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Sophiko Skhirtladze, ISET Policy Institute
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The Georgian Tax Lottery of 2012 – A Quantitative and Qualitative Evaluation

This policy brief is based on preliminary findings of research that assesses the 2012 Georgian Tax Lottery by Larsen et al. (2019). Tax lotteries are seen as a way to relatively easily augment public revenue while also increasing compliance. Tax lotteries are constructed so that consumers are nudged to ask for a receipt when making a purchase. This receipt contains information which can also be used as a lottery ticket with the possibility of winning prizes. Such tickets also leave traces of transaction records that allow revenue authorities to audit vendors. Given this background, the aim of this paper is to provide a broad, multi-methodological and socio-economic assessment of Georgia's tax lottery experience in 2012.

Introduction

A well-designed tax system improves economic efficiency, facilitates economic growth and social welfare, (Besley & Persson, 2013). Yet, curbing tax evasion remains one of the key challenges for policy makers, and institutions in charge of revenue administration are experimenting with diverse set of instruments to increase tax compliance and thus revenue.

In addition to the traditional audit-sanctioning mechanism, the taxation literature emphasizes the role of consumers in facilitating tax compliance of businesses. The government can create direct monetary incentives for consumers to request receipts. Turning a receipt into a lottery ticket with a chance of winning a pre-determined prize is an example of such an incentive. The tax lottery motivates and rewards those consumers who become part in the efforts to fight tax evasion by requesting receipts while making purchases. Given that audit-sanctioning mechanisms are very costly for the government, clever usage of a "zero cost policy", such as tax lotteries, might be advisable (Fabbri & Hemels, 2013).

The aim of this paper is to provide an assessment of the Georgian tax lottery experience in 2012 using both quantitative and qualitative methodologies. The two methodological approaches complement each other and help to investigate the tax lottery from different angles.

The Georgian Tax Lottery

The Georgian Revenue Service (GRS) introduced a tax lottery starting in spring 2012, which was planned to run until January 1, 2013. The aim of the lottery was to popularize the already introduced General Packet Radio Services (GPRS) -based cash registers and make sure that they were used by vendors. Such registers would allow the GRS to gather information about business activities online daily. This, in turn, was due to an effort to fight the shadow economy and be able to audit business revenue, when payments were made by cash. The lottery would thus motivate consumers to ask for receipts. As a communicative resource, the lottery aimed to increase awareness of asking for receipts, as well as to develop a positive attitude in Georgian society towards GRS in the background of harsh fiscal reforms.

In order to participate, customers had to buy goods or services from a vendor who had a GPRS-based cash register. The receipt could be checked for win immediately by mobile phone. The Georgian Tax Lottery was a chance to win money for every customer purchasing anything from groceries, to shoes and hair care. The winning prizes were 10, 20, 50, 100, 10,000 and 50,000 GEL[1]. The 10,000 GEL prizes were awarded once a month while 50,000 GEL prizes were given quarterly.

The lottery ended prematurely on grounds of inefficiency on November 12, 2012 when a new government was elected.

Multi-Method Approach

For the assessment of the tax lottery in Georgia, we employed a multi-method approach combining a qualitative assessment built on an ethnographic approach with quantitative regression-based methods; following the ethnographic approach, we collected opinions, experiences, and views on the tax lottery from the perspective of participating and non-participating businesses, consumers as well as other stakeholders.

The quantitative assessment of the paper investigates whether the existence of the lottery affected businesses' total revealed turnovers through the facilitation of a receipt-requesting norm. The data for the quantitative analysis conducted in this paper was provided by the GRS. The latter was collected from the daily reports of

[1] The exchange rate for a Georgian Lari, GEL, is about 3.0 GEL to 1 EUR.

the GRS system, for two years, 2012 and 2013. The data includes variables, such as the unique cash register identifier, the year and the week of a purchase and address (city and municipality) and the total turnover of the cash register reported through GPRS. GRS also provided the dataset with detailed information on winning tickets. The latter includes daily information on the number of winning tickets and the aggregate daily monetary amount of the prizes.

Three different specifications of linear regression models were run separately on the aggregate country level data. The model-specifications differ in a way that each uses different dependent variables - aggregate weekly sales, average weekly sales per register and number of registers reporting any sales.

Preliminary Results

As may be inferred from the country level regression results reported in Table 1, for all the econometric specifications the 'lottery' variable is significant at 1% level. The regression results show that during the weeks of the lottery (weeks 16-46) the aggregate weekly sales are on average 33,363 GEL higher than in the non-lottery weeks (11% more than in non-lottery weeks, based on the log linear model). When looking at the year effect of 2012 in non-lottery weeks, the effects are positive, significant, and, on average, amount to 38,813 GEL. This means that aggregate weekly sales in the non-lottery weeks of 2012, exceed aggregate weekly sales in 2013, on average, by 38,813 GEL. While in this simple model we do not explicitly control for macroeconomic environment, GDP in 2013 grew by 3.4% while inflation stood close to 0%. These macroeconomic outcomes strengthen predictions of the econometric analysis.

When looking at the average sales per register as the dependent variable instead of aggregate weekly sales, the results are compatible with the results of the first model. There is on average a 282 GEL (7.7%) increase in average turnover during the lottery weeks compared to the non-lottery weeks; and average weekly sales in non-lottery weeks of 2012 exceed average weekly sales in 2013 by 458 GEL, on average. In addition, the positive

Table 1: Regression Results of the aggregated analysis on a country level

	Aggregate weekly sales	Average weekly sales per register	Number of registers
Time period	1697.5***	15.05***	120.3***
	(160.1)	(1.525)	(16.67)
Lottery dummy	33363.1***	281.8***	3199.0***
	(6695.1)	(63.78)	(696.8)
Year2012 dummy	38813.4***	457.9***	8.093
	(11098.5)	(105.7)	(1155.1)
Constant	206593.0***	2788.1***	76013.7***
	(13165.5)	(125.4)	(1370.3)
N	96	96	96
R^2	0.692	0.624	0.656

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

effect and significance of the year 2012 variable shows that controlling for the non-lottery weeks, something was still driving sales up. This could be the long-term effect of the lottery weeks that continued even after the termination of the lottery; hence some evidence of habit formation.

A similar regression is done with the weekly number of cash registers reporting their income as dependent variable. The outcome illustrates that during the lottery weeks of 2012, the average number of reported cash registers is 3,199 units (4%) more than those in non-lottery weeks, which is quite compatible with the results reported by the first and second regressions.

Conclusion

Despite seemingly positive results, the lottery was prematurely terminated after parliamentary elections in November, 2012. Interviews with stakeholders revealed that the public budget that was allocated for the lottery was deemed insufficient to keep the chances of winning high enough and therefore interest and participation from public had decreased significantly from around 2 mln out of 2.5-2.8 mln receipts checked daily in the first months of the lottery to only 300,000 by the end of the lottery. However there was lack of financial resources or interest from the new government to invest additional resources to increase the budget and effectiveness of the lottery.

Regardless of its premature termination lottery itself was thought to have influenced social norms and also started a discussion about tax compliance. The tax lottery also aimed to improve citizens' attitude towards the GRS. A qualitative analysis, based on multi-ethnographic approach through which we have collected media articles, reports, and other materials expressing views on the Georgian tax lottery, however, showed that strategies of "love and fear" are difficult to make work in combination, and we find it hard to say that citizens' views of the GRS improved due to the lottery itself. Perhaps even the contrary could be proposed. In terms of increased trust to the GRS, we conclude with our methodological point that a tax lottery cannot be assessed as an isolated event. Previous and other activities that the revenue services engage in that have an impact on taxpayers and on societal tax compliance have to be taken into consideration. Fear and unjust treatment especially linger in people's perceptions.

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Sophiko Skhirtladze

ISET Policy InstituteResearch (ISET-PI)
s.skhirtladze@iset.ge
www.iset-pi.ge

Sophiko is Head of the Private Sector Development Policy Research Center at the ISET PI. She received her PhD degree in Public Economics and Finance from the Catholic University in Milan for the dissertation entitled Essays in Political Economics (2015). She earned her Bachelor's degree in International Economic Relations from the International Black Sea University (2006) and her MA degrees in Economics from ISET (2008) and Southern Methodist University, in Dallas, Texas (2010).

Before joining ISET in September 2015, Sophiko spent two years at the World Bank, Washington DC office, where she consulted the Governance Systems Unit in Public Finance issues. At ISET she also serves as a Coordinator of Private Sector Development Concentration and supervises student theses.