

Iryna Shkura  
Dnipropetrovsk State Financial Academy – Ukraine

## Local Taxation Effectiveness in Ukraine: Assessment and Prospects after Implementation of the Latest Reforms

### Summary

The article deals with the issue of evaluation of local taxation effectiveness in Ukraine. Efficiency and amount of public services of local authorities depend on the sufficient level of local financial resources.

The purpose of the article is to evaluate the effectiveness of local taxation in Ukraine and find directions of its increase. To achieve the purpose mentioned above the following tasks have been fulfilled: analysing conditions of local taxation, evaluating the local tax role in the local budgeting, evaluating fiscal efficiency of local taxation and suggesting directions for increasing local taxation effectiveness under the today's Ukrainian conditions.

To fulfil these tasks the following methods have been applied: general scientific methods of knowledge, system analysis, dialectical method of cognition and statistical analysis. Under the circumstances of tax revenues and GDP reduction problems of increasing effectiveness of local taxation are becoming more and more topical. The evaluation of local taxation effectiveness in Ukraine has demonstrated an unstable elasticity of local taxation, the low level of GDP redistribution through local budgets and an irrational structure of local budget tax revenues.

Practical implications conclude that the suggested directions of improving local taxation effectiveness could be taken into account by local governments in Ukraine.

From the perspective of social implications it should be mentioned that an increase in fiscal effectiveness of local taxation leads to improvement of the quality and amount of public services of local authorities. The article refers to the research category.

**Key words:** taxes, local budgets, local tax effectiveness.

**JEL codes:** H2

### Introduction

Local budgets form a financial basis of a local self-government and occupy a special place in the state budget system. The quality of the formation and use of local budget revenues affect the level of economic and social development of regions.

Educational, cultural and public health institutions as well as mass media and implementation of outreach programmes are financed from local budgets.

Problems of local budgeting in Ukraine, lack of financial resources of local authorities and instability of their revenue have been quite topical and still unsolved.

A lot of native researchers and economists have paid their attention to questions of effectiveness of the Ukrainian taxation system's operation. V. Vitlinskyi, A. Skrypnyk (2005), A. Krysovatyi, V. Valigura (2010) and A. Sokolovska (2004) are among them. The issue of financial security of local authorities was researched by L. Lysiak (2012), M. Stavnycha (2015), V. Taranenko (2015), and I. Uskov (2014). The challenges of fiscal decentralisation were shown in proceedings of I. Rudenko (2014) and V. Khlivnyj (2012).

Inherently, the crucial issue of taxation effectiveness is considered by the international authors and institutions. In their research, L. Vitek and K. Pubal (2002) consider effectiveness as an ability of the government to collect taxes with low costs and to make evaluation. A. Caiumi (2011) evaluates the regional tax incentives for business investment in Italy and offers a new approach to evaluating tax expenditures, which allowed the author "to deal with the problem of endogeneity of firms' participation decisions as well as to account for the different channels through which tax incentives operate". M. E. Schaffer and G. Turley (2001) attempt to measure the effectiveness of tax administration in transition economies and how it compares to the benchmark for mature market economies. Their methodological approach is based on measuring the effectiveness of tax administration by comparing statutory tax rates with effective tax yields. The above mentioned international studies could represent only intuitive benchmarks for Ukraine because none of them deals with the local taxation. Moreover, there are differences in the methodology applied for the assessment, and the Ukrainian taxation system has its own peculiarities which hinder a comparative analysis.

As it was emphasised in the IMF, OECD, UN and World Bank report, "weak capacity, corruption and the missing reciprocal link between tax and public and social expenditures remain as challenges. The vicious circle of low tax morale and compliance, which reduces the lifeblood for funding public services, needs to be broken" (*A Report to the G-20...* 2011).

We would like to concentrate on the research of local taxation effectiveness because of current difficult circumstances for its development, insufficiency of financial basis for self-financing, and a low level of public services of local authorities as a consequence.

The purpose of the article is to evaluate the effectiveness of local taxation and find directions of its increase. To achieve the above mentioned purpose the following tasks have been fulfilled: analysing conditions of local taxation, evaluating the local tax role in the local budgeting, evaluating fiscal efficiency of local taxation and suggesting directions for increasing local taxation effectiveness.

It is advisable to begin with analysing dynamics and structure of tax revenues to local budgets.

Taxes provide more than 80% of local budget revenues. Besides that their share has been growing since 2010 and has 85% on average (Table 1).

Unfortunately, positive dynamics in tax revenues, which was during the period from 2008 to 2013, was broken. In 2014, local budget tax revenues amounted to 87.334 million UAH, which accounted for 96% of the tax revenues in 2013.

**Table 1****Local budget tax revenues in Ukraine (without inter-budget transfers), 2008-2014**

Revenues	2008	2009	2010	2011	2012	2013	2014
Tax revenues, of which:	59,281.4	59,157.6	67,575.6	73,086.9	85,852.0	91,191.1	79,007.29
income tax, mn UAH	45,895.8	44,485.3	51,029.3	54,065.1	61,066.0	64,586.0	55,844.64
%	77.4	75.2	75.5	74.0	71.1	70.8	71.6
land tax	6,681.4	8,362.7	9,539.9	10,700.9	12,581.7	12,802.9	12,083.92
%	11.3	14.1	14.1	14.6	14.6	14.0	13.8
local taxes and fees	819.9	808.6	819.4	2,504.1	5,455.0	7,316.2	8,955.15
%	1.4	1.4	1.2	3.4	6.4	8.0	9.2
environmental tax	-	-	-	1,190.5	1,552.4	1,534.6	1,216.43
%	-	-	-	1.6	1.8	1.7	1.4

Source: composed by the author based on the data from the official website of the State Treasury Service of Ukraine, <http://www.treasury.gov.ua> [access: 12.02.2015].

Regarding the structural characteristics of local budget tax revenues, their significant heterogeneity should be mentioned. Income tax predominates and its rate reduction was less than gross tax revenues in 2014. Land tax is the next important source of tax revenues with its share of 14%.

### Evaluating the role of local tax in local budgeting

But local taxes and fees have no less important place in tax revenues. During the analysed period, local taxes and fees had the following structure: fixed tax, tax on real estate different from land, parking fee, tourist fee and fee for certain types of business activities. Share of local taxes and fees started soaring in 2011 and amounted to 9.2% at the end of 2014 as a result of adoption of the Tax Code. According to the Tax Code, the structure of local taxes as well as their quantity and mechanism of payment have changed. However, it should be mentioned that the share of local taxes and fees in the local budget revenues has become very low in comparison with the European countries (in Great Britain and Germany – 37%, in France – 67%) despite commitments of Ukraine to develop the institute of local self-government according to the European criteria which Ukraine has ratified by coming into the European Charter of Local Self-Government.

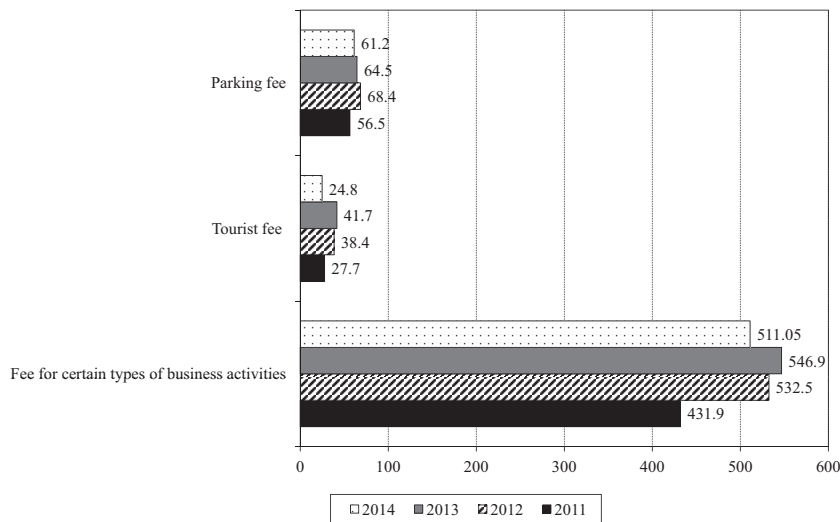
Local taxes and fees are necessary for ensuring security of local government services. And the volume of these services is associated with the amount of taxes paid. Resources, which are accumulated locally, are used more effectively and economically than those transferred from the central government.

The structure of local taxes and fees has changed crucially with the Tax Code adoption. Besides, de jure stipulated structure of local taxes has differed from the actual revenues.

For example, the tax on real estate different from land started to go into the budget only in 2013.

Since 2011, local fees have had the following structure: parking fee, tourist fee and fee for certain types of business activities. The last one had the biggest share (Fig. 1). Revenues from the fee for certain types of business activities were growing during the analysed period reaching its peak in 2012.

**Figure 1**  
**Revenues from local fees, mn UAH**



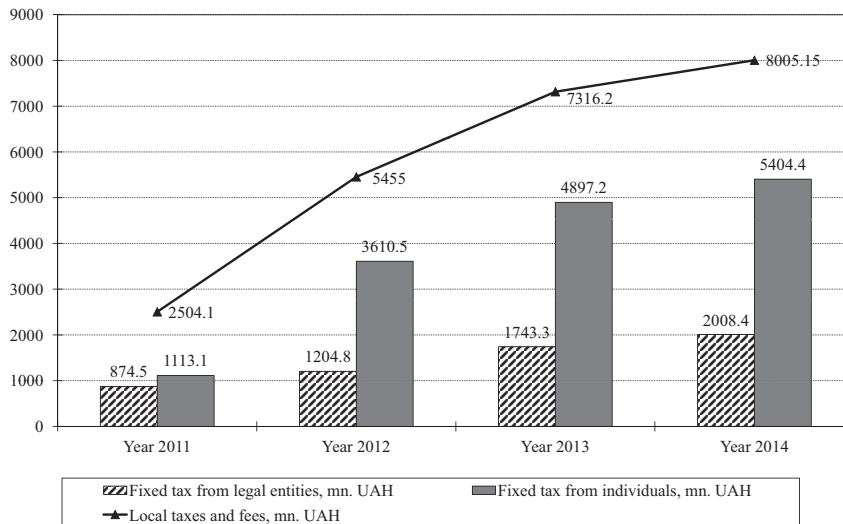
Source: composed by the author based on the data from the official website of State Treasury Service of Ukraine, <http://www.treasury.gov.ua> [access: 12.02.2015].

The fixed tax has become the local tax since the Tax Code adoption. Its participation in local taxes is quite significant (Fig. 2). Fixed taxation was increasing during the analysed period (2011-2014) and gave more than 90% of gross local taxation and fees. Thereby, the share of the fixed tax from individuals is three times more than the share of the fixed tax from legal entities. Revenues from the fixed tax to local budgets amounted to 8,005.15 million UAH that exceeded the last year’s revenues by 688.95 thousand UAH. The above-mentioned data testify to sizable fiscal capacity.

The tax on real estate different from land is quite a new tax for Ukraine. It has become a source of local budget revenues quite recently – since 2013. The share of this tax in the local taxes and fees is less than 1% for the time being. According to the State Treasury Service of Ukraine, the tax on real estate different from land accounted for 22.5 million UAH in 2013 and 44.88 million UAH in 2014. Such a boosting dynamics gives a chance for a rapid growth

of this tax. The background for the increase in the amount and participation of this tax in the local budgets lies in the tax reforms concerning the estate tax. The main aspects of the above changes are the following: extending the tax base, reconsidering residential property sizes and the procedure of setting benefits by local authorities. It will allow increasing the financial capacity of local authorities (Лист ДФС України від 16.01.2015 ...).

**Figure 2**  
**Revenues from the fixed tax to the local budgets**



Source: like in Figure 1.

The share of the local budget revenues in both general and special funds was decreasing and amounted to 22.3% and 29.8% at the end of 2013 respectively. Actual revenues of the local budgets amounted to 76,385.5 million USD which accounted for 70% of the plan. Based on the results of 2014, execution of plans of the local budgets amounted to 91%<sup>1</sup>.

Thus, local taxes and fees in Ukraine are not the primary source of the local budget revenues (although their share of tax revenues has increased since the Tax Code of Ukraine adoption), which testifies to presence of certain problems in the functioning and reformation of the local taxation system. To objectively determine the nature of these problems and find possible ways of their solution fiscal effectiveness of local taxation has to be evaluated.

<sup>1</sup> <http://www.treasury.gov.ua> [access: 12.02.2015].

## Evaluating fiscal effectiveness of local taxation

Nowadays there is no generalised system of indicators determining fiscal effectiveness of local taxation. Local researchers propose to apply various parameters that define how the selected tax types allow generating budget revenues without constraining business activity. To benchmark the tax system as a whole the following indicators are used: coefficient of elasticity; level of taxation; concentration index (Herfindahl index), index of dispersion, and coefficient of variation.

Elasticity of the tax shows the relative change in volume of revenue under the constant tax system on the percentage change of the tax base. The coefficient of tax elasticity shows the percentage change of tax revenue by changing the tax base by one per cent. The coefficient of elasticity is determined as follows (Krisovatyi, Valigura 2010):

$$E = TR/TB \quad (1)$$

where E – coefficient of tax elasticity; TR – percentage change of tax revenue; TB – percentage change of tax base.

The tax system is considered as elastic when the elasticity coefficient is greater than one. It indicates a faster revenue increase than an increase in the tax base (GDP).

The tax level or the tax rate is a quantitative index that describes the proportion of GDP that is redistributed through the state budget due to taxes. The tax level is determined as follows (2):

$$TL=T/GDP \quad (2)$$

where TL – tax level; T – tax revenues; GDP – gross domestic product.

Herfindahl index indicates the level of complexity of the tax system in terms of the formation of revenue from different sources. It is determined by the following formula (3):

$$I_n = \sum_i^n R_i^2 \quad (3)$$

where  $R_i$  – share of the  $i$  tax in gross revenues,  $n$  – total quantity of taxes.

There is a common approach in international theory and practice applied by the World Bank Group to measure complexity of the tax system to assess tax paying ease (from the business perspective) (*Paying Taxes 2015...*). Undoubtedly, provided that the effectiveness of the whole tax system and not its local level was evaluated, this approach and results for international benchmarks could be used.

Indices of concentration and dispersion in the scientific literature are used to characterise the structure of taxes and fees (Vitlinskyi, Skrypnyk, 2005, p. 25). It is determined by the formula (4):

$$\delta^2 = \sum_{i=1}^n p_i (x_i - \bar{x})^2 \quad (4)$$

where  $p$  – probability of realisation of random variable;  $x$  – random variable;  $\bar{x}$  – mean of random variable.

In this case, the random variable is the amount of tax revenues and the mean of random variable is the arithmetic mean of all taxes during the year. Probability of realisation of random variable is the share of taxes in the total budget.

The following indicator is a coefficient of variation which is the largest standard deviation per tax unit and it is determined by the formula (5) (Krisovatyi, Valigura 2010):

$$v(x) = \frac{+\sqrt{\delta^2}}{\bar{x}} \quad (5)$$

where  $\sigma^2$  – index of dispersion;  $\bar{x}$  – average tax revenues from main taxes.

The results of the above mentioned indicators for the local taxes are shown in Table 2.

Calculations demonstrate that there is no clear trend in the dynamics of the coefficient of elasticity of the local budget tax revenue in our country.

Since 2012 the tax system of local taxation can be considered as elastic (coefficient of elasticity is greater than one). During this period there was an increase in tax revenues faster than the increased tax base by the reformation of the tax system. It should be noted that ideally empirical studies on tax elasticity need to take into account tax evasion issues (the grey economy), which elude official statistics. Unfortunately, it is not always possible to have the accurate data in the open access to carry out such calculations.

We can see the negative changes in the level of local budget tax revenues and GDP. Instability in the dynamics of the elasticity coefficient is a negative trend.

Calculation of the local tax rate indicates a low level of GDP redistribution through the local budgets, demonstrating the absence of connection between sustainable regional development and formation of tax revenues by the regions. And this problem exists in many developing countries where “weak capacity, corruption and the missing reciprocal link between tax and public and social expenditures remain as challenges” (*A Report to the G-20...* 2011, p. 10).

**Table 2**  
**Evaluation of fiscal effectiveness of local taxation**

Revenues	2008	2009	2010	2011	2012	2013	2014
Tax revenues to local budgets, bn UAH	59.2814	59.1576	67.5756	73.0869	85.852	91.1911	79.0073
GDP, bn UAH	948.1	913.3	1079.3	1300	1404.7	1449.4	1 365.1
Coefficient of elasticity of tax revenues to the local budgets	-	0.06	0.78	0.4	2.17	1.95	2.3
Local tax rate	0.0625	0.0648	0.0626	0.0562	0.0611	0.0629	0.0574
Index of dispersion	629020576	548944982	726854938	1023586350	1211736823	1337646800	962404968*
Coefficient of variation	1.41	1.31	1.32	1.87	1.73	1.70	1.59*
Concentration index (Herfindahl index)	0.612	0.605	0.59	0.57	0.531	0.528	0.54*

\* Updated information for the year 2014.

Source: composed by the author based on the data from the official website of the State Treasury Service of Ukraine.

Thus, the level of regional development does not depend on the amount of tax revenues. Growth of the regional development indicators does not affect the level of tax revenue. In turn, changes in the tax system during the period from 2011 to 2013 led to the formation of growth trends in the tax ratio which changed in 2014 due to the decrease in tax revenues as well as GDP, and the rate of decline of tax revenues was greater than the rate of GDP decline.

Indicators of importance of specific taxes in the gross tax revenues of local budgets such as index of dispersion and coefficient of variation showed the following. During the analysed period we could notice two periods with the opposite trend: from 2008 to 2011 coefficient of variation grew and after the reformation of the tax system and the Tax Code adoption coefficient of variation declined and amounted to 1.59 at the end of 2014. Another index, which characterises the low share of taxes with small revenues, is index of dispersion. The extra large index of dispersion and significant coefficient of variation testify to insignificance of taxes as a part of the local taxation system and significant heterogeneity of its structure. Although since 2011 the reduction of the variation coefficient has indicated some optimisation of tax structure at the local budgets.

Calculation of Herfindahl concentration index for local budget tax revenues indicates the level of complexity of the local taxation system. Sustainable tendency of its decrease observed between 2008 and 2013 indicates the structural changes in the formation of the local budget revenue base leading to downward concentration of each tax. It could be considered as a positive trend.

Thus, the assessment of local taxation effectiveness has shown unstable elasticity of local taxation, low level of GDP redistribution through the local budgets and irrational structure of local budget tax revenues. Due to the economic crisis of the state, which started in 2014 and is characterised with a decrease in tax revenue and GDP, issues of increasing tax effectiveness at the local level are becoming more and more important.



## Directions for increasing local taxation effectiveness

Based on the conducted analysis of local taxation effectiveness, the following ways of its increase could be generated.

It is necessary to take into account foreign experience of local taxation extending local taxes by including indirect taxes to neutralise the dependence of local budget revenues on the economic situation in the country.

The equalisation of the tax revenue structure of the local budgets is required. That has been justified by the given calculations of the index of dispersion and coefficient of variation which have testified to insignificance of taxes as a part of the local taxation system and significant heterogeneity of its structure.

It is essential to reduce concentration of each tax as part of local budgets in future that has been shown by the calculations of Herfindahl concentration index for local budget tax revenues, which indicates the level of complexity of the local taxation system.

It is necessary to improve the administrative mechanism of the tax on real estate different from land as one of the most fiscally prospective local tax. The basis for such changes lies in the current tax reforming. Since the year 2015 the tax on real estate different from land has been a part of the property tax and the tax base has been widened from the living space to the total area. Furthermore, the local government power concerning the sizes of the taxable real estate and incentives in the real estate taxation has been increased. In addition it is relevant to apply changes in the tax base from the total area of real estate to its market value in the nearest future (Shkura 2014, p. 131-136).

It goes without saying that there are two primary tasks for the improvement of the financial base of the local budgets, namely to enhance control over the usage of local resources in order to keep total state expenditures within the budget and to overcome the negative dynamics of GDP and budget tax revenues at different levels.

Reforming the local taxation according to the Law of Ukraine “On Amendments to the Budget Code of Ukraine’s Reform of Intergovernmental Relations” and the Law of Ukraine “On Amendments to the Tax Code of Ukraine and Some Laws on Tax Reform” will definitely change the level of financial self-sufficiency of local authorities. But differences in hopes of lawmakers and local executive bodies for the impact of these changes on the financial base of the local budgets should be taken into account.

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## **Efektywność systemu podatków lokalnych na Ukrainie: ocena i perspektywy po wdrożeniu ostatnich reform**

### **Streszczenie**

Artykuł jest poświęcony zagadnieniom oceny efektywności systemu podatków lokalnych na Ukrainie. Efektywność i wolumeny świadczenia usług społecznych przez lokalne organy władzy zależą od tego, czy wolumen lokalnych zasobów finansowych jest wystarczający.

Celem artykułu jest ocena efektywności systemu podatków lokalnych na Ukrainie oraz ocena kierunków jej zwiększania. Dla osiągnięcia postawionego celu zrealizowano następujące zadania: analizę warunków systemu podatków lokalnych, ocenę roli lokalnych podatków w kształtowaniu dochodów lokalnych budżetów? Ocenę efektywności fiskalnej systemu podatków lokalnych i opracowanie propozycji dotyczących jej zwiększenia we współczesnych warunkach gospodarki ukraińskiej.

Do realizacji danych zadań zastosowano takie metody jak: ogólne naukowe metody poznania, analiza systemowa, dialektyczna metoda poznania i analizy statystycznej.

W warunkach kurczenia się wpływów podatkowych i PKB kwestie podnoszenia efektywności systemu podatków lokalnych stają się coraz bardziej aktualne. Ocena efektywności systemu podatków lokalnych na Ukrainie wykazała niestabilną elastyczność systemu podatków lokalnych, niski poziom redystrybucji PKB za pośrednictwem budżetów lokalnych i nieracjonalną strukturę wpływów podatkowych do budżetu lokalnego.

Praktyczne implikacje przeprowadzonych badań polegają na tym, że zaproponowane kierunki usprawniania efektywności systemu podatków lokalnych mogą być brane pod uwagę przez samorządy na Ukrainie.

Z punktu widzenia implikacji społecznych należy podkreślić, że podniesienie efektywności fiskalnej systemu podatków lokalnych prowadzi do poprawy jakości i ilości usług socjalnych lokalnych organów władzy. Artykuł należy do kategorii naukowo-badawczej.

**Słowa kluczowe:** podatki, budżety lokalne, efektywność systemu podatków lokalnych.

**Kody JEL:** H2

## **Эффективность местного налогообложения в Украине: оценка и перспективы после внедрения последних реформ**

### **Резюме**

Статья посвящена вопросам оценки эффективности местного налогообложения в Украине. Эффективность и объемы предоставления общественных услуг местными органами власти зависят от достаточного объема местных финансовых ресурсов.

Цель статьи заключается в оценке эффективности местного налогообложения в Украине и в поиске направлений ее повышения. Для достижения поставленной цели были выполнены следующие задачи: анализ условий местного налогообложения, оценка роли местных налогов в формировании доходов местных бюджетов, оценка фискальной эффективности местного налогообложения и разработка предложений по ее повышению в современных условиях украинской экономики.

Для выполнения данных задач были применены такие методы как общенаучные методы познания, системный анализ, диалектический метод познания и статистического анализа.

В условиях сокращения налоговых поступлений и ВВП вопросы повышения эффективности местного налогообложения становятся все более и более актуальными. Оценка эффективности местного налогообложения в Украине продемонстрировала нестабильную эластичность местного налогообложения, низкий уровень перераспределения ВВП через местные бюджеты и нерациональную структуру налоговых поступлений местного бюджета.

Практическое значение проведенных исследований заключается в том, что предложенные направления усовершенствования эффективности местного налогообложения могут быть приняты во внимание органами местного самоуправления в Украине.

С точки зрения социального значения следует отметить, что увеличение фискальной эффективности местного налогообложения приводит к улучшению качества и количества общественных услуг местных органов власти. Статья относится к научно-исследовательской категории.

**Ключевые слова:** налоги, местные бюджеты, эффективность местного налогообложения.

**Коды JEL:** H2

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Afiliacja:

prof. dr Iryna Shkura

Dniepropietrowska Państwowa Akademia Finansów, Ukraina

Katedra Systemów Podatków

ul. Arżanowa, 12

49000 Dniepropietrowsk

tel.: +380567219880 (112)

e-mail: irashkura@gmail.com