



ELSEVIER

Contents lists available at ScienceDirect

## Journal of Behavioral and Experimental Economics

journal homepage: [www.elsevier.com/locate/jbee](http://www.elsevier.com/locate/jbee)

# The effects of mass media campaigns on individual attitudes towards tax compliance; quasi-experimental evidence from survey data in Pakistan

Musharraf R. Cyan<sup>a</sup>, Antonios M. Koumpias<sup>b,\*</sup>, Jorge Martinez-Vazquez<sup>a</sup><sup>a</sup> International Center for Public Policy, Department of Economics, Andrew Young School of Policy Studies, Georgia State University, 14 Marietta Street, Atlanta, GA 30303, USA<sup>b</sup> Department of Social Sciences, University of Michigan-Dearborn, 4901 Evergreen Road, Dearborn, MI 48128, USA

## ARTICLE INFO

## Article history:

Received 11 July 2016

Revised 22 July 2017

Accepted 28 July 2017

Available online 29 July 2017

## JEL classification:

H26

K42

## Keywords:

Tax morale

Tax compliance

Mass media campaigns

Information nudging

Moral suasion

Pakistan

## ABSTRACT

Pakistan has consistently performed low on taxation, with revenue collection hovering around 10% of GDP. Tax reforms have been attempted but without significant gains in revenue collection. Due to the recalcitrance of tax revenues, the tax authority attempted to enlist voluntary compliance, as one of the avenues for its efforts to increase collections. This paper examines the effectiveness of mass media campaigns in the TV and national newspapers used by the Federal Board of Revenue (FBR) of Pakistan to increase awareness, tax filing, and, ultimately, tax morale. We use survey data that were collected in 2014 immediately after these mass media campaigns by the FBR. Using coarsened exact matching, we construct treatment and control groups that are nearly identical in terms of pretreatment balance of demographic and behavioral predictors of high tax morale. We find improved perceptions towards tax compliance in Pakistan for respondents exposed to the TV and newspaper advertisements. The choice of the advertisement's delivery device is important since the latter is more effective. Our findings provide empirical evidence that well-timed mass media campaigns can enhance voluntary tax compliance.

© 2017 Elsevier Inc. All rights reserved.

## 1. Introduction

Can media campaigns enhance individual attitudes towards voluntary tax compliance (hereinafter tax morale) in Pakistan? The country's stagnant tax revenue to GDP ratio despite two decades of tax policy reform could be explained by factors typically associated with low tax morale (Martinez-Vazquez and Cyan, 2015; Bird et al., 2008). Some simple statistics clearly reflect the gravity of the problem. From 2000 to 2014, registered personal income taxpayers in Pakistan increased from 0.75 to 3.6 million but only 0.98 million were active filers out of 56.5 million employed individuals of whom 5.7 million earned income above the exemption threshold.<sup>1</sup>

The purpose of this paper is to examine the effectiveness of mass media campaigns via newspaper and TV ads in enhancing

tax morale in Pakistan. We use a novel, individual-level survey of randomly selected Pakistani income tax filers that was conducted after the media campaigns eliciting attitudes towards tax compliance. Because only a fraction of the survey respondents was exposed to the media campaigns, the survey gave rise to a natural experiment. While survey participants were randomly selected into the sample, they self-selected into or out of treatment. This was due to their differential propensities to read a newspaper ad and watch a TV ad. This generated non-random variation in treatment assignment in a single tax filing season given a random sample of income tax filers. We use this source of cross-sectional variation to identify the effect of ads aired on TV, printed in the newspapers, or both on tax morale by comparing respondents exposed to the media campaign to those not exposed to it.

We employ a quasi-experimental design that combines random survey sampling of the individuals and post-treatment matching techniques. First, our identification strategy exploits randomly selected survey respondents that offer a representative sample of income tax filers across geographical regions of Pakistan. Then, it

\* Corresponding author.

E-mail addresses: [cyan@gsu.edu](mailto:cyan@gsu.edu) (M.R. Cyan), [koumpias@umich.edu](mailto:koumpias@umich.edu) (A.M. Koumpias), [jorgemartinez@gsu.edu](mailto:jorgemartinez@gsu.edu) (J. Martinez-Vazquez).<sup>1</sup> IMF (2016); p 5.

uses Coarsened Exact Matching (CEM) which allows us to mimic treatment assignment through the ex-post construction of a control group. Since taxpayer exposure to the media campaign and its delivery device (newspaper or TV) is non-random, we match on the respondent's preferred news source to satisfy the conditional independence assumption. This overcomes self-selection bias due to observables that determine exposure to the mass media campaign via newspaper or TV since the unexposed individuals used in comparison are an unbiased counterfactual for the exposed ones. In addition, matching on determinants of tax morale creates balance across observable individual-level characteristics and makes the treatment and control groups comparable concerning their perceptions about voluntary tax compliance. The highly balanced post-matching sample allows us to give a causal interpretation of the estimated treatment effects.

The contribution of this paper is threefold. It offers the first quasi-experimental evaluation of the effectiveness of mass media campaigns used by a tax agency to enhance tax compliance and one of the first examinations of a tax agency's behavioral strategy implemented as a natural experiment. Second, it extends our limited knowledge regarding the effectiveness of mass communication delivery devices on behavioral attitudes into a new domain; mass media campaigns via TV and newspaper ads. Third, it sheds light on a hitherto unexplored behavioral aspect of a developing economy where mass media campaigns are ubiquitous. The results here are generalizable to other developing economies that similarly grapple with low voluntary compliance such as India, Egypt, Nigeria and the Philippines. Third, the findings are relevant for tax policy design as they directly inform the tax authority in Pakistan, the Federal Board of Revenue (FBR), as well as the tax agencies of other developing countries about the overall effectiveness of non-pecuniary, behavioral strategies in promoting higher voluntary compliance.

Our findings indicate that both TV and newspaper ads can improve individual attitudes towards tax compliance in Pakistan. First, we show that the TV ad had a positive and significant effect on positive attitudes towards tax compliance for a baseline set of determinants of tax morale. Introducing more stringent matching criteria leads to losses in power and, subsequently, the effect becomes smaller and not significant at conventional levels anymore. Second, our results suggest that the newspaper ad had a positive and significant effect on positive attitudes towards tax compliance over both sets of matching criteria. In fact, the influence of the newspaper ad on individual attitudes towards voluntary tax compliance is greater than the effect of the TV ad. Finally, the analysis considers the effect of individual exposure to both the TV and newspaper ads. Based on an underpowered test, we fail to distinguish the treatment effect from exposure to both ads that is significantly different from zero. Overall, our results provide convincing evidence that newspaper ad campaigns can causally enhance tax morale in Pakistan.

The rest of the paper is organized as follows. [Section 2](#) provides a brief review of the behavioral public finance literature focusing on government actions that enhance tax compliance in developed and developing economies. [Section 3](#) discusses the novel dataset of individual perceptions about tax morale in Pakistan that we use in the empirical analysis and offers a description of the media campaigns by the FBR. [Section 4](#) describes the methodology employed and [Section 5](#) presents the results. [Section 6](#) provides robustness checks of the modeling assumptions and estimation techniques of the baseline analysis. [Section 7](#) concludes.

## 2. Literature review

Tax administrators, aiming to maximize revenue, focus on increasing voluntary compliance of the code, eventually establish-

ing a compliance norm (OECD, 2013; Pickhardt and Prinz, 2014; Prinz et al., 2014).<sup>2</sup> Numerous papers have emphasized the importance of tax morale and trust considerations to generate tax revenues more efficiently (Torgler and Schaltegger 2005a; Kirchler et al., 2008; Kogler et al., 2013; Kastlunger et al., 2013; Kaplanoglou and Rapanos, 2015). Luttmer and Singhal (2014) also suggest that tax morale can play a meaningful role in tax compliance behavior by informing the tax authority about taxpayer preferences and as a prediction device of tax compliance given the level of tax enforcement.<sup>3</sup>

In addition, there is considerable survey and experimental evidence that increased tax knowledge through media campaigns and other means can improve individual perceptions of the fairness of the tax system (Eriksen and Fallan, 1996; Alm et al., 2010; Povoledo 2011; Eurofound, 2013; Kasper et al., 2015). Closest to the context of this study, the Indian tax authority conducted a mass media campaign to encourage tax evaders to make use of an ongoing tax amnesty. For 214 consecutive days from July through December 1997, it ran on TV, newspaper and radio the slogan "30% taxes, 100% peace of mind." This was a very successful tax amnesty bringing-in \$2.5 billion from about 350,000 Indian taxpayers (Torgler and Schaltegger, 2005b).

The empirical evidence about tax morale in Pakistan is sparser. On the one hand, information campaigns could be an effective way of increasing voluntary compliance as [Gangl et al., \(2015\)](#) find that increased knowledge of taxpayer rights is linked to higher filing rates of wealthy Pakistanis while [Kleven and Waseem \(2013\)](#) show that reported earnings respond to pecuniary incentives. [Xin Li \(2010\)](#) suggests that Pakistan's ethnic fractionalization could pose a challenge in enhancing tax morale. [Mughal and Akram \(2012\)](#) surveyed taxpayers to determine predictors of tax avoidance and evasion in Pakistan and [Awan and Hannan \(2014\)](#) surveyed taxpayers and tax officers to assess perceptions towards tax compliance. ([Khan and Ahmad, 2014](#)) surveyed student attitudes about tax compliance to elicit determinants of tax evasion in southern Punjab. However, these studies are mainly descriptive, based on small-scale primary data, none initiated by the FBR and were not nationally representative. More importantly, they do not study any behavioral strategy of the FBR to generate policy implications.

Also important to our study, the available evidence so far on the effectiveness of behavioral nudges utilized by tax administrators is mixed. This is so over a wide range of institutional settings and tax bases from the national to the local level ([Torgler, 2011](#)). On the one hand, interventions that highlight the contribution of taxes to the public good, contain normative appeals, moral suasion messages, and social information have null effects on tax compliance or even backfire in the sense that they reduce tax revenues ([Blumenthal et al., 2001](#); [Ariel, 2012](#); [Fellner et al., 2013](#); [Koumpias, 2017](#); [Torgler, 2004a, 2013](#)). On the other hand, more recent interventions have more success in increasing tax compliance ([Torgler, 2007](#); [Bott et al., 2014](#); [Chirico et al., 2016](#); [Sanchez, 2014](#); [Ortega and Scartascini, 2016](#); [Hallsworth et al., 2017](#)).

The bulk of this recent behavioral tax compliance literature relies on field experiments, regarded as the gold standard for causal analysis. While they provide significant insights on voluntary tax compliance, they are typically hard to implement with mass media campaigns. However, the persistence in the use of mass media campaigns, especially in low tax compliance environments, raises the question anew of whether natural experiments in the form of

<sup>2</sup> [Kirchler et al. \(2010\)](#) review the empirical literature of tax compliance and find support for a negative relationship between tax burdens and compliance. However, this evidence is far from conclusive since positive relationships have also been reported while experimental findings often hinge on framing effects.

<sup>3</sup> See [Torgler \(2004a, b; 2011\)](#) for comprehensive reviews of e survey-based findings on what drives tax morale.

Download English Version:

<https://daneshyari.com/en/article/5034087>

Download Persian Version:

<https://daneshyari.com/article/5034087>

[Daneshyari.com](https://daneshyari.com)