionnaires for each respondent.

Interviews were successfully conducted with almost all the selected non-filers and filers, resulting in a response rate of about 99%, high survey response rate that is typical for Pakistan. The 2012–2013 Pakistan Demographic and Health Survey (National Institute of Population Studies (NIPS) and ICF International, 2013), for example, garnered a 96% household response rate (12,943 out of 13,944 households). As in a field experiment, the survey respondents were neither informed about the study aims nor told that the survey was being conducted in collaboration with the FBR or any other official institution. They also received no post-interview debriefing. Nevertheless, neither filers nor non-filers faced any disadvantages from the tax administration because their identities were kept confidential.

Identification assumption

Even though a multivariate analysis can control for differences, in a well-controlled research setting, both non-filers and filers should have comparable socio-demographic

characteristics. In fact, as Table 1 shows, non-filers and filers do not differ in sex ($\chi^2 (1) = 1.01, p = .32$), age ($t(845) = -1.27, p = .20$) or education ($\chi^2 (3) = 5.48, p = .14$). Nor do socio-demographic survey data collected from the non-filers' neighbourhood show any differences in these aspects between non-filers and their neighbours ($N = 300$): sex ($\chi^2 (1) = 2.00, p = .16$), age ($t(395) = 1.44, p = .15$) and education ($\chi^2 (3) = 0.68, p = .89$).

Materials

The survey consists of 80 items addressing various tax-related issues. These items were screened by the authors, who used the items most relevant to the research question to formulate scales measuring taxpayer knowledge of rights and perceived increases in corruption or perceived service orientation within the tax administration. Questions not chosen for the scale, which preceded the questions selected, addressed attitudes towards paying different tax types (e.g. VAT, income tax). Knowledge of taxpayer rights was assessed by four items: (a) "I am aware of my rights against unlawful search and seizure by tax authorities"; (b) "It is my right to claim tax refunds (if any) in time"; (c) "It is my right to get to know the basis from assessment of my tax liability"; and (d) "I am aware that I have certain rights if I have a problem with the tax office". All items were answered on a four-point scale (1 = strongly disagree, 2 = do not agree, 3 = agree, and 4 = strongly agree), with an additional option of "do not know". Internal consistency was acceptable at $\alpha = .67$. Non-filers indicated not knowing the answer to an item more often ($M = 7.5\%$, $max = 8.2\%$) than filers ($M = 2.4\%$, $max = 4.1\%$), with differences reaching significance for two items ($p < .001$). Perceived corruption in the tax administration was assessed by one item encompassing higher, medium and lower levels of the tax administration: "The level of corruption has changed in the last few years in the following areas of taxation: (a) higher level administration, (b) medium level administration, (c) lower level administration". The

responses were scored on a three-point scale: 1 = decreased, 2 = no change and 3 = increased.

Internal consistency was $\alpha = .69$.

Table 1. Frequencies, Means, Standard Deviations, and Inter-Correlations of the Measurements by Non-Filer and Filer Status

	Non-Filers N = 97					Filers N = 750						
	% / <i>M</i> (<i>SD</i>)	1	2	3	4	5	% / <i>M</i> (<i>SD</i>)	1	2	3	4	5
1. Male (male=1, female=2)	95.9%						97.6%					
2. Age	39.80 (6.89)	-.19					40.98 (8.75)	-.01				
3. Education		.12	-.02					.07*	-.01			
Primary School	8.2%						4.9%					
Secondary School	26.8%						31.5%					
Undergraduate	45.4%						50.5%					
Postgraduate	19.6%						13.1%					
4. Knowledge of Taxpayers' Rights	2.99 (0.65)	.15	.13	.21*			3.17 (0.44)	-.04	.06	.00		
5. Perceived Corruption in the Tax Administration	2.57 (0.52)	.11	.27**	.17	.22*		2.42 (0.58)	-.01	-.10**	-.03	-.13***	
6. Perceived Service Orientation	2.71 (0.67)	.04	-.14	.03	.37***	-.20***	2.72 (0.53)	.06	-.03	.03	.20***	-.08*

Note: %, *M*, *SD*, represent relative frequency, mean, and standard deviation, respectively. Correlations of sex and education are Spearman correlations; all other correlations are Pearson correlations. *, **, *** represent statistical significance at the 5 ($p < .05$), 1 ($p < .01$), 0.1 ($p < .001$) levels, respectively.

Perceived service orientation of the tax administration was assessed by seven items related to service provision and treatment by the FBR: (a) “I am treated by FBR staff with respect and dignity”; (b) “The FBR staff is fair in its dealings”; (c) “The FBR staff is cooperative”; (d) “The FBR staff treats me with respect and dignity”; (e) “I am satisfied with the response time of the FBR to my queries or problems”; (f) “The FBR takes appropriate

measures to ensure access to and availability of tax officers” and (g) “Tax officers are available in their offices from 9:00 am to 3:00 pm”. All items were answered on a four-point scale (1 = strongly disagree, 2 = do not agree, 3 = agree, and 4 = strongly agree), with an additional option of “do not know”. Again, non-filers indicated not knowing ($M = 11.5\%$, $max = 14.4\%$) more often than filers ($M = 6.2\%$, $max = 13.6\%$), with differences reaching significance for five items ($p < .05$). Internal consistency was strong at $\alpha = .84$. The frequencies, means, standard deviations and inter-correlations of the measurements are reported in Table 1, with non-filers and filers listed separately.

Results

To test our first research assumption that taxpayer knowledge of rights and perceived tax administration corruption may predict filing behaviour, we use a logit regression (Table 2), whose specification (1) estimates the effects of the potential determinants of tax non-filing. These results indicate that tax filing is positively related to knowledge of tax rights but negatively related to perceived tax administration corruption. Specifically, moving one point up on the knowledge of taxpayers’ rights answer scale increases the chances of being a filer by 112%. Conversely, one additional point on the perceived corruption scale increases the chance of being a non-filer by 38%. The results for specification (2), which adds in socio-demographic characteristics, also indicate that both knowledge of taxpayers’ rights and perceived tax administration corruption are robustly related to filing behaviour. These results imply that tax knowledge and perceived corruption in the tax administration may be causes of tax non-filing, whereas socio-demographic characteristics are unrelated to filing behaviour.

Table 2. Knowledge of rights and perceived corruption in the tax administration as predictors of tax filing behaviour

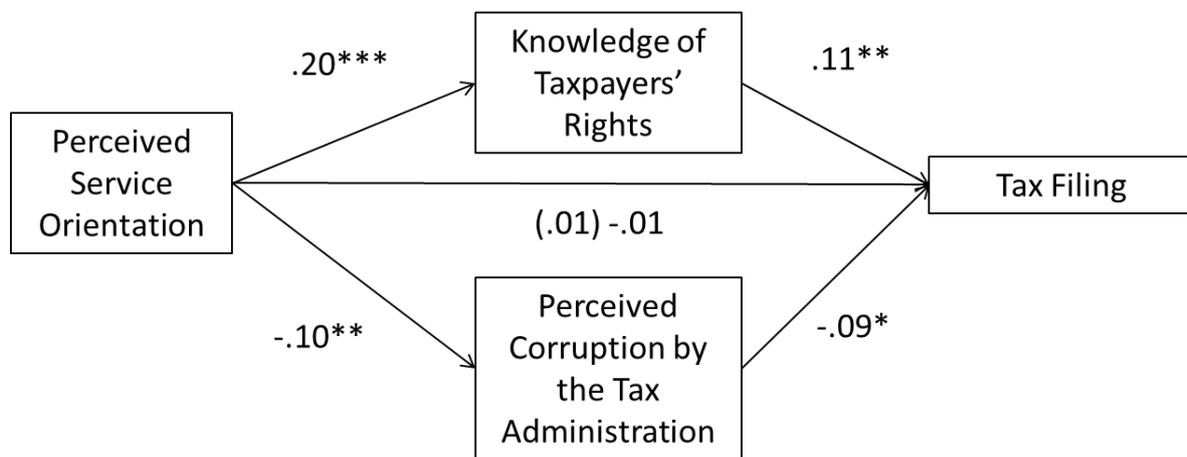
	(1)	(2)
Knowledge of Taxpayers' Rights	.75** <i>11.18</i> 2.12	.79** <i>11.67</i> 2.21
Perceived Corruption in the Tax Administration	-.48* <i>5.00</i> 0.62	-.48* <i>4.89</i> 0.62
Sex (male=0, female=1)		-.52 <i>0.82</i> 0.60
Age		.01 <i>0.78</i> 1.01
Education		-.21 <i>2.00</i> 0.81
Observations	841	841
R^2	.04	.05

Note: Tax non-filing = 0, tax filing = 1. Wald values are given in italics, marginal effects in bold. *, ** represent statistical significance at the 5 ($p < .05$) and 1 ($p < .01$) levels, respectively.

Next, to assess whether a perceived service orientation influences filing behaviour indirectly by increasing knowledge of taxpayers' rights and decreasing perceived tax administration corruption, we use Indirect software (Preacher and Hayes, 2008) to run a multiple mediator model based on a bootstrap sample of 1,000 participants taken from an original sample of 831. As expected, the results indicate no direct impact of perceived service orientation (95% CI [-0.07; 0.22]) on filing behaviour. However, as anticipated, they do show that the relation between perceived service orientation and filing behaviour is mediated through taxpayer knowledge of rights (95% CI [0.02; 0.26]) and perceived corruption (95% CI [0.01; 0.15]). These results remain robust to the inclusion of sex, age and education as covariates (direct effect of perceived service orientation: 95% CI [-.08; 0.23], mediation through knowledge: (95% CI [0.01; 0.27]), mediation through corruption: (95% CI [0.01;

0.15]). The standardized regression coefficients of all the relations are depicted in Figure 1, which shows that perceived service orientation both increases knowledge of taxpayer rights and reduces the perception of tax administration corruption, both of which decrease the probability of not filing a tax return.

Figure 1. Knowledge of taxpayers' rights and perceived corruption as a mediators for the indirect effect of perceived service orientation on filing behaviour



Note: Numbers indicate standardized regression coefficients. *, **, represent statistical significance at the 5 ($p < .05$), 1 ($p < .01$) levels, respectively. Non-filing = 0, Filing = 1. The number in brackets indicates the regression coefficient for the direct effect, the number next to it indicates the regression coefficient when knowledge of rights is included in the estimation.

Discussion

Overall, the study results support the assumption that the absence of legitimacy in tax collection is a significant cause of tax non-filing (Bird et al., 2008; Cummings et al., 2009; Dreher and Schneider, 2010). Compared to tax filers, non-filers have less knowledge of their rights as taxpayers and perceive widespread corruption in the tax administration. Whereas both factors can be assumed to undermine the perceived trust, fairness and legitimacy of the

tax system, perceived corruption might also serve as a justification for non-compliant taxpayer behaviour and the payment of bribes (Levi et al., 2009). Nevertheless, knowledge seems to be more important for filing behaviour than corruption, despite the latter having gained more attention in the literature on tax ethics in developing countries. Indeed, the marginal effects reported here suggest that knowledge of taxpayer rights has an almost three times larger impact on tax filing than perceived corruption. This result is interesting from both a theoretical and a practical perspective.

Theoretically, it can be argued that knowledge of rights, more than perceived corruption, allows individuals to actively engage in the tax collection process (Levi et al., 2009). Thus, personally experiencing opportunities for action – that is, participation and voice – might be more essential for perceiving tax collection as legitimate than passively watching others acting with propriety. In addition, knowledge of the rights that protect taxpayers from arbitrary search, assessment, seizure or exploitation by the tax authority might serve as a countermeasure against corruption. Rights literacy in particular, by empowering citizens, might make them more willing to rely on the law and report corrupt officials (Banik, 2009; Trautner et al., 2013; Singh, 2008). Hence, the more taxpayers know about their rights and ways to assert them, the more they can defend themselves against corruption, thereby contributing to the anti-corruption fight. Conversely, the more tax officials believe that taxpayers are aware of their rights, the less willing they may be to risk asking for bribe money. Hence, knowledge of rights increases perceived legitimacy overall because it promotes taxpayer involvement and may even prevent corruption. Thus, our results, rather than simply supporting previous assumptions about the importance of knowledge for tax compliance in developing countries (de Mel et al., 2013; McKenzie and Sakho, 2010), suggest that it is the *knowledge of rights* (not knowledge in general) that is positively related to tax compliance (de Mel et al., 2013; McKenzie and Sakho, 2010). If so, then involving

taxpayers in the tax collection process through, for instance, taxpayer rights education could be a fruitful strategy for increasing perceived legitimacy and the number of registered taxpayers in developing countries.

The study results also provide evidence that a perceived service orientation of the tax administration is an effective countermeasure against a lack of legitimacy and thus tax non-filing (Cummings et al., 2009; Erard and Ho, 2001, Gangl et al., 2015). That is, provision of the appropriate services can increase taxpayers' knowledge of their rights and decrease their perceptions of corruption, thereby enhancing the likelihood of their filing a tax return. In developed countries, in addition to their main function of helping filers overcome the perceived illegitimacy of tax collection, they may even directly reduce the time costs of filing-related compliance (Alm et al., 2010; Eichfelder and Kegels, 2014). In our analysis of data from a developing country, in contrast, we identify only the indirect impact of service provision on tax compliance. That is, in line with the assumptions of Chattopadhyay and Das-Gupta (2002), and as suggested by previous studies (de Andrade et al., 2014; de Mel et al., 2013), in developing countries, services for non-filers reduce neither the monetary nor the time costs of filing-related compliance because non-filers do not file in the first place. Hence, as expected, we identify no direct impact of service provision on tax compliance. Rather, in developing countries, the impact of service provision lies in its ability to overcome one of the main reasons for non-filing, feelings of detachment from the state and the perceived illegitimacy of tax collection (Bird et al., 2008; Cummings et al., 2009). Our results thus imply that services which foster tax system legitimacy may prove a viable countermeasure against non-filing. Services that do not have this effect on perceived legitimacy, however, will increase neither tax ethics nor tax compliance.

These findings have important implications for tax research, not least that the results for filers cannot be generalized to non-filers. In particular, whereas previous studies on filers

show that services directly impact tax compliance because of reduced time compliance costs (Eichfelder and Kegels, 2014; Gangl et al., 2013), our results for non-filers indicate that services only impact filing behaviour indirectly by possibly increasing perceived legitimacy. Our analysis also reveals differences in the correlation patterns of non-filers versus filers (Table 1): whereas the former perceive more corruption the older they get, filers perceive less corruption with age. This observation suggests that non-filers are stuck in the informal sector, constantly confronted with violations of the law and bribable officials, while filers have positive experiences with the tax administration (Cummings et al., 2009).

These observed differences are important because until now tax research has tended to be based on tax filers with little attention paid to the challenge of non-filers in developing countries. Our results clearly suggest that simply generalizing results for tax filers in developed countries to non-filers in developing nations is a suboptimal approach to making policy recommendations. Rather, there is a definite need for more tax filing research on both filers and non-filers in a variety of settings. That is not to say that our findings do not offer valuable guidance for policy making. For example, they clearly show that services provided by the tax administration only foster tax compliance if they increase taxpayer perceptions of legitimacy by increasing their participation in the tax collecting process via knowledge and by decreasing their perceptions of corruption. Services to educate taxpayers about their rights in order to increase empowerment also seem particularly important for tax compliance in developing countries. Tax authorities could, for instance, circulate information on taxpayers' rights via educational programs, training for journalists, media campaigns or by cooperating with opinion leaders such as the chamber of commerce. This circulated information should not only build awareness of the importance of tax compliance but inform taxpayers of their right to obtain a transparent and comprehensible assessment of tax liability, ways to defend themselves against corrupt officials, and how to obtain refunds owed. In addition to

positively influencing tax compliance, this information may also serve as a countermeasure against corruption (Banik, 2009; Trautner et al., 2013) in that knowledgeable taxpayers are less likely to accept or fear corrupt tax officers. Overall, therefore, our findings substantiate development projects aimed at improving good governance and thereby the service orientation of tax administrations in developing countries.

Admittedly, however, our study is subject to certain limitations. First, even though non-filing seems to be the norm in Pakistan – in part because most non-filers are too poor to actually pay taxes – accessing data on the small group of wealthy non-filers is extremely difficult. Nevertheless, our analysis clearly shows no socio-demographic differences between our subsamples of non-filers and filers, which lends credibility to our identification assumption. The correctness of this assumption allows a valid comparison between both groups. The validity of participant responses is also increased by the inclusion of the “do not know” option in recognition that non-filers, being less involved in tax issues, are likely not to know the answer more often than filers. Conversely, only in rare cases did this inclusion result in too few answers with which to build a scale, forcing exclusion of a participant in the respective analyses (knowledge: 4 non-filers and 2 filers, service: 10 non-filers and 12 filers). The “do not know” option is also likely to have increased data validity by reducing respondent tendencies to give socially desirable answers, especially given that participants were not informed of the study aims. It is also true that our cross-sectional data do not allow clear assumptions on causality. Nevertheless, it seems reasonable to assume that services lead to more knowledge of rights than vice versa.

In fact the limitations of this study are in most cases entangled with the difficulty of obtaining valid data from wealthy non-filers in a developing country, which restricts the amount of variance they can explain. Hence, far more research is needed on the non-filing phenomenon in both developed and developing countries to confirm and expand existing

knowledge. Even so, this research makes a useful contribution to the rare literature on tax filing, which is based on data on the informal economies in Sri Lanka, Bolivia and Mexico or on a large IRS data set that does not allow differentiation between non-filers, filers, late filers or those with too little income to file (de Andrade et al., 2014; de Mel et al., 2013; Erard and Ho, 2001; McKenzie and Sakho, 2010). Specifically, our novel targeting of wealthy tax non-filers in a developing nation adds rare empirical data on non-filers to this knowledge pool, information that may allow the formulation of clear recommendations and even provide unique insights into how tax returns might be increased in developed countries. In particular, the study demonstrates the important roles in tax-filing behaviour of tax knowledge that empowers citizens and of a professional tax administration whose services, by increasing tax collection's perceived legitimacy and trustworthiness, may augment the proportion of citizens who voluntarily contribute their taxes to finance the state's public goods.

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