REFORMING THE TAXATION SYSTEM OF UKRAINE

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Abstract

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The reorganization of the current taxation system and implementation of the new Tax Code in Ukraine began in 1999. The different concepts of the global tax reform are under consideration in the Ukrainian Parliament (Verkhovna Rada) now. Therefore, taxation is one of the most pressing and important economic topics for Ukraine.

This paper seeks to answer the following questions: what is the structure of Ukrainian taxation system and size of the tax rates in the transition period? Can the decrease in tax revenues, as it is now in Ukraine, be explained only by the deterioration of economic fundamentals or is it due to the internal inefficiency of taxation policy itself? Does the current taxation system create proper incentives for economic agents to legally maximise their profit and pay all the taxes? Which kind of restructuring does the Ukrainian taxation system need?

In this paper the author explores mainly the theory of shadow economy (in terms of tax evasion and tax avoidance).

The obtained results show that Ukraine's current taxation system needs to be urgently and deeply reformed so that it becomes simpler due to widened tax base and significant changes in tax structure. Unfortunately, recent evidence shows that, in all likelihood, the process will be difficult and long-term with economy strongly suffered from the process over all the period. In such environment, the establishing of gross sales tax (GST) may become rather efficient temporary measure.

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Glossary

Direct tax - the tax which cannot be shifted to others (unlike an indirect tax).

Enterprise Profit Tax - the tax with the base of gross profit calculated as the difference between company's total income and total costs.

Excise Tax - an indirect tax on the sale or use of certain products or transactions.

Gross Sales Tax - the tax with the base of all business transactions of a taxpayer.

Indirect tax - the type of tax that is paid by one, but calculated and transferred by another market operator. Thus, for example, the company pays the tax but can increase the cost of their products so consumers are actually paying the tax indirectly by paying more for the company's products.

Payroll tax - the amount deducted by employers from paychecks of the employees. This tax revenues fund many finance specific programs, including social security, health care and worker's disability.

Personal Income Tax - the tax paid by individuals on his/her yearly total amount of taxable income. It is not a tax on the taxpayers total income (the taxpayer can take deductions). Deductions are subtracted first from the taxpayer's income and then he/she pays the tax on the remaining amount.

Shadow Economy - includes all business transactions which are not taxable as a result of tax evasion and tax avoidance.

State Budget - an integrated itemized listing of the amount of all estimated revenue which a state business anticipates receiving, along with a listing of the amount of all estimated costs and expenses that will be incurred in obtaining the above mentioned income during a given period of time. A budget is typically for one year.

Tax Base - the calculated amount which is used for tax calculation.

Value Added Tax - an indirect tax levied on consumers (included into price).

Introduction

One of the main problems in the sphere of Ukrainian public finance today is the constant decrease of tax revenues. As result, Ukraine's budget experiences a sharp lack of funds to cover the most necessary expenditures: on social protection, education, medicine, international activity, etc.

This paper seeks, first, to determine the reasons for such deterioration; second, it tries to explore the mechanisms of transformation of the national taxation system to improve the situation with tax revenues through properly created incentives for the economic agents. The paper considers mostly the taxation of enterprises, and does not deal with taxation of personal income, property, land, or specific kinds of taxes. Enterprises are payers of such important taxes as the value added tax (VAT) and the enterprise profit tax (EPT), which cover, on average, sixty-five (65) percent of the government budget (Budget Committee 1998 12).

Two main actors, considered in the paper, are the regulatory authority – the Verkhovna Rada of Ukraine (more specific, the Budget Committee of the Verkhovna Rada of Ukraine), as it provides the tax legislation – and enterprises, which are taxpayers. Also State Tax Administration (STA) and its local branches play an important role in economic transactions, as it is the organ of executive power, which provides the enforceability of the tax legislation, controls taxpayers and directly collects tax revenues.

 The prior task in the taxation sphere for a regulatory authority is to find transparent and fair tax legislative mechanism, which would provide the proper incentives for taxpayers at all markets to maximize their own revenues and operate legally. Therefore, if the legal conditions for productive and efficient activity are created at all markets, tax revenues would be maximized.

At the same time, if a taxation system is not efficient, the costs of operating illegally may be less than the costs of tax compliance, according to Nezamozhniy (http://www.harvard.kiev.ua/publications /art601.html), and the urge of self-preservation naturally makes the economic agent avoid taxation and give the preference to the shadow economy. That is exactly happens in Ukraine: as it is very costly to pay the taxes, most of the enterprises in Ukraine prefer to operate in shadow.[1] Thus, the tax base of the

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[1] Here the term "shadow" includes both tax avoidance and tax evasion. The crucial difference is that avoidance is legal and evasion not (See Section 1 for strong qualifications).

official sector of the economy becomes narrower, and it leads to a decrease in tax revenues (Yushchenko, Lysytsky 1998 90).

Tax avoidance and tax evasion, which is widely practiced in Ukraine, became the major source of headache for the government officials, as according to the statistical information of Budget Committee of the Verkhovna Rada of Ukraine (Budget Committee 1998 22),

more than 60% of financial flows in the shadow economy are estimated to be created by the evasion of tax and other duties (e.g., for utilities, retirement, etc.). In 1997-1998 the shadow economy in Ukraine equalled to 43-47% of official one. In 1997 budget losses from tax non-payment were about 1.4 billion UAH; budget losses from non-receipt of EPT and VAT because of tax privileges were about 7.5mln. UAH. Wages in the shadow economy were about 50% of official ones.

Naturally, this creates a significant lack of money stream to the government budget.

According to Kay (1990 38) "Kadlor (1988) states that "the existence of widespread tax avoidance and evasion is evidence that the system, not the taxpayer, stands in need of radical reform". Thus, the crucial assignment for Ukraine today is to increase tax revenues through creation of proper incentives for economic agents to operate efficiently and legally; that is, through widening tax base. Vice versa, widening of the tax base can be provided only under the conditions of eliminating the reasons for tax avoidance and evasion. Therefore, the radical transformation of the national taxation system has to be provided.

The paper has the next structure: first, the basic concepts of taxation theory (properties of optimal taxation system, the theory of shadow economy, the Laffer theory, etc.) is considered in Section 1[2]; second, these theoretical tools are used to describe the current situation in taxation sphere in Ukraine (Section 2) and then a way of reforming the national taxation system is proposed (Section 3).

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[2] Most part of the theory presented in the paper comes from Kay, J. A. 1990. "Tax policy: a survey." *The Economic Journal* 100, 18-75 and Cullis, John, and Jones, Philip. 1994. *Public Finance and Public Choice,* 2nd ed. Oxford: Oxford U. Press.

Section 1. Taxation Theory: the Basic Concepts

Characteristics of the optimal taxation system

According to Kay (1990 34), the conventional objectives of taxation are to raise revenue for governments regard to issues of efficiency and equity.

There are some basic characteristics the efficient taxation system should have. The first is *horizontal equity* meaning that equal incomes without any respect of the source should be imposed the same tax rate. Besides, taxation system should provide the *vertical equity*: higher incomes should be taxed at progressive rates. The taxation system should be *flexible* enough to allow the government to react on market changes and influence them if it is needed. At the same time the taxation system should be *stable and predictable*. It should be absolutely clear for taxpayers which incomes are taxable and who and when should pay taxes. The other basic characteristic is *simplicity* that means simplification of processing tax returns and calculation for taxpayers and simplification of tax control for government (Sayenko 1992 190).

The Laffer theory

One basic concept of the taxation theory is the Laffer theory – the theory, which explains how tax revenue changes when the tax rate changes. The Laffer curve begins from the observation that tax rates of zero and 100% both raise zero tax revenue. Thus, there must be a tax rate somewhere within that range at which maximum revenue is derived. It suggests that the revenue as a function of the tax rate must first increase and eventually decrease. Hence, according to the Laffer theory, when the tax rate is high enough, an increase in the tax rate will end up reducing the revenues collected. "The reduction in the supply of the good due to the increase in the tax rate can be so large that tax revenue actually decreases - this is so called Laffer effect" (Kay, 1990 35).

"Although not strictly correct as a matter of mathematics (it is possible, and not at all implausible, that tax revenues are steadily increasing in tax rates throughout the range from zero to 100%)

(Malcolmson, 1986), the Laffer curve does correctly draw attention to the possibility that reductions in the rates of certain taxes might induce more tax revenue rather than less" (Kay, 1990 36).

It has been suggested that even if the overall tax burden has not reached a point at which a lower average tax rate would yield additional revenue, this might be true of particular elements within the overall structure (Kay, 1990 36). Hence, "Lindsey (1987) and Minford (1983) have drawn attention to the ways in which income tax revenues from the higher rates of tax have increased although those rates themselves have been reduced" (Kay, 1990 37).

The two directions of change suggested by the Laffer theory - a move towards linear tax schedules and reductions in the highest rates of tax - have been striking features of the evolution of tax structures during the last decade (Kay, 1990 38).

Shadow economy

The volume of shadow economy (the level of tax avoidance and tax evasion) within a given country is directly determined by the taxation system of the country. According to Cullis and Jones, "Tanzi (1980) sets the development of the shadow economy as the product of two main groups of factors: those relating to the desire to evade taxation and those relating to the desire to avoid government regulation and restrictions. The distinction between tax avoidance and tax evasion lies in the fact of legality, with avoidance being legal (via obtaining tax privileges, etc.) and evasion not" (Cullis, Jones 1994 192). Avoidance occurs when full disclosure of the relevant facts to the tax authority would still imply no tax liability. Evasion depends on concealment of material facts (Kay 1990 58).

"The economics of tax evasion is part of the economics of the criminal activity (Ehrlich, 1973). The amount of such evasion diminishes with the probability of detection and the penalties, which result" (Kay 1990 40).

Tax evasion offers the risk neutral individual the following type of choice. Assume that taxable income is Y and the rate of tax is t. Then with certainty individual can enjoy $V_d = (1 - t)Y$ simply declaring and paying tax. If the individual evades taxes, then further assume that there is a probability p

that he will get caught and face a fine or a punishment whose money value is F. The expected value of the evading strategy is given by

$E(V_e) = p(Y\text{-}F) + (1\text{-}p)Y.$

If this exceeds V_d in value, the individual will evade (Cullis, Jones 1994 196).

The source of the additional expected income does not affect the decision. The illegal nature of the potential gains offers neither extra nor reduced satisfaction, nor has the uncertain nature of the preferred outcome been included (Cullis, Jones 1994 196).

A common assumption adopted in economics is risk aversion on the part of individuals, and its inclusion reduces the number of outcomes where evasion is a utility-enhancing strategy. The uncertain prospect has to be differentially attractive to compensate the individual for bearing risk, which is a "bad" in itself for risk-averse people (Cullis, Jones 1994 198) Once risk-aversion is included, the relevant calculation is utility-based so that the expected utility of evasion becomes

$E(U) = pU(Y\text{-}F) + (1\text{-}p)U(Y).$

It is now possible to explore some preliminary policy implications, as follows:

?? the more risk-averse people are, the less evasion there will be;

?? for a given fine F, the higher the probability of being detected, the less evasion there will be (p will vary with resources devoted to detection by the tax authorities and the duties taxpayers are required to meet);

?? for a larger fine F a lower probability of detection will suffice to deter a given evasion decision (Cullis, Jones 1994 198).

Cullis and Jones (Cullis, Jones 1994 201) mentioned also that

Spicer (1986) draws attention to "norms of compliance". The decision to evade tax will be influenced by factors such as the perceptions of the justice of the fiscal system and the number of individuals' friends who themselves evade tax. In order to incorporate a more realistic model of evasion, Spicer amends the decision-making rule to include *psychic costs*. A taxpayer will evade tax only as long as the expected gains from tax evasion exceed the expected losses from fines and from the psychic costs associated with evasion.

Therefore, to evade, the next inequality must be held:

$(1\text{-}p)twY - pstwY - c > 0,$

where t = tax rate;

w = fraction of taxable income not reported (w = (Y-D)/Y, where D - declared amount of total income Y);

Y = income;

p = the probability of detection;

s = the fine rate imposed on evaded tax;

c = psychic costs (Cullis, Jones 1994 201).

Anti-evasion policy

Reducing the level of tax evasion, is possible to increase output, provide equity, avoid resource misallocation, information bias, provide tax morality, and avoid taxpayer excess burden (Cullis, Jones 1994 201). Therefore, the prior task for a regulatory authority is to create conditions under which the expression *(1-p)twY – pstwY – c > 0* would not exceed zero. "However, the costs of reducing tax evasion cannot be ignored and it has been argued that continued investment in this activity may eventually commit more additional resources to deterring tax evasion than the additional benefits that such an activity produces. For this reason, it might be suggested that the optimal anti-evasion occur when the marginal costs of reducing tax evasion equal the marginal benefits" (Cullis, Jones 1994 202).

Starting with the marginal benefits of anti-evasion policy, the implication of many policy statements seems to be that the gains from reducing evasion are the tax revenues that are recovered. However, there is a question whether or not the revenue that is recovered by anti-evasion policy is a reflection of the benefits of such a policy. This is so because such revenue may be interpreted as a *transfer* rather than a *cost* to the community (Cullis, Jones 1994 202).

Taking to account the above facts, optimal anti-evasion policy may be structured in the next way.

Assuming that a taxpayer maximized expected utility *E(U) = (1 - p)U(Y - tD) + pU(Y - tD - F(Y - D))[3],* where D is the level of income that the individual declares, it is possible to state that evasion is worthwhile in the next case: *D = Y* (i.e. the taxpayer is honest) and the marginal expected utility with

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[3] Here *F* means the fracture of each unit of undeclared income which must be paid as a fine for tax evasion.

respect to changes in D is negative (Cullis, Jones 1994 204). For this will mean that reducing D (the amount declared) will increase expected utility (i.e. the taxpayer gains from dishonesty). From the equation above it can be shown that this arises when $Fp < t$, i.e. the expected penalty from evasion in monetary expression must be less than the tax duties. In so far as this analysis informs policy, then **to make the taxpayer honest, policy makers must ensure that $Fp > t$** (Cullis, Jones 1994 204).

Obviously, there are many combinations of p and F that will satisfy the requirement $Fp > t$. It is possible to increase p or F. The task of the policy-maker is to minimize the costs of deterring evasion and this means choosing the least cost combination of policy instruments. "If policy-makers achieve this, it is possible then to consider the marginal social costs of anti-evasion policy. Ultimately these will be set equal to the marginal social benefits to determine the optimal level of tax evasion" (Cullis, Jones 1994 205).

If the probability of detection increases, then evasion will fall, but this involves costly policing and other administrative costs. Placing more compliance costs on the taxpayer also makes detection easier. Furthermore, "increasing the punishment would decrease the extent of evasion, and this initially looks a less expensive avenue to explore" (Cullis, Jones 1994 205).

Although the probability of detection and fine may be two factors affecting evasion, the environment of disapproval or approval that is felt from other members of society is also very important. "At the moral level, most people object to punishments that are out of line with the crime. Indeed, as increased probability of detection reduces evasion, a broader approach may identify a perverse response in that tougher enforcement may decrease compliance by increasing the extent of alienation felt by taxpayers" (Cullis, Jones 1994 206). With a broader approach, it is favorable tax attitudes that are the important basis of reduced evasion. "For this to be established, taxpayers need to understand and approve of the policies financed via taxation as well as to feel that they are fairly treated in the implicit contract with government and its agents the tax authorities" (Cullis, Jones 1994 206).

Unfortunately, it is common situation when a given volume of tax revenue has to be raised to meet expenditure commitments, so that evasion by some raises the tax rate faced by others. This raises excess burden and equity considerations. "Given that people may have very different opportunities to indulge in

untaxed income sources, the tax system may end up receiving a disproportionate amount of its finance from easy sources. This may militate against the equity of the tax system" (Cullis, Jones 1994 207).

Deadweight Loss from Taxation

When economists talk about the costs of imperfect tax system, they are pointing to the deadweight losses from taxation. "The deadweight loss from taxation is the cost which the taxpayer (or the individual who avoids taxation by reorganizing his behavior) incurs in addition to the amount of the tax he pays" (Kay 1990 60). Deadweight loss becomes simply the additional amount the taxpayer would be willing to give up if he were subject to lump-sum taxation instead and can be described by simple comparison of expenditure functions (Kay 1990 61).

These deadweight losses may be divided in two broad categories: *central administrative costs* and *compliance costs.* The last ones mean the expenditures incurred by taxpayers themselves in meeting the requirements of the tax authorities, or minimizing their liabilities (Cullis, Jones 1994 205). Administrative costs can generally be measured by reading the government accounts, but the measurement of compliance costs requires a research program.

"Administrative costs and compliance costs are both substitutable and complementary. Complementarity between taxpayer costs and the burden tax of collection arise because avoidance activity by taxpayers necessitates compensating responses by the revenue authorities and vice versa" (Cullis, Jones 1994 206).

Section 2. Taxation System in Ukraine: Major Features

According to the Law of Ukraine "On System of Taxation", there are two types of taxes and duties in Ukraine: state taxes (duties) and local ones. There are 20 kinds of the state taxes and 14 kinds of the local taxes and duties (Table 1).

The most important taxes, which are levied on enterprises and which cover, on average, sixty-five (65) percent of the State budget are Value Added Tax (VAT) and Enterprise Profit Tax (EPT). The Payroll Tax (PT), which is paid by enterprises to cover the expenditures on social programs,[4] has also the significant burden, which is levied on enterprises.

VAT has common structure and mechanism of payment like in developed European countries: West Germany, Italy, France, etc. VAT taxes general consumption, at the rate of 20% in Ukraine. An enterprise's profit is taxed by EPT, at the rate of 30%. PT taxes actual wages to hired workers at the rate 37.5%.

Therefore, a standard enterprise in Ukraine, that has no tax privileges, no deal with excisable goods, natural resources, import duties, etc. ought to pay major taxes by the formula:

MT = VA*20%+W*37.5%+ P*30% + VA*5%[5];

here VA is value added (? VA = GDP); W is actual wages to hired workers; P is profit of an enterprise; 20% is VAT rate; 30% is EPT rate; 37.5% is PT rate; 5% represents other minor levies.

Here VA = P + T + D + W (D is depreciation, T is all amount of taxes paid); T = W*37.5% + P*30% + VA*5%.

VA = (W*137.5% + P*130% + D)/95%, thus

VA = W*143% + P*137% + D*105%, and

MT = 72%*W + 64%*P + 26%*D.

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[4] PT revenues are streamed to non-budget funds: Pension fund, Social security fund, etc.
[5] The major elements of this model are taken from "Implementation of the consolidated tax: some aspects of the possible impacts on economy of Ukraine." http://www.harvard.kiev.ua/research/eng00o.html.

In addition, costs *C* for tax compliance (accounting, auditing, opportunity cost of tax inspections, bribes, fines, etc.) are to be paid. Therefore, all the expenditures related to taxation E_t under the current taxation system will be:

$E_t = W*72\% + P*64\% + D*26\% + C.$

Compliance of VAT requires full compliance cost, and for small enterprises those have large share of such costs in the structure of expenditures, current system of taxation is not favorable - it tends to decrease budget revenues while not improving climate for entrepreneurship (http://www.harvard.kiev. ua/research/eng /hda8e00o.html3).

EPT

As VA = W + P + D + T, net profit of enterprises equals:

P = VA - W - T - D.

Having quarterly data for 1993-1998 about total amount of value added, tax revenues, depreciation and total wage in real terms (base year is 1990), it is possible to calculate the net profit, obtained by Ukrainian enterprises in real terms (Table 2). It can be seen that numerical data for net enterprises' profit is **negative.** It can be explained by the fact that major part of state enterprises is really unprofitable and operates only due to government subsidies. Another part of enterprises tries to hide its profit and operates in shadow.

VAT

According to Kay, "one of the reasons governments have so strikingly increased their reliance on VAT is that VAT is a good tax to administer. This is partly because the tax base is relatively clear, transactions oriented, and comprehensive" (Kay 1990 60).

Table 3 shows the ratio of VAT revenues to GDP (VAT/GDP ratio) in Ukraine for 1992-1998. The main problem here is the systematic decrease of VAT/GDP ratio. As it is shown on Figure 1, VAT/GDP ratio decreased from 15.7% in 1994 to 6.5% in 1998.

It is possible to assume that maximum VAT/GDP ratio - 15.7% - is potentially feasible for all the periods. This is very strong assumption, but we can rely on it when estimating budget losses from VAT non-receipt. Given this assumption, and having the data about GDP for corresponding period in real

terms, we can estimate that total amount of losses for the State budget from VAT non-receipt equals **21,131.53 mln UAH** (Table 4).

Reasons for tax non-receipt

Now lets try to find the reasons for such an outcome, using the theoretical tools, presented in the Section 1. As there were no significant and frequent changes (in both directions) in tax rates in Ukraine since obtaining independence in 1991[6], the Laffer theory (the economic explanation of the phenomenon) is not applicable for the current analysis, as it relies mostly on the *dynamic* of tax rates.

Therefore, there are other reasons for budget losses. As the analysis provides, these reasons are not economic by their nature, but rather administrative or institutional:

1. Tax avoidance, which is the major source of budget receiving less, widened significantly in Ukraine, as a lot of industries have managed to obtain legal privileges in the taxation sphere, first of all in paying VAT. And the number of these industries increases steadily from 1994: the number of goods and services, the production of which exempted from VAT or whose producers obliged to pay VAT at zero rate increased in 1997 from 24 to 36 according to the Law of Ukraine "On Value Added Tax". These are imported natural gas transmission and distribution, energy sector, some agricultural sectors, etc. In general, the industries, which are exempted from VAT, produce about 30-40% of Ukrainian GDP (Fiscal Analysis Office, 3rd quarter 1998 24).

2.1. The exemptions, obtained legally (through lobbying, etc.) have great distortive impact on the economy. According to analytical estimation (Budget Committee 1998 34), only about 50% of potential VAT payers were obliged to pay this tax fully; the other 50% has different privileges. But, according to the underlying theory, this raises excess burden and equity considerations (Cullis, Jones 1994 207). The tax system in Ukraine ends up receiving a disproportionate amount of its finance from easy sources, as the theory predicts. But this militates against the equity of the tax system and creates the great administrative pressure on those taxpayers who have no privileges and obliged to pay the whole amount

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[6] VAT was implemented at the rate 28% in 1991; this rate was decreased to 20% in 1992 till now. EPT was implemented at the current rate - 30% in 1994. PT rate experienced steady decline: from 52% in 1992 to 47.5% in 1997, to 42.5 in 1998, to 37,5% today (according to the Laws of Ukraine "On VAT", "On EPT", "On Social Insurance").

of taxes. Consequently, this leads to tax evasion by those, who obtain no privileges, as they have no moral incentives to satisfy their tax duties. The compliance costs for such taxpayers increase significantly as given volume of tax revenue has to be raised to meet expenditure commitments. Therefore, the tax avoidance by those who get privileges raises the tax pressure faced by those who not. When applying the Spicer's (1986) model, which takes to account the "norms of compliance" and the perceptions of the justice of the fiscal system, it can be seen that *psychic costs* are extremely low in Ukraine. The national taxation system is viewed as unfair by taxpayers; thus, there are no moral barriers to tax evasion and avoidance.

2.2. According to the underlying theory, if $Fp < t$, taxpayer gains from dishonesty, i.e. the expected penalty from evasion is less than the sum of money which have to be paid due to tax duties (Cullis, Jones 1994 206). To make the taxpayer honest, policy makers must ensure that $Fp > t$. As increasing in p involves costly policing and other administrative costs, tax officials in Ukraine rely mostly on increasing in F, and this initially looks a less expensive avenue to explore. The fines for tax evasion increase significantly,[7] but these, as the theory predicts, lead only to the widening practice of tax evasion. In addition, at the moral level, most people object to punishments that are out of line with the crime; thus, psychic costs of tax evasion decrease and the practice of tax evasion becomes widespread.

3. In general, there are huge compliance costs of paying VAT, EPT and PT. For example, the procedure of paying VAT is very complicated, as for today there are more than 200 legislative acts, which add "changes and additions" to the Law of Ukraine "On VAT" (Zerkalo Nedeli, 1999 #6). It creates unnecessary difficulties of accounting for the most of accountants, and this increase compliance costs significantly.

Therefore, it can be seen that the current problems with the Ukrainian taxation system are caused by the reasons of the institutional, not economic, character.

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[7] See Presidential Decree "On Tax Collateral" # 167/98 (03/04/98), Decree of Cabinet of Ministers "On Indirect Methods of Control About VAT Payments" # 1997 (12/18/98) and others.

Section 3. Tax Reform in Ukraine: How It Should Be Done?

As the analysis in the previous section shows, Ukrainian taxation system needs to be reformed at the institutional level. First, all the unnecessary taxation privileges have to be eliminated (thus, the great deal of tax avoidance would be eliminated) to provide equity and eliminate excess burden, levied on unprivileged taxpayers. Second, the national tax legislation should be simplified as much as possible to reduce compliance costs and provide stable and fair tax rates.

When considering the simplification of the taxation system, gross sales tax (GST) seems to meet the necessary criteria[8]. It should replace VAT, EPT and PT for corresponding taxpayers. The object of taxation for GST is all economic transactions within the economy.

The rate of GST can be determined in the following way. Revenues from VAT, EPT and PT in 1999 planned at the level (mln. UAH): [9]

VAT	9190
EPT	1088
PT	9581
Total	**19,859**

About 20% of VAT are paid by mutual cancellations; large share of taxes and payments to the Pension fund (PT) has been accomplished in-kind. It means that these numbers are overvalued and actual budget revenues will be less (Budget Committee 1998 12).

As velocity of money in Ukraine equals 7 (Budget Committee 1998 14), and GDP for 1999 approximately equals 100 bln UAH (the Law of Ukraine "On the State Budget of Ukraine on 1999"), the total value of payments, which are exactly the base of taxation for GST, equals 100*7 = 700 bln UAH. It can be taken as an upper estimation for the actual possible tax base for GST. Therefore, above-mentioned taxes' share is approximately **5%** of estimated taxation base for GST. The rate of 5% of GST seems to be enough to collect just the same amount of budget revenues as it is collected under the current taxation system.

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[8] The general idea of using the GST comes from the Budget Committee of the Verkhovna Rada.
[9] Source: The Law of Ukraine "On the State Budget of Ukraine on 1999".

When applying of 5% GST to the gross sales S, by definition of this tax

Et = S*5% + c,

where c is compliance cost for GST that can be assumed to be much lower than for the current taxation system. By definition, $S = VA + Ci + c,$ where Ci is intermediate consumption, VA=W + P + D + T = W + P + D + S*5%.

Omitting c that is much less than other terms,

 S = (W + P + D + Ci)/0.95, and

Et = 0.05*(W + P + D + Ci) + c.

Therefore, an enterprise will has an incentive to choose GST if

c + 0.05*(W + P + D + Ci) < C + W*72% + P*64% + D*26%, i.e.

0.67W + 0.59P + 0.21D + (C-c) > 0.05Ci.

Regarding to this weight coefficients, *GST* will be most favorable for small (large share of *C* in the costs), labor-intensive enterprises with low intermediate consumption. It will promote the utilization of labor and demote consumption of other resources. It will also be more favorable for profitable enterprises than the current system of taxation is (http://www.harvard.kiev.ua/research/ eng/hda8e00o.html2). GST would have positive effect to the economic structure by curing the economic distortions such as advantages of cash-earning enterprises in tax evasion, underutilization of labor force, etc. It can be seen that GST will be favorable for the enterprises with high share of value added into the process of production.

However, GST may have some negative effects: demoting of the division of labor and trading. Being implemented too wide, such a tax can magnify economic distortions by suppressing division of labor and wholesale trading; stimulating of enterprises that have full cycle of production even is they have lower profitability[10] (http://www.harvard.kiev.ua /research/eng/hda8e00o.html2).

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[10] The author perfectly understand that the GST system of taxation is not so progressive as the current Ukrainian system of taxation ("VAT system") is. As the most economists stated, VAT is the most convenient and effective tax to collect revenues to the budgets (for references, see Kay (1990)). However, "the VAT taxation system" is "too" progressive for modern Ukraine, as in Ukrainian transitional conditions this system is highly distorted and non-transparent. The "VAT taxation system" is the instrument of an economically developed state, and no country has implemented this system in periods of economic crises. To say, GST taxation system was implemented in Canada after the World War I (1919), and Canada shifted to the current system of taxation in the late 1970th. The same way,

Nevertheless, if the principle of voluntary choice between the current way of taxation and the GST system will be followed strictly, gross effect should be positive. Having a choice between two ways of taxation, enterprises will choose the most favorable for them. Therefore, those who would pay less by GST will choose it, but who would not – will not. It can decrease budget revenues, especially if large enterprises with high amount of value added will be allowed to pay GST. However, this negative effect would be compensated and even overlapped due to the decrease of the compliance costs, lessening of tax evasion and growing of new enterprises. Lowering of administrative pressure related to tax compliance can attract people to undertaking new enterprises (http://www.harvard.kiev.ua/eng/hda8e00o.html 14).

Therefore, implementation of GST can contract unofficial sector of economy significantly and in such a way provide growth of official GDP (http://www.harvard.kiev.ua/research/eng/hda 8e00o.html2).

It is possible to prove the correctness of proposed conclusions by considering the hypothetical example,[11] in which the budget revenues and compliance costs under the two systems of taxation - the current one and proposed one - are compared:

Case	W	P	D	Ci	C	c	Budget Revenues		Tax compliance cost		Choice of the enterprise
							Current	GST (5%)	Current	GST (5%)	
1	100	10	10	10	20	5	81	6.5	101	11.5	GST (5%)
2	100	10	200	10	0	0	130.4	16	130.4	16	GST (5%)
3	40	10	50	1000	0	0	48.2	55	48.2	55	Current
4	40	10	100	500	20	5	61.2	32.5	81.2	37.5	GST (5%)

GST taxation system was implemented in West Germany after the World War II (1945), and was changed to the VAT taxation system in the middle 1980th (Sayenko 1992 115).

The proposed GST model of taxation eliminates the major deficiencies of the current one in Ukraine; therefore, it is possible to rely on this model. We can consider the GST model of taxation as the temporary one, and after surmounting the current economic crisis in Ukraine it is possible to switch back to the current system of taxation completely. Moreover, even for today the author proposes to use two systems of taxation together, giving the choice of the most suitable taxation system to enterprises. Obviously, this guarantee that there would be no negative impact on economic agents from the implementation of the GST system.

[11] The general idea of this example is taken from the "Implementation of the consolidated tax: some aspects of the possible impacts on economy of Ukraine." http://www.harvard.kiev.ua/research/eng00o.html.

Case 1. Small enterprise at the service sector

The total costs of tax compliance for such an enterprise are 101, of which only 81 are to come to the budget. That costs are the great part (46%) of the enterprise's value added, hence, the enterprise must hide its activity or not to be undertaken at all.

Actually, the simplest way to stay alive applicable for small enterprises is to pay wages "under the table" in cash, hide the most of profit and part of the value added. By this way, reporting W to be, say, 10 and P = 1, total tax duties can be lowered to about 11. At the time, according to the analytical estimations (http://www.harvard.kiev.ua/research/eng00o.html.), only the direct costs of tax evasion is about 10% of the sum hiding, so total costs (including risk) are not less than 15% (http://www.harvard.kiev.ua/research/eng00o.html). That is, even "in the shadow" total expenditures related to taxation for this enterprise will reach 11+20+(90+9)*15% = 46 (21% of value added), of which only 11 are actually coming to the budget.

When applying the GST system, this enterprise having c = 5 obviously will prefer to pay more to the budget than to remain in the shadow.

Case 2. Large capital-intensive enterprise with high level of value added and low efficiency of capital (F supposed to be negligible).

Applying the GST (5%) to this enterprise provides that budget revenues will fall almost 8 times. Bear in mind that such an enterprise can not hide so huge part of its income as in the *Case 1*, this way can lead to the significant lowering of revenues. However, it seems to be justified to use GST for all kinds of the enterprises (including this one), as we expect the large movement of enterprises out of the shadow, which would protect from significant fall in budget revenues.

Case 3. Large input- and capital intensive enterprise

Input-intensive enterprises (such as traders, processing industry, etc.) will not benefit from the GST system directly unless they will use commissioner or tolling schemes. Therefore, they would choose the current way of taxation.

Case 4. Small industrial (capital-intensive) enterprise

Implementation of the GST system seems to be the most economically efficient in this case.

Conclusion

The paper considers the ways of reforming the taxation system of Ukraine and tries to find the mechanisms that would eliminate the reasons for the constant decrease of tax revenues to the budgets. It has the next objectives:

1. To present the theoretical tools by which it is possible to analyze a taxation system;

2. To determine the primary reasons for troubles with Ukrainian taxation system;

3. To derive mechanisms of reforming the Ukrainian taxation system.

Here it is possible to distinguish four important theoretical tools, helpful for analysis of any taxation system. The first is the *Laffer curve*, which explains how tax revenue changes when the tax rate changes. It is shown by the Laffer curve that when the tax rate is high enough, an increase in the tax rate will end up reducing the revenues collected. The second is the *theory of shadow economy*. According to Kay (1990 40), the shadow economy can be divided on two broad categories: tax avoidance (which is legal) and tax evasion (which is not). *Psychic costs* is an additional important term in explaining the behavior of a taxpayer, as when the psychic costs increase, the level of tax evasion decrease. The third aspect of taxation which is considered in the paper is the theoretical background for *the anti-evasion policy*. It is shown that the tax evasion is worthwhile when $Fp<t$ (F - amount of fine if evasion is detected, p - probability of detection, Y - income, t - tax rate). Therefore, to make the taxpayer honest, tax officials must ensure that $Fp>t$. At last, the *deadweight loss from taxation* (which can be divided by two broad categories: central administrative costs and compliance costs) is considered.

When considering the major features of the taxation system in Ukraine, it can be shown that a standard enterprise must pay the major taxes according to the formula $MT = 0.2VA + 0.375W + 0.3P + 0.05VA$, where VA - value added ($?VA = GDP$); W - actual wages to hired workers; P - profit of an enterprise. The main problems in taxation sphere in Ukraine are that tax base for the *EPT* is negative and *VAT/GDP* ratio fall for 1993-1998.

Considering the reasons for such an outcome, it is impossible to apply the Laffer theory, because it implies the significant dynamic of tax rates - and there were no such dynamic of *VAT*, *EPT* rates in Ukraine for 1991-1998.

It is proved in the paper that the reasons for such poor situation in the taxation sphere in Ukraine are not economic but administrative (institutional) in their nature:

1. Tax avoidance in Ukraine widened significantly since 1994;

2.1. Administrative pressure on those taxpayers who have no privileges increase significantly, and this leads to tax evasion by them. Such taxpayers have no moral incentives to satisfy the tax duties, their compliance costs increase and psychic costs decrease, which leads to the widening practice of tax evasion.

2.2. As the underlying theory predicts, to make a taxpayer honest, tax authorities must ensure that $Fp > t$. To reach such a condition, Ukrainian officials have been significantly increasing F. However, this leads only to the widening practice of tax evasion.

3. Great compliance costs, which are carried by taxpayers, create unnecessary difficulties of accounting. Thus, the costs of paying taxes increase, and it becomes more expensive to execute the tax duties. Consequently, the level of tax evasion increases as well.

Obviously, the taxation reform must eliminate the major deficiencies of the current system. First, the elimination of the unnecessary privileges has to be provided; second, the national tax legislation should be simplified as much as possible. It is shown in the paper that *Gross Sales Tax (GST)*, which should replace *VAT*, *EPT* and *PT*, meets the necessary criteria. The object of taxation for *GST* should be all economic transactions within the economy. The rate of **5%** for *GST* is enough to collect the necessary amount of budget revenues.

The enterprise would choose *GST* if *0.67W + 0.59P + 0.21D + (C -c) > 0.05Ci*. Therefore, the *GST* system is the most favorable for profitable, small, labor-intensive enterprises with low intermediate consumption.

If the principle of voluntary choice between the current way of taxation and *GST* followed strictly, gross effect would be positive, and the main purpose of reforming the national taxation system – to eliminate constant decrease of tax revenues – would be reached.

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Appendix

Table 1. Ukrainian Taxation System

#	Tax	Rate (in %)	Object of Taxation	Who pays
State				
1	VAT	20	value added	enterprise
2	Excise	different	per unit sold	individual
3	Enterprise Profit Tax (EPT)	30	profit of an enterprise	enterprise
4	Personal Income Tax (PIT)	10, 20, 30, 40 percent, progressive rate	personal income	individual
5	Import Duty	different	per unit imported (or percent of the value)	enterprise-importer
6	State Duty	different	per unit	individual/ enterprise
7	Property Tax	different	property	individual/ enterprise
8	Land Tax	different	square of the land	individual/ enterprise
9	Rents	different	per unit	individual/ enterprise
10	Tax on the owner of transport vehicle	different	per vehicle	individual/ enterprise
11	Business tax	different	value of production sold	individual
12	Payment for the geological working	different	market value of raw materials	enterprise
13	Payments for the special use of natural resources	different	market value of resource used	enterprise
14	Pollution fee	different	amount of wasteful residuals	enterprise
15	Payment to the Chernobyl fund	5%	total payroll amount	enterprise
16	Payment to the social insurance	4%	total payroll amount	enterprise

17 (a)	Payment to the state obligatory pension insurance	32%	total payroll amount	enterprise
17 (b)	Payment to the state obligatory pension insurance	2%	personal income	individual
18	Payments to the State Innovation Fund	1%	gross sales	enterprise
19	Payments for the patents on the special kinds of economic activity	different	value of the production sold	enterprise/ individual
20	Fixed agricultural tax	different	square of agricultural land	enterprise
Local				
1	Hotel payments	not more than 20% of price of room per day of living	Daily price of accommodation	individual
2	Payments for the parking of a transport vehicle	not more than 3% of minimum non-taxed personal income for one hour of parking	minimum non-taxed personal income	individual/ enterprise
3	Market payment	not more than 20% of minimum wage amount for an individual; not more than 3 minimum wages amount for an enterprise	minimum wage amount	individual/ enterprise
4	Payment for receiving the apartment order	not more than 3% of minimum non-taxed personal income	minimum non-taxed personal income	individual
5	Payment by the owners of dogs	not more than 10% of minimum non-taxed personal income per dog per year	minimum non-taxed personal income	individual
6	Recreation payment	not more than 10% of minimum non-taxed personal income per person	minimum non-taxed personal income	individual
7	Payment for the participation in the hippodrome	not more than 3 minimum non-taxed personal income	per horse	individual/ enterprise
8	Payment for being the winner in the hippodrome	not more than 6% of the sum of win	sum of win	individual/ enterprise

9	Payment for participation in the totalizator in the hippodrome	not more than 5% of sum of monetary addition to the main sum of money	per participants	individual
10	Payment for the right to use the local symbols	enterprises - not more than 0.1% of value of production with local symbols; individuals – not more than 5 minimum non-taxed personal income	per symbol used	individual/ enterprise
11	Payment for the filming right	Not more than the costs of photos	photos made	enterprise
12	Payments for providing auctions, lottery, etc.	enterprises – not more than 0.1% of value of goods (or the sum of lottery) Individuals – not more than 3 non-taxed personal incomes	value of goods (or the sum of lottery)	individual/ enterprise
13	Payment for moving through pre-border territories	Not more than 0.5 minimum non-taxed personal income	per vehicle	individual/ enterprise
14	Payment for the right to establish the trade objects	Not more than 20 minimum non-taxed personal income	per object	individuals/ enterprise

Table 2. Average profit of enterprises in Ukraine (quarterly, 1993-1998) (mln UAH) [12]

Period	T	VA	D	W	P
1993 Q1	10285.34	17801.55	4376.03	8914.29	-4324.57
1993 Q2	11162.97	18209.10	4376.03	7328.24	-3538.74
1993 Q3	9127.29	14300.25	4376.03	7185.63	-5097.47
1993 Q4	7766.64	11162.20	4376.03	5587.48	-5824.75
1994 Q1	5128.75	6050.00	3400.80	5078.89	-6698.03
1994 Q2	7574.58	10009.80	3400.80	6111.33	-5759.18
1994 Q3	9875.89	12771.95	3400.80	6660.97	-5662.18
1994 Q4	7153.10	8289.00	3400.80	4998.83	-6181.70
1995 Q1	4583.88	5906.40	3105.75	4192.87	-5251.44
1995 Q2	5704.56	6019.20	3105.75	5340.98	-7234.86
1995 Q3	5927.56	6367.20	3105.75	6353.27	-7972.67
1995 Q4	5970.75	6483.75	3105.75	5961.70	-7563.14
1996 Q1	4735.70	4735.70	2782.55	4957.26	-6908.79
1996 Q2	4198.04	4529.80	2782.55	4910.03	-6538.83
1996 Q3	4925.28	5097.40	2782.55	5011.78	-6796.15
1996 Q4	6337.17	6681.150	2782.55	4863.96	-6485.27
1997 Q1	4049.49	4668.00	2488.50	4323.46	-5473.53
1997 Q2	5343.64	5836.50	2488.50	4827.02	-6021.64
1997 Q3	6199.89	5964.10	2488.50	5344.67	-7179.04
1997 Q4	6546.32	6366.40	2488.50	4809.53	-6669.97
1998 Q1	4394.50	3466.25	2159.44	4097.99	-6506.31
1998 Q2	4932.54	5276.10	2159.44	4174.86	-5295.84
1998 Q3	3800.00	4186.00	2159.44	3433.92	-6153.67
1998 Q4	4190.00	6228.40	2159.44	3474.92	-4542.27

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[12] Source: UEPLAC, 1998 (http//:www.ueplac.kiev.ua).

Table 3. VAT/GDP ratio in Ukraine (1992-1998) [13]

Period	VAT/GDP (%)	Period	VAT/GDP (%)
1992 Q1	7.5	1995 Q3	8.4
1992 Q2	8.1	1995 Q4	9.1
1992 Q3	7.8	1996 Q1	7.1
1992 Q4	11.3	1996 Q2	7.1
1993 Q1	11.7	1996 Q3	7.7
1993 Q2	13.8	1996 Q4	10.1
1993 Q3	11.5	1997 Q1	8
1993 Q4	11.9	1997 Q2	9
1994 Q1	8.8	1997 Q3	8.6
1994 Q2	13.4	1997 Q4	9.2
1994 Q3	15.7	1998 Q1	5.9
1994 Q4	10.8	1998 Q2	8.6
1995 Q1	9.2	1998 Q3	6.5
1995 Q2	8.8		

[13] Source: UEPLAC, 1998 (http//:www.ueplac.kiev.ua).

Figure 1. VAT/GDP ratio in Ukraine (1992-1998)
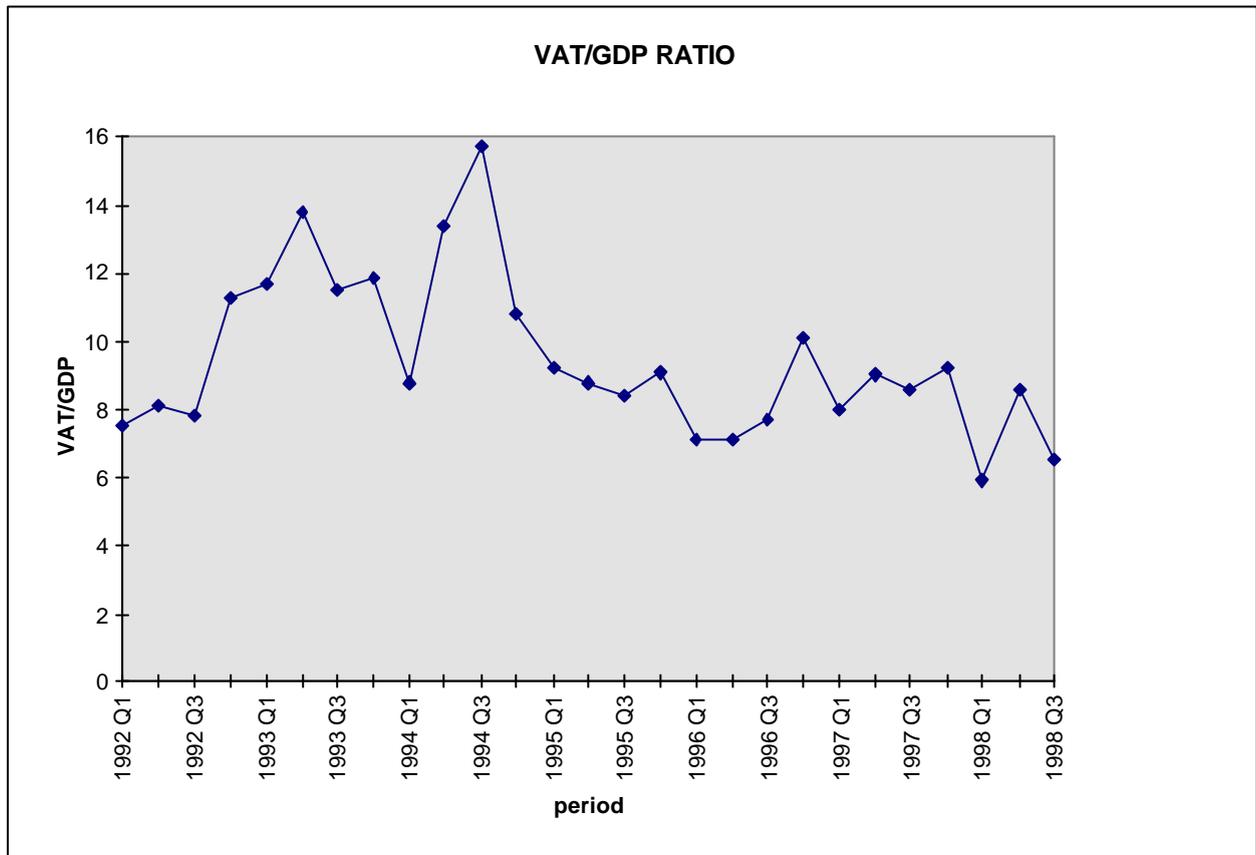
Table 4. VAT receiving less for 1993-1998 (mln UAH) [14]

Period	0.157GDP	rev_VAT	Losses
1993 Q1	4777.51	3560.31	-1217.20
1993 Q2	4143.23	3641.82	-501.41
1993 Q3	3904.59	2860.05	-1044.54
1993 Q4	2945.32	2232.44	-712.88
1994 Q1	2158.75	1210.00	-948.75
1994 Q2	2345.58	2001.96	-343.62
1994 Q3	2554.39	2554.39	0.00
1994 Q4	2409.95	1657.80	-752.15
1995 Q1	2015.88	1181.28	-834.60
1995 Q2	2147.76	1203.84	-943.92
1995 Q3	2380.12	1273.44	-1106.68
1995 Q4	2237.25	1296.75	-940.50
1996 Q1	2094.38	947.14	-1147.24
1996 Q2	2003.32	905.96	-1097.36
1996 Q3	2078.68	1019.48	-1059.20
1996 Q4	2077.11	1336.23	-740.88
1997 Q1	1832.19	933.60	-898.59
1997 Q2	2036.29	1167.30	-868.99
1997 Q3	2177.59	1192.82	-984.77
1997 Q4	2172.88	1273.28	-899.60
1998 Q1	1844.75	693.25	-1151.50
1998 Q2	1926.39	1055.22	-871.17
1998 Q3	2023.73	837.85	-1185.88
1998 Q4	2125.78	1245.68	-880.10
		sum Loss	**-21,131.53**

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[14] Source: UEPLAC, 1998 (http//:www.ueplac.kiev.ua).