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Impact of tax policy on the development of agrarian enterprises and organisations

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► **Abstract.** The purpose of this study was to analyse the role of tax policy in the agricultural sector to determine its impact on innovative development, investment decisions, and competitiveness of enterprises in this area. The study performed a comparative analysis of various aspects of tax regulation, review of taxation instruments, consideration of special tax regimes in such countries as the USA, Germany, France, Spain, Poland, and Kyrgyzstan. The study investigated various aspects of tax regulation that have direct and indirect impact on the functioning of the agricultural sector. The role of tax policy in stimulating investment and development in agriculture by providing tax incentives and subsidies for investment in innovative technologies, process mechanisation, and research was examined. Special tax regimes aimed at supporting agricultural enterprises were analysed, and examples of tax policies in different countries, including the USA, the European Union, China, India, and Kyrgyzstan, were provided. The state of agricultural development in Kyrgyzstan was reviewed, and the main challenges, government support measures, and the main land tax rates across the country were identified. The key point was to develop recommendations for improving the tax system to stimulate agricultural development derived from the synthesis method. This involves the introduction of tax exemptions and investment incentives, differentiation of tax rates depending on segments and regions of agriculture, stakeholder consultations, simplification of tax administration, and attraction of foreign

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investment through special tax regimes. Concrete examples were also given of large agricultural enterprises in different countries where improved tax policies can contribute to the development and efficiency of their operations

► **Keywords:** tax regulation; agriculture; state support; tax system; economic stability; investment climate; legislation

► Introduction

Agriculture plays a significant role in economic development and food security. It not only provides food, but also creates jobs, supports rural communities, and contributes to social stability. In the face of contemporary challenges such as climate change, population growth, and global economic instability, the significance of agriculture is increasing, requiring adaptation and increased competitiveness in the global market. However, agrarian enterprises often face challenges related to tax policy. Tax liabilities can substantially affect the financial condition of agricultural organisations, their investment decisions and competitiveness. High tax rates, complex taxation procedures and uncertainty in tax laws may hinder the development of the industry. Specific tax regimes, such as land and property taxation, can create additional pressures without considering the specific features of agricultural businesses. An intelligently designed tax system can have a positive impact on agriculture. It can stimulate investment, increase productivity, and contribute to the modernisation of the industry. Tax incentives and subsidies for investment in modern technology and innovation can help agricultural enterprises improve production processes and use resources efficiently. Understanding the impact of tax policy on agrarian enterprises is critical to ensure sustainable agricultural development. Analysing this impact is essential both for the scientific community and for practical decisions in agriculture and the wider economy.

Some researchers emphasise that tax policy plays a key role in shaping the economic environment for agrarian enterprises. Thus, U. Mirlanbek *et al.* (2023) and J. Spicka *et al.* (2019) note that high tax rates can have a negative impact on investment in agriculture, limiting the opportunities for growth and modernisation of this industry. In the same context, A.P. Barnes *et al.* (2019) discuss that effective taxation can incentivise investment in agricultural technology and productivity improvements that promote sustainable development of the agricultural sector. However, Z. Liu *et al.* (2021), N. Beishenaly & F. Dufays (2023) analysed and concluded that complex tax structures and unclear tax laws can place additional burdens on agrarian enterprises and limit their growth opportunities. S. Acosta-Ormaechea *et al.* (2019) addressed the considerable differences in tax policies between different countries and regions, which can lead to unequal competitive conditions for agricultural enterprises. On the other hand, O.A. Oladipo *et al.* (2019) proposed a model based on the principle of taxation according to the level of income of agrarian enterprises, which they argue can promote more efficient utilisation of tax resources and equitable distribution of tax burden in the agricultural sector. F. Hermans *et al.* (2019) and A. Sridhar *et al.* (2023) also identified the significance of tax incentives in fostering innovation in the agricultural sector. Their findings showed that tax incentives and subsidies can stimulate investment in agricultural research and development. J. Alm (2019) showed that transparent and efficient tax administration can help

reduce administrative costs for businesses and enable them to operate more efficiently.

Overall, the analysis of the cited research findings demonstrates the complexity of the relationship between tax policy and the development of agrarian enterprises. Complex tax structures and unclear tax laws can create additional challenges for agrarian enterprises and limit their growth opportunities. Tax incentives and benefits can promote innovative growth, while transparent and efficient tax administration can reduce administrative costs for enterprises (Omurgazieva, 2024a; 2024b). Despite a considerable number of studies on the impact of tax policy on agrarian enterprises, the following aspects stay unexplored or understudied: the impact of tax reforms on the agrarian sector, including analyses of changes in tax rates, benefits, and subsidies; tax competition between different regions and their impact on the competitiveness of agrarian enterprises; the effectiveness of various tax incentives and benefits for agrarian enterprises in terms of their impact on investment, innovation, and sustainability; and the effectiveness of tax incentives and benefits for agrarian enterprises.

The purpose of this study was to provide a comprehensive analysis of tax policy in the agricultural sector to identify its effectiveness, equity, and implications for the status, investment, innovation, and competitiveness of agricultural organisations. The objectives of the study included analysing the effectiveness of existing tax mechanisms on agrarian enterprises and examining the effectiveness of tax incentives to develop more effective tax regulation strategies in the agricultural sector.

► Materials and methods

This study analysed a wide range of legislation, tax codes, and official documents relating to this industry in countries such as the USA, Germany, France, Spain, Poland, and Kyrgyzstan to examine existing tax policies in agriculture. The analysis was conducted to identify general trends, similarities, and differences between countries in their approach to taxation of agricultural enterprises. For a more comprehensive coverage of the situation in global agriculture, data on tax policies of several countries were examined, including the United States, European Union countries (France, Germany, Spain, and Poland), China, and India (OECD, 2020). The analysis of tax liabilities and incentives in agriculture has revealed the diversity of tax instruments used in different countries and their impact on the economic development of the rural sector. These data provided the basis for further analytical review and drawing conclusions on the role of tax policy in agriculture.

Synthesis and comparative analysis methods were employed to better understand the impact of tax policy on agriculture. The synthesis was employed to draw conclusions on how tax policy can stimulate the development of the agricultural sector and to develop recommendations for governments and other stakeholders to improve tax policy.

A comparative analysis of tax policies applied in different countries has revealed the key principles and objectives that guide these countries in the development of their tax policies in the context of agriculture. Both general strategies and specific measures aimed at stimulating the development of the sector and ensuring its sustainability and competitiveness were explored. Special attention is paid to income tax, land tax, property tax, and value added tax. These tax instruments are the key components of the agricultural tax system and have a direct impact on the financial condition and functioning of agricultural enterprises.

The use of the system analysis method provided a comprehensive review of tax policy, considering its interaction with other factors such as government regulation and economic conditions. The decomposition method made it possible to examine in detail the individual elements of tax systems, identify their features, and evaluate them from the standpoint of their impact on agriculture. For completeness of the analysis of the role of tax policy in agricultural development, the agricultural sector of Kyrgyzstan and its tax policy were also analysed. Official data, including laws and regulations (Tax Code of the..., 2022), statistical reports and data (Finance, n.d.; GDP by types of..., n.d.) provided by relevant national agencies and organisations were used. The analysis covered the period from 2012 to 2023 and was conducted to identify general trends. The analysis of the agrarian sector of Kyrgyzstan and its tax policy helped to identify the specific features of the functioning of this industry in the conditions of the country, as well as to assess the impact of tax measures on its development.

Examples of large agricultural enterprises from various countries were considered, namely Cargill in the USA, Amul in India, and Les Jardins De Creances in France. The US has one of the most developed agricultural economies in the world, and Cargill is one of the largest agribusinesses, allowing for a detailed examination of the impact of tax policy on high-intensity agriculture. India, in turn, is an example of a developing country with a massive agricultural sector, and Amul, one of the largest cooperatives, demonstrates how fiscal policy can support or hinder agricultural development in the face of a growing population and limited resources. France, being one of the leading agricultural producers in Europe, provides an interesting case study to analyse through Les Jardins De Creances. This company illustrates how European fiscal policy and support can contribute to the development of quality and sustainable agriculture.

► Results

The role of tax policy in the development of the agricultural sector is significant and multidimensional. This sector, which plays a key role in food security and socio-economic development, is dependent on tax regulation, which has direct and indirect effects on its functioning. Fiscal policy can stimulate investment and development in the agricultural sector through tax incentives or subsidies for modern technologies, mechanisation and research, which helps to increase productivity and competitiveness of agricultural production (Lencucha *et al.*, 2020). By regulating taxes on exports and imports of agricultural products, the state can influence the price dynamics and incomes

of agricultural enterprises. Special tax regimes, reduced tax rates or exemptions from certain taxes can support SMEs, contributing to their development and reducing inequality in the sector. Tax policies should also ensure that the tax burden is equitably distributed among agrarian enterprises of varied sizes and forms of ownership, thereby contributing to a balanced development of the sector and reducing socio-economic inequalities (Van Kooten *et al.*, 2018). The key tax instruments, such as profit tax on agricultural enterprises, land tax, property tax, and value added tax (VAT), play an essential role in the formation of financial resources of enterprises. These instruments regulate agricultural markets and ensure sustainable rural development. Special tax regimes with reduced tax rates or exemptions aim to support and develop the agricultural sector, increasing its competitiveness and sustainability (MacPherson *et al.*, 2022). Thus, tax policy in agriculture is a complex system of tax obligations and benefits aimed at supporting and developing the agricultural sector. These tax instruments form the financial resources of enterprises, regulate agricultural markets, and ensure sustainable development of rural areas.

The tax system in the agricultural sector of each country is a key instrument of state policy aimed at supporting and developing agriculture. However, there are considerable differences in the tax systems of different countries due to the economic, social, and political characteristics of each country. In the United States, for instance, taxation of the agricultural sector includes taxes on farm profits, land, and property taxes. The US has a progressive income tax system, which means that the amount of tax payments depends on the level of income received. For instance, for income over \$407,000 per year, the tax rate is 40% of the amount earned. A 35% rate applies for income between \$200,000 and \$407,000 and a 33% rate applies for income between \$113,000 and \$200,000. The rate of income tax on agricultural land depends on its productivity, which leads to the calculation of estimated yields for different soil types. It also requires the payment of property taxes, which can be costlier than income taxes in different states (Moravec *et al.*, 2019). For instance, in New York State, a farm of 8 acres (3.24 ha) costs USD 27,000 annually. Meanwhile, a ranch in Texas covering 1,570 acres (635 ha) could be worth USD 70,000 a year without special tax deductions. This taxation system provides the state with considerable revenues that can be used to support agriculture and rural development (Milk taxes: How..., 2017).

Taxation in the agricultural sector of the European Union is a diverse system of tax obligations that reflects the economic, social, and political characteristics of each country. Various taxes are applied in EU countries, such as agricultural income tax, land or property tax, environmental taxes, and VAT. In Germany, for example, agricultural companies can pay corporate tax from 15%. For small farmers with low incomes, there is a simplified procedure for assessing taxable income (flat rate method). They may be entitled to an exemption from a certain part of income tax or to reduced tax rates depending on the volume of production. There is a reduced municipal tax rate for agricultural land: up to 1.2% for agricultural land and 2.4% for other land. Farmers are entitled to a "flat rate" system of value-added tax. They can apply a flat rate of 10.7% to

their sales to compensate them for VAT. Farmers enjoy favourable tax rates on electricity and mineral oils and gases. The agricultural diesel tax refund makes provision for the imposition of a tax of EUR 255.6 on agricultural operations for every 1,000 litres of diesel. The tax on fuel for agricultural purposes is set at a lower level (Jantke *et al.*, 2020). There are no tax incentives for research and development or innovation in Germany.

A comparable situation is observed in France, which has special tax regimes that provide incentives for agricultural enterprises. Business profits of individual farmers or partnerships can be taxed under two tax regimes: under the micro-BA scheme (a form of income smoothing) and using actual revenue. Other partnerships are taxed using actual revenue. Local governments, including departments and municipalities, levy taxes on property acquisitions. These taxes are added to the sale price and paid by the buyer. The applicable rate is set at 5.09%, however, in practice, most local authorities charge an overall tax rate of 5.8%. The purchase of rural structures such as buildings and agricultural land that are leased by farmers is subject to transfer duty at a reduced rate of 0.75% (Facchini, 2024). For agricultural inputs such as fertilisers and phytosanitary products, the standard VAT rate of 20% applies. However, there are reduced rates that apply to certain types of fertilisers and unprocessed products. A reduced rate of EUR 188.2 per 1,000 litres has been set for diesel fuel used in agricultural and construction machinery and public transport. Organic farmers who derive at least 40% of their revenue from organic farming following EU rules have tax benefits. The general tax on polluting activities includes several taxes related to environmental impact and ranges within EUR 0.90-9 per kg. It applies to companies whose activities or products are considered a source of pollution, such as waste, emissions, lubricating oils, detergents, and extraction materials.

Spain and Poland also apply income taxes, property taxes, environmental taxes, and VAT. However, each of these countries has its specific features of tax regulation aimed at ensuring sustainable development of the agricultural sector. In Spain, the state can provide subsidies or loans for the purchase of agricultural machinery and equipment, which helps agricultural enterprises to modernise their operations and increase productivity (Fernández-Rodríguez *et al.*, 2019). In Poland, tax incentives are available for research and development (R&D) to fully offset eligible costs that can be deducted from the tax base. The list of eligible R&D expenditures is extended to include the following: salaries of researchers, purchase of scientific equipment and materials needed for research, as well as patent registration costs and amortisation of fixed assets (Bórawski *et al.*, 2019). In developing countries such as China and India, agricultural taxation plays a significant role in ensuring the financial sustainability of agrarian enterprises and promoting rural development. Unlike previous countries, they do not pay income tax. The Chinese government is actively developing tax incentive and subsidy programmes for agricultural enterprises to promote agricultural development and ensure food security. These programmes may include compensation for agricultural losses, subsidies for the purchase of agricultural equipment and machinery, and preferential

credit terms for agricultural business development (Liu & Mao, 2019). India has various government support programmes for agricultural enterprises, including subsidies on seed, fertiliser and farm equipment, soft loans for agricultural producers, and rural infrastructure development programmes (Bathla *et al.*, 2019).

Agriculture plays a key role in the Kyrgyz economy, accounting for a considerable part of the gross domestic product and providing employment for a large part of the population. Figure 1 shows the share of agriculture in the gross domestic product (GDP) of Kyrgyzstan.



Figure 1. Share of agriculture in Kyrgyzstan's GDP from 2012 to 2023, %

Source: Finance (n.d.)

From 2012 to 2019 as well as from 2021 to 2023, the share of agriculture gradually decreased. However, agriculture is still a significant sector for the Kyrgyz economy and its development could be valuable for food security and sustainable economic growth. There is potential for growth and modernisation of agriculture in the country if relevant measures are taken to improve infrastructure, access to finance and technological innovation. The agricultural sector in this country faces a series of challenges and problems that limit its development. One of the key challenges for agriculture in Kyrgyzstan is the lack of modern technology and infrastructure. Many agricultural enterprises in the country continue to use conventional methods of land cultivation and production, which reduces the productivity and competitiveness of the industry. The problem for agriculture is insufficient funding and access to loans. Many small and medium-sized agricultural enterprises face constraints in obtaining finance to expand production or modernise equipment. Agriculture in Kyrgyzstan is exposed to climatic and natural factors such as climate change, droughts, and floods, which can reduce crop yields and lead to losses for agricultural enterprises. Despite these challenges, Kyrgyzstan's agriculture has the potential for development and modernisation. Taking steps to improve infrastructure, access to finance, and technological innovation can help increase agricultural productivity and efficiency, as well as rural incomes. The creation of an effective and adapted tax policy, considering the specifics of agriculture in Kyrgyzstan, is an integral component of the industry development strategy. It is necessary to ensure a balance between the tax liabilities of agricultural enterprises and their financial capacity, considering both current needs and growth prospects.

The Kyrgyz government provides a variety of support measures for agriculture, including interest rate subsidies and reduced tax liabilities. Under these measures, farmers applying for loans from partner banks for agriculture can avail lower interest rates. Furthermore, farmers are exempted from paying taxes such as value added tax, income tax, and turnover tax. Instead, they are only liable to pay land tax. Kyrgyzstan's agriculture is

characterised by specific taxation features, which are related to natural and climatic conditions, seasonality, as well as low profitability and irregular revenues. Because of this, the agricultural tax system partially accommodates the above features and Kyrgyzstan applies a simplified form of land taxation. Table 1 presents the basic rates of land tax for the use of agricultural land by region in some districts of Kyrgyzstan.

Table 1. Current basic tariffs on land tax for the use of agricultural land in the regions of Kyrgyzstan, KGS/ha

Region and district	Arable land		Perennial plantings	Hayfields	Pastures, fallow lands
	Irrigated land	Dryland			
Batken region					
Batken district	268	41.3	149	–	7.7
Leilek district	268	41.3	149	24.3	7.7
Kadamjai district	275	41.3	150	24.3	12.7
Jalal-Abad region					
Aksy district	306	56.7	193	15.9	13.6
Bazar-Korgon district	414	41.3	220	30.9	15.4
Toguz-Toruu district	223	62.3	–	33	12.9
Chatkal district	194	62.3	–	26.5	12.9
Issyk-Kul region					
Ak-Suu district	373	87.5	173	30.4	10.6
Issyk-Kul district	280	68.8	155	23.8	7.7
Tyup district	379	87.5	174	29.1	15
Naryn region					
At-Bashy district	191	54.3	–	21.7	4.5
Kochkor district	215	37	–	25.1	4.5
Naryn district	196	54.3	–	21.1	5.3
Osh region					
Alai district	232	62.3	–	27.7	5.3
Kara-Suu district	453	41.3	246	27.9	12
Uzgen district	413	62.3	235	33.7	13.9
Talas region					
Bakai-Ata district	318	52.5	164	–	7.4
Aitmatovsky district	350	36.4	165	11.2	4.8
Talas district	297	52.5	164	11	4.8
Chui region					
Alamudun district	400	56.5	209	23.1	10.8
Ysyk-Ata district	400	74.2	213	29.7	10.8
Kemin district	354	80.5	211	29.7	10.8
Chui district	400	74.9	211	32.4	10.8

Source: Tax Code of the Kyrgyz Republic No. 3 (2022)

Analogous basic land tax rates apply to different categories of land, such as household plots, homestead and garden land, as well as settlement and non-agricultural land. However, these rates change periodically depending on various natural, economic, social, and environmental factors. The use of fixed tax rates may create some

difficulties in collecting tax revenues due to lack of customisation to specific land parcels and remoteness from markets. Specifically, such rates do not factor in the quality of land resources and their proximity to potential markets. This results in varying degrees of tax burden on different sectors of the economy, with the lowest in agriculture (Fig. 2).

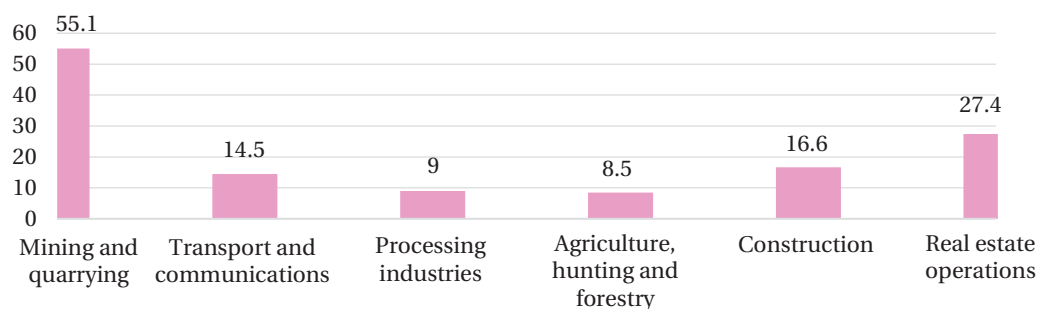


Figure 2. Level of tax burden from total costs by types of economic activity, %

Source: GDP by types of economic activity in current prices (n.d.)

Kyrgyzstan also has a property tax on the purchase of vehicles used in agriculture. The basic tax value for self-propelled machines and mechanisms such as tractors and combines used in agricultural production depends on the period of use. If the service life is up to 15 years, the tax rate is KGS 10 per cm³ of engine displacement. In case of 15 years or more, the tax rate is KGS 5 per cm³ of engine displacement (Tax Code of the..., 2022). Improvement of the tax system plays a significant role in stimulating agricultural development and increasing its efficiency. Several concrete recommendations can be made within the framework of this process. The introduction of tax exemptions and investment incentives for agricultural development is an important measure to attract investment and improve the efficiency of the sector. Providing tax credits for investment in modern technologies can incentivise agricultural enterprises to innovate and increase productivity. Depreciation incentives to replace obsolete equipment will allow agricultural enterprises to renew their production capacity, which will reduce costs and increase competitiveness. Furthermore, subsidies for infrastructure development, such as irrigation and drainage systems, will help agricultural enterprises improve yields and land use efficiency, which contributes to sustainable agricultural development and food security.

To optimise and improve the effectiveness of existing tax benefits and subsidies for agrarian enterprises, it is necessary to revise their conditions and criteria for granting them. It is important to make these benefits more accessible and tailored to the concrete needs of agricultural enterprises. One possible step is to simplify the process of obtaining benefits so that agricultural producers can take advantage of them more quickly and easily. Furthermore, it is vital to revise the terms and conditions of subsidies so that they are better aligned with modern challenges and needs of agriculture, such as the introduction of modern technologies, the development of sustainable agriculture and increased productivity. In addition, transparency and effectiveness of mechanisms for controlling the use of subsidies should be ensured to guarantee their targeted use and minimise the risks of corruption. Improving tax administration and reducing bureaucratic barriers for agricultural enterprises play a significant role in supporting agricultural development. This involves the introduction of measures aimed at simplifying tax reporting procedures, reducing administrative costs, and increasing the transparency of the tax system. One of the key steps could be to revise and simplify the tax filing process for agricultural

producers, making the procedure more accessible and understandable. Furthermore, it is important to reduce administrative barriers, for instance, by reducing the number of required documents and simplifying the process of interaction with tax authorities.

Creating an attractive investment environment for foreign investors in the agricultural sector plays a key role in stimulating the development of this sector and the inflow of capital and innovative technologies. To achieve this goal, it is important to introduce special tax regimes that will provide investors with certain benefits and preferences depending on the volume and duration of investments. It is also necessary to provide investment guarantees that will protect investments and reduce risks for foreign investors. It is essential to provide incentives for capital investment, such as tax credits and subsidies for investment projects in the agricultural sector. Simplification of the procedures for obtaining tax incentives for foreign investors is also a crucial step to create an attractive investment environment. Overall, these measures will attract more foreign investment in the agricultural sector and contribute to its growth and modernisation. Consultation with stakeholders, including agricultural organisations and entrepreneurs, is a key mechanism for identifying needs and proposals for tax system improvements specifically tailored to the needs of the sector. These consultations can gather information on current tax problems faced by agricultural businesses and find potential areas for improvement. Large farms, such as Cargill in the US, can take advantage of tax credits for investments in modern technology and equipment. For instance, tax credits for the purchase of energy efficient equipment can considerably reduce the initial costs of modernisation. This contributes to increased productivity, as new equipment is often faster and more efficient than outdated models. Modern technology can also reduce production costs by saving resources, reducing scrap, and improving product quality. Thus, improved tax conditions allow companies to increase production, expand their product range, and improve their competitiveness in internal and external markets.

Amul, a large agricultural enterprise in India, represents a significant element in the dairy industry. Improved tax policies, such as tax incentives for the purchase of modern equipment for dairy production or property tax reductions, can attract additional investment in infrastructure and technological upgrades. These measures will not only increase the efficiency of milk production, but also contribute to improving product quality and

expanding the product range. Modern equipment allows for more precise control of pasteurisation and packaging processes, which increases the shelf life of products and reduces the risk of losses. As a result, the company strengthens its competitiveness in the dairy products market.

Les Jardins De Creances fruit and berry farm in France is a major player in the fresh fruit and vegetable market. Reducing tax rates on exports can lower financial barriers, which encourages active promotion of products to international markets. This allows the company to set more competitive prices and expand its customer base abroad. Furthermore, providing incentives for the development of irrigation and storage systems can improve the quality and durability of produce. Such measures include tax credits for the installation of drip irrigation and the construction of modern storage facilities, which helps to preserve the freshness of produce and minimise losses during transport. The introduction of tax credits for innovation and sustainable farming practices can further incentivise the adoption of modern technologies such as biological plant protection and organic farming, which improves the environmental sustainability of the enterprise and attracts environmentally conscious consumers.

Overall, improving the tax system to stimulate agricultural development requires a comprehensive approach and careful analysis of existing mechanisms. This can contribute not only to the growth of agricultural production and exports, but also to the improvement of the living standards of rural residents and the overall economic development of the country.

► Discussion

The role of tax policy in the development of the agricultural sector is integral and multifactorial. The sector, which plays a key role in food security and socio-economic development, is highly dependent on tax regulation, which has direct and indirect effects on its functioning. Tax policy can serve as a means of stimulating investment and development in the agricultural sector. The provision of tax incentives or subsidies for investment in new technologies, process mechanisation or research by the government can create favourable conditions for the growth and modernisation of agricultural enterprises. Such measures contribute to increasing the productivity and competitiveness of agricultural production. H. Hu *et al.* (2021), J. Beckman & A.M. Countryman (2021) have emphasised the economic aspects of tax policy in the agricultural sector in their studies. They analysed the impact of changes in tax rates and incentives on the profitability of agricultural enterprises and their investment decisions. The results of the present and the cited studies coincide in that both focus on the economic aspects of tax policy in the agricultural sector and its impact on the profitability of agricultural enterprises. Both studies conclude that supporting investment and reducing the tax burden can boost agricultural production and improve its competitiveness.

The introduction of taxes on exports or imports of agricultural products allows the state to influence price dynamics on both world and internal markets. This can affect output, supply and demand, and farm incomes. One of the key aspects of tax policy in the agricultural sector is the support of small and medium-sized enterprises.

Introduction of special tax regimes, reduction of tax rates or exemption from certain tax obligations can be undertaken to support this category of enterprises. This favours their survival and development and reduces inequalities in the sector. M.H. Ehlers *et al.* (2021) focused on the social aspects of tax policy in the agricultural sector, specifically on its impact on different sectors of society, including small and medium-sized agrarian enterprises and rural residents. D. Varshney *et al.* (2021) analysed what tax measures can influence the level of social inequalities and what tax policy instruments can be used to support small farmers and rural populations. Unlike the present study, which focuses more on general analyses of tax policies in different countries, cited study is more focused on the social consequences of these policies. The researchers considered the accessibility of credit and finance for rural people, and explored what tax measures could help reduce social inequalities in rural communities.

Tax policy should ensure a fair distribution of the tax burden among agrarian enterprises of varied sizes and forms of ownership. Progressive tax rates or tax incentives can contribute to a more balanced development of the sector and reduce socio-economic inequalities. Tax policy in the agricultural sector is a key instrument of state regulation and includes a wide range of tax obligations and benefits aimed at stimulating the development of the industry. The key tax instruments include profit tax on agricultural enterprises, land tax, property tax, and VAT on agricultural products and foodstuffs. Special tax regimes that provide reduced tax rates or exemption from certain tax obligations for agrarian enterprises also play a vital role. U. Shahzad (2020), P. Dupraz & H. Guyomard (2019) focused on the environmental aspects of tax policies in the agricultural sector and investigated which tax measures can help reduce the negative environmental impacts of agriculture and encourage the adoption of sustainable farming practices. The cited study complements the present study by enriching it with an ecological perspective, while the latter concentrates more on the economic aspects of tax policy in the agricultural sector.

There are considerable differences in the tax systems of different countries conditioned by the economic, social, and political characteristics of each country. For instance, in the United States, taxation of the agricultural sector includes taxes on income, land, and property. Whereas in the European Union, taxes can vary from country to country, reflecting its unique characteristics and priorities. In developing countries such as China and India, taxation plays an important role in ensuring the financial sustainability of agrarian enterprises and stimulating rural development. In these countries, tax policies may include tax incentive and subsidy programmes for agrarian enterprises, as well as rural infrastructure programmes. H.C. Tai (2023) conducted a comparative analysis of taxation systems in the agricultural sector of different countries to identify common trends and specific features. The researcher investigated which countries favoured certain types of tax incentives or which countries successfully used tax measures to support the development of the agricultural sector. This approach coincides with the present study by providing a broad overview of how tax policies in the agricultural sector are implemented in different countries and which

methods prove to be most effective. By analysing international experience, best practices can be identified and applied in a country-specific context.

The agricultural sector of Kyrgyzstan also has its specific features in taxation related to natural and climatic conditions, seasonality, and low profitability. The country uses a simplified form of land taxation that accommodates these features and aims to create a fairer tax burden for agricultural enterprises. D. Liu *et al.* (2021) focused on the regional characteristics of tax policy in agriculture. They analysed differences in tax regimes between different regions of the country and studied their impact on the development of the agricultural sector. By analysing regional differences, the researchers find which concrete tax measures have been successful in stimulating agricultural growth in certain areas. The cited study, similar to the present study, recognises the significance of analysing differences in tax policies at the regional level and their impact on the agricultural sector.

Optimising and improving the effectiveness of tax incentives and subsidies for agrarian enterprises requires a comprehensive approach and a careful analysis of existing mechanisms. This can contribute not only to the growth of agricultural production and exports, but also to the improvement of living standards in rural areas and the overall economic development of the country. J. Luo *et al.* (2024) and R.H. Bates (2019) analysed the prospects of agrarian taxation in the context of global challenges such as climate change, demographic change, and globalisation. They considered what fiscal measures could help the agricultural sector adapt to evolving conditions and stimulate sustainable development. Furthermore, innovative approaches to taxation have been proposed that factor in global trends and challenges. The recommendations of the researchers partially coincide with the present findings, especially in terms of stimulating investment in agriculture, supporting small and medium-sized enterprises, and implementing environmentally sustainable practices.

Overall, the role of tax policy in the agricultural sector is multidimensional and key to its sustainable development. The findings of the present study suggest that tax measures can have a substantial impact on various aspects of agriculture, including economic, social, and environmental ones. For successful agricultural development, it is important to consider both global and regional specificities, and to factor in the changing conditions such as climate change and globalisation.

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► Conclusions

The role of tax policy in agricultural development is integral and multidimensional. This study showed that tax measures have a substantial impact on various aspects of agriculture. Tax policy can serve as a means of stimulating investment and development in the agricultural sector. By providing tax incentives or subsidies for investment in modern technologies, process mechanisation or research, the government can create favourable conditions for the growth and modernisation of agribusinesses. Such measures help to increase the productivity and competitiveness of agricultural production.

The study revealed a significant role of tax policy in the development of the agrarian sector of Kyrgyzstan. The share of agriculture in Kyrgyzstan's GDP is gradually falling, but it still occupies a considerable part (11.6% in 2023). The current tax burden and complex taxation procedures reduce investment activity and limit modernisation opportunities. The level of tax burden of total expenditures on agriculture is 8.5%. Low tax support for innovation limits the potential for productivity growth and competitiveness. Recommendations to improve tax policy include reducing the profit tax rate, providing tax incentives and subsidies for investments in modern technologies and scientific research, simplifying tax administration and introducing differentiated tax rates. To create a favourable investment environment for foreign investors, it is important to ensure the stability of tax policy, introduce special tax regimes, and develop public-private partnership mechanisms with tax incentives.

A limitation of this study is the lack of coverage of countries and regions, which may reduce the generalisability of the findings at the global level. For further research, it is recommended that the geographical scope of the study be expanded to include more countries and regions to gain a more comprehensive understanding of tax policy in the agricultural sector. Furthermore, it is advisable to conduct a comprehensive study that considers not only tax aspects but also other factors such as legal regulation, innovation, and infrastructure to better understand the impact on agricultural development.

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► Conflict of interest

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Вплив податкової політики на розвиток аграрних підприємств та організацій

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► **Анотація.** Дослідження було спрямоване на аналіз ролі податкової політики на аграрний сектор з метою визначення її впливу на інноваційний розвиток, інвестиційні рішення та конкурентоспроможність підприємств у цій галузі. У роботі проводився порівняльний аналіз різних аспектів податкового регулювання, вивчення інструментів оподаткування, розгляд спеціальних податкових режимів у таких країнах, як США, Німеччини, Франції, Іспанії, Польщі та Киргизстані. У статті було досліджено різні аспекти податкового регулювання, що справляють прямий і непрямий вплив на функціонування сільськогосподарського сектору. Розглядалася роль податкової політики в стимулюванні інвестицій і розвитку в сільському господарстві шляхом надання податкових пільг і субсидій для інвестицій у нові технології, механізацію процесів і наукові дослідження. Проаналізовано спеціальні податкові режими, спрямовані на підтримку сільськогосподарських підприємств, а також наведено приклади податкової політики в різних країнах, включно зі США, Європейським Союзом, Китаєм, Індією та Киргизстаном. Було розглянуто стан розвитку сільського господарства в Киргизстані, а також визначено основні виклики, заходи підтримки держави та основні тарифи земельного податку по країні. Ключовим моментом є розробка рекомендацій щодо поліпшення податкової системи для стимулювання розвитку сільського господарства, отриманих за допомогою методу синтезу. Це включає в себе запровадження податкових пільг та інвестиційних стимулів, диференціювання податкових ставок залежно від сегментів та регіонів сільського господарства, проведення консультацій із зацікавленими сторонами, спрощення податкового адміністрування та залучення іноземних інвестицій через спеціальні податкові режими. Також було наведено конкретні приклади великих сільськогосподарських підприємств у різних країнах, де поліпшення податкової політики може сприяти розвитку та підвищенню ефективності їхньої діяльності

► **Ключові слова:** податкове регулювання; сільське господарство; державна підтримка; податкова система; економічна стабільність; інвестиційний клімат; законодавство