

Research article / Научная статья

Improving the Regulation of Intergovernmental Fiscal Relations in the Kyrgyz Republic through E-Government Development: Insights from the BRICS+ Experience

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Abstract. This study is devoted to developing scientific and practical recommendations for improving the regulation of intergovernmental fiscal relations in the Kyrgyz Republic through the advancement of e-government, drawing on the experience of BRICS+. The econometric and statistical analysis conducted in the article made it possible to quantify the extent to which BRICS+ outpaces the Kyrgyz Republic in terms of the efficiency of intergovernmental fiscal regulation (by an average of 105.54%) and the level of e-government development (by an average of 69.89%) in 2025. Through regression analysis, a model was constructed to examine the relationship between the efficiency of intergovernmental fiscal regulation and the level of e-government development in the Kyrgyz Republic and BRICS+ in 2025. The model clarified the significance of individual components of e-government systems for enhancing the efficiency of intergovernmental fiscal regulation in both the Kyrgyz Republic and BRICS+. The regression model further identified opportunities to improve the regulation of intergovernmental fiscal relations in the Kyrgyz Republic by advancing its e-government system to the level of BRICS+. The study concludes that the development of e-government, following the BRICS+ experience, will enhance the regulation of intergovernmental fiscal relations in the Kyrgyz Republic. To achieve this, it is recommended to focus primarily on strengthening state institutions and adopting more advanced e-government technologies.

Keywords: improvement of regulation, intergovernmental fiscal relations, Kyrgyz Republic, e-government, BRICS+ experience

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Introduction

The financial economy of BRICS+ presents considerable scientific and practical interest as an object of study, since it plays a leading role in the de-dollarization of international settlements, ranks first in terms of international trade volume and GDP, and is characterized by the high efficiency of member states' budgetary systems [1]. The foundation of these achievements lies in the intensive development of e-government within BRICS+.

The Kyrgyz Republic actively cooperates with BRICS+ and is interested in adopting its advanced practices in regulating intergovernmental fiscal relations through the development of e-government. The importance of advancing the financial economy in the Kyrgyz Republic is explained by the need to rationalize expenditures across all levels of the national budgetary system, as well as to increase revenues in order to fully meet the needs of the country's regulatory apparatus [2].

The relevance of BRICS+ experience for the Kyrgyz Republic is further highlighted by the fact that fiscal balance in BRICS+ member states is achieved through comprehensive budget financing and the successful implementation of planned national economic development programs (unlike their curtailment in many other countries), while at the same time avoiding a significant increase in the tax burden on economic actors (in contrast to practices in several other parts of the world) [3–5].

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The Kyrgyz Republic is currently at an intermediate stage in the formation of its national e-government system, where learning from international experience allows it to avoid mistakes and maximize the benefits of this system. The existing literature identifies several key components of e-government: the strength of governmental institutions, as reflected in [6]; the progressiveness of e-government technologies, as noted in [7]; and the reliability of e-government data and infrastructure, as emphasized in [8].

At the same time, the significance of these components for the efficiency of intergovernmental fiscal regulation in the Kyrgyz Republic and in BRICS+ remains largely unexplored and undefined in the available literature, constituting a research gap. This circumstance has defined the purpose of the present study – namely, to develop scientific and practical recommendations for improving the regulation of intergovernmental fiscal relations in the Kyrgyz Republic through the development of e-government, drawing on the experience of BRICS+.

Materials and Methods

The variables examined in this article are statistical indicators from WIPO [9] that characterize the efficiency of intergovernmental fiscal regulation: stability of the budgetary and financial system (ERMO1), efficiency of the public administration of the financial economy (ERMO2), quality of financial economy regulation (ERMO3), and legitimacy of financial economy regulation (ERMO4).

The first step of this study is to compare the efficiency of intergovernmental fiscal regulation and the level of e-government development (strength of public institutions – UREP1, technological progressiveness – UREP2, and reliability of data and infrastructure – UREP3, as assessed by Oxford Insights [10]) in the Kyrgyz Republic with the arithmetic mean for BRICS+ in 2025, based on the data presented in Table.

Efficiency of Intergovernmental Fiscal Regulation and the Level of E-Government Development in the Kyrgyz Republic and BRICS+ in 2025, Scores 1–100

Financial economy	Strength of e-government	Institutions progressiveness of e-government	Technologies reliability of e-government data and infrastructure	Stability of the budgetary and financial system	Efficiency of public administration in the financial economy	Quality of financial economy regulation	Legitimacy of financial economy regulation
Brazil	74.51	44.78	78.38	56.0	28.6	36.0	36.5
Egypt	68.98	42.13	55.77	44.7	32.3	23.1	36.3
India	73.32	50.34	64.76	58.7	53.7	40.5	47.1
Indonesia	79.86	48.06	69.64	60.0	55.4	47.2	38.4
Iran	26.54	38.82	66.29	19.3	20.9	0.0	14.7
Kyrgyzstan	34.68	24.49	50.49	28.7	20.8	25.2	10.9
China	72.90	62.95	80.18	66.7	56.9	30.8	42.6
United Arab Emirates (UAE)	83.89	59.20	83.89	78.7	77.9	69.0	67.8

Financial economy	Strength of e-government	Institutions progressiveness of e-government	Technologies reliability of e-government data and infrastructure	Stability of the budgetary and financial system	Efficiency of public administration in the financial economy	Quality of financial economy regulation	Legitimacy of financial economy regulation
Russia	72.15	45.38	76.62	13.3	25.8	11.8	9.6
Ethiopia	51.46	21.57	41.98	28.0	24.5	16.9	26.0
South Africa	54.30	39.15	65.28	46.7	40.7	37.0	44.4

Source: compiled Urmatbek A. Bidinov based on data from WIPO and Oxford Insights.

The second step of this study consists in regression modeling of the dependence of the efficiency of intergovernmental fiscal regulation (ERMO1-4) on the level of e-government development (UREP1-3) in the Kyrgyz Republic and BRICS+ in 2025. The third step is to determine the prospects for improving the regulation of intergovernmental fiscal relations in the Kyrgyz Republic by advancing its e-government system to the level of BRICS+.

Results and Discussion

The identified differences in the efficiency of intergovernmental fiscal regulation and the level of e-government development in 2025 between the Kyrgyz Republic and BRICS+ are shown in Figure 1.

In 2025, BRICS+ outpaces the Kyrgyz Republic by 89.71% in the strength of e-government institutions, by 84.72% in the progressiveness of e-government technologies, by 35.12% in the reliability of e-government data and infrastructure, by 64.49% in the stability of the budgetary and financial system, by 100.34%

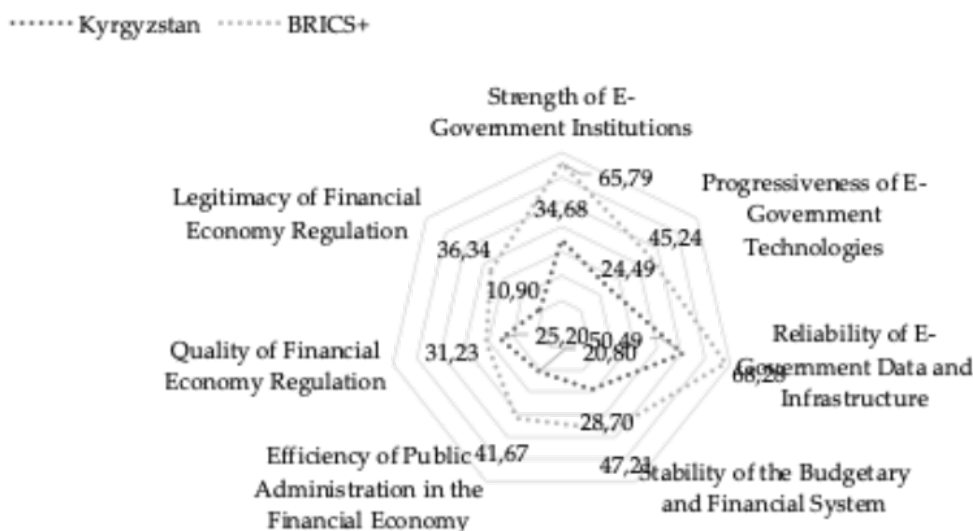


Figure 1. Efficiency of Intergovernmental Fiscal Regulation and the Level of E-Government Development in 2025

Source: calculations performed and created by Urmatbek A. Bidinov.

in the efficiency of public administration in the financial economy, by 23.93% in the quality of financial economy regulation, and by 233.39% in the legitimacy of financial economy regulation.

The regression model of the dependence of the efficiency of intergovernmental fiscal regulation on the level of e-government development in the Kyrgyz Republic and BRICS+ in 2025 consists of the following four equations:

$$\text{ЭРМО}_1 = 5,22 + 0,40\text{УРЭП}_1 + 1,33\text{УРЭП}_2 - 0,64\text{УРЭП}_3 \quad (1)$$

$$\text{ЭРМО}_2 = 1,41 + 0,26\text{УРЭП}_1 + 1,45\text{УРЭП}_2 - 0,61\text{УРЭП}_3 \quad (2)$$

$$\text{ЭРМО}_3 = -13,68 + 0,62\text{УРЭП}_1 + 0,13\text{УРЭП}_2 - 0,01\text{УРЭП}_3 \quad (3)$$

$$\text{ЭРМО}_4 = 5,78 + 0,36\text{УРЭП}_1 + 1,07\text{УРЭП}_2 - 0,61\text{УРЭП}_3 \quad (4)$$

Equations (1)–(4) demonstrated that the efficiency of intergovernmental fiscal regulation in the Kyrgyz Republic and BRICS+ in 2025 increases with the strengthening of government institutions and the transition to more advanced e-government technologies, while e-government data and infrastructure make no significant contribution to this improvement. Based on these equations, the prospects for enhancing the regulation of intergovernmental fiscal relations in the Kyrgyz Republic, drawing on the BRICS+ experience, have been identified (Figure 2).

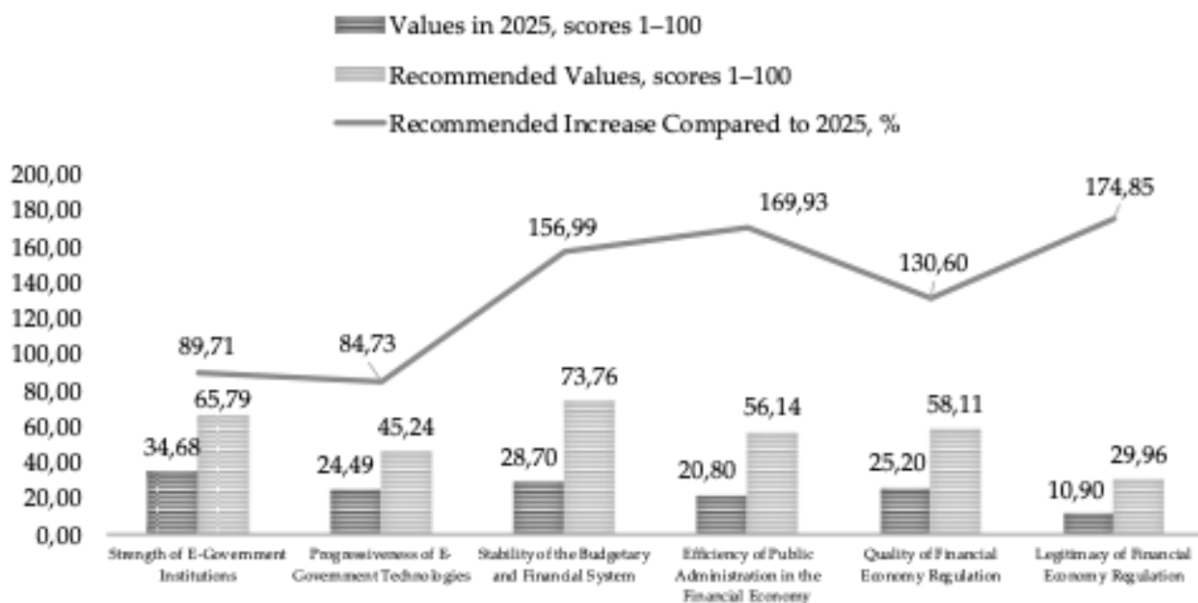


Figure 2. Opportunities for Improving the Regulation of Intergovernmental Fiscal Relations in the Kyrgyz Republic Based on the BRICS+ Experience

Source: calculations performed and created by Urmatbek A. Bidinov.

As shown in Figure 2, by raising the level of development of the two key components of the e-government system (strength of government institutions and progressiveness of e-government technologies) to the BRICS+ benchmark, the Kyrgyz Republic could achieve improvements in the stability of its budgetary and financial system by 156.99%, the efficiency of public administration in the financial economy by 169.93%, the quality of financial economy regulation by 130.60%, and the legitimacy of financial economy regulation by 174.85%.

The results obtained expand upon the existing literature [1–5] on the efficiency of intergovernmental fiscal regulation by clarifying the significance of e-government components in the Kyrgyz Republic and BRICS+. The analysis confirms the key role of the strength of government institutions (in line with [6]) and the progressiveness of e-government technologies (in line with [7]) in ensuring the efficiency of intergovernmental fiscal regulation in both the Kyrgyz Republic and BRICS+. At the same time, it refuted the earlier assumption [8] regarding the contribution of e-government data and infrastructure reliability to improving the efficiency of intergovernmental fiscal regulation in the Kyrgyz Republic and BRICS+.

Conclusions

The main results of this article are the quantitative measurement of the extent to which BRICS+ outpaces the Kyrgyz Republic in terms of the efficiency of intergovernmental fiscal regulation and the level of e-government development in 2025, as well as the construction of a model capturing the dependence of intergovernmental fiscal regulation efficiency on the level of e-government development in the Kyrgyz Republic and BRICS+ in 2025.

The overall conclusion of the study is that the development of e-government, drawing on the BRICS+ experience, will enhance the regulation of intergovernmental fiscal relations in the Kyrgyz Republic. To achieve this, it is recommended to focus primarily on strengthening government institutions and transitioning to more advanced e-government technologies.

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Совершенствование регулирования межбюджетных отношений в Кыргызской Республике посредством развития электронного правительства по опыту БРИКС+

У.А. Бидинов 

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Аннотация. Исследование посвящено разработке научно-практических рекомендаций для совершенствования регулирования межбюджетных отношений в Кыргызской Республике посредством развития электронного правительства по опыту БРИКС+. Проведенный экономико-статистический анализ позволил количественно оценить, насколько БРИКС+ опережает Кыргызскую Республику по эффективности регулирования межбюджетных отношений (в среднем на 105,54 %) и уровню развития электронного правительства (в среднем на 69,89 %) в 2025 г. С помощью регрессионного анализа создана модель зависимости эффективности регулирования межбюджетных отношений и уровня развития электронного правительства в Кыргызской Республике и БРИКС+ в 2025 г. Модель выявила значимость отдельных компонентов систем электронного правительства для повышения эффективности регулирования межбюджетных отношений как в Кыргызской Республике, так и в БРИКС+. Регрессионная модель также определила возможность совершенствования регулирования межбюджетных отношений в Кыргызской Республике путем доведения уровня развития системы электронного правительства до уровня БРИКС+. В итоге сделан вывод о том, что развитие электронного правительства по опыту БРИКС+ позволит совершенствовать регулирование межбюджетных отношений в Кыргызской Республике. Для достижения этой цели рекомендовано сосредоточиться на укреплении государственных институтов и внедрении более прогрессивных технологий электронного правительства.

Ключевые слова: совершенствование регулирования, межбюджетные отношения, Кыргызская Республика, электронное правительство, опыт БРИКС+

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