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SUBSIDIES ALONE ARE NOT ENOUGH: GOVERNANCE AND AGRICULTURAL PRODUCTIVITY ACROSS COUNTRIES

Abstract

Despite the common application of agricultural subsidies to develop agriculture and increase its productivity, there is still ambiguity concerning the effectiveness of this measure based on empirical evidence. Moreover, insufficient attention has been paid to the influence of institutional quality on the efficacy of agricultural subsidy programs. The aim of this research is to test the impact of agricultural subsidies on agricultural productivity and evaluate the moderating role of government effectiveness in this relationship. The empirical approach entails the application of fixed effects regression on panel data of 20 developing nations for the period 2015 to 2023. The model is enhanced by including year fixed effects and fertilizer usage as time-varying control variables. Agricultural productivity is proxied by standardized measures of yield rates whereas government effectiveness is used as an indicator of institutional quality. In the baseline regressions, there is no statistically significant effect of agricultural producer support on cereal yields and no statistically significant effect of government effectiveness on cereal yields. The effect of the interaction of agricultural producer support and government effectiveness is found to be positive and marginally statistically significant at the 10 percent significance level. But when we introduce year dummies and fertilizer use, the interaction becomes positive but statistically insignificant. The contribution of this paper to the existing literature concerns the role of institutional quality in agricultural policy. The paper stresses the possible importance of the institutional context when assessing agricultural policy, but it also underscores the sensitivity of the moderating effect found to model specifications. Such results could give some valuable inputs to the policymakers and help future research into the institutions surrounding the agriculture subsidies schemes.

Keywords: Agricultural subsidies, agricultural productivity, government effectiveness, institutional quality, fixed-effects model, panel data, agricultural policy.

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Introduction

To begin with, agriculture is a sector of utmost significance when it comes to the development of an economy and food security. Therefore, governments often design subsidy programs for farmers to boost production efficiency and optimize the operation of the agricultural sector. Specifically, one would expect that subsidies help decrease production costs, encourage investments in innovative technologies, and increase agricultural productivity [1, 2].

At the same time, the effectiveness of agricultural subsidies remains ambiguous. According to some empirical findings, agricultural subsidies contribute to the increase in productivity and efficiency [1–3], while other scholars argue that subsidies can create various market distortions, result in the inefficiency of resource allocation, and fail to yield significant results in terms of productivity. Thus, the impact of subsidies can be affected by other factors as well.

Institutional quality could also be an important determinant for the execution of public policy programs. In this case, government effectiveness will be employed as the institutional measure to assess the quality of public service delivery, policymaking, and government commitment [4].

While there exist plenty of academic papers investigating the effect of subsidies on productivity and vice versa, not many papers address the issue of how government effectiveness affects this relationship. Previous studies mainly focus on the direct effects of subsidies without taking into consideration the influence of institutions on such effects.

Based on this situation in the area, the current research aims to examine the relationship between agricultural subsidies and productivity with a focus on the moderating effect of government effectiveness on the said link. Specifically, the analysis will employ panel data for 20 nations from 2015 to 2023 using a fixed-effects regression panel model with cluster-robust errors.

This study will make several contributions to the relevant literature. First, it will include government effectiveness as a moderating variable in the said relationship. Second, the study will provide an empirical investigation based on panel data for multiple countries. Third, the results of the paper can provide useful information for the policymakers.

Materials and methods

The connection between subsidies and agricultural productivity has received much attention in economic and agricultural policy studies. Current empirical findings suggest that subsidies positively influence production output through stimulating investments and improving production efficiency. Yet, the effectiveness of subsidies depends upon good governance and efficient policy implementation.

The relationship between public sector support and farm-level agricultural output in South Korea has been investigated by [1]. As a result, the analysis proves the hypothesis that agricultural productivity increases owing to government assistance through subsidies.

Garrone et al. [2] investigated the connection between subsidies and agricultural labor productivity in the European Union. Using panel data for 213 European regions, the authors prove that agricultural subsidies contribute to productivity growth under the Common Agricultural Policy. Yet, they state that the effect of the subsidies is regional because of different structural characteristics and institutions of European regions.

Mamun [5] looked at the connection between agricultural subsidies and productivity through international panel data. According to his findings, the impact of specific subsidies on productivity is positive and depends on the country's economic development and institutions.

Ye et al. [6] examined the link between corn subsidies and agricultural production in China. As a result, the authors found that the subsidies contribute to the efficiency improvement of resource allocation and agricultural technology.

Nevertheless, some scientists believe that agricultural subsidies are ineffective in all countries. In particular, the scholars argue that weak institutions lead to inefficient resource allocation, bureaucracy, and even corruption in the process of subsidies allocation. Consequently, current scientific literature focuses on the influence of institutional quality and specifically on government effectiveness in agricultural productivity improvement via subsidies.

According to the institutional economics approach, the effectiveness of policy interventions does not depend only on the amount of money provided but also on the quality of institutions implementing the measures. Effective governance improves transparency, accountability, and policy coordination and makes public spending more efficient. Thus, the effect of subsidies is increased owing to effective governance.

Overall, current literature demonstrates conflicting results about the relationship between subsidies and productivity in agriculture. Even though there are numerous positive findings concerning this topic, results seem to be dependent on institutional conditions. Moreover, few studies considered government effectiveness as an important determinant of agricultural policies' effectiveness. This issue is especially interesting when analyzed in a cross-national setting.

Research Gap

From the results and recommendations put forward by Bedasa et al. [7], this study examines agricultural support in relation to cereal yield. This research will analyze the effect of government subsidies on the agricultural crop yield. The researchers have stated that the use of fertilizers and improved seeds contributes to the increase in the productivity of cereals, and that further studies are required regarding the impact of agricultural supports, including that of fertilizer subsidy and agricultural input policies. Therefore, the present study attempts to analyze the effect of government subsidies on the crop yield using economic methods.

Hypothesis Development

Subsidies are extensively applied across nations as government policies that aim at improving the welfare of farmers, increasing agricultural production, improving the well-being of rural inhabitants, and ensuring food security. Based on economic principles, agricultural subsidies can reduce costs of production, increase the availability of inputs, and lead to increased investments in agriculture. Hence, agricultural subsidies are often expected to have positive impacts on the productivity of the agricultural sector.

Several empirical research have confirmed that agricultural subsidies and agricultural productivity have a positive correlation. Government subsidy programs can increase production efficiency through improved access to modern technologies, fertilizers, irrigation, and productive factors. Thus, based on these theoretical and empirical findings, we make the following hypothesis:

H1: Agricultural subsidies have positive impacts on agricultural productivity.

However, the effectiveness of agricultural subsidies depends on the institutional framework under which they are implemented. According to institutional economics theory, public policies operate more efficiently in effective governance and administration. The term government effectiveness refers to the quality of public service delivery, policy implementation capability, administrative efficiency, and credibility of government institutions.

Nations that score highly on government effectiveness have higher potential for allocating public funds more effectively, implementing subsidy programs better, and reducing corruption and inefficiencies in public administration. Such nations can more efficiently use agricultural subsidies and achieve desired outcomes and impacts. Otherwise, countries with poor governance frameworks will be less able to use subsidies efficiently, thereby reducing the effect of government policies on agricultural productivity.

Therefore, government effectiveness can increase the strength of the link between agricultural subsidies and agricultural productivity. This gives rise to the following hypothesis:

H2: Government effectiveness increases the positive correlation between agricultural subsidies and agricultural productivity.

Materials and methods

Research Design and Data

For this study, we will use the quantitative research design, specifically panel data analysis. This research design fits well because it allows for an examination of dynamic changes in agricultural subsidies, agricultural productivity, and the effect of government effectiveness as a moderating variable, while considering country differences using panel data analysis approach.

The original database included information on 29 countries/entities over the years from 2015 to 2023. However, the final data set for estimating includes only 20 countries where all the variables that are needed for an empirical study were available. This database consists of the following countries: Australia, Brazil, Canada, Chile, Colombia, Costa Rica, Iceland, Indonesia, Israel, Japan, Kazakhstan, Mexico, New Zealand, Norway, Philippines, South Africa, Switzerland, Ukraine, the UK, and the US. The final unbalanced panel data set thus includes 174 country-year observations. 17 countries have full observations during the period from 2015 to 2023, and the UK has seven observations. Moreover, observations from Kazakhstan and Ukraine were dropped due to negative or zero PSE values.

Variables Description

Dependent Variable

The dependent variable, *yield_z*, is derived from the World Bank World Development Indicators (WDI) data on the yield of cereals (indicator code: AG.YLD.CREL.KG), which was measured in kilograms per hectare. Yield of cereals serves as the indicator of agricultural productivity in this research. The *yield_z* was standardized through a pooled z-score transformation, which equals the deviation from the mean of the entire sample to the standard deviation of the entire sample.

Independent Variable

The primary independent variable is producer support in agriculture, captured in terms of the OECD Producer Support Estimate (PSE). The OECD PSE is the total annual financial gain obtained by farmers through consumer and taxpayer transfers, in money terms per year at the farm-gate level due to policies that support agriculture. The initial dataset for the PSE variable was in local currency, with different unit multipliers for each country as found in the OECD database. Since the positive PSE variable is extremely positively skewed, the PSE variable was converted into the natural logarithm, denoted *ln_subsidy*. The observations with non-positive PSE were excluded since the natural logarithm cannot be calculated for zero or negative numbers.

Moderating Variable

A moderator variable used was government effectiveness (*gov_effectiveness*). This reflects how well the government delivers its policies, how efficiently the system works, and whether it is credible to deliver on its promises.

Interaction Term

To test the influence of institutions on the effectiveness of agricultural subsidies, an interaction variable between the agricultural subsidy indicator and government effectiveness was included in the empirical model.

Econometric Model

The empirical specification used for the analysis is given below:

$$\text{yield_it} = \beta_0 + \beta_1 \ln_subsidy_it + \beta_2 \text{gov_effectiveness_it} + \beta_3 (\ln_subsidy_it \times \text{gov_effectiveness_it}) + \mu_i + \varepsilon_{it}$$

In addition to year dummies which control for any time specific factors, this extended model incorporates the use of fertilizers as a varying factor of agriculture.

where:

- ♦ *yield_it* represents agricultural productivity in country *i* during year *t*;
- ♦ *ln_subsidy_it* denotes the logarithm of agricultural subsidies;
- ♦ *gov_effectiveness_it* measures government effectiveness;
- ♦ (*ln_subsidy_it* × *gov_effectiveness_it*) represents the interaction effect between subsidies and institutional quality;
- ♦ μ_i captures unobserved country-specific effects;
- ♦ ε_{it} denotes the error term.

The inclusion of the interaction term allows us to determine whether the relationship between agricultural subsidies and productivity changes depending on the efficiency of the government.

Estimation Technique

In this research, fixed effects estimation is used to control for the existence of time-invariant unobservable country-level variables that affect agricultural productivity (Greene, 2018). Fixed effects estimation models are well suited for panel data sets involving comparisons between different countries because each country is different when it comes to structural features, including climatic conditions, agricultural practices, institutions, technology advancement, and economic systems. Through controlling for omitted variable bias due to time-invariant differences, the fixed effects approach allows for the examination of time variations within individual countries. In order to increase accuracy and robustness of inference, cluster-robust standard errors were used at the country level. In the extended specification, year fixed effects are used to capture any common shocks that occur over

time and affect all countries and fertilization is used as a time varying variable. Agricultural credit was thought of as another control variable, but the use of this control made the sample size small at 34 observations for just five countries due to lack of adequate data. For this reason, it was left out of the extended specification so as to maintain the larger 20-country sample size.

The fixed effect specification takes care of the unchanging country heterogeneity, whereas year fixed effects take care of common time shocks [8-10]. Nevertheless, such controls cannot sufficiently deal with endogeneity problem resulting from reverse causation or time varying omitted variables. Agricultural support is likely to be responsive to changes in agricultural performance. The coefficients are therefore seen as conditional relationships.

Justification for the Fixed-Effects Model

The fixed-effects specification was selected because the primary objective of the study is to examine how changes in agricultural subsidies within countries over time affect agricultural productivity. Unlike random-effects models, the fixed-effects estimator provides more consistent estimates when unobserved country-specific characteristics are correlated with the explanatory variables [3, 11-14].

Furthermore, the high proportion of country-level variance observed in the empirical model supports the appropriateness of the fixed-effects approach. Consequently, fixed-effects model is employed to control for time-invariant differences between countries, whereas the results are regarded as associational but not causal.

Results and discussion

Table 1 explains the meaning and data source of the variables used in the empirical study.

Table 1 – Variable Description

Variable	Description	Source
yield_z	Pooled standardized cereal yield (original unit: kg/ha)	World Bank WDI (AG.YLD.CREL.KG)
ln_subsidy	Natural logarithm of Producer Support Estimate (PSE)	OECD
gov_effectiveness	Government effectiveness index	Worldwide Governance Indicators

The productivity of agriculture is measured using standard agricultural yield measures, while the agricultural subsidies have been log-transformed to reduce skewness in the data. Government effectiveness is taken as an indicator of institutional quality.

Table 2 – Descriptive Statistics

Variable	Obs	Mean	Std.Dev	Min	Max
yield_z	174	0.000	1.000	-2.851	3.104
ln_subsidy	174	5.432	1.287	1.205	8.764
gov_effectiveness	174	0.215	0.873	-1.542	1.896

These descriptive statistics are presented in Table 2 below. It is clear from the results that there exists significant variability between countries and over time with respect to agricultural productivity, agricultural subsidies, and government effectiveness. Standard deviations show that the sample countries differ significantly in the above-mentioned variables, thus making it justified to use panel data methods.

Table 3 – Correlation Matrix

Variables	yield_z	ln_subsidy	gov_effectiveness
yield_z	1.000	0.118	0.093
ln_subsidy	0.118	1.000	0.267
gov_effectiveness	0.093	0.267	1.000

Correlation coefficients for the key variables under consideration show poor results. Correlations equal to 0.093, 0.118, and 0.267 suggest poor correlations between each pair and do not prove the existence of the problem of multicollinearity independently from each other. As a result, another multicollinearity test through Variance Inflation Factor (VIF) was performed. All VIFs after mean-centering variables that constitute an interaction term turned out to be lower than 2.5; average VIF was equal to 1.86.

Table 4 – Fixed-Effects Regression Results: Baseline and Extended Specifications

Variables	Model1: Baseline FE	Model 2: Two-way FE + control
ln_subsidy	0.012 (0.0642)	0.0040 (0.0678)
gov_effectiveness	-0.451 (0.4664)	-0.4295 (0.4248)
ln_subsidy × gov_effectiveness	0.0484* (0.0238)	0.0451 (0.0283)
fertilizer	-	0.00004
Country FE	Yes	Yes
Year FE	No	Yes
Observations	174	174
Countries	20	20
Within R ²	0.0144	0.0500

Note: Cluster-robust standard errors at the country level are reported in parentheses. Model 1 includes country fixed effects. Model 2 additionally includes year fixed effects and fertilizer use. $p < 0.10^*$

As shown in Table 4, the findings from the fixed-effects panel regression analysis are presented. The effect of agricultural subsidies on agricultural productivity has been found to be insignificant. Similarly, there has been no significant effect of government effectiveness on agricultural productivity. In the fixed effects regression that represents the benchmark specification, neither producer support nor government effectiveness have a statistically significant direct impact on the value of cereal yield ($\beta = 0.0122$, $p = 0.851$; $\beta = -0.4510$, $p = 0.346$). However, there is a positive and marginally significant (10%) interaction between these two independent variables ($\beta = 0.0484$, $p = 0.056$). Once the year fixed effects and fertilizer usage variables are added to the regression specification, the coefficient for the interaction remains positive and very similar in value ($\beta = 0.0451$) while being statistically insignificant ($p = 0.128$). This leads us to conclude that there is only suggestive evidence of conditional relationship between producer support and government effectiveness.

Specifically, agricultural subsidies seem to be more effective in countries where governments are effective.

Descriptive Statistics

The descriptive statistics for the variables used in the analysis are provided in Table 1 below. From the results, there is considerable variation within and between countries and years in terms of

agricultural productivity, agricultural subsidies, and government effectiveness. Based on the standard deviation values, there is substantial variability among the selected countries.

Correlation Analysis

Table 2 presents the pairwise correlation coefficients among the variables. Agricultural subsidies and government effectiveness demonstrate positive correlations with agricultural productivity. The correlation coefficients are relatively moderate, indicating no evidence of severe multicollinearity among the explanatory variables.

Regression Results

First, it should be noted that in the results of fixed-effects regression, no statistically significant impact of agricultural subsidies on agricultural productivity has been found. Furthermore, the independent effect of government effectiveness on agricultural productivity is not statistically significant as well.

Secondly, it should be mentioned that the coefficient of interaction between agricultural subsidies and government effectiveness has been found to be positive and statistically significant at the 10 percent level. Though the interaction effect captured in the baseline regression offers an initial indication of the presence of a link between the effect of producer support on cereal yield and government effectiveness, it is not statistically significant. This effect becomes statistically insignificant after accounting for time dummies and fertilizer use. Thus, it can only be considered a suggestive finding and not a conclusive one.

In addition, the lower efficiency of agricultural subsidies in countries with ineffective institutions can be explained by such negative phenomena as resource misallocation or corruption.

Furthermore, one can conclude that the model is statistically significant and thus the inclusion of such variables in the model was justified. Finally, one can state that the high value of rho shows that the major source of variation is country specific.

In conclusion, one should note that the effectiveness of agricultural subsidies does not have an independent impact on agricultural productivity. Nonetheless, the positive correlation that is present in the baseline specification implies a potential conditional impact of government effectiveness; however, this correlation is not stable in the expanded specification.

It seems that this result is consistent with institutional economics. Institutional theory claims that only within the framework of effective administration will policies be successful.

Conclusion

This paper looks at the effect of subsidies on agriculture productivity and the moderating effect of government effectiveness. Panel data from 20 different countries during the period of 2015 to 2023 were used in the study and estimation of the fixed-effect panel regression was done using cluster-robust standard errors.

As can be seen from the results, neither agricultural producer support nor government effectiveness is found to have any statistically significant direct influence on cereal output. While, in the base fixed effects regression, the interaction term between producer support and government effectiveness is positive and marginally statistically significant at 10%, once year fixed effects and fertilizer use are taken into account, this interaction becomes positive yet insignificant. Consequently, the results provide some indicative signs of conditional correlation between producer support and government effectiveness.

The implications of this research show that institutional quality plays an important role in the effectiveness of agricultural policy implementation. It is not enough for government policies to only focus on providing subsidies for productivity improvement when its own effectiveness is questionable since it will lead to inefficient allocation of subsidies and inefficiency in agricultural policy.

The findings reveal that institutional factors have to be taken into account along with financial incentives when analyzing policies supporting agriculture. However, considering the sensitive nature of the interaction effects to the model specification, such implications have to be treated cautiously.

This research paper faces several limitations. First of all, the empirical analysis is based on a sample of 20 countries and therefore limits the ability to generalize. Secondly, cereal yields are used as an indicator of agricultural productivity and can be affected by many factors like climatic ones, composition of crops, irrigations, and other factors related to agriculture. Thirdly, even though the expanded model takes into account country fixed effects, year fixed effects, and fertilizer use, endogeneity and reverse causality between agricultural policy and agriculture cannot be completely excluded from consideration. Therefore, estimates have to be treated as associations rather than causalities.

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**СУБСИДИЯЛАРДЫҢ ӨЗІ ЖЕТКІЛІКСІЗ:
ЕЛДЕР БОЙЫНША МЕМЛЕКЕТТІК БАСҚАРУ
ЖӘНЕ АУЫЛ ШАРУАШЫЛЫҒЫ ӨНІМДІЛІГІ**

Аңдатпа

Бұл зерттеудің мақсаты – ауыл шаруашылығы субсидияларының ауыл шаруашылығы өнімділігіне әсерін бағалау және осы өзара байланыста мемлекеттік басқару тиімділігінің модераторлық рөлін анықтау. Ауыл шаруашылығын дамыту және оның өнімділігін арттыру мақсатында субсидиялар кеңінен қолданылғанына қарамастан, эмпирикалық зерттеулер олардың тиімділігіне қатысты біржақты қорытынды ұсынбайды. Сонымен қатар, институционалдық сапаның ауыл шаруашылығын субсидиялау бағдарламаларының нәтижелілігіне тигізетін әсеріне жеткілікті көңіл бөлінбеген. Эмпирикалық талдау 2015–2023 жж. аралығындағы 20 дамушы елдің панельдік деректеріне негізделіп, тіркелген әсерлер регрессиясы әдісі арқылы жүргізілді. Модель жылдық тіркелген әсерлер мен уақыт бойынша өзгеретін бақылау айнымалысы ретінде тыңайтқыштарды пайдалану көрсеткішін енгізу арқылы толықтырылды. Ауыл шаруашылығы өнімділігі дәнді дақылдар өнімділігінің стандартталған көрсеткіштері арқылы өлшенді, ал мемлекеттік басқару тиімділігі институционалдық сапаның көрсеткіші ретінде пайдаланылды. Базалық регрессиялық модельдерде ауыл шаруашылығы өндірушілерін қолдау деңгейінің дәнді дақылдар өнімділігіне статистикалық тұрғыдан маңызды әсері анықталған жоқ. Сондай-ақ мемлекеттік басқару тиімділігінің дәнді дақылдар өнімділігіне тікелей әсері де статистикалық тұрғыдан маңызды болмады. Ауыл шаруашылығы өндірушілерін қолдау деңгейі мен мемлекеттік басқару тиімділігінің өзара әрекеттесу әсері оң сипатқа ие болып, 10% маңыздылық деңгейінде шекті статистикалық мәнділік көрсетті. Алайда модельге жылдық фиктивті айнымалылар мен тыңайтқыштарды пайдалану көрсеткіші енгізілгеннен кейін өзара әрекеттесу коэффициенті оң мәнін сақтағанымен, статистикалық маңыздылығын жоғалтты. Зерттеудің ғылыми үлесі ауыл шаруашылығы саясатын бағалау барысында институционалдық сапаның рөлін қарастырумен байланысты. Зерттеу нәтижелері ауыл шаруашылығы саясатының тиімділігін бағалау кезінде институционалдық ортаның ықтимал маңызын көрсетеді, сондай-ақ анықталған модераторлық әсердің модель спецификациясына сезімтал екенін айқындайды. Алынған нәтижелер саясат әзірлеушілер үшін пайдалы әрі ауыл шаруашылығын субсидиялау жүйесінің институционалдық негіздерін зерттеуге бағытталған болашақ жұмыстарға негіз бола алады.

Түйін сөздер: ауыл шаруашылығы субсидиялары, ауыл шаруашылығы өнімділігі, мемлекеттік басқару тиімділігі, институционалдық сапа, тіркелген әсерлер моделі, панельдік деректер, ауыл шаруашылығы саясаты.

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ОДНИХ СУБСИДИЙ НЕДОСТАТОЧНО: КАЧЕСТВО ГОСУДАРСТВЕННОГО УПРАВЛЕНИЯ И ПРОИЗВОДИТЕЛЬНОСТЬ СЕЛЬСКОГО ХОЗЯЙСТВА В РАЗНЫХ СТРАНАХ

Аннотация

Цель данного исследования – оценить влияние сельскохозяйственных субсидий на производительность сельского хозяйства и определить модераторную роль эффективности государственного управления в этой взаимосвязи. Несмотря на широкое применение сельскохозяйственных субсидий для развития аграрного сектора и повышения его производительности, эмпирические данные по-прежнему не дают однозначного ответа относительно эффективности данной меры. Кроме того, недостаточное внимание уделяется влиянию институционального качества на результативность программ субсидирования сельского хозяйства. Эмпирический анализ основан на применении регрессии с фиксированными эффектами к панельным данным 20 развивающихся стран за период 2015–2023 гг. Модель дополнена годовыми фиксированными эффектами и использованием удобрений в качестве изменяющейся во времени контрольной переменной. Производительность сельского хозяйства измеряется с помощью стандартизированных показателей урожайности зерновых культур, а эффективность государственного управления используется как показатель институционально-

го качества. В базовых регрессионных моделях не выявлено статистически значимого влияния поддержки сельскохозяйственных производителей на урожайность зерновых культур. Эффективность государственного управления также не оказывает статистически значимого прямого влияния на урожайность. Взаимодействие между поддержкой сельскохозяйственных производителей и эффективностью государственного управления имеет положительный коэффициент и является предельно статистически значимым на уровне 10%. Однако после включения годовых фиктивных переменных и использования удобрений данный эффект остается положительным, но становится статистически незначимым. Научный вклад статьи заключается в рассмотрении роли институционального качества при оценке сельскохозяйственной политики. Работа показывает потенциальную значимость институциональной среды для эффективности аграрных мер поддержки, одновременно подчеркивая чувствительность выявленного модераторного эффекта к спецификации модели. Полученные результаты могут быть полезны для разработчиков государственной политики и стать основой для дальнейших исследований институциональных условий реализации программ субсидирования сельского хозяйства.

Ключевые слова: сельскохозяйственные субсидии, производительность сельского хозяйства, эффективность государственного управления, институциональное качество, модель с фиксированными эффектами, панельные данные, аграрная политика.