Tax policy tools used to stimulate agriculture: their implementation and effectiveness

Abstract. Tax policy is one of the main ways to implement the fiscal policy of the state, based on the country’s socio-economic development. The article provides theoretical understanding of the problems of tax stimulation with regard to the priorities of financial policy at certain stages and formulation of key tasks in establishing, developing and reforming of the tax system and tax policy of Ukraine. The agreement on association between Ukraine and the European Union urges our country to bring its tax legislation closer to tax legislation of the EU. A new mechanism of state support for agricultural producers was introduced on 1 January 2017, which requires an assessment of the impact of fiscal policy tools on stimulation of agriculture and regulation of production processes of the agricultural sector. The author of the article defines the impact of the fiscal policy on agriculture and substantiates the expiry of its further operation. The article describes criteria for the establishment of stimulating influence of taxes on agricultural production, taking into account the experience of leading European countries.

Keywords: Tax Incentive; Agriculture; State Support; Value Added Tax; Fixed Agricultural Tax

JEL Classification: H20; H21; H22; Q14

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1. Introduction

Tax policy is one of the main ways to implement the tax policy of the state, based on the country’s socio-economic development. To increase the efficiency of agricultural production and profitability of Ukrainian agricultural producers, key fiscal policy tools have been developed, in the framework of state support for the agricultural sector, namely special tax treatment in terms of value added tax and fixed agricultural tax (a single tax of the fourth group since 01 January 2015). The tax incentive has contributed to the improvement of the access to finance in the conditions of the economic crisis, limited budgetary possibilities for significant investments in the development of the agricultural sector of Ukraine and lack of working and fixed capital of agricultural enterprises. Defining the national priorities of Ukraine requires a clear strategy of agricultural development by using the best European and international practices. The principle of fiscal federalism is typical of the tax system in Canada, and VAT, which was introduced at the federal level, performs a distinct fiscal function. Support for the agricultural sector through tax incentives can be attributed to the European Union, where some member states apply a fixed-rate scheme. The EU has preferential VAT for agriculture and uses the practice of reduced VAT rates for agricultural and food products to stimulate their greater use. The agreement between on association Ukraine and the European Union urges our country to bring its tax legislation closer to tax legislation of the EU. A new mechanism of state support for agricultural producers was introduced on 1 January 2017, which requires an assessment of the impact of fiscal policy tools on stimulation of agriculture and regulation of production processes of the agricultural sector.

2. Brief Literature Review

Theoretical reflections on the problems of tax stimulation with regard to the priorities of financial policy at certain stages and formulation of key tasks in establishing, developing and
reforming of the tax system and tax policy of Ukraine are observed in works by prominent scholars such as V. A. Andruschenko (2005) [1], I. A. Lunina (2011) [23], A. M. Sokolowska (2015) [29] and others. Leading Ukrainian scientists, among whom are M. J. Demianenko (2005) [4], V. M. Zhuk (2011) [9], N. M. Malinina (2015) [14], O. O. Nepchatochenko (2013) [20], L. D. Tulush (2013) [33] and others, have conducted numerous studies and proved new approaches to the practical aspects of the implementation of tax incentives specific to agricultural production.

The following economists should be distinguished in the world’s scientific space: O. Oliynyk-Dunn and R. Zufan (2017) [18] for their research on funding models in the Czech Republic and Ukraine is devoted to the work, M. Soliwoda and J. Pawlowska-Tyszko (2014) [30] who studied agricultural taxation in Europe and determined key indicators of income tax in agriculture in Poland, B. Hill and D. Blandford (2007) [7] who devoted their research to the processing of tax concessions as tools of agrarian policy. The main postulates of tax incentives introduced by the state were highlighted in the scientific work by the American scholars D. Goldberg (1994) [5] and Surrey S. (1973) [32], while the creation of the fiscal space as a budget reserve in the conditions of economic stability of the country was substantiated in the outstanding works by P. Heller (2005) [6] et al.

Despite the numerous publications and thorough research, the current situation in Ukraine requires new approaches to reforms and formation of optimal tax model based on harmonization of tax legislation (including the regulation of VAT) adaptive to the norms, standards and rules of the European Union. Also, it should be noted that we need to further consider the relevant fiscal policy tools and conditions which make it possible to realise a stimulating effect of tax incentives on the functioning of agricultural entities.

3. Purpose

The purpose of the article is to define the impact of the fiscal policy on stimulation of agriculture, to justify its further functioning and to establish criteria for tax incentive effects on agricultural production.

The authors of the article used the system and structural method to identify the impact of fiscal policy on the efficiency of agriculture, along with tabular, graphical and statistical methods to conduct economic research. Legislative acts relating to taxation in Ukraine, accounting data from the Ministry of Agrarian Policy and Food of Ukraine, the State Statistics Service of Ukraine, the State Treasury Service of Ukraine, the State Fiscal Service of Ukraine, and the results of own research constituted the information basis of the present research.

4. Results

It has been found that tax preferences for agriculture had a positive effect, which manifested itself in an increase in economic activity of agricultural enterprises and increased the level of profitability. Yet, for almost twenty years (from 1998 to 2017), tax incentives for agriculture have been neglected, with the relevant mechanisms and tools being distorted. Therefore, it is necessary to bring the institutional basis of the agrarian policy and legislative framework of tax policy up to date.

Considering the specificity of agricultural production, it has been suggested to distribute agricultural producers into three groups. The first group includes agricultural producers cultivate from 100 to 200 hectares of agricultural land. It is best to use a single tax for this group. Agricultural enterprises that constitute the second group cultivate from 200 to 500 hectares of agricultural land. These should be taxed by the general taxation system valid in the country, taking into account the European experience and reducing the VAT rate from 20% to 7%. The same is with large companies, which form the third group of enterprises cultivating more than 500 hectares of agricultural land. The proposed measures will help to disclose the potential of agriculture, increase its efficiency and gradually adapt to European agricultural policies, which will have a positive impact not only on the agricultural sector, but also on the economy of Ukraine.

The structure of the state support for agriculture in the period of 2007-2016 (Figure 1) was as follows. The tax incentives in 2007 were minimal and accounted for only 27.2% of the total state support for farmers. In 2008, it was 43%. Since 2009, the volume of financial resources relating to the accumulation of funds obtained from VAT on the special accounts for own needs of agricultural producers has had a strong trend toward increasing annually and reached almost 100% (97.7%) of the total amount of state support in 2014, replacing budget subsidies for the development of livestock and crop production.

Thus, in 2014 the state support for agriculture through VAT amounted to UAH 8,970.7 million, while UAH 206.6 million was available as budgetary subsidies (Figure 2). In 2015, the main tax incentive was indirect state support for agricultural producers at the expense of special VAT treatment of activities in agriculture, forestry, and fishery, the total size of which reached UAH 46.0 billion. In 2016, VAT accumulation was only UAH 6.7 billion.

![Fig. 1: The structure of the state support for agriculture in 2007-2015 and 2016](image)
This trend is explained by limited financial resources for direct state support, as well as by financial instability of commercial banks for targeted assistance to the agricultural sector. In such a situation, the problem was the payment of direct subsidies from the budget under the terms of financial support for the agricultural sector which belonged to so-called «unsecured expenses» of the state budget (hence, their funding may be modified (usually reduced) during the year). For example, the analysis of expenses of Development Programme of the Ukrainian Rural Territories Till 2015 for the years 2008-2012 in the Field of Agricultural Market showed that the programme of financial support of agribusiness has been financed only by 30% [11]. A retrospective analysis of changes in state support for agriculture through VAT (in absolute terms) for the period of 2007-2016 (Figure 2) shows a substantial increase - from UAH 0.96 billion in 2007 to UAH 46.00 billion in 2015.

An almost twofold increase in the profitability of the entire agricultural sector (from 15.1% in 2007 to 29.5% in 2015) demonstrates a positive impact of tax incentives implemented by the state to enhance financial potential of agricultural enterprises. The accumulation of VAT on a special bank account for further use of such funds by agricultural entities may be considered the most effective form of indirect state support for agricultural enterprises. Yet, the shift from comprehensive state support for the agricultural sector towards indirect incentives through tax preferences did not bring expected results for the following reasons. Firstly, due to the inefficient use of regulatory function of tax incentives through special treatment for VAT for farmers. The fiscal pressure on the state budget increased, which is lead to debts in VAT refunds in agricultural production and to a reduction in purchasing prices for agricultural products. That, in turn, lowered investment incentives for investors and farms.

Secondly, the changes in the tax legislation that came into force in 2014 significantly complicated the administration of the aforementioned tax. In addition, VAT refunds were non-transparent in some cases. Here, we should also consider corruption and abuses of off trade financial and business transactions, as well as an unjustified increase in VAT credit. Thus, 17.046 thousand agricultural enterprises received UAH 82.861 billion in 2014, with 1,369 of these companies having lands in cultivation and employees, which means that they wrongly received UAH 2.853 billion of tax credit. In fact, 81 prejudicial investigations were initiated, resulting in calculations of the amount of economic loss of the state amounting to UAH 1,133,000,000 UA [21]. On the basis of foregoing information, we conclude that the current system of tax incentives has lost its effectiveness and relevance through the special VAT regime and requires structural changes and optimisation of the legal, institutional and financial fields. There is a need to move from quantitative support of agricultural sector to qualitative changes.

The fixed agricultural tax (FAT), which was introduced under the special regime of direct taxation, is another tool to provide tax incentives for the agricultural sector. Its rate is fixed for a certain time. FAT is collected from a unit of land area as a percentage of the normative monetary value. The tax replaced the 12 taxes and obligatory payments, including the company income tax, land fee, motor vehicle duty, duty for compulsory social insurance, fee for compulsory retirement insurance and others. The stimulating function of the fixed agricultural tax is that a direct dependence between an increase in agricultural production and an increase in tax payments is not observed. The simplified tax has been guaranteed by the Law No. 320-XIV «On the Fixed Agricultural Tax» as of 17 December 1999 [10]. Considering the limitations established by the law, payers of the fixed agricultural tax are agricultural producers, whose share of agricultural production for the previous tax (financial) year equaled or exceeded 75%. According to experts estimates, the aforementioned tax incentive for agriculture significantly reduced the tax burden on manufacturers of the industry to the level of 3-4 kopykas per one Ukrainian hryvnia (UAH) of income [54].

However, according to Law of Ukraine «On Amendments of the Tax Code of Ukraine and Some Other Legislative Acts of Ukraine on Tax Reform», FAT formally lapsed because of the simplified system of taxation on 01 January 2015 [23]. Due to the clarity of the tax base and increasing rates of single tax of the 4th group, the tax burden on farms increased by 21 times in 2016, as compared to the year 2005. In 2016, the single tax rate for agricultural enterprises increased again [25; 36]. On the basis of analytical data (Table 1), we can make the following conclusions. In 2014, the sales earnings of farms increased by 4.06 times, if compared with the year 2007, and

As a result, the fixed agricultural tax (FAT) becomes a more effective form of indirect incentives through tax functions in the agricultural sector. The increase in VAT refunds for the agricultural sector allocated the 12 times and obligatory payments, including the company income tax, land fee, motor vehicle duty, duty for compulsory social insurance, fee for compulsory retirement insurance and others. The stimulating function of the fixed agricultural tax is that a direct dependence between an increase in agricultural production and an increase in tax payments is not observed. The simplified tax has been guaranteed by the Law No. 320-XIV «On the Fixed Agricultural Tax» as of 17 December 1999 [10]. Considering the limitations established by the law, payers of the fixed agricultural tax are agricultural producers, whose share of agricultural production for the previous tax (financial) year equaled or exceeded 75%. According to experts estimates, the aforementioned tax incentive for agriculture significantly reduced the tax burden on manufacturers of the industry to the level of 3-4 kopykas per one Ukrainian hryvnia (UAH) of income [54].

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### Fig. 2: Effectiveness of state support for agriculture generated from VAT in the period of 2007-2016

Source: Compiled by the authors based on [8; 15; 31]

<table>
<thead>
<tr>
<th>Year</th>
<th>State support of agriculture at the expense of VAT for support of crop production, bln. UAH</th>
<th>State support of agriculture at the expense of VAT for livestock development, bln. UAH</th>
<th>VAT accumulation, bln. UAH</th>
<th>The level of profitability (loss) of the entire activity of agricultural enterprises, %</th>
<th>Return on capital of enterprises in the agricultural sector, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>15.1</td>
<td>4.35</td>
<td>5.67</td>
<td>10.11</td>
<td>9.3</td>
</tr>
<tr>
<td>2008</td>
<td>7.7</td>
<td>4.35</td>
<td>5.67</td>
<td>10.11</td>
<td>9.3</td>
</tr>
<tr>
<td>2009</td>
<td>7.7</td>
<td>4.35</td>
<td>5.67</td>
<td>10.11</td>
<td>9.3</td>
</tr>
<tr>
<td>2010</td>
<td>9.8</td>
<td>4.35</td>
<td>5.67</td>
<td>10.11</td>
<td>9.3</td>
</tr>
<tr>
<td>2011</td>
<td>9.8</td>
<td>4.35</td>
<td>5.67</td>
<td>10.11</td>
<td>9.3</td>
</tr>
<tr>
<td>2012</td>
<td>16.3</td>
<td>4.35</td>
<td>5.67</td>
<td>10.11</td>
<td>9.3</td>
</tr>
<tr>
<td>2013</td>
<td>16.3</td>
<td>4.35</td>
<td>5.67</td>
<td>10.11</td>
<td>9.3</td>
</tr>
<tr>
<td>2014</td>
<td>16.3</td>
<td>4.35</td>
<td>5.67</td>
<td>10.11</td>
<td>9.3</td>
</tr>
<tr>
<td>2015</td>
<td>15.04</td>
<td>4.35</td>
<td>5.67</td>
<td>10.11</td>
<td>9.3</td>
</tr>
<tr>
<td>2016</td>
<td>24.7</td>
<td>4.35</td>
<td>5.67</td>
<td>10.11</td>
<td>9.3</td>
</tr>
</tbody>
</table>

Tab. 1: Realisation of tax policy to stimulate agricultural growth and development via the fixed agricultural tax

<table>
<thead>
<tr>
<th>Index</th>
<th>Years</th>
<th>2014/2007, +, %</th>
<th>2016/2007, +, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax burden from sales income, %</td>
<td>0.28</td>
<td>0.10</td>
<td>0.61</td>
</tr>
<tr>
<td>Tax burden from incomes, %</td>
<td>1.94</td>
<td>0.57</td>
<td>1.98</td>
</tr>
<tr>
<td>Tax burden from index of assets, %</td>
<td>0.15</td>
<td>0.03</td>
<td>0.29</td>
</tr>
<tr>
<td>Share of FAT of costs of agricultural enterprises, %</td>
<td>0.32</td>
<td>0.08</td>
<td>0.89</td>
</tr>
<tr>
<td>VAT per 1 hectare of agricultural land, UAH</td>
<td>6.27</td>
<td>5.98</td>
<td>98.51</td>
</tr>
<tr>
<td>Tax value per 1 hectare, %</td>
<td>5.81</td>
<td>1.27</td>
<td>12.51</td>
</tr>
<tr>
<td>Tax value per 1 hectare, %</td>
<td>81.07</td>
<td>69.47</td>
<td>39.93</td>
</tr>
<tr>
<td>Volume of FAT of the amount of assets per 1 hectare, %</td>
<td>3.17</td>
<td>0.64</td>
<td>6.06</td>
</tr>
</tbody>
</table>

Note: Since 01 January 2015 a single tax of the fourth group of agricultural manufacturers with their share in agricultural production amounting or exceeding 75% during the previous fiscal year.

Source: Compiled by the author based on [8; 15; 31]
the amount of paid FAT was 0.92 times higher. There was a significant increase in the tax volume of agricultural products sold in 2016 comparing with 2007. Accordingly, the tax burden from the income rate also increased, which worsened the financial condition of agricultural enterprises. A higher tax burden means a loss of the exogenous source of capital, which negatively affects the property status of the company.

We agree with Ukrainian agricultural researches who argue that the fixed agricultural tax has not been optimised for a long time in terms of its compliance to the current economic conditions in the agricultural sector of Ukraine and the country’s economy [35]. Yet, the transformation of FAT into the single tax of the fourth group and a significant reduction in the stimulating function of the tax is impossible within one calendar year. Therefore, a significant reduction in tax preferences for agricultural enterprises should be balanced by the provision of subsidies. Advantages and disadvantages of the tax policy aimed at stimulating the agricultural sector are presented in Table 2.

In order to take full advantage of the fiscal policy aimed at stimulating agriculture, it is essential to conduct a balanced tax reform to optimise the financial condition of agricultural enterprises, as well as financial and economic security of entities operating in the agricultural sector. Options for the concept reforming the system of preferential VAT for agricultural entities are presented in Table 3.

5. Conclusions
Our research has proved that tax preferences for agriculture have a positive impact, especially in terms of economic activity of agricultural enterprises and level of profitability. Yet, for almost twenty years (from 1998 to 2017), tax incentives for agriculture have been neglected, with the relevant mechanisms and tools being distorted. We believe that the institutional basis of the agricultural policy and legislation related to Ukraine’s fiscal policy should be improved. The vector of Ukraine’s development being aimed at European integration, our country has successfully diversified export flows and become a full partner in the European food market. In the near future, the agricultural policy of Ukraine should be fully adapted to the mechanism of the European agricultural policy. In relation to this, it is necessary to work out a program of development of the agricultural sector for the next three years, with special attention paid to the issues of public regulation and state incentives for agricultural development. The measures undertaken with regard to the program should be both stable and flexible.

<table>
<thead>
<tr>
<th>Tax</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed agricultural tax, further replaced by a single tax.</td>
<td>Simplified mechanism of tax calculation and payment (due to be paid in four taxes and fees); its payment procedure is adapted to the specificity of agricultural production, which is seasonality; no restrictions on enterprise activity (within the limits set by the law); reduction of the tax burden and accumulation of additional financial resources by the taxpayer.</td>
<td>Limitation of the income (income from sales of own-produced agricultural products for the previous year should be less than 75% of the total income); independence of the final result, which means that the tax is paid regardless of positive or negative business results; calculations of the FAT are applied to the tax office according to both the location of the enterprise and the location of each cultivated land area; lack of connection between the amount of tax and financial condition of enterprises; if the income from non-agricultural activities exceeds 25% of the taxpayer’s gross income, the enterprise is transferred to the general taxation system starting from next year, with grounds for illegal tax evasion to the budget of the tax revenue from the sale of non-agricultural products and products of other manufacturers within the current year.</td>
</tr>
<tr>
<td>Special VAT incentives.</td>
<td>The best effective form of indirect support of agricultural enterprises from the part of the state; accumulation of VAT on a special bank account with the aim of using such funds as a tax credit for production purposes to optimise financial condition of agricultural groups and improve fiscal stability.</td>
<td>Inefficient use of the regulatory function with a significant increase in agricultural production leading to increased fiscal pressure on the state budget, causing debt in VAT refunds, reduction in purchase prices for agricultural products and lower investment incentives for investors and farms; problems of tax administration; lack of transparency in VAT refunding; corruption and other abuses, including nondeductible financial and business transactions and unjustified overrating of VAT credit.</td>
</tr>
<tr>
<td>Provision of general VAT for agriculture.</td>
<td>Harmonisation of tax legislation with the legislation of the EU (adaptation of special VAT regime according to the EU standards).</td>
<td>Increase in the tax burden on farms and reduction in additional investment resources to promote production development; establishment of new rules of taxation leads to higher production costs and raising prices for agricultural products in the domestic market.</td>
</tr>
</tbody>
</table>

Source: Compiled by the author based on [2; 3; 9; 13; 22; 27-28; 33; 35]

<table>
<thead>
<tr>
<th>Tax</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete abolition of preferential VAT.</td>
<td>Revenues to the state budget will increase by UAH 10.6 billion in 2017, compared to the year 2016.</td>
<td>GDP in 2017 will decrease by 0.76%; agricultural production will decrease by 6.2%, including by 3.4% in crop production and by 12.6% in livestock production.</td>
</tr>
<tr>
<td>Total VAT reimbursement to agricultural entities.</td>
<td>GDP growth by 0.46%; agricultural production will increase by 3.7%, of which 5.1% will be in crop production and 0.7% will be in livestock production; an increase in agricultural entities’ working capital; a reduction in production costs and an increase in the attractiveness of the industry.</td>
<td>The budget will receive by UAH 10.7 billion less.</td>
</tr>
<tr>
<td>Partial VAT reimbursement to agricultural entities (special VAT regime is retained for certain categories of agricultural products, particularly for livestock, fruit and vegetable producers and for producers of sugar beet).</td>
<td>An increase in revenues to the budget is expected to reach UAH 5.7 billion; an increase in agricultural production is expected to reach 0.6% (0.5% in crop production and 0.7% in livestock production).</td>
<td>None.</td>
</tr>
<tr>
<td>Special regime of VAT is cancelled; a 7% decrease in the VAT rate to food and materials for its production.</td>
<td>The budget may receive additional UAH 5.6 billion; lower prices for food of animal origin and growth of funds which are left to the producers.</td>
<td>An increase in imports of food and edible raw materials for its production; a 6% decrease in agricultural production, including 3.4% in crop production and 11.9% in livestock production.</td>
</tr>
</tbody>
</table>

Source: Compiled by the authors based on [16; 19]
The goal of the fiscal policy is to promote economic growth and increase revenues to the budget. At the same time, this growth is not possible without increasing the economic potential of business entities, since fiscal policy tools should be aimed at increasing business entities’ economic efficiency. It is necessary to consider that the profit tax reduces the endogenous source of own capital and, accordingly, constraints financial stability and financial independence of enterprises. One of the main goals of tax policy requires optimum interaction between fiscal tools and stimulating incentives.

Limitation of tax preferences for the agricultural sector should be compensated by direct financial support from the part of the state through public funding programs that encourage the development of agriculture. The amount of such funding supplements the funding of equities, which provides incentives related to the accumulation of capital and development of agricultural enterprises. Considering the specificity of agricultural production, it has been suggested to distribute agricultural producers into three groups. The first group includes agricultural producers cultivate from 100 to 200 hectares of agricultural land. It is best to use a single tax for this group. Agricultural enterprises that constitute the second group cultivate from 200 to 500 hectares of agricultural land. These should be taxed by the general taxation system valid in the country, taking into account the European experience and reducing the VAT rate from 20% to 7%. The same is with large companies, which form the third group of enterprises cultivating more than 500 hectares of agricultural land. Another option for agricultural entities forming the second group is to supplement the general system of taxation (including the 20% VAT rate) with the budget subsidy measures, based on direct budgetary subsidies accounting for 1.5-2.5% of gross agricultural production. The proposed measures will help to unleash the potential of agriculture, to increase its efficiency and to gradually adapt it to the European agricultural policy. All this will have a positive impact on both the agricultural sector of Ukraine and the country’s economy.

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