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МЕЖДУНАРОДНЫЙ ЖУРНАЛ ИНФОРМАЦИОННЫХ И КОММУНИКАЦИОННЫХ ТЕХНОЛОГИЙ

ХАЛЫҚАРАЛЫҚ АҚПАРАТТЫҚ ЖӘНЕ КОММУНИКАЦИЯЛЫҚ ТЕХНОЛОГИЯЛАР ЖУРНАЛЫ

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INTERACTION ANALYSIS OF GOVERNMENT REVENUE AND AUDIT

Abstract. The article examines the relationship between unforeseen government revenue and the actual audit conduct. It has been found that overprofits can worsen the public organizations' work, while government audits increase their effectiveness. The findings were obtained through macroeconomic management modeling that was structurally evaluated using econometric formulas and quasi government data. Based on the estimated model, the correlation between over income and the number of audits on the public administration's effectiveness has been determined.

Keywords: government auditing, government efficiency, management model, super profits, Bernoulli formula, optimal strategy, game theory, determinism, correlation, exogenity, endogenity

Introduction

The existing annual reports on the performance of regional audit commission budgets were highly useful for examining the role of government auditing in the work of local governments in Kazakhstan. At the same time, "the subject of the content of the analysis was the posting of the conclusion to the Annual Report on the performance of regional budgets for 2017 or 2018 on the online resource of the audit commission." The study found that "only four audit commissions have placed conclusions to the annual performance reports of regional budgets for 2018, despite the fact that the annual reports of all local budgets have been approved" [1].

Some regional mayors have been subjected to repeated checks. Consequently, it is an excellent research opportunity to compare the levels of audits of local government bodies, which vary in the nature of the work carried out, depending on the regional specifics. And in the future, it is an opportunity to assess the impact of past audits on the subsequent work of local administrations, which face the same expected probability of conducting a government auditing.

Purpose of the research

To build a model of the influence of the government auditing, its unscheduled inspection of the work of the local administration. Then, to examine how the audit and the likelihood of a new one will force the state administration to change its beliefs and own actions in relation to the subsequent financial transactions and the work in general.

Materials and research method

In the model, the factor of the unpredictability of government auditing is important, which subsequently has a significant impact on the number of financial violations. Pre-alert audit in a short period of time: in a few days – has a positive effect on the effectiveness of the audit. Otherwise, given a longer waiting time, the public administrations are more carefully prepared for audit in an attempt to cover up violations. This conclusion is not new to the model in question, as well as to others.

Background and data

Kazakhstan is a centralized unitary country, in which regional bodies are headed by officials appointed from the Center, with the provision of certain transfers from the national budget. The mayors of the regions make decisions together with local legislatures, oil districts, on the expenditure of budget funds. Taking into account the probabilistic central oversight by the Standing Committee on Public Accounts, in the established practice, there are certain conflicts on the development of funds annually. In fact, "local government in Kazakhstan is inefficient and under-demanded by the state" [2].

General violations can occur in unfinished community service, paid but unfinished, and the use of forged documents and fictitious organizations that exist only nominally. Financial irregularities, however, are due to scams in the procurement of goods and services, diversion of funds and excessive billing for goods and services.

As a rule, such distribution is obtained with large transfers from the national budget with the existing judicial procedures of insolvency, as well as minimal media activity on the ground [3].

Studies by Eric Avis and Frederico Finana of the University of California, Berkeley, and Claudio Feraz of the Pontifical Catholic University in Rio de Janeiro found that the level of corruption is about 8% lower among local government agencies audited compared to those not exposed. It is also shown that auditing can lead to significant legal costs. It has been consistently proven that the disciplinary effects of trials can account for the 72% reduction in corruption on the ground. In accordance with this, model estimates in this case document an increase in the probability of legal action by 20% after the audit [4].

In the conditions of Kazakhstan, "the basis for the implementation of control are exclusively the annual and quarterly plans of the Standing Committee for Public Accounts to monitor the implementation of the national budget" [5]. Control on behalf of the President of the Republic of Kazakhstan, the Administration of the President of the Republic of Kazakhstan, and the requests of the deputies of the Parliament of the Republic of Kazakhstan is carried out based on the relevant amendments and additions to the quarterly plan of the Accounts Committee. Based on preliminary examination of the monitoring facility, a monitoring plan is drawn up and an external government auditing program is being developed. The Standing Committee may re-examine the activities of the monitoring facility if the previous audit of the standards of state financial control does not comply [5].

In accordance with most models of public administration, the audit plays a positive role in its suddenness and the timing of the notification of the holding. Thus, local governments will only be able to calculate the probability of the next public audit, and their alert within two days will affect the effectiveness of work. Faced with this uncertainty, it seems likely that local governments will seek to take into account the risks of such a sudden audit in their work, extracting information from both their own experience and the neighboring regional administrations.

Interpreting the main conclusions of the E. Avis, F. Finan and K. Feraz model, it is intuitive that reducing the level of corruption due to the conduct of government auditing will lead to increased responsibility of the administration, decisions and their efficiency. In turn, such a check, especially at the time of appointment or reassignment, at the same time, has a positive effect on the quality of personnel, the so-called selection effect, and on improving the efficiency of the administration as a whole [6].

Finally, the existing research on the relationship between appointed responsibility and political action reveals that incumbent officials are responding to incentives for reassignment. Brazil's Bolsa Escola program, a local-oriented conditional remittance program, has performed far better in those administrations where leadership has been encouraged to reelect.

In Kazakhstan, "the fact that the modern development" of the country "has a clear regional context," it is still necessary to conduct a "state regional policy that will aim to smooth the differences between regions" [7].

Based on the data obtained by the quasi-public sector (further quasi-sector) we will build our own model, starting with the calculation of the parameters of the linear equation of multiple regression:

$$y = \alpha + b_1 x_1 + b_2 x_2 + \varepsilon \qquad (1)$$

where y – is a profitable part, x – is a consumable part consisting of x_1, capital turnover and x_2, used capital, $\forall \varepsilon > 0$, a small amount with a normal distribution of mathematical expectation of $\mu = 0$ and an average deviation σ^2_{ε}.

In this case, the parameters of the equation (1) will be found from the solution of the system of equations:

$$\begin{cases} \bar{y} = a + b_1\overline{x_1} + b_2\overline{x_2} \\ \overline{yx_1} = a\overline{x_1} + b_1\overline{x_1^2} + b_2\overline{x_1x_2} \\ \overline{yx_2} = a\overline{x_2} + b_1\overline{x_1x_2} + b_2\overline{x_2^2} \end{cases} \qquad (2)$$

Model

In order to understand how the government auditing affects the work, we will use the existing model of E. Avis, F. Finan and K. Feraz and the model of political responsibility on the basis of the career ladder of B. Holmstrom, T. Persson and G. Tabellini [8]. To simplify, we will develop a continuous model at the initial stage, taking into account the impact of the uncertainty factor of unscheduled audits. Local government administrations will be characterized by personality traits throughout their tenure:

$$X_i(\text{gender, education, position}), \qquad (3)$$

where $i = 1, n$ – the number of local administration workers dependent on three variables.

Then *F's* functional ability will be expressed through the personality qualities of X_i and cognitive ε_i:

$$F_i(X) = X_i + \varepsilon_i, \quad (4)$$

where $a \in R$ and $a>0$; $\forall \varepsilon i>0$, small value with normal distribution of mathematical expectation $\mu = 0$ and mid-square deviation σ_ε^2.

$$R_i^t(p,X) = F_i^t(X) + E_i^t(p,X), \quad (5)$$

where E_i – efforts to work, depending on personality and probabilities, p, conducting time checks, t, by Bernoulli: $p_i^t = 1$, if the government auditing has taken place in time t and $p_i^t = 0$, if not.

The expression (5) can also be rewritten as a

$$R_i^t(p,X) = \alpha X_i + \varepsilon_i + E_i^t(p,X) \quad (6)$$

If financial irregularities are detected in the course of audit conduct with the probability, p_i^t, for the time, t, the local administration will be punished, expressed function of costs:

$$C_i^t(p,X) = c_i^t(p_i^t, E_i^t(p,X) \quad (7)$$

At the same time, the result of the audit will affect the overall efforts of the administration and efficiency in general, as well as the expected administrative management decisions.

In general, the local administration solves the task of optimizing the utility function, U, maximizing their performance by improving efficiency and minimizing costs, being more responsible for decisions:

$$max_x U(p,X) = R_i^t(p,X) - C_i^t(p,X) \quad (8)$$

It is important to note that local state bodies are politically "juggling" between the central authorities, represented by the controlling structures, and the appointees, who, in turn, are guided by the rating of the effectiveness of management.

Results and discussion

Preliminary results and calculations of the model show that the local administration, in which the government auditing was conducted, commits 7.9% less financial violations than those in which it was not.

However, the lack of information of government agencies and the high probability of repeated unplanned inspections significantly increases their effectiveness and the functioning of the administration in general. Of course, this estimated effect only covers short-term equilibrium effects. If there are side effects, estimates and their true impact in the long term are likely to be underestimated. All of this will create a need for further external resources, such as the media and certain judicial procedures, to consolidate the short-term results of the government auditing.

Despite the importance of legal liability for financial irregularities, understanding how to conduct government audits more effectively remains limited for the time being, especially when such violations are endemic. In this sense, more research is urgent here to better understand the nature of public auditing in today's environment, as well as the emerging conflicts caused by audits when financial irregularities are detected.

Conclusion

This article shows that government audits, unscheduled inspections can be the main policy in the fight against financial violations in the country. In the case of the local government authorities, where such audits were carried out, there subsequently occurred about 8% less violations.

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Аукен В.М.

Мемлекеттік кірістер және аудиттің өзара әсерлері

Андатпа. Мақалада күтпеген мемлекеттік кірістер мен нақты аудит жүргізудің арақатынасы қарастырылады. Артық пайда қоғамдық ұйымдардың жұмысын нашарлатады, ал мемлекеттік аудит олардың тиімділігін арттырады. Нәтижелер квазимемлекеттік деректер пайдаланылған эконометрикалық формулалар арқылы құрылымдық бағаланған макроэкономикалық басқаруды модельдеу арқылы алынды. Болжалды үлгінің негізінде мемлекеттік басқару тиімділігіне тексерулер саны мен артық кіріс арасындағы корреляция анықталды.

Түйін сөздер: Мемлекеттік аудит, мемлекеттік тиімділік, басқару моделі, супер пайда, Бернулли формуласы, оңтайлы стратегия, ойын теориясы, детерминизм, корреляция, экзогендік, эндогендік.

Аукен В.М.

Анализ взаимодействия государственных доходов и аудита

Аннотация. В статье исследуется взаимосвязь непредвиденных государственных доходов и фактического проведения аудита. Выяснилось, что сверхприбыль может ухудшить работу общественных организаций, а государственный аудит повысит их эффективность. Результаты были получены с помощью моделирования макроэкономического управления, которое было структурно оценено с использованием эконометрических формул с использованием квазигосударственных данных. На основе оценочной модели была определена корреляция между избыточным доходом и количеством проверок эффективности государственного управления.

Ключевые слова: государственный аудит, эффективность государственного управления, модель управления, сверхприбыли, формула Бернулли, оптимальная стратегия, теория игр, детерминизм, корреляция, экзогенность, эндогенность.

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ХАЛЫҚАРАЛЫҚ АҚПАРАТТЫҚ ЖӘНЕ КОММУНИКАЦИЯЛЫҚ ТЕХНОЛОГИЯЛАР ЖУРНАЛЫ

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