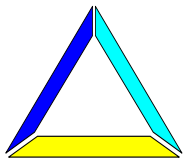
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S4

Taxation and Ukrainian Agriculture after 2004

Summary

The paper considers the farm tax system in Ukraine. It is no secret that Ukraine inherited extremely distorted economic system from the Soviet Union with artificial prices, inefficient firms, impractical legal system, and a numerous economic and administrative barriers for exchange of ideas, technologies and standards. With transforming Ukraine's economy from the plan to market, the reform of the tax system was an enormously important task to encourage private sector to develop and to allow the government to fulfil its tasks in the new market environment. In spite of the desirability to create sustainable tax system for the overall economy, in 1999 Ukrainian Government introduced the fixed agricultural tax and exempted the agriculture from paying VAT. This highly privileged farm tax system expires in 2004. This paper, therefore, considers the option for further farm tax system in Ukraine.

The paper starts with the consideration of main principles of the good taxation with the short inside to the key issues of the tax reform for the economy in transition. Then, the effects of different taxes (income taxes, land and value-added taxes) on the agriculture and its structure are discussed. The description of the current farm tax system in Ukraine is further used to make comprehensive analysis of its impact on the macroeconomic balance in Ukraine, as well as on the agricultural efficiency and long-term competitiveness. The conclusions and policy recommendations concerning the future farm tax system in Ukraine are followed by the Appendix with the international experience of the farm taxation in the United States, the EU and Russia.

Current paper provides a valuable foundation for the tax reform in Ukrainian agriculture, where not only loose branch issues should be taken into account, but rather intersectoral linkages together with the long-term competitiveness of the agricultural producers should be considered.

1 Introduction

It is no secret that Ukraine inherited extremely distorted economic system from the Soviet Union with artificial prices, inefficient firms, impractical legal system, and a numerous economic and administrative barriers for exchange of ideas, technologies and standards. In such an economy, the tax system was not designed to help the economy to grow and to distribute the income and wealth while minimising the losses in economic efficiency. It rather served as a tool to allocate resources among enterprises and then distribute output based on the bureaucrats' decisions. With transforming Ukraine's economy from the plan to market, the reform of the tax system was an enormously important task to encourage private sector to develop and to allow the government to fulfil its tasks in the new market environment.

In the market economy, taxes influences many aspects, including the distribution of income (and wealth) and the allocation of resources, and play an important role in stabilising the economy. "Forms of taxation and the amount of tax burden make a direct impact on the amount and structure of consumption and savings, on the amount and structure of domestic and foreign investments, and on production and trade and so forth" (LUZIK, 1999). In the agriculture the tax policy can have important effects on the number and size of farms, the organisational structure, and the amount and relative mix of land, labour, and capital inputs. Moreover, an agricultural taxation influences other sectors of the economy and the macroeconomic balance of the country as a whole.

The process of transition in the agriculture and overall economy is unique in the respect that the initial economic growth is possible to reach not only through well-known long-term factors such as investments, but also through correction of 'old' inefficiencies and the creation of new market institutions. Although this source of productivity gains is exhausted after certain period of time, they create a strong potential for economic growth over the short and medium term (ODLING-SMEE and VAN ROODEN, 1999). Therefore, the creation of the efficient farm tax structure that will remove the large number of the 'old inefficiencies' and stop the appearance of the 'new ones' should be considered as the way to create long-term competitive farming sector contributing to the general economic development of the country.

Currently the agricultural sector in Ukraine enjoys the highly preferential taxation regime. These tax holidays will expire in 2004. The farms taxes influence decisions on whether to consume, save, or borrow, as well as choices such as whether to farm, what type of farm to create (legal status, size, etc.), what to produce, or when to buy inputs or sell agricultural products. If an alternative tax structure causes fewer distortions, yet allows the government to raise sufficient revenue, the economy could produce more with the same level of resources. In this paper, therefore, we consider the farm tax system with respect to its influence on the efficiency of the agricultural sector, the whole economy, and the fairness of the farm tax burden. The latter is closely related to the issue of farm subsidisation. However, we cover this issue only shortly, because the pros and cons of the farms subsidisation are discussed elsewhere (see VON CRAMON-TAUBADEL and STRIEWE, 1999; VON CRAMON-TAUBADEL *et al.*, 2001). We also would like to stress out that this paper does not foresee to serve as the new tax law for Ukrainian agriculture – it is rather a deal of lawmakers. In contrast, the economic analysis of the farm tax system in Ukraine will be done that could help Ukrainian policy makers to look at the farm taxation more comprehensive in order to design the long-term tax system for the agriculture.

The paper is structured as follows. The second section considers the main principles of taxation and defines the key issues of tax reform in the transition economy. In the third

section, the effects of the different taxes on the farm efficiency and overall development are presented. The section four shows the current farm tax system in Ukraine and in the section five the analysis of this system is conducted. The section six makes recommendations and concludes. Finally, the Appendix considers the experience of several countries in taxing their farm sector.

2 Principles and role of taxation in the economy

2.1 Main principles of taxation, its role and effects on the economy

In any economy the fiscal resources are needed to execute state functions. It has been said that what government gives it must first take away. In 1936, the U.S. President FRANKLIN DELANO ROOSEVELT said that "taxes, after all, are the dues that we pay for the privileges of membership in an organised society" (cited in JAMES and NOBES, 1988, p. 8). The government can rise its income through different sources and taxation is one method of transferring resources from the private to public sector. Others include money creation, charging for goods and services the state provide, and borrowing.

The money creation simply means 'printing money' to finance the state expenditures. The main problem is that it leads to inflation and this process, therefore, has been described as an 'inflation tax' (see FRIEDMAN and FRIEDMAN, 1980, p. 267). Another possibility is for government to change for the goods and services it provides. But in many cases it would be difficult to charge, for example, for defence and law enforcement. A further method of raising money is to borrow it. Governments can borrow either from their own citizens or from overseas, but there are limits to the amounts that people are prepared to lend, even to governments. Taxation has its limits as well, but they considerably exceed the amounts that can be raised by resorting to the printing press, charging consumers directly, or borrowing. "So while governments often use all four methods of raising resources, taxation is usually by far the most important source of government revenue" (JAMES and NOBES, 1988, p. 8).

In most cases the market mechanism is able to supply goods and services efficiently leaded by ADAM SMITH's "invisible hand". The concept of efficiency is usually associated with 'Pareto-efficiency'.[1] A particular allocation of resources is said to be Pareto-efficient if no rearrangement of resources could make one person better off without making someone else worse off. Or, to put it the other way round, if it is possible to change the methods of production, or the type of goods produced, so that one person can be made better off without others being made worse off, then the existing allocation of resources is sub-optimal and the efficiency of the economy can be increased by making the change.

But under certain circumstances, the market itself is not able to produce optimal or the most efficient outcome and in this case one should think about the role of the state in correcting 'markets'. The government can (but not necessarily should) use different instruments of the fiscal policy for this purpose. According to BUCHANAN and MUSGRAVE (1999), the economic functions of the fiscal state may be divided into three main categories:

- Overcoming the inefficiencies of the market system in the allocation of economic resources (monopolistic markets, externalities and public goods);
- Redistribution of income and wealth in order to move towards the distribution that society considers to be 'just' or 'equitable'; and
- Contribution to macroeconomic stabilisation.

[1] 'Pareto-efficiency or optimum' is named for WILFRED MARQUIS PARETO (1848-1923) who first properly determined the efficiency concept.

To fulfil its objectives, the government should create the effective or 'good' tax system. Economists and social philosophers, from ADAM SMITH on, have expressed their views on what constitutes a good tax system (SULTAN, 2000). The following are some of the important ones:

- *Economic efficiency:* Taxes should be chosen so as to minimise interference with economic decision making in otherwise efficient markets. Such interference imposes efficiency loss that should be minimised. The preferential treatment of certain goods/services or sectors induces overall inefficiencies through distorted production/consumption decisions.
- *Economic growth*: Taxes should foster economic growth through savings and investment. Tax structure should facilitate use of fiscal policy for stabilisation and growth objectives (Keynesian contra-cycle fiscal policy, for example). Moreover, it should ensure a stable and optimal amount of public revenues for financing the supply of public goods (DABROWSKI and TOMCZYNSKA, 2001).
- *Fairness*: "The distribution of the tax burden should be equitable. Everyone should pay his fair share. People with equal capacity should pay the same tax (referred to as 'horizontal equity'), and people with greater ability to pay more tax (referred to as 'vertical equity'). A system that is not fair, and allows tax breaks arbitrarily, lacks respect and reduces the willingness to comply" (SULTAN, 2000).
- *Low compliance and administrative cost:* If the incidental costs of complying with the requirements of the tax laws and procedures are high, people have a greater tendency to evade. In addition, the administrative costs have to be low to ensure an adequate revenue from taxes. The tax system should employ procedures that are cost-effective.
- *Simplicity and stability:* If tax revenues are not stable over time, it will adversely affect state budget and its programs. Often changes in rates, rules, and exemptions make it difficult for the private sector to make long-term investment plans. "Taxes then become a significant source of risk" (SULTAN, 2000).

2.2 Tax reform in the transition economies

Based on the above-described principles of the taxation, the important task of the government in the transition economy such as Ukraine was to adjust its tax system in such a way to accelerate the transition from plan to market and to ensure the system's sustainability in the long run:

- The *general revenue objective* of tax reform in transition is to "widen the tax base shifting the main burden of taxes to households and to make the income tax on enterprises more moderate and more directly related to profits. Moreover, the direct cash payments as a means of subsidising an activity has to be reduced, while greater revenues by lower, more collectable rates has to be obtained" (see LEONARD, 2000). Although in early transition the income of the population declined, with the economic growth the individuals will get higher incomes which could become the main tax base for the government revenues.
- From the side of the *economic efficiency and growth*, the tax system should encourage markets by stimulating private production through tax neutrality across sectors and across public and private sphere. In this way the new taxes are designed to allocate resources through effects on consumption and production decisions and modify the distribution of income and wealth. In the new market environment, the state has to take upon itself many functions previously administrated by the large enterprises.

Hence, the tax system has to ensure stable and optimal budget income to allow the state to fulfil its obligations.

- To solve *specific problems* of the transition economy, the new tax system must aim to reduce specific distortions such as arrears, barter and corruption. The economic agents in the Soviet Union were allowed not to 'pay' taxes. Thus, to encourage the firms and individuals to pay taxes in the market environment, the comprehensive approach should be taken to change this behaviour without any exemptions and concessions.

3 Tax system and farm efficiency in the long run

In general, the government can tax agriculture in different ways. The income, both individual and corporate, can be taxed; the state may tax value-added or sales; and finally, the land can be taxed, which is considered to be the main production factor in the agriculture. This section considers different tax possibilities in the agriculture that will later allow us to estimate the current farm tax system in Ukraine and to prepare recommendations concerning the future agricultural taxation in the country based on the section 2.

3.1 Personal income tax

Personal income is a good measure of personal power to consume and save. Personal income of the farm employees can be received in various forms, including (1) wages, salaries, premiums, and other employment income; (2) income from own household plots; and (3) gifts, inheritance and other irregular income. In the transition economies such as Ukraine the second source of the income plays an extraordinary important role for the rural population. Therefore, the legislation has to precisely define income which would adequately reflect personal ability to consume/save during the specific period of time and establish the same rules of taxation for all forms of income (otherwise, people can change the form of income and reduce personal income tax liabilities).

Very important advantage of personal income tax is a very close link between personal power to consume/save and personal liabilities to support the state. The personal income tax is important source of the state income and it is assumed that with the economic recovery of the transition economies, it will play more important role. Moreover, it works as an automatic stabiliser, when in the years of high income paid more and in the years of low income paid less. "Another advantage is the broad and relatively stable tax base, which can be adjusted to the personal circumstances of the taxpayer" (LUZIK, 1999, p. 22). Personal income tax is expected to raise additional revenue for the state and to promote income de-polarisation in the society. Therefore, this tax can not be completely neutral to individual consumption/saving decisions. However, proper organisation of individual income tax can create minimum distortions in the lifestyle, traditions and habits of population. Clear definition and accurate measurement of personal income and related expenditures, therefore, can help to avoid/lessen possible distortions in employment and income pattern, structure of saving/investments and some other areas.

The personal income tax also has disadvantages such as (1) complex rules of tax assessment and rather large direct and indirect costs of state and taxpayers associated with assessment and settlement of tax liabilities and (2) high sensitivity of tax payers to changes in personal income tax legislation and the negative impact of personal income tax on saving. The practice of many countries shows that the deduction of certain expenses allows to reduce the taxable personal income by the amount of tax-free allowance, pension contributions, medical costs, life insurance, child care allowances, moving expenses, educational costs and some other expenditures. Often the politicians develop a long list of different deductions to promote 'socially-accepted' income redistribution. "However, these personal deductions can be a

source of serious economic distortions, especially in the transition economies. The process of assessment and compliance can be very costly indeed" (LUZIK, 1999, p. 23).

3.2 Farm (corporate) income taxation

Traditionally, farm income tax is levied on net income received (accrued) during the specific period (profit from main activity, capital gains, and other incomes). Shortly, net income is gross income less business expenses. Farm income taxation creates a good opportunity to tax returns on capital and to reduce administrative costs of income taxation in comparison to personal income tax due to the smaller number of taxpayers and a reasonable variety of receipts (LUZIK, 1999). This is especially important for Ukrainian agriculture, where the number of farms at roughly 50,000 (15,000 large agricultural enterprises *plus* 35,000 small private farms) is relatively small by international comparison (for example, the number of farms in Germany is roughly 400,000 and in France – 679,800).

In addition, the corporate income tax is often considered as the payments of the firms for infrastructure that the they use or the public education system from which the personal is chosen (SEROVA *et al.*, 2000). However, farm income tax also has a significant disadvantage, being in fact a kind of penalty of getting profit (or other sort of income for the individual income tax). If such taxation, therefore, is high and its scale is progressive, tax avoidance becomes prevailing and tax administration extremely complicated (DABROWSKI and TOMCZYNSKA, 2001). Therefore, the introduction and operation of the farm income tax requires special care to ensure minimum distortions.

To avoid different distortions, the definition of the gross incomes and expenses should be clearly stated and be uniformed for all sectors similarly as for the personal income tax. The profit taxation of the different sectors at the different rates can cause economic inefficiencies and a development of tax avoidance/evasion because many businesses took advantage of their privilege and can make false reports to escape income taxation that can be especially damaging in the transition economies. In addition, the presence of many tax exemptions gives usually an evidence of weak government position and incentive rent seeking of different lobbies. "In the case of transition economies they often reflect legacy of the previous economic regime where tax incentives played a role of substitute of market equilibrium prices and market competition" (DABROWSKI and TOMCZYNSKA, 2001, p. 3).

As any business, farming involves risk taking. If the entrepreneur is discouraged from undertaking new risky activity or know-how, the effect on the growth of the market economy would be extremely damaging. This may be especially important in the agriculture where the profit fluctuates from year to year more than in the industrial sector, for example. Therefore, the farm tax income law should provide possibility for a deduction of net losses to finance potentially long-term profitable projects and/or 'income averaging' to ensure a low fluctuation of the income tax burden .

3.3 Value-added tax and agriculture

Value added tax (VAT) is currently the most important source of tax revenue in most countries, raising between 20 and 40% of the total revenue (HIID/CASE, 1998, p. 1). The main feature of this tax, which distinguishes it from other taxes, is its wider base. Since the tax is based on consumption, the revenue is increasing as the consumption level rises. If exemptions are few and the rate is uniform, the tax is neutral across different sectors of the economy. However, if there are too many exemptions, it erodes the tax base and create discriminations among different sectors.

The economic neutrality of the value-added tax means that this tax (if properly organised) does not significantly affect:

- consumers' propensity to buy some or another goods and services,
- horizontal and vertical integration of production/trade, and
- territorial dispersion of production and trade within the given country.

The VAT system puts the self-control on buyers and sellers. First, the credit for purchased inputs through the invoice mechanism encourages purchasers to demand invoice from the sellers, thus preventing non-reporting or under-reporting of sales. From the one side, the seller is interested in showing as low a price as possible; from the other, the purchaser is interested in showing as high a price as possible, in order to get higher input credit. This provides a cost effective 'self-policing mechanism' and ensures better reporting and verifiable records of transactions (HIID/CASE, 1998).

In addition, the VAT links import activities with domestic marketing. If the farm imports input on which the VAT was paid, it is able to offset it against the VAT collected from its own sales. This system, therefore, allows to reduce cost of production and distribution. Moreover, it promotes equity among foreign and domestic entrepreneurs (HIID/CASE, 1998).

Concerning the VAT rate, the imposition on VAT at a *single* positive rate on imports and domestic expenditure and at a *zero* rate on exports, makes it administratively easy. "Currently many countries impose standard VAT rates which range from 15 to 25%" (HIID/CASE, 1998, p. 2). Although theoretically an application of reduced rate to basic goods and services does not influence tax neutrality very much because these goods/services do not compete with others and demand on basic goods/services is almost inelastic, "in practice, however, reduced rate of VAT applied to basic products will lower the tax burden for all groups of population (if they purchased these products) irrespective of their income, thus being *regressive*" (LUZIK, 1999, p. 31). Moreover, "many income inelastic goods are price inelastic as well, hence the distortions associated with taxing different commodities at different rates are greater than often thought to be" (see STIGLITZ, 1988, p. 494).

In general, basic products or poor population can be exempted from tax scope or poor population can be supported by direct personal subsidies or tax credits granted within the personal income tax system. However, "one exemption in the production/distribution chain (especially in the primary sector such as agriculture) complicates the situation of the VAT payers in the next stages of production (because they cannot get a VAT refund) and creates temptation to proliferate exemptions" (DABROWSKI and TOMCZYNSKA, 2001, p. 16). Moreover, exemptions of goods/services from VAT at production level can stimulate vertical integration of enterprises involved in production/trade of exempted suppliers and infringe market competition. If these exemptions are short-term or unexpectedly reversed, the vertical integration based on the preferential taxation is 'dead'. Finally, if different goods are taxed at not uniform rates, such taxation is administratively complex; there are always some commodities that might fall into either high-tax or low-tax categories, and there are thus administrative problems associated with drawing these distinctions (STIGLITZ, 1988)

In summary, this short analysis of the VAT demonstrates that unclear and/or unusual tax rules increase costs of taxation and create many economic distortions. Promotion of standard rules and reasonable tax rates can help to avoid/reduce many these distortions and contribute to the 'good' tax system in the country.

3.4 Land tax

Finally, the government can tax the agricultural land. The defenders of the land taxation usually claim that this tax increases *land use efficiency*. This is especially relevant for the transition economies where "the agricultural growth is expected to sustain from the

transfer of the land from the less to more efficient farmers, who are able to pay higher taxes and offer higher purchase price for land" (VON CRAMON-TAUBADEL and STRIEWE, 2001, p. 240).

Moreover, the land taxation is often considered within the framework of the *regional policy* and *the tax base mobility*. Income tax, for instance, should be relatively uniform across regions, otherwise in the long run people will move themselves or their income to avoid higher tax rates. The same is true of a sales tax, but not (or at least less so) of a land tax. Land is an immobile asset even in contrast to the buildings or other facilities that can be theoretically moved to the other regions. The land tax, therefore, can be an important source of the tax revenue for local administrations to finance the state expenditures at the regional level.

4 The farm taxation system in Ukraine

In the Soviet Union, the farms did not pay taxes in the sense of the market economy. The Soviet agricultural enterprises paid taxes in the centralised united social fund, centralised social insurance fund, other social funds, individual income tax, and farm profit tax. The payments to the **united social fund** were dependent upon the farm profitability. For the profitability rate below 15%, the farms transferred 5% of their gross profits; for profitability rate at 15-40%, the farms transferred 6%; and for profitability rate over 40% – 9%. The tax to the **social insurance fund** was based on the total wage fund at the rate of 2.4%. The rate of the **individual income tax** was equal to 8% with the tax allowance of 70 rouble per month. The **farm profit tax** similarly as the tax to the united social fund was dependent upon the farm profitability. The range of the taxation was the following: the farms paid 0.1% of their net profit if the profitability rate was 25-30%; 0.2 % if the profitability was 30-40%; 0.4% if the profitability was 40-50%; and 0.5% if the profitability was over 50% but not more than 25% of the farm net income (MINAGRO, 1985).

The Soviet tax system, therefore, was inclined to support less efficient farms. The managerial performance was judged above all by success in achieving planned gross output and sales to state, but not to pay taxes and work efficiently. Through its state order system, the state controlled both physical and capital input supply as well as output marketing. The farm managers did not care about the taxes, they thought only about the plan fulfilment disregard to the costs involved (VAN ATTA *et al.*, 1998). The production plans were set so high that most farms had no hope of fulfilling them and remained chronically in debt to the state. "These debts were periodically forgiven, as the state assumed that the country should produce everything it needed and the associated costs, both direct and in terms of foregone alternative uses of resources, were ignored" (VAN ATTA, 2001, p. 83). Independent Ukraine, therefore, inherited poor payment discipline of the farms and the lax attitude towards debts from the Soviet time.

From 1991-1999, the farms were part of the general tax system in Ukraine with some exclusions (for example, exemption from the profit tax). The high rate of farm losses and weak tax payments discipline (or tax evasions), especially in 1996-1999, created the political ground to 'help' the sector and to make it pay at least 'something' to the budget. Moreover, as the low budget incomes did not allow to support the farms through direct transfers, the farm tax reform was seen as the way of the farm subsidisation. In spite of the distortive nature of the implicit subsidisation, this approach was (and is now) politically more appropriate and less visible for consumers and tax payers, thus the new tax system appeared in 1999. The creation of the system began with the introduction of the fixed agricultural tax. Later on the farms were excluded from paying the VAT. The significant tax holidays were granted to the farms until January 1, 2004. In the following the existing farm tax system in Ukraine is considered in details.

4.1 Fixed agricultural tax

Under the pressure of Ukrainian agrarian lobby, in 1999 the Verkhovna Rada introduced the fixed agricultural tax (FAT), which integrated twelve taxes previously paid by the farms.[2] The FAT was considered as the farm subsidy in terms of much lower tax burden and simplicity in calculation and collection of the tax.[3] The FAT was introduced for 5 years to 2004. The tax revenue goes to the Pension Fund (68%), the Social Security Fund (2%), and the local budgets (30%).

The *taxpayers* of the FAT are the farms of different organisational and legal forms which are involved in agricultural production and accounted for over 50% of their revenues from selling agricultural products. The *tax base* of the FAT is the value of the agricultural land once fixed on July 1, 1997. The land value is determined by using the quality and potential productivity characteristics of the land plots and it differs, therefore, among regions substantially. The average land value in Ukraine for the FAT purpose equals to UAH 8,733 per ha, with being maximum of UAH 11,297 in Cherkassy oblast (excluding Kyiv city, Sevastopil and Crimea) and minimum of UAH 6,244 in Zhytomyr oblast. If the tax burden of the farm after the introduction of the FAT is decreased by three (over four) times, the farm has to increase the payments by 1.5 (2) times.

The *tax rates* are specified for two types of the agricultural land: (1) 0.5% of the value of arable land, haying, and pastures, and (2) 0.3% of the value of perennial plantations. In several regions, where the land to be considered much less productive, for example, Polissia zone or the Carpathians region, the tax rates are reduced to 0.3% and 0.1% correspondingly. The calculations of the tax value on due to pay current year have to be submitted to the rayon (local) tax administrations until February 1 of that year. The FAT is paid monthly, but the payment rates depend on the specific quarter. The tax payments are distributed among the quarters in the following way: in Q1– 10% of the annual tax payment; in Q2 – 10%; in Q3 – 50%; and in Q4 – 30%.

From 1999 to 2001, the farms paid only 70% of the FAT (only to Pension and Social Security Funds). The FAT can be paid either by *money or in-kind*. In 1999, many farms paid this tax in-kind, but by 2001, the share of the tax paid in-kind accounted for only 3.3%. In 2001, Ukrainian farms had to pay UAH 405.3 mln of the FAT or around US$ 77 mln, but the actual payment rate equalled to only 81.3%. In 2000, for example, the payment rate has been even lower (75% of accrued taxes). The FAT paid to the budget is very low compared with the potential tax obligations if the farms were taxed under the normal tax legislation of Ukraine. The estimated annual tax privilege equals roughly to UAH 1400 mln (MAPU, 2002).

4.2 Value-added tax

The agricultural enterprises in Ukraine have special provisions concerning the accrual and payment of the VAT. *First of all*, the farms are exempted from paying the VAT to the national budget during the period 1999-2004. The accumulated VAT received from sales must be deposited at the special bank accounts and used only to purchase the agricultural production inputs. The usual tax rate is 20% and the tax base is determined as a difference between the taxes accrued from output and taxes paid for purchased inputs. The exempted VAT value is estimated to be UAH 493 mln per year (MAPU, 2002).

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[2] The most important among them are land tax, profit tax, automobile tax, individual income tax, payments to the Pension, Social Security and Unemployment Funds, fee for the pollution of the environment, and communal tax. See Law of Ukraine "On Fixed Agricultural Tax" on December 17, 1998.

[3] According to SEROVA *et al*. (2000), the tax burden of Ukrainian farms decreased by three times in comparison to 1997.

Second, the producers of milk and meat apply zero VAT rate for their products that may raise the demand for these products.[4] Moreover, 70% of the VAT received by the processing plants from selling milk and meat products is returned to the farms, while the Ministry of Agricultural Policy accumulates another 30% to finance the livestock breeding. According to the MINISTRY OF AGRICULTURAL POLICY (2002), the VAT for supporting milk and meat producers in 2001 equalled to UAH 684.3 mln, while the financing of the stock breeding equalled to UAH 95.3 mln.

In general, such a VAT administration in both cases undermines the state budget management in Ukraine. There is a general principle that tax revenue should always enter the budget as a whole and not be 'earmarked' for specific expenditures, i.e. unified budget instead of many little sub-budgets.

4.3 Other taxes

Often the agricultural enterprises, which lease the land, pay the **land tax** for the leased land. Actually the landowners must pay this tax, but for the tax administration it is easier to deal with one large enterprise instead of hundreds pensioners and farm workers. Later the agricultural enterprises probably reduce their leasing payments at the amount of paid tax (i.e. the tax burden is passed on to the land owners). The rates of the land tax equal to 0.181% of the value of arable land, hayfields and pastures, and 0.0543% of perennial plantations.

The farmers pay the **fee for environment pollution**. This tax is accrued on the fuel consumed and the tax rate equals to UAH 3 per ton of purchased fuel. This tax is distributed between the national (30%) and local budgets (70%).

The farms, which produce and sell alcoholic beverages and beer, must pay 1% of the revenue from selling these products to the national budget. This tax is used for **development of viticulture, horticulture, and hop production** in Ukraine.

Finally, since 2001 the additional tax payments for farms were introduced – **payroll taxes to the Pension, Social Security, and Unemployment Funds**. The Pension fee is based on wages paid, equalling to 1% of the wage up to UAH 150 per month and 2% over this wage. The payments to the Social Security Fund equal to 0.25% of the wage up to UAH 150 per month and 0.5% over this wage plus 0.2% of the wage to the special security fund to insure against accidents during the work or professional disease.

4.4 Tax burden in Ukraine

Based on data from the Ministry of Agricultural Policy (2002), the farms paid approximately UAH 500 mln in 1999, UAH 600 mln in 2000, and UAH 1100 mln in 2001 to the state budget. The farm tax burden in Ukraine, measured as a percentage of taxed paid to gross agricultural output, equalled to around 1.5% or UAH 30 per ha of agricultural land during 1999-2001. If the farms paid all taxes (see table 1), the tax burden in 1999 would increase to 10.5%, in 2000 to 6.7%, and in 2001 to 5.8%.

According to SEROVA *et al*. (2000, p. 26), the tax burden in the EU ranges from 3 to 11%, being the lowest in Germany (3.5% without state subsidies and 2.3-3.1% with state subsidies) and the highest in Italy (11% without state subsidies). In the U.S. agriculture, the

[4] The increase of the demand depends on the price and income elasticity of the demand. In the developed economies both are lower than one, meaning inelastic demand. In Ukraine, the elasticities could be larger than one taking into account low initial income and rate of meat/milk consumption. For example, ZORYA *et al*. (2001) use the price elasticities for meat/milk close to one and the income elasticities larger than one in their partial equilibrium model of Ukrainian agriculture.

tax burden on average equals to 9% when the state subsidies are included to the farm income, and 10% - without them. The tax burden of Russian agriculture in 1997 equalled to 18.7%.

The international comparison demonstrates that current farm tax burden in Ukraine is very small, and the possible tax burden, when the tax privileges are abolished, lies within the range of the OECD countries and Russia (see Appendix).

5 Analysis of the farm taxation in Ukraine

5.1 Farm tax system and macroeconomic stabilisation in Ukraine

The farming is done not in isolation from the overall economic activities. The farm taxes affect the macroeconomic balance in the country through a number of channels, which are mostly invisible. Very often the agriculture becomes the hostage of these invisible effects, because the macroeconomic destabilisation does not leave farms out. The most visible effect of the farm taxes is the impact on the state budget. Although this effect can be relatively small, the dynamic aspects in the long run certainly play considerably larger role. Implicitly the farm tax system affects the other sectors of the economy, the macroeconomic balance, and the export activity. These issues are now considered in turn.

5.1.1 Farm taxes and state budget in Ukraine

The farm taxes have direct impact on the state budget of Ukraine. The key indicators of the explicit impact of the tax system of Ukrainian agriculture are presented in the table 1. The total farm tax privileges in Ukraine are large, equalling to around 1.5% of GDP during the observed period. Under the existing tax system, the farm taxes account for around 1.2% of the total budget incomes, while the share of the income not received from the agriculture due to the special tax treatment is estimated to 16% of lost budget revenue during 1999-2001. Finally, in the case of normal tax treatment of the agriculture, the budget balance could translate from the budget deficit to the budget surplus in 1999 or from almost zero balance in 2001 to the surplus in 2% of GDP. These results support the findings of LEGEIDA (2001), who states that the agricultural sector is among the largest net beneficiary in Ukrainian economy. Finally, as the share of the agriculture in Ukrainian GDP equals to around 12%, it is clear that the agriculture is taxed much less that it should be.

Table 1: Farm tax system and the state budget in Ukraine, 1999-2001

	1999	2000	2001
Farm taxes paid, UAH mln	500	600	1100
Total farm tax privileges, UAH mln	3407	2909	2677
Share of different tax privileges, in % from total privileges			
Fixed agricultural tax	47.2	55.3	52.3
Value-added tax	35.2	41.2	44.8
Tax arrears	17.6	3.5	2.9
Farm tax privileges as a share of GDP, %	2.6	1.7	1.3
Share of agriculture in total GDP, %	11.4	11.0	14.7
Share of farm taxes in total government revenue, %	1.1	1.0	1.5
Share of farm tax privileges in total government revenue, %	7.8	4.6	3.7
Budget balance as a share of GDP, %	-1.4	1.2	0.3
Budget balance as a share of GDP without farm tax exemptions, %	1.2	2.9	1.9
Budget balance without farm tax exemptions, UAH mln	1908	4801	3249

Note: The budget income and budget balance include the Pension Fund.

Source: Own calculations based on MINISTRY OF AGRICULTURAL POLICY OF UKRAINE (2002) and UEPLAC (2001).

5.1.2 Indirect impact of the farm tax system in Ukraine

The indirect impact of the farm taxation is channelled through an increased tax burden on other sectors of the economy and a discouragement of the export activity *via* the influence of the export VAT and the real exchange rates.

Tax burden on other sectors

Generally, the higher tax privileges the agriculture has, the higher the tax burden on other economic activities under the assumption of constant budget expenditures is. As the assumption of the relatively constant budget expenditures holds in Ukraine, the final bill is paid by the other sectors. According to LEGEIDA (2001), the main beneficiaries in Ukrainian economy are the agricultural and industrial sectors (though energy and gas sectors are net payers), while the net payers are the transport and communication, the construction, and the service sector. The lower tax receipts from the agriculture, therefore, have to be compensated through the increase of the tax burden of the sector, which already support Ukrainian agriculture and the economy as a whole.

Higher tax burden on other sectors of the economy is aggravated by the incentives of the resources to move to the subsidised sectors. "The agricultural tax privileges, for example, are the strong incentive to retain agriculture as a fundamental feature of the production structure, even though market demand might require a shift into services or other kind of production" (LEONARD, 2000). Thus, higher tax burden on non-agriculture is accompanied by the unequal access to the production factors. In the long run this situation inevitable decreases the efficiency of the non-agricultural sectors with correspondent negative consequences for the budget income and the overall economic growth. At the same time, as the agribusiness becomes profitable in the future, potential tax revenue from the agriculture will be lost.

Export promotion

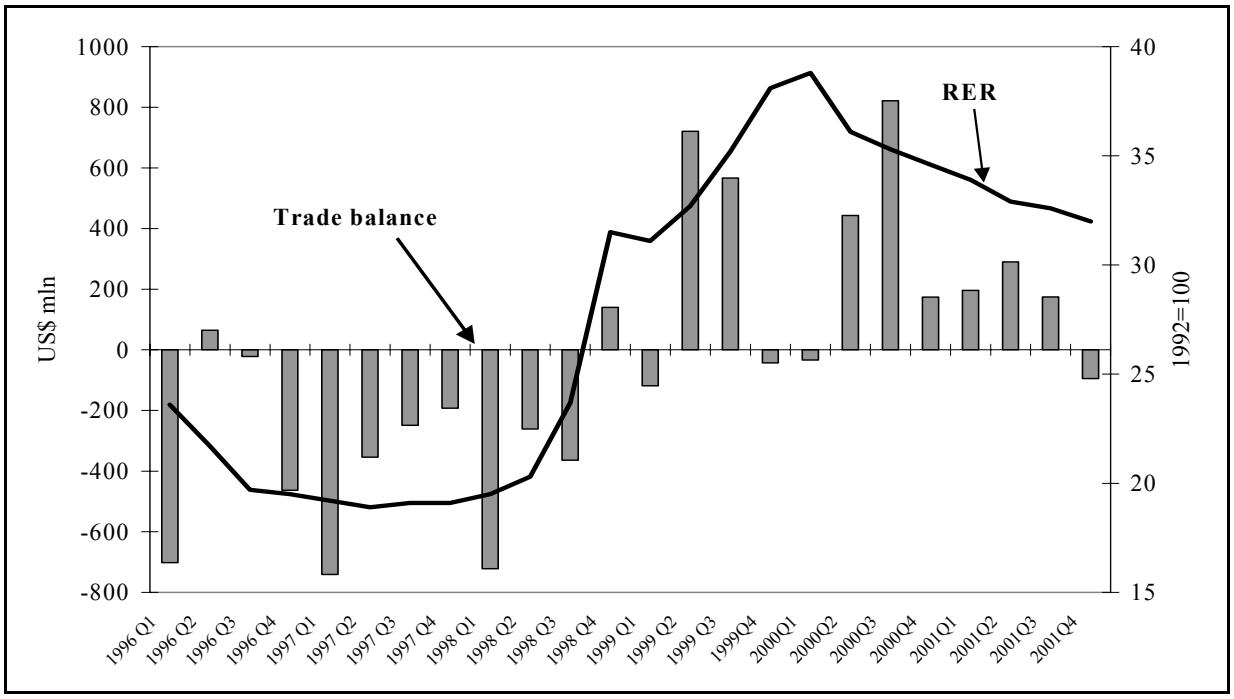
At least two channels through which the agricultural taxation affects the export activities are the **export VAT management** and **the real exchange rate (RER)**. Ukrainian Government accumulated significant debts of the export VAT that seriously hurts macroeconomic stability and discourages the exports (CECH and LEGEIDA, 2002). At the end of 2001, the export VAT debts equalled to UAH 5.8 bln, including UAH 2.1 bln overdue.

Looking at the VAT privileges for the agricultural producers (see table 1), the total farm VAT exemptions during 1999-2001 equalled to UAH 3.6 bln, i.e. the amount that easily covers more than 50% of the export VAT debts.

Moreover, there is the suspicion that the agricultural traders, being constrained by the Government debts on their VAT, put additional pressure on the farm-gate prices, adding the expected losses to their marketing costs. The German Advisory Group on Economic Reforms emphasised the importance of the efficient marketing cost system for the agricultural producers many times (see latest papers in VON CRAMON-TAUBADEL *et al.*, 2001). The non-returned export VAT just means the additional cost element in the marketing chain that damages farmers rather than traders.

Finally, the farm tax exemptions affect the **real exchange rate**, which is an important determinant of the total and agricultural exports (see figure 1). In the years of the RER appreciation (1996Q1-1998Q1), the trade balance in Ukraine has been always negative. After the financial crisis of 1998, the RER sharply depreciated, initiated strong export growth. This RER depreciation was among the main engines of the economic growth in 2000 and 2001 (see IER, 2002; VON CRAMON-TAUBADEL and AKIMOVA, 2002). Certainly the RER helped the agriculture to start to recover in those years.

Figure 1: Effects of the RER on total trade balance in Ukraine, 1996-2001



Note: The RER is defined as the nominal exchange rate of UAU/US$ multiplied by PPI in the US and divided by CPI in Ukraine. The trade balance is the total trade balance of goods and services.

Source: Own presentation based on UEPLAC (2001).

The management and sustainability of the RER are, therefore, in a paramount importance for long run agricultural competitiveness and overall economic growth. The path of the RER is determined by many variables among which is the budget deficit as a share of lagged high-powered money (monetary base). According to ZORYA (2002), a 1% increase of the budget deficit as a share of lagged monetary base induces 0.26% appreciation of the RER. Using the data on farm tax privileges in Ukraine and their impact on the budget balance from the section 5.1.1 (assuming the monetary base to stay constant), the elimination of the farm

tax exemptions would push the RER to depreciate by 7.1% in 1999, 4.3% in 2000, and 2.9% in 2001 compared with the level it was in these years.

5.2 Impact of the farm tax system on agricultural development in Ukraine

Along with macroeconomic effects, the farm tax system in Ukraine affects the farm size, the production factor composition and an intensity of their use, an output diversification, or use of the tax shelters. Important element of the agricultural taxation in Ukraine is the fixed agricultural tax. Certainly this tax has its advantages, beyond its very low burden on farmers:

- The FAT is relatively **simply** to calculate knowing the land areas, land value, and the tax rates. Taking into account the complexity of the tax system in Ukraine, the simplification of the farm tax system is a very constructive step, though it should be a vital ingredient in economic reform for all sectors, not only agriculture. The simplicity allows to save time for tax calculations and allows farmers to make long-term plans.
- A very important advantage of the FAT is the **low opportunity for local administrations to intervene** into the farm activities through the tax administration. This positive aspect of the FAT was probably even more important than the low tax burden to encourage recent agricultural growth through independent business decisions within farms and the sector as a whole.
- The FAT does not require that farms carry out complex **tax accounting**. It may save time of the accountants to improve the management accounting in the farms or to introduce the accounting based on the international standards, which is underway in other sectors of Ukrainian economy. At the same time, it is a pity if the farms stop to do proper accounting, being out of power of the tax administration. In this case, the access to the private credits becomes looser and return to the other tax system based on the income, for instance, in the future will be very complicated.
- The FAT can be a good tax for the **subsidiary private households** in the future, who posses few hectares of land or several cows. They can hardly keep accounting books (in contrast to the large agricultural enterprises) and their individual income, therefore, can be taxed based on the fixed agricultural tax. Most small farms in the developed countries are taxed in this way (see Appendix).
- Some defenders of the FAT say that it raises the **land use efficiency** (see SEROVA *et al.*, 2000). In this case the FAT taxes 'bad' land users. In general this is true but the key is the tax rate, which the land user has to pay. If applied at a very low rate, the FAT will probably have little impact on the efficiency of land use.
- In 1996-1999, the tax arrears proliferated significantly in Ukraine. The farmers did not pay substantial part of the accrued taxes and the budget loans. The introduction of the FAT allowed to make the farmers **increase their tax payments** (see table 1). The farmers do not have incentives to hide their sales and pay the wage in-kind for the tax minimisation reasons, as many farms do in the developing countries (AHMAD and STERN, 1991; KHAN, 2001).

However, there are also disadvantages of the fixed agricultural tax, which may affect the sector differently in the short and long run:

- **The FAT does not comply with the 'ability to pay' principle** (see page 3, vertical equity) – the more output the farm produces, the lower its relative tax burden. Taking into account that the tax system is usually based on the principles of progressivity and social equity, when the people with higher income pay more, or at least on the principle of proportionality, when all people and firms have equal tax burden dependent on their income, the FAT greatly distorts the efficient tax system.

- The farmers pay the same amount of the tax in the years of high harvest, as well as in the years of low harvest, i.e. there is **no auto-stabiliser effect** (LEONARD, 2000). In Ukraine, where the FAT is around UAH 10 per ha and the possible net profit can reach over UAH 200 per ha by producing grain or sunflower seeds, this danger may be not the case.[5] But if the tax rate becomes higher, in the 'bad' years the tax inflexibility can cause liquidity problem for the farms. This is especially important for Ukrainian agriculture, where farms income is significantly exposed to the risk due to the absence of the futures markets or crop insurance.
- The FAT differently affects the farms in different regions. Comparing two regions with the similar climatic conditions and land quality, for example Lviv and Ivano-Frankivsk oblasts, we can see the different average rate of farm profitability in 2000 (UAH 33 and UAH 72 per ha of agricultural land correspondingly), though the average FAT per hectare of agricultural land in Lviv oblast is just 20% less than in Ivano-Frankivsk oblast (SSCU, 2001; MAPU, 2002). As current land productivity differs from the productivity of ten years ago that serves as the basis of the land value for the FAT, the farms find themselves in unequal position – "**the burden of the tax as a fraction of the land value is greatest where the land is least productive and lowest where it is more productive**" (see also LEONARD, 2000).
- This tax is **biased against crop producers**, being based on the agricultural land. It is true that the livestock producers usually posses the pastures to feed the animals or cultivate the arable land to produce feed crops, but the relative burden on the crop producers remains much higher. If the livestock production is intensified, for example poultry production, this bias even increases. On average the livestock production in Ukraine is unprofitable and the policy makers often claim that "it requires the state support" therefore, but what can be true on average, often not true as a whole (ZORYA and VON CRAMON-TAUBADEL, 2002). According to VENEMA (2002), the profitability rates of the best Ukrainian dairy farms reach the level of the typical German dairy farms. The profitability rate of German farms in milk production varies from 13 to 26%, while this rate in Ukraine equals to 24-26%.[6] The farm success depends on the management capability – good farm managers receive similar results in producing either crop or livestock products (VON CRAMON-TAUBADEL and BENECKE, 2001).
- The requirement of the FAT Law to call the enterprise **"agricultural"** (to have 50% of the revenue from the sales of own agricultural and processed products) encourages to create **large agribusiness holdings** (VON CRAMON-TAUBADEL, 1998). These corporate structures with higher transaction costs get often artificially created nonetheless for purely tax reasons. The FAT impedes the development of small non-agricultural businesses in the rural area and directs investments only to the agricultural sector. This results in hypertrophied agriculture and underdevelopment of social infrastructure, services and other non-farm activities. Furthermore, if the holdings are created to optimise the taxes and once the tax privileges are abolished, they could easily leave the sector without significant financial losses. But what is left for the lessors and other rural population? The underdeveloped land leasing market (because large land leasers monopolise it), the poor social infrastructure, and the rural unemployment.
- The current tax system in Ukrainian agriculture supports **labour inflow** in the sector, as the employer (agricultural enterprise) does not pay payroll taxes per person

[5] See ZORYA and VON CRAMON-TAUBADEL (2002) on net margin calculations for crop products in Ukraine on average and for the best farms.

[6] The profitability rate is calculated as the profit divided by revenue (German methodology).

employed. The agricultural employment is already high in Ukraine, equalling to 22% of the employed population (SSCU, 2001). Especially labour intensive is the livestock production. In Germany, for instance, the rate of the farm labour in milk production consists of only 10% of the rate in Ukraine (VENEMA, 2002). Although the crop production is less labour intensive, the labour share is still much higher than the sector requires in the long run. It is well known that the success of the agricultural development in the OECD countries and many Central European transition economies was maintained due to substantial labour outflows from the sector. While the technical change pushes the farm prices down and the food demand is inelastic, the income per capita in the agriculture can only be sustained *via* continuos labour outflow (see SIRIN and ZORYA, 2001; SWINNEN, 2001). In Ukraine, the agriculture even without FAT served as a buffer sector against low employment opportunities in the non-agriculture. The FAT aggravates this problem further not only through attracting more labour to the farms, but also through discouragement of the job creation outside of the agriculture. The privileged farm taxation takes limited resources (not only labour) from other sectors and directs them to the agriculture, though their efficiency use can be much lower than in manufacturing or service. This redistribution diminishes the economic growth in other sectors (see section 5.1), leaving the "farm problem" (with farm overemployment) unsolved.

- Last, but not at least important is the trade off between long-term agricultural policy strategy and the tax system in Ukraine. Ukraine aims to join the **World Trade Organisation** (WTO). The farm tax exemptions or simplifications within the framework of the general taxation system are often not considered by the WTO as the subsidies to the farms (SEROVA *et al.*, 2000). In contrast, the fixed agricultural tax and certainly the value-added tax exemptions are considered to be the subsidy, because the FAT is completely new tax, which represents an explicit subsidy to the farms in comparison to other sectors of the economy. The level of the Aggregate Measurements of the Farm Support (AMS) in Ukraine is not fixed yet, but there is high probability that Ukrainian Government will accept the farm support level during the period 1997-1999 as the base one which hardly exceeds $600-800 per year. In this case, only tax privileges equal to around UAH 3 bln (or US$ 570 mln) per year or almost the total AMS commitments that Ukraine cannot step over. If one adds partial interest rate compensation or cattle weight subsidies, Ukrainian WTO commitments may be unmet.

6 Conclusions and policy recommendations

Taxes play a very important role in the market economy. Taxes influences the distribution of income (and wealth) and the allocation of resources, and play an important role in stabilising the economy. In the transition economies, such as Ukraine, the reform of the tax system is expected to ensure tax neutrality across sectors, a stable and optimal tax revenue to finance the government social expenditures, and low level of the shadow economy.

Agricultural sector can be taxed in different ways. Usually the governments tax individual and corporate incomes, value-added, and agricultural land. Farm taxation affects the number and size of farms, their organisational structure, and the amount and relative mix of land, labour, and capital inputs. More simply and transparent tax is, the higher efficiency of the tax system is achieved. The uniform tax rates are also important in encouraging the neutrality of the taxes and the efficiency as a whole.

The farm tax system in Ukraine is highly preferential with the tax burden of UAH 30 per ha (or around 1.5% of the GAO) instead of UAH 98 per ha (or around 7% of the GAO). Until 2004, the tax system is based on the fixed agricultural tax and currently exempted VAT. The farm tax system greatly affects the macroeconomic stability in Ukraine, influencing

explicitly the state budget and implicitly non-agricultural sectors and export activities. Concerning the agriculture itself, the simplicity and transparency of the FAT certainly increase the farm profitability. From the other side, unmet principles of neutrality and equity with the bias of large scale farming and labour overemployment deprive the long-term sustainability of the agricultural growth, which was partially achieved through the tax privileges. In this respect the farm tax system in Ukraine is not efficient and the tax burden on the agriculture is too low.

To improve the current farm tax system in Ukraine, we suggest the following policy recommendations:

- Ukrainian Government should adopt a new farm tax system based on the farm incomes. This suggestion is based on the belief that the large farms are able to keep accounting books to precisely estimate their incomes and expenditures and that the definition "agricultural enterprise" is almost impossible to set in a manner that will prevent it misuse (i.e. creation of 'artificial' agribusiness holdings). But the farm income based taxation in Ukraine brings its fruits only if the farmers are not influenced through the local tax authorities to produce what the local administrations require. The low opportunity to intervene into the farm activity was maybe the strongest advantage of the fixed agricultural tax.
- The VAT privileges should be abolished to avoid macroeconomic and sectoral distortions. The VAT rate should not differ from the VAT rates on other goods. Lower VAT rate for the agricultural products will not only help the farmers, but it will punish farmers through different invisible distortions.
- The land owners should pay land tax to the local budgets as the land is immobile assets by taxing which the local government can get a stable tax revenue to finance the local social expenditures and infrastructural development.
- The Government may continue using the FAT for small farms or private households. International experience shows that the small farmers are usually treated differently compared with large commercial farms and the schemes, such as the income averaging or tax fixing, are often used to avoid significant monitoring costs by taxing these farms similarly to other businesses (in Germany, for example, there are 400,000 farms, mainly small ones).
- Finally, the issue of the farm tax burden relates not only to the agriculture, but also to the tax burden of other sectors of the economy. The overall tax reform in Ukraine is urgently needed to reduce the general tax burden on the economy and to manage collected taxes much better to promote the equity while minimising efficiency losses. Hence, the adoption of the Tax Codex should fairly distribute tax burden across individuals and sectors.

7 Appendix: "International experience with farm taxation"

This appendix presents the farm tax systems in the USA and the European Union (EU). This short presentation looks at the tax systems applied in the mature market economies that could be considered as a good example of the farm tax systems of advanced agricultural sectors. The experience of these countries may be in great use for building the tax system of the agriculture in Ukraine. Then the tax system of Russian agriculture is shortly presented. We do not consider other countries mainly due to the little new insights and/or lack of the comprehensive information.

7.1 Taxation of the U.S. farms

The U.S. farmers, like other taxpayers, are subject to a variety of taxes at all levels of government. At the Federal level these include income taxes, social security and self-employment taxes, and estate taxes. At the State and local level, the most significant taxes include property and income taxes. Other taxes such as excise taxes, corporate income tax, and retail sales taxes are significant for only small number of farmers (ERS, 2002). Later we will consider the Federal tax policies only, as adding the State taxes will make the analysis more complex without bringing any new insights (see table 2).

The U.S. farm tax system is very complex; much of the complexity is due to a variety of special provisions that target benefits to specific groups or activities. That is why around 85% of farm sole proprietors use a paid accountant to file their annual Federal income tax returns (ERS, 1999). The U.S. farmers maximise their returns from two sources – *the agricultural production and the tax system* (DAVENPORT *et al.*, 1982). Maximising these returns requires different management skills and sometimes introduce conflicting factors into the decision making process. Farmers who are not able to increase their total return by managing their taxes must survive on the return from farm products alone, and they can find themselves at a competitive disadvantage to farmers who are able to earn high returns from agriculture and to minimise tax costs. Sometimes the investments in the land or breeding stock are driven mainly by the desire to reduce taxable income rather than increase production efficiency. For example, the use of different tax shelters, which become looser over time, resulted in farm output surpluses, especially livestock and orchards and vineyards (DURST and MONKE, 2001). Actually, the Federal income tax policies encouraged farmers to alter management practices to maximise after-tax returns.

Table 2: Taxes paid by the U.S. farm households in 1996[7]

	Taxes in US$ billion	Share of each tax in the total taxes, %
Federal income taxes	19.2	48.2
Social security and self-employment taxes	10.2	25.6
State and local property taxes	5.2	13.1
State and local income taxes	4.7	11.8
Federal estate taxes	0.5	1.3
Total	39.8	100.0

Source: ERS (2002).

The most important farm household tax is the **Federal income tax**. Most farm income is taxed under the individual income tax rather than the corporate income tax. This is because

[7] The share of the farm taxes paid in the Federal budget accounted only for 2% of all Federal budget incomes in 1996 (IFS (2002)). Tax burden on average equals to around 9% while the state subsidies are included to the farm income, and 10% - without them (see SEROVA et al. (2000)).

most farms are operated as sole proprietors. Even farms organised as small business corporations, partnerships, or limited liability companies are taxed on a pass-through basis at the individual level (ERS, 2002).[8] Most farmers are taxed at the 15% marginal tax bracket. Although most commercial farms report profits, two-thirds of all farm proprietors have taxable farm losses that later offset non-farm income. Therefore, most of the Federal income tax is paid by those in higher tax brackets and is paid on non-farm income. In 1995, for example, 53% of farm sole proprietors were in the 15% tax bracket, but they paid only 20% of the Federal income taxes paid by farmers. In contrast, 5% of farmers in the top three brackets (31, 36, and 39.6%) paid 54% of the taxes paid by farm sole proprietors (DURST and MONKE, 2001, p. 5).

The main source of the income for farm sole proprietors is the off-farm income, while around 66% of these farms in 1996 reported net losses from farming. Because the Federal tax system allows these farmers to offset off-farm income by the farm net losses, they can greatly decrease their taxes paid. It does not mean that the farming is unprofitable, but often that many very small farms use the possibilities to deduct farm expenses from the low farm gross profits just to increase their total after-tax income. The trick is that the farmers can benefit from both general tax provisions available to all tax payers and from provisions specifically designed for farmers. Some of these provisions that are responsible for this treatment include the current deductibility of certain capital costs, capital gains treatment of proceeds from the sale of farm assets for which development costs have been deducted against regular income, cash accounting, and farm income averaging (DURST and MONKE, 2001).

First of all, the farms receive *capital gains treatment of farm assets*. Among the farm assets eligible for such treatment are farmland and livestock held for dairy, breeding or sporting purposes. Capital gains income received from the sales of these assets is taxed at rates lower than ordinary income. Capital gains are heavily concentrated among the wealthiest taxpayers, as they have higher access to finance the asset's purchase.

Second, the farmers are able to *deduct the cost of developing certain farm assets in the tax year when the costs are incurred or paid*. Examples of pre-productive development costs include raising dairy, draft, breeding, or sporting livestock to their age for mature use, clearing land and building long-term soil fertility by applying lime, fertilisers, and other materials. Expensing of development costs causes a mismatching of expenses and income. This mismatching is used to generate deductions or losses that can be written off against income from other sources (DURST and MONKE, 2001).

Third, the farmers can use the *cash accounting* method to deduct expenses in the year they are paid and income is recognised in the year it is received. As inventories of both inputs and outputs are ignored in determining farm income, it permits the farmers to optimise their income by accruing output inventories (that would be not justified without the tax interaction) and prepaying expenses flexibly. "Around 98% of farm sole proprietors use the cash accounting method, while relatively small number of very large family farm corporations – mostly raising livestock, fruits, or vegetables – are required to use the accrual method of accounting which is standard method for most non-farm businesses with inventories" (DURST and MONKE, 2001, p. 15).

Agriculture is a capital-intensive industry. In addition to the large investment in land, farming requires substantial investments in buildings, machinery, and equipment. As a result, the system governing the recovery of these capital costs is particularly important for the agricultural economy – not only for farmers, but also for machinery manufacturers, builders,

[8] The most common form of US farm organisation is the sole proprietorship, comprises 86% of all farms and 52% of total sales.

and dealers in local communities. The capital cost recovery system has a substantial influence on the amount and composition of farm business investments. It specifies the timing of tax depreciation deductions and the levels of investment tax credits, if any. Under current U.S. policies, depreciation deductions for investment in farm property are less favourable than deductions for non-farm property. "However, *the increase in the amount of investment can be immediately deducted* which allows most small farms to write off all of their investments in depreciated capital" (DURST and MONKE, 2001, p. 19). This constitutes the fourth tax privilege for U.S. farmers. The amount of the deductions is limited to $200,000 per year. Larger farms that invest in excess of this amount are either not eligible for the deductions or are allowed to expense a reduced amount.

Fifth, the Federal income tax provisions allow *to deduct nominal interest rate and property tax payments and to get some capital gains*. Interest and property tax deductions are worth more in tax reductions for taxpayers in higher tax brackets. Likewise, preferential capital gains tax offer greater effective tax reductions to those in higher tax brackets. These provisions have combined to make farmland, like many other real estate investments, an attractive tax-favoured investment during the inflation periods.

Next very important farm tax is the **social security and other labour taxes**. "Social security tax burden has risen dramatically in recent decades because of increase in both the tax rate and the amount of income subject to taxation" (DURST and MONKE, 2001, p. 28). The social security tax is a flat rate with a maximum taxable amount. In 1990th the tax rate equalled to 15.3 % and it includes the medical insurance, old age, survivor and disability insurance taxes. The farms, which employ 10 or more workers, or pay cash wages of $20,000 or more for agricultural labour, have to pay Federal unemployment tax. The current rate is 6.2% of the income. As most farms are highly mechanised and employ little hired labour, they are not affected by the unemployment insurance tax (ERS, 2002).

The third important Federal tax is the **estate and gift taxes**. Estate and gift tax receipts historically accounted for a relatively small share of total annual Federal revenues. While the aggregate importance of these taxes is small relative to other Federal government revenue sources, the potential impact of these taxes on an individual or group of individuals, such as farmers and other small business owners, can be substantial. There are two special provisions which influence the farmers: the special valuation of farmland and the instalment payments of estate taxes. The method used to value farmland for use value purposes is to divide the 5-year average annual gross cash or share rental for comparable land in the area, minus State and local real estate taxes, by an average of the annual effective interest rate for the year of death. For most farms, the use valuation law can reduce the value of the real property portion of qualifying estates by 40 to 70%, with the largest reductions occurring for farmland which has residual or commercial development potential. The second special provision for farmers and other small business owners is aimed at the liquidity problem that these businesses can face as a result of having a large portion of the estate in land and other relatively illiquid business assets. "Federal estate and gift taxes generally must be paid within 9 months of the date of death. However, when at least 35% of an estate's value is a farm or closely held business, estate taxes may be paid over an additional 14-year period" (DURST and MONKE, 2001, p. 32).

Coming not very deep into the U.S. farm tax system, the most significant implications of the U.S. tax policies for the farmers are particularly notable in tax burdens, land prices, the ownership of capital assets, the cost of capital relative to labour, the size and organisational structure of farms, management, and product supplies and prices:

- There is no empirical support to prove that the special farm tax provisions ensure lower tax burden for farmers than for other taxpayers (MONKE and DURST, 1998). Although farmers benefit from a variety of tax provisions and these provisions are

likely to reduce the progressivity, the benefits are distributed among different individuals and no common conclusion can be made.

- U.S. Federal income tax policy stimulated capital investment and encouraged the substitution of capital for labour in the agriculture. Tax policy is one from many factors that may have placed a role in this trend. Tax incentives for capital investment in the early 1980's clearly encouraged the use of capital, while payroll and other labour taxes discouraged the use of farm labour. However, this tax-induced substitution of capital for labour may have been relatively minor compared with other non-tax factors. Tax policy merely strengthened an existing trend caused primarily by other factors such technology developments (DURST and MONKE, 2001).
- Federal income tax, estate, and gift tax policies helped to concentrate farmland ownership with high-income farmers and non-farmers, reducing opportunities for beginning farmers (i.e. lock-in effect).
- Farm tax shelter opportunities stimulated a large share of the investments based on the principles of the tax-minimisation rather than efficiency maximisation (ERS, 1999).
- Federal income tax, estate, and gift tax policies supported growth trends in the number of very small and very large farms.
- Finally, the tax policy encouraged the agricultural production, resulting in the lower farm-gate prices. According to HERTEL and TSIGAS (1988), eliminating tax differences would raise the household price for food by 2-4% as farm output decreased, particularly shifting away from livestock and feed grains into oilseeds and other crops.

Although current Federal income tax system contains a broader base and lower marginal income tax rates with fewer opportunities to shelter income through exclusions, deductions, and credits compared with the system that existed in the U.S. two decades ago, the U.S. Congress considers the possibility to introduce flat income tax rate to further increase farm efficiency and the efficiency of the tax system through the avoidance of the above-stated problems (ERS, 1999).

7.2 Taxation of agriculture in Europe

The analysis of the farm taxation in the European Union (EU) is much more difficult to conduct compared with the United States.[9] The reason is that the EU consists of fifteen members and the tax policy, in contrast to the monetary or agricultural policies, for example, is still in the 'national sovereignty' of each EU member. One of the similarities in all countries is the structure of the farms – the normal business form for agriculture is the one-man business (similarly as the farm sole proprietors in the USA). The number of legal persons conducting agricultural business is normally very low. The reasons for this are the demands or restrictions in law and the fact that there is no tax incentive compared to the one-man business.

The rate of taxation in the EU countries is generally higher than in average for the OECD. In 1998, the average tax quota (i.e. the ratio of total taxes and compulsory social security contributions to GDP) in the EU equalled to 41% with lowest rate in Ireland (32%) and highest in Sweden (53%) and Denmark (49%). These tax quotas are much higher than in the United States (29.7%). Actually, the tax burden differs among countries in dependence upon functioning of their welfare systems.

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[9] The analysis of the farm taxation in the EU is based entirely on the comprehensive overview made by OECD (2000): *Taxation of Agriculture in Europe: A Guide to Agricultural Income Tax*. See also SEROVA *et al*. (2000) with the review of the farm tax policies in different countries (this report is available in Russian).

The farmers in the EU pay similar taxes as other taxpayers. The most important taxes include individual income tax, corporate income tax, tax on property, gift and inheritance, tax on goods and services, and social security fees (see table 3).

Table 3: Structure of tax revenue in the OECD countries, 1998

	Individual income tax	Company tax	Property	Goods and services	Social Security	Special wage taxes	Other taxes
Denmark	53.8	3.7	3.7	32.0	3.2	0.5	3.0
France	14.0	3.7	5.3	27.1	43.4	2.4	4.0
Germany	26.5	2.9	2.6	28.7	39.1	0	0
Netherlands	20.3	7.3	4.1	25.8	42.1	0	0.5
Sweden	36.7	5.4	3.2	25.8	27.2	1.3	0.1
UK	27.9	8.0	10.8	35.3	18.0	0	0.2
OECD	27.5	7.5	5.2	31.9	25.9	0.8	0.8
EU	26.5	6.4	4.3	31.4	29.2	0.9	1.0

Source: OECD (2000).

Personal income tax is the very important tax in the most EU countries. In many EU countries the small farms are not obliged to keep books to account for their income. Normally, the income is calculated according to a simple accounting of business affair in a receipt and over expenditure system or 'income averaging' (unit-valuations). Understanding that the accounting gives true and fair view of the income and economic position, some countries, like France, Germany, and the Netherlands, encourage farmers to keep accounting books by allowing them to deduct the costs for hiring accountants (or other costs) from their income. In the East Germany, the large farms keep the books.

The tax rate brackets for farmers in the EU are the same as for other taxpayers. The highest marginal income tax brackets range from the highest 60% in Sweden and lowest 40% in the UK. All of the countries have the progressive tax rate schedule. The long-term trends in general in the investigated countries are that (1) basic personal allowance increases, (2) the number of tax brackets in reduced, and (3) maximum margin tax rate is lowered. Four of the countries, Denmark, the Netherlands, Sweden and United Kingdom, do not have a specific category of income concerning farmers. Germany and France have special rules concerning what is considered farming income. The reason for a special tax regulations concerning farmers are a strong belief that agriculture and forestry have to face numerous problems not relevant to other fields of economic activities. For instance in Germany, agricultural and forestry businesses are exempted from the special tax for business levied by the German municipalities. Also for small farms not obliged to undertake bookkeeping are allowed to fix the taxable profit due to an 'average amount'. In contrast, corporations/limited companies in France and Germany can not use the special rules for farming income.

The system of expenses' deductions in the EU is not so farming-biased as in the United States (see section 7.1). For example, none of the countries have special rules concerning buildings for farm production compared to other business (the *depreciation* varies from 6% per year during 10 years in Sweden to 4% per year in Germany or economic useful life in France/Netherlands). Usually the farmhouse depreciation (and repair and maintenance costs) is allowed to deduct only if the real estates is in the balance sheet assets. In the UK, for example, the farmers do not have opportunity to include depreciation when determining the taxable income, while they are granted by the capital allowances.

Most EU countries have *'start up support'* for new farmers to encourage newcomers in business. The starters are granted by special loans or allowance to deduct extra costs during first years of farming.

The *special treatment of the reserves* allows in some countries to reinvest profits from sales of assets to other assets without tax. In Germany the reinvestment can take place within four years, which can be compared to the time demand for the reserves for replacement, which has to be dissolved in the following years. In Denmark the tax rules give a possibility to avoid tax on sale of real estate if the profit is invested in a new commercial real estate. The same system also exists in Sweden and the Netherlands.

Finally, the *gains arising from selling (or transfer) the farms* give rise to a substantial tax claims. The special rules differ significantly among countries, but the different type of allowances can be categorised as follows: (1) allowance for the sale of a particular asset; (2) allowance as a fixed amount; or (3) allowance as a percentage of the taxable profit. In France, for instance, profits on sales of small business (with turnover below 152 450 € per year) are not taxable at all. In Germany, there is a general allowance of basically 30 685 € for certain types of sales before tax. The allowance is granted for sales and cessation of a business depending on the entrepreneur's age and state of health. In the Netherlands, the general allowances for sales of assets are added by the special agricultural allowance that increase in land value due to agricultural reasons is basically tax free. The gains on sales of the farmhouse are taxable in all countries except Denmark and the UK. At last, in addition to a variety of the allowances, the farmers are granted by opportunities of deferring tax when selling a farm.

In all countries, except Denmark, the **social security fees** are essential part of levying of taxes and fees. Only a small part of the social security system in Denmark is financed through social security fees, the rest is financed through the national taxes. The different countries have of course different rules for both collection and base. In for instance Sweden, Denmark and the UK there are general rules for the whole population, while France and Germany have special regimes for social matters in agriculture. In all countries, except the UK, the social security fees are regarded as an expense by the farmer and are therefore deductible. In Germany deductions is restricted by reference to specific calculations and in the Netherlands certain fees are not deductible. Concerning the fee rates, in Denmark is 8% of the base and the rate in Sweden is 31.25% of a difference base, though the 8% in Denmark (and other countries) must be compared with 25%.

The most farms does not pay **corporate income (profit) tax** being usually taxed under the individual income tax system (single *versus* spouse partnership). But some larger farms pay the profit tax at the same rate as other firms, for example large farms in East Germany. In 1998, the tax rates for profits for corporate bodies/legal persons range from 21% in the UK to 36.7% in France.

Land tax in most countries is a local tax. It can be called as a gross tax, because debts are not deductible when the tax base is determined. Normally the valuation of the land is much below the market value. In Denmark, for example, the taxable land value corresponds to about 25-50% of its market value and the rate is about 2%. This equals about 33 €/ha of farmland. In Sweden, like in the United Kingdom, the tax rate fluctuates from 5 to 600 Euro/ha. In Germany, the taxable land value is generally less than 50% of its market value; the rate varies from community to community, but this tax is not a heavy burden for farmers. In France, the tax base reaches the 20-40% of the land market value and the tax can come up to 45 €/ha.

Finally, the farmers pay the **value-added tax**. The VAT rates are the most harmonised in the EU as the countries compete within the common market. The standard rate of VAT is 15% and more. Agricultural products and food is usually taxed at the lower rates (see table 4).

Table 4: Value-added tax rates for several goods and services in the EU in 1998

	Base rate, %	Food	Agricultural goods
Sweden	25	12	25
Denmark	25	25	25
Netherlands	17.5	6	6
France	20.6	5.5	5.5
United Kingdom	17.5	0	0
Germany	16	7/16	10

Source: OECD (2000).

In summary, the farm taxation system in the EU consists of many taxes, usually applied within the overall tax system. The exemptions and privileges are used mainly for the small farmers (very small for Ukrainian standards), but not large corporate farms. The tax system in the EU is very flexible to different aspects of the business activities in the agriculture, and the assistance of the small farms is seen as the most important task of the EU governments.

7.3 Farm tax system in Russia

The farm tax system in Russia was introduced in 1992. The basic structure of this tax system did not change significantly since then, though many corrections and changes were added.[10] Currently the agricultural enterprises in Russia pay over 20 different taxes and fees. Under Russian legislation, the enterprise with at least 70% of its revenue from sales of agricultural and food (processed) products is considered 'agricultural'. Note that in the bankruptcy legislation the 'agricultural enterprise' is defined when its agricultural sales reach only 50%, not 70% of the total revenue.

Russian farmers benefit from a number of tax privileges. Since 1992 they do not pay the farm profit tax from the sales of own agricultural products and since 1993 – from sales of own processed products. In addition, the farmers are exempted from paying asset tax, and taxes on road use, owner of vehicle, and for purchase of vehicle. The farmers also do not pay for water use and small private farms are exempted from paying land tax for 5 years since the establishment of the farm.

The agricultural enterprises in Russia pay less payroll taxes compared with other sectors. While the tax rate to the Pension Fund equals to 28% of the wage fund (before 1993, 31%), the farmers pay at the rate of 20.6%. Furthermore, the farmers have some privileges on the individual income tax. The income, received from the sales of agricultural products produced in the own household, and wages paid in-kind by the agricultural enterprises lower than 50 times of the minimum monthly wage, are tax free. In addition, the small private farms are exempted from paying individual income tax in the first five years of their activity.

The value-added tax for major agricultural products equals to 10% compared to 20% for all other products. In the summer of 1998 the VAT rate was equalised to 20%, but since April 1999, grain, sugar cane, fish flour, fish and sea products are taxes at 10% of the VAT. "The short experience of Russia with increasing of the VAT rate demonstrated that the VAT rate's increase did not result in corresponding rise of the food prices. The lower VAT rate for agriculture, therefore, is rather an implicit subsidy than sales promotion" (SEROVA *et al.*, 2000, p. 15). In addition to the lower VAT rates, the agricultural enterprises do not pay the VAT from the products given to own employers as a wage in-kind.

[10] The presentation of Russian tax system is based on the paper "*Taxation of Agriculture in Russia*" written by SEROVA *et al*. (2000).

Table 5 demonstrates the tax privileges to Russia agriculture. The amount of the tax privileges and their share in the farm receipts are pretty high, accounting for around 6% of the agricultural output and 27% of the sale revenues. Note that the large share of the farm tax privileges is due to the exemptions from the assets tax. As the farm assets are generally overpriced at the accounting books, the tax privileges inflate automatically.

Table 5: Tax privileges of agriculture in Russia, 1994-1998

	1994	1995	1996	1997	1998
Tax privileges, billion roubles	7.0	11.6	19.8	20.3	20.3
Tax privileges as a share of GDP, %	1.1	0.7	0.9	0.8	0.8
Tax privileges as a share of gross agricultural output, %	9.5	5.5	7.0	6.1	6.3
Tax privileges as a share of agricultural revenue, %	40.5	23.1	29.1	26.9	26.6
Tax privileges as a share of paid taxes, %	159.1	141.5	244.4	236.0	563.9

Source: SEROVA *et al.* (2000, table 13).

In 1999, the agriculture started to pay vehicle and road use taxes, amounting 5.2 bln roubles per year. In that year the rates of the land tax were increased and the new tax on the owners of the land shares was introduced (the total value of the this tax equals to around 600 mln roubles).

The tax burden on the farms in Russia is relatively high, accounting for 18.7% of the gross agricultural output in 1997 (half of the burden is due to the income and payroll taxes). The tax burden of the agriculture is twice higher than industry, mainly due to the high labour intensity of the agriculture. The average rate of profitability of Russia agriculture decreased from 38% in 1991 to –22% in 1998, resulting in large tax arrears of the farms. In 1998, for example, the share of tax arrears equalled to 56% of accrued taxes.

Taking into account the low rate of the farm profitability and weak tax payment discipline, Russian Government started to consider the introduction of the fixed agricultural tax, using the experience of Ukraine (because it is the only country which uses such a tax). In April 2001, Russian Duma approved the new tax legislation for the agriculture in the second reading only.

The discussions on the fixed agricultural tax in Russia are very 'controversial'. In 1996, Belgorod oblast even tried to introduce such a tax, but many farms did not switch to this tax system, preferring to pay taxes at the old rules. Russian experts call the following aspects of the FAT the most problematic:

- Redistribution of tax burden from the intensive livestock producers to the crop producers;
- For regions, which pay more taxes to the state budget at the current tax system, the FAT lowers the tax burden, and visa versa, the regions, which pay relatively little to the budget, will pay more if the FAT is introduced.
- Lost flexibility to influence different aspect of the farms, for example, the accelerated appreciation rates. The discouragement to keep the accounting books is also seen as the FAT disadvantage, because it would be difficult later to return to the overall tax system and it is difficult for farms to attract credits without solid accounting.

7.4 Summary from international experience

The international experience shows that farmers are taxed similarly as other taxpayers. The farm tax policy in the USA and the EU is especially concerned about small farms, but even in these countries the farm taxation is gradually approaching the overall tax rules. In Russia, where sector is represented by the large scale farms, the taxation is moving away from

the general tax principles, creating special tax rules for the agriculture. To our best knowledge, Kazakhstan also considers the possibility to introduce the fixed agricultural tax, based on the land value.

The U.S. farm tax policy provides many tax incentives for the farms by using which one can greatly minimise his tax costs. The agriculture consists of either very small farms, which often get high off-farm income and use the agriculture to offset it by farm production costs, or very large farms, which are highly commercial and can use different investment schemes to maximise their after-tax income. Currently the U.S. Federal farm tax system is under consideration to exclude large commercial farms from different tax shelters and to discourage small farmers to do agriculture only to minimise their tax costs.

In the EU, only two countries, France and Germany, provide great tax exemptions for the farmers. Again, the agriculture in the EU, like in the USA, consists of very small farms (with 30-40 ha), which are considered in these countries as a small business that requires certain support. But even in France and Germany the large commercial farms pay taxes similarly to other taxpayers in the economy. In countries, such as the Netherlands, Denmark, Belgium and the UK, the agriculture is taxed almost similarly as the other sectors and some countries, such as Denmark, continues to equalise the overall tax legislation.

The taxation of Russian agriculture moves in the opposite direction. Agrarian lobby wants to support agriculture in this way, often saying about the international experience that we would like to help our farms first to make the profits, and then we will increase their tax burden. It will hardly work taking into account the initial structure of the EU and the U.S. agriculture and the negative impact of the tax privileges in these countries on the farm efficiency. The good lesson for Russia (and Ukraine) from the international tax experience is that it is easy to make favour to the farms (or any firm), but it is very difficult to take it back.

Finally, according to SEROVA *et al*. (2000, p. 26), the tax burden in the EU ranges from 3 to 11%, being the lowest in Germany (3.5% without state subsidies and 2.3-3.1% with state subsidies) and the highest in Italy (11% without state subsidies). In the U.S. agriculture, the tax burden on average equals to 9% when the state subsidies are included to the farm income, and 10% - without them. The tax burden of Russian agriculture in 1997 equalled to 18.7%. The international comparison demonstrates that current farm tax burden in Ukraine is very small, and the possible tax burden, when the tax privileges are abolished, lies within the range of the OECD countries and Russia (see section 4.4).

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