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Feedback Monitoring Tools of the Russian Federal Tax Service

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Abstract

In recent years, the Russian Federal Tax Service has increasingly focused on processing taxpayer feedback through various communication channels. In this paper, we investigate the impact of this feedback system on the effectiveness of tax collection over the regions of the Russian Federation for 2017-2021. Using a unique dataset of feedback received and a bunch of control variables with instruments, we show that the spread of feedback channels resulted in a small but significant increase in tax proceedings. We provide behavioral interpretation for this result: the introduction of feedback systems signals taxpayers that the tax offices have started to pay attention to what people think about their service. This simple signal transforms the relationship between taxpayers and tax administration from that of surveillance and authority to customer relations, which is reciprocated by the taxpayers and has contributed to the improvement of tax discipline.

Keywords:

digital public administration, feedback, government digital platforms, tax revenues

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1. Problem statement

In recent years, digital platforms are becoming increasingly more common in public administration, ranging from standard public services to taxation.³ Besides technological reasons, this tendency represents an increasing orientation to a human-centered approach to citizen services aimed at the continuous and efficient improvement of their quality in light of the received feedback. In parallel with the broadening scope and quality of digital services, citizens demonstrate ever-increasing usage and satisfaction with digital (in particular, online) public services.

What do digital services contribute to the quality of public administration? According to modern theories of public administration (Andrews & van de Walle, 2013; Nigro et al., 2014; Cohen, 2016), the first-best way of public services provision is the interaction between the providers and society. Public authorities should make sure that citizens feel comfortable receiving public services. The paradigm of participatory governance sees the state not as a set of functions, but as a dispositive part of network governance, which includes other actors⁴. Accordingly, citizen participation in innovations of public administration (participatory theory of government – Arnstein, 1969), in particular the digitalization of public administration at the level of civil society, is productive for the system of public administration (Lindgren et al., 2019), and should lead to higher degrees of cooperation.

This article examines one particular aspect of the interaction between government and citizens, namely the interconnection between tax discipline and the feedback system of taxpayer satisfaction with the service provided by the tax offices. Specifically, we investigate the impact of the number of feedback messages on tax collections, controlling for the level of economic activity and other indicators at the regional level of the Russian Federation over the period 2017-2021. Due to the specificities of Russian data (discussed below in detail), we cannot make direct use of the *values* of marks given to the offices by the client taxpayers. Instead, we use the intensity, or *the number* of marks given to each office by 84 regions and 5 years, and show that this indicator has had a significant and positive impact on tax collections. Given that the tax system over this period has been stable⁵ subject to these considerations, the relationship between the intensity of feedback provided and tax proceedings may be interpreted in a causal sense. The intuition behind this result is quite simple; traditional tax administration has had a limited mission to collect money and chase and prosecute evaders. By contrast, introducing a digital feedback system has transformed this relationship into a client-oriented service, which is appreciated and reciprocated by the taxpayers. This

3 e.g., <https://www.banki.ru/news/lenta/?id=10968771>

4 With the important exception of an increase in the rates of individual tax from 13 to 15% for the richest in 2020, since this change coincided with the COVID-19 lockdown, both effects can be controlled in the same way using an appropriate dummy.

interpretation is, by and large, behavioral, and related to nudging (Thaler & Sunstein, 2004); small changes in the context of collective decisions can alert perceptions, improve taxpayers' attitude governance, and altogether result in more extensive tax compliance.

Currently, only some studies are analyzing tax compliance factors and the relationship of tax administration to behavioral economics. For example, scholars have examined the relationship between tax rates and tax revenues (Houdek & Koblovsky, 2015), particularly the use of odd taxes to minimize the political costs of taxation while maximizing revenues (Olsen, 2013) and responses to tax reflections to price tags (Chetty et al., 2008). Some authors place greater emphasis on the irrationality of taxpayers, with the result that savvy politicians can manipulate public opinion. The design of the tax system can be unsustainable because of the ability to induce changes in preferences through purely formal rhetorical means (McCaffery & Baron, 2006). Other authors assess the impact of introducing digital payments on citizens' accountability (Finkelstein, 2009). To the best of our knowledge, the interrelation between tax administration, tax revenues, and feedback from the citizens has yet to be studied.

The rest of this paper is organized as follows. Section 2 briefly describes the current state and development of digital services introduced by the FEA since the early 2010s. Section 3 describes our data, and section 4 provides the results of the data analysis. Finally, section 5 presents the conclusions.

2. Digitalization of the public management system

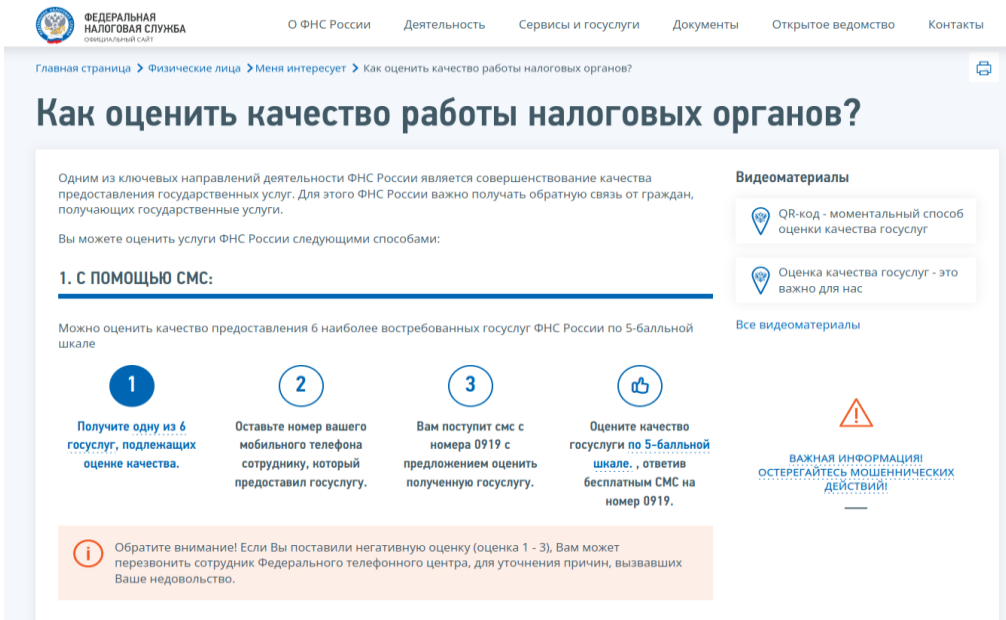
The Federal Tax Service (in the future abbreviated as FTS) has been one of the pioneers of digitalization among the Russian executive authorities. The introduction and functioning of the governmental digital platforms are regulated by Federal Law 210⁶, as well as internal interdepartmental letters describing the functioning of digital platforms. Since January 2020, all public services in Russia are set to be gradually converted into electronic form. This move has been actively debated before, resulting in amendments to Federal Law № 210-FL of 27.07.2010). In general, public authorities drift towards a client-oriented approach aimed at the convenience of the citizens, analysis of their quality assessment, and satisfaction with online services.

The COVID pandemic, which began in 2020, has dramatically accelerated the digitalization of public services, including taxation. Many FTS services have been transferred to online platforms and made accessible via smartphone with an appropriate app or personal computers. At the same time, COVID had an expected depressing impact on the extent of overall economic activities, causing a decline in tax interactions (see below for details). Ultimately, in parallel, a digital feedback system technique has

6 and other decrees.

been set up; Users of all major FTS services (see below for their complete list), both individuals and company representatives, following their contact with the tax office, received a request for feedback in the form of a push-up message on their mobiles and a web link. Upon login, users are asked to report their evaluation of the quality of services on a 5-point scale, 1 being the lowest and 5 the highest (consistent with the most common school grading system in Russia). For a sample online screen, see Figure 1.

Figure 1:
Sample online screen.



Source: https://www.nalog.gov.ru/rn77/fl/interest/ocenka_kachestva/

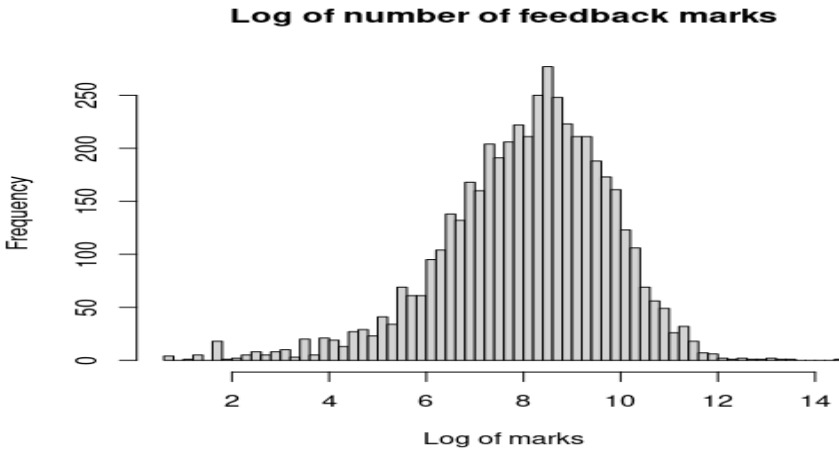
If services are provided electronically, taxpayers might receive this invitation at any stage of interaction with the system. In contrast, taxpayers who physically attend an FTS office are explicitly asked to authorize sending a push-up message at the end of their interaction with the tax office for feedback. Hence the grades provided by this system are neither random nor complete. At the same time, offices receive firm instructions to collect them, resulting in many evaluations, ranging from 6.5 to 13 million feedbacks per annum 2017 to 2021⁷.

⁷The dynamics of scores during the period were uneven; the number of scores fell until 2020 when the popularity of online services during the Covid pandemic increased.

Feedback is collected on different digital platforms. The first class of these can be conventionally classified as centralized federal, created under the auspices of the Office of the Government, and named "Your control" (<https://vashkontrol.ru>). This platform aggregates data from 'external' services where the user can evaluate the service, including the form presented in Figure 1. Another class of platforms can be designated as 'local'; they include direct messages, or 'infomats' (physical grading devices installed on the premises of tax offices). Management of these platforms is the responsibility of the local tax office - subordinate to the tax administration of the subject of the federation (region – oblast, krai, republic, or district). The number of tax offices ranges from 1 to 48 (on average, 10 per region); this number may change year to year at the discretion of the FTS, but the collection of feedback follows the same procedures all the way through since the introduction of the system in 2012. Altogether, from 2017 to 2021, the total volume of feedback received has generally been growing, corresponding to increased population exposure to online services. Over the same period, the number of mobile numbers used to provide feedback increased from 1.927 to 2.241 million, evolving in line with the number of evaluated services. The number of feedback marks provided was also higher, corresponding to the fact that each service receives more than one mark, reflecting, e.g., the timing of service provision, competence of the public officer, and overall quality of the service.

As units of observations, we take yearly numbers from all the tax offices of 84 subjects of Russia, which on average over 5 years amounts to 963 observations per year, with a maximum of 1 052 (2018) and a minimum of 863 (2021). Hence all values of feedback marks, ranging from 1 (very bad) to 5 (excellent) are aggregated within each office. A primary reason for this is institutional; positive evaluation marks are administratively required to be over 90%, which induces tax offices to push them higher by all means and through every channel. The self-selection of taxpayers whose experience has been positive or a strong impression of taxpayers about services provided are other reasons which may contribute to this picture, but arguably are of secondary importance. At the same time, values of feedback marks should be contrasted with the number of marks received - processing the latter is not needed as long as the mean marks are 'good enough'. The aggregate distribution of the number of feedback marks received is provided in Figure 2; featuring 4 817 values, it is bell-shaped, suggesting this variable likely came from natural sources and reflects the actual dynamics of the intensity of feedback provided through every channel as reflected in the FTS records.

Figure 2:
Distribution of the number of feedbacks, cumulative 2017-2021.



Source: authors' own, 2023

We are interested in the impact of taxpayer feedback on tax discipline and tax revenues. Despite the mean values being unreliable, we argue that the introduction and spread of feedback channels already had their impact.

To establish this causal relationship, we regress the log of tax proceedings by region and year on the log number of feedback marks received in the respective territorial unit and time. This outcome is, of course, to be evaluated *ceteris paribus*, controlling for the changing tax base and legislation. We use gross regional products by regions (GRP) and population by regions as the main variables accounting for these effects. Concerning the tax base, there were no changes in the rewards for proper or penalties for improper tax compliance, and minor changes in income tax were introduced in 2020, which coincided with the COVID-19 quarantine. Both exogenous shocks can be controlled by the same dummy variable, which we also add to the regression. Over that, taxpayers' feedback is endogenous to tax revenues; feedback in year t may result in a further increase in tax proceedings via enhancement of the qualities of FTS service through various channels. One of these is a substantive response to comments and critiques received. However, it seems to be of limited worth amid the biased distribution of marks. Of more importance is the behavioral channel; requests for taxpayers' feedback, unprecedented beforehand, transform the image of the FTS from a surveying and punishing body to service provider, triggering a positive behavioral response.

We examine the effect of this channel using various regression techniques, starting from OLS to panel data IV, and establish a positive and significant effect of the feedback system on tax proceedings, controlling for the tax base across years. The selection of instruments, however, is not trivial. One natural approach would be to take the mean marks (grades on a 5-point scale) received per region and year; however, as argued above, this indicator is entirely uninformative. We use a combination of two other instruments: the percentage of people per region having access to broadband internet over regions and years and the relative number of separate mobile numbers per grade received. The former instrument measures access to reliable internet channels which facilitate feedback provision. The latter shows feedback channels' relative (in)efficiency; the lower the number, the more grades received per mobile phone. Typically this ratio is below one, but in some cases, it is greater than one, reflecting the communication breakout. Both indicators are significantly correlated with the number of feedbacks, and together constitute appropriate instruments for the number of feedback marks while observing exclusion restrictions.

3. Data

For our study, we have collected the following data for all 84 regions of the Russian Federation for the period 2017 to 2021:

1. Tax revenues (federal, regional, and local taxes, and taxes related to special tax regimes), provided by the FTS and collected from the Russian FTS web platform, <https://analytic.nalog.gov.ru/>.
2. The number of assessed services represents feedback from taxpayers. The data are collected by the FTS portal "Your Control" (<https://vash-kontrol.ru/>), which accumulates information about citizens' satisfaction with the quality of public services. The assessment identifies the citizen's opinion on the quality of public services (with a score on a 5-point scale). In the case of public services provided electronically, citizens can be assessed at all stages of their provision, which can happen when citizens are informed about the procedure for obtaining a public service, when making an appointment, submitting an application, receiving the result of public service, and the like. Some data are publicly available, but we have used an extended, proprietary version of the dataset, which includes the number of feedback marks, number of services (several marks per service), and unique mobile phones per tax office per year.
3. Broadband internet coverage, showing the number of people per 100 having access to reliable internet channels per region per year, publicly provided by the Ministry of Digital Development of Russia, <https://digital.gov.ru/opendata/7710474375-abonentsHPD/download/>.
4. Gross regional products by regions and years, provided by Russian Statistical Agency, Rosstat, <https://rosstat.gov.ru/folder/210/document/13205>.

5. The population of the regions of the Russian Federation, also provided by Rosstat, <https://rosstat.gov.ru/folder/12781>.

As of 2021, the Russian FTS officially provided 25 public services online and owns more than 70 services subject to feedback evaluation. These services are listed below and together represent approximately 30% of all services provided by the Russian FTS:

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1. Free information (including written information) about:
 - 1.1 taxpayers, payers of fees, and payers of insurance premiums,
 - 1.2 tax agents on applicable taxes, fees, and insurance premiums,
 - 1.3 legislation on taxes and fees and adopted per normative legal acts,
 - 1.4 the procedure for calculation and payment of taxes, levies, and insurance contributions,
 - 1.5 the rights and obligations of taxpayers, payers of levies, payers of insurance contributions and tax agents, and
 - 1.6 the powers of tax authorities and their officials.This information is provided upon taxpayers' requests or by an FTS initiative and can be conducted in written or oral form.
2. State registration of legal entities, individuals as individual entrepreneurs, and private farms.
3. Provision of information contained in the disqualified persons register to interested parties. The register contains records of persons whose rights have been restricted in legal terms and who have been restricted from carrying out certain types of professional activity. Information from the disqualified persons register is provided to all interested parties based on a request which can be sent to any tax authority both in hard copy - directly by the applicant (their authorized representative) or by post to a territorial tax authority or via a multifunctional center, and in electronic form - using the Internet via the Federal Tax Service official website or the single portal to the authorized organization.
4. Provision of information and documents contained in the Unified State Register of Legal Entities and the Unified State Register of Individual Entrepreneurs.
5. Submission of an extract from the Unified State Register of Taxpayers.
6. Receipt of tax returns (calculations). One of the most popular services directly related to tax revenues - approximately 40% of all contacts of taxpayers with the FTS falls into this category.

The connection between received feedback and tax proceedings is positive and linear in logs, with an overall correlation coefficient of 0.3945. See Figure 3a for 2018 and Figure 3b for 2020. These figures show some increase in variation in the COVID year, but generally, the picture remains relatively robust.

Figure 3a:

2018 Data

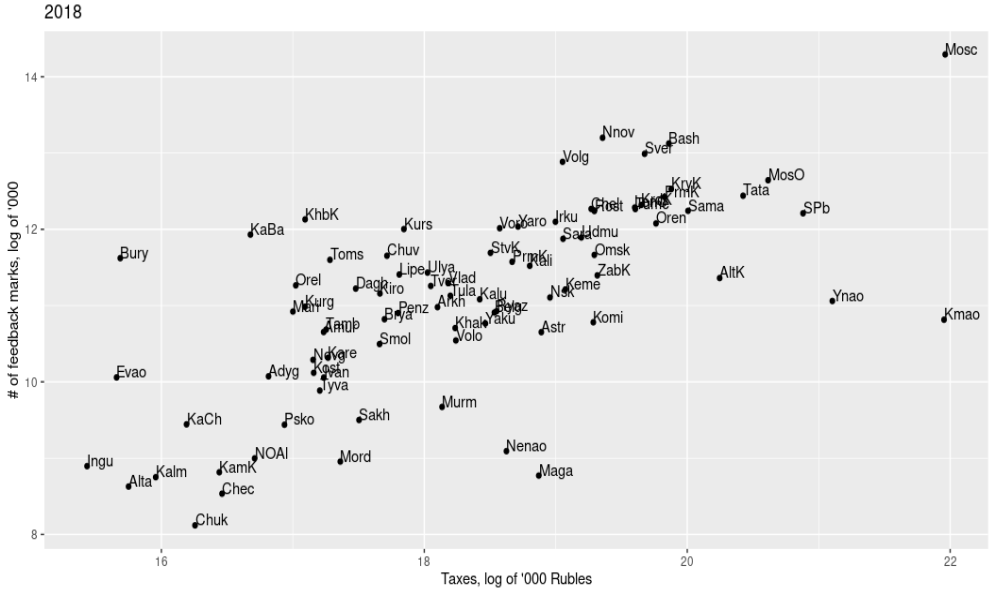
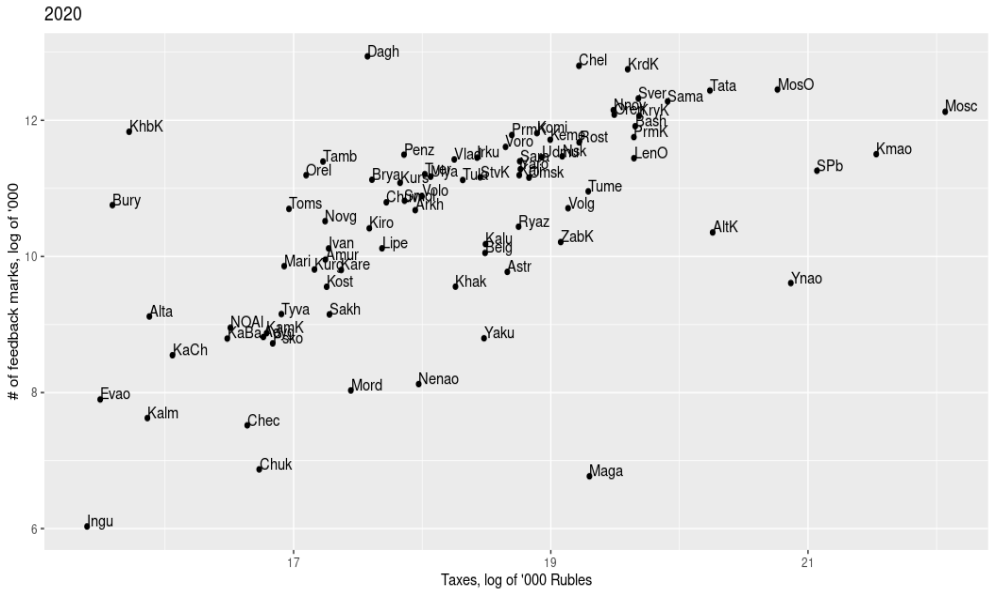


Figure 3b:

2020 Data



Significant variations in logarithms reveal substantive heterogeneity among Russian regions. On one extreme, there is Moscow City, whose tax revenues increased from RUB 3 trillion (about EUR 42 billion) in 2017 to RUB 5 trillion (about EUR 55 billion) in 2021. At the other extreme, the Republic of Ingushetia in the Caucasus has raised 1,000 times less than that – in the range of RUB 4 to 5 billion. This heterogeneity is, of course, reflected in other indicators, such as GRP differences – see Table 1 for the statistics summary.

Table 1:
Summary statistics

	mean	median	st.dev.	min	max
Tax proceedings, bln RUB	248.28	81.02	559.45	-21.73	5 087.62
GRP, bn RUB	1 200.76	559.16	2 427.59	48.41	23 989.90
Population, mln people	1.752	1.168	1.804	0.044	12.678
Feedback marks					
Feedback marks by region, '000	114.115	67.934	169.150	0.108	1 933.966
Number of services evaluated, '000	1.974	1.458	3.039	0.008	54.094
Mean feedback marks by the tax office, '000	8.742	6.804	8.452	0.034	107.443
Instruments					
Mobile numbers per mark	0.352	0.281	0.393	0.040	6.308
Broadband internet coverage, % of people	19.79	20.33	6.51	0.95	39.20

Note: all money-related data are in current Russian Rubles (RUB) per annum per region. Negative minimal taxes refer to a budgetary subsidy to one region (Murmansk region, 2020).

Source: authors' own, 2023

The number of services evaluated is typically lower than the number of feedback marks because each particular service might be evaluated more than once. For example, mobile numbers per mark show that a typical mobile phone (single user) gave about 3 marks on average. Most active evaluators provided as many as 25 marks, while the least active feedback provider gave only 0.15 marks (=1/6.308), which is explained by the repeated failures to leave feedback for technical reasons. Broadband internet coverage is relatively robust over time but varies substantively across regions, which calls for random effect estimation.

4. Regression analysis

Regression estimates are collected in Table 2. We begin with simple linear OLS, which shows the expected positive impact of the number of feedback marks on tax proceedings, controlling for the economy size of the region and population density (number of people and ease of tax collection, which is vital in a large country such as Russia). To account for the negative shock of COVID and other changes, a dummy for 2020 is included, although it turns out to be non-significant in this specification. The model implies a strong and significant positive impact of feedback intensity on tax discipline; a 1% increase in the number of feedback marks results in a 0.36% increase in tax collections. As robustness checks, we have also estimated separate models for the period before 2020 and 2020-2021. Coefficients of log number of feedback are similar qualitatively, ranging from 0.40% for the former and 0.29% for the latter period, in response to a decrease in economic activity. Pooled cross-section IV estimate shows an even more significant effect of 0.79%; our instruments are the broadband coverage log and mobiles used per grade as exogenous instruments. F-statistics for the weak instrument test is 49.587, suggesting that the instruments are robust, and the Sargan test statistic of 2.13 ($p < 0.12$) shows the validity of overidentifying restrictions. The Wu-Hausman test (21.135, $p < 0.000$) reveals that IV estimates are indeed superior to OLS – however, model (2) is still inefficient because it does not exploit the panel data structure.

The above is done in models 4 for cross-sectional and 5 for random effects panel data model, using the plm package for R 2022,.12.0, build 353. The low variance of regional covariates and instruments suggests that the random effects model is superior; the Hausman test resulting in a chi-square of 4.3907 ($p\text{-value} = 0.3557$) implies it is also unbiased and, therefore, superior to the FE model. The coefficient of instrumented log number of feedback marks of 0.17 suggests that a 1% increase in the number of marks provided results in about a 0.17% increase in tax proceedings. This number is lower than the OLS estimate but quite significant on a country scale, given the diversity of regions and years, so we take it as a conservative first-best estimate. All other variables are significant and have the expected signs, including the COVID year dummy.

Table 2:

Linear models of determinants of tax proceeding

	<i>Dependent variable: log of tax proceedings</i>				
	<i>OLS</i>			<i>Instrumental Variables</i>	
	1) Pooled	2) OLS year<2019	3) OLS year> 2019	4) IV PCS	5) RE IV
Log number of feedback marks	0.365*** (0.044)	0.408*** (0.044)	0.292*** (0.058)	0.789*** (0.157)	0.174*** (0.064)
Log of GRP per capita	1.363*** (0.095)	1.358*** (0.097)	1.412*** (0.158)	1.259*** (0.106)	1.171*** (0.150)
Log of population density	0.328*** (0.029)	0.315*** (0.029)	0.359*** (0.046)	0.261*** (0.042)	0.322*** (0.059)
COVID year dummy (2020)	-0.025 (0.119)			0.082 (0.141)	-0.072** (0.031)
Constant	15.718*** (0.335)	15.348*** (0.341)	16.128 (0.469)	12.787*** (1.099)	16.966*** (0.564)
Observations	424	339	169	424	424
R²	0.539	0.547	0.515	0.445	0.222
Adjusted R²	0.534	0.543	0.507	0.440	0.214
Residual Std. Error (df = 419)	0.960	0.946	0.997	1.053	
F Statistic / Wald test	122.322*** (df = 4; 419)	135*** (df=3,335)	58.5*** (df=3,165)	100.4*** (df=4,419)	144.974*** (df=4)

Note: *p<0.1; **p<0.05; ***p<0.01. Robust standard errors are in parentheses. Balestra and Varadharajan-Krishnakumar method from the plm package in R has been used to obtain panel IV estimates.

Source: authors' own, 2023

5. Conclusion

We have analyzed the efficiency of feedback system provision to the Federal Tax Service of the Russian Federation by regions throughout 2017-2021. The results from our analysis support our main hypothesis, namely the intensity of feedback signals establishes a loopback channel between taxpayers and the FTS and contributes to improving

tax discipline. The fact that taxpayers are asked about the quality of the FTS is interpreted by them as a positive, customer-oriented signal, to which they reciprocate, which manifests itself in improved tax discipline.

The robustness of this interpretation is confirmed using various subsamples of data, including pre-COVID and COVID times and panel data IV estimates. Notwithstanding the significant cross-regional and time differences (not least due to the COVID-19 restrictions), we find reliable instruments for the number of feedback and select a conservative estimate of its effect on tax proceedings at 0.17% in relative terms. This effect may appear small, but it implies quite some changes at the country level. For instance, an increase in feedback by 1% at a mean (19.73 replies) is predicted to yield, on average, an increase in tax proceedings of RUB 422 million 086 thousand. However, our estimation strategy does not allow us to establish the specific channel within FTS responsible for this effect, but it robustly confirms the direction of this relationship.

It is worth addressing several potential critiques related to our analysis. One of these is potential omitted variables, such as changes in the techniques of tax collection or penalties for tax evasion. None of these were in place over the period under consideration, which makes these concerns redundant. Another critical channel may be changes to tax rates. The only significant change dealt with personal income tax, which was flat at 13% until 2020 and has since been raised to 15% for early earnings over RUB 5 MM. This policy change coincided with the dummy for the COVID years, capturing both effects. The population and GRP per capita control the number of taxpayers and the tax base, respectively. Finally, as mentioned above, feedback marks are provided not only for taxation operations but for a range of services provided by the FTS, including registrar and information services. While these do not directly impact tax proceedings, they characterize the volume of services provided by the FTS to client citizens. Accordingly, the cumulative effect of feedback on any of these services characterizes qualitatively the role played by all feedback channels. It strengthens rather than weakens our argument about the effect of the existence of such channels on tax proceedings. The possibility to leave feedback and even the mere fact of being asked to evaluate the services of the tax offices appears to be reciprocated by the taxpayers whose revealed preferences were to increase their compliance with the norms of tax legislation. Thus, our results suggest that behavioral instruments, including small changes in the attitude of the public authority to citizens, may trigger positive responses of these latter and improve social efficiency.

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