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EFFICIENCY EVALUATION OF FUNCTIONING OF THE TAXATION MECHANISM ON PERSONAL INCOME IN UKRAINE AT THE PRESENT TIME

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In this article analysis of efficiency of functioning of the taxation mechanism on personal income in Ukraine was made. It was based on the calculation of the tax burden, social, economical and fiscal effectiveness of the functioning of the tax on personal income and was determined dependence between these parameters and the amount of taxation on personal income entranced to the Consolidated Budget of Ukraine.

At the present stage of the mechanism of taxation on personal income, more questions arise concerning the feasibility and efficiency of proportional (linear) methodical approach to the tax on personal income. Thus, using of specific indicators become the most significant, as it would characterize functional efficiency of the existing mechanism for different subjects of tax -the taxpayer, tax authorities, and the state - in order to identify the most significant of them and study their possible adjustments for further optimization of them.

The subject of investigation of mechanism of personal income tax functioning, in particular determining the level of tax burden and the criteria for definition the overall level of its efficiency was described in studies of such scientists: M. Rudaya [3], V. Synchak [4], A. Slavkova [5], A. Sokolovska [6], L. Khudolyj [13], K. Shvabyj [14] and others.

Methods of the study. General scientific and special methods of scientific research was used in order to fulfil the task, from general was used method of induction - to formulate conclusions. From special methods was used method of correlation-regression analysis - to identify connection between indicators of the efficiency of the mechanism of personal income tax and the amount of incoming tax to the budget.

Results of the study. The level of the outcome characterizes by effectiveness of any economic phenomenon. It determines by various parameters that characterizes it on different levels, which were involved in the functioning of the mechanism. The mechanism of tax on personal income covers three groups of subjects of fiscal relations in the process of implementation: the taxpayer, the tax office, the state. Each group expects to have personal effect obtained as a result of operation of the mechanism. Therefore, various indicators should measure the efficiency of the tax system: the tax burden and social efficiency - for taxpayers, economic effectiveness - for the tax authorities, fiscal efficiency - for the state.

In our opinion, in case of the taxation on personal income the level of tax burden

should be defined as the ratio of tax paid by a person to his basic and extra income. However, the dynamics of the level of tax burden (tax load) on personal income, intended for different economic levels – the state, the region and the test region - shows slight deviation index between them. Moreover, the lowest point of the studied index observed at the regional level (Fig. 1).

Fig. 1. The level of tax burden on personal income in Uman USTI, STA in the Cherkassy region and in Ukraine during 2006-2011 years, %*
*calculated using [8; 10; 12]

The level of tax burden on personal income in the Cherkassy region is higher than in Ukraine in general almost during all period of researches, but indices for Uman USTI in the Cherkassy region are lower than the total regional. This is due to the fact that in each of the regions (districts) the level of personal income is different what affects the tax burden.

Concerning the tax burden on income in Uman and Uman district, its level was fixed at 4.4% at the beginning of the studied period. However, in 2007, the index significantly increased - up to 5.1%, because of higher levels of tax rates. During the next 2008 - 2011 years there has been a decline rate of the tax burden to 3.8%. However, these changes are caused primarily by the fact that a large proportion of taxpayers receive lower wages than the state-set minimum wage, and therefore - hide their income and reduce the amount of tax payable.

To study the feasibility and rationality of the existing mechanism of taxation on personal income is necessary to determine its efficiency for different subjects of tax relations. Basis and therefore the most important is the level of the taxpayer, which characterizes the index of social efficiency. It should be mentioned that the index of social effectiveness of tax on personal income has a downward tendency, for the studied period, as illustrated in fig. 2.

The level of social efficiency factor of tax on personal income in Uman and Uman district has rapidly increasing dynamics from 2006 to 2008 inclusive: if in 2006 the index was 14.6%, in 2008 - 34.4%. The following periods are characterized by a gradual decrease to 30.5% in 2011. In general, only in 2008-2011 the index of social efficiency factor of tax on personal income crossed the optimal bound, when the remaining income after taxation of an individual exceeded 30%. The index of social efficiency in the Cherkassy region is much higher, however, in 2009-2011 it had downward tendency. The level of social efficiency in Ukraine in general, is much lower than the aforesaid and never crossed the optimal level of 30% during the studied period. That proves inability of existing tax operating mechanism to stimulate taxpayers to tax all income, as it should be.
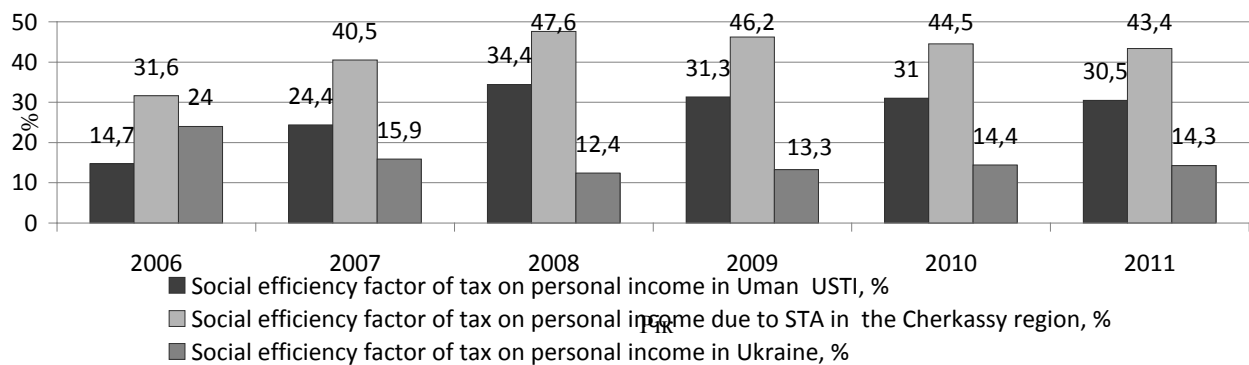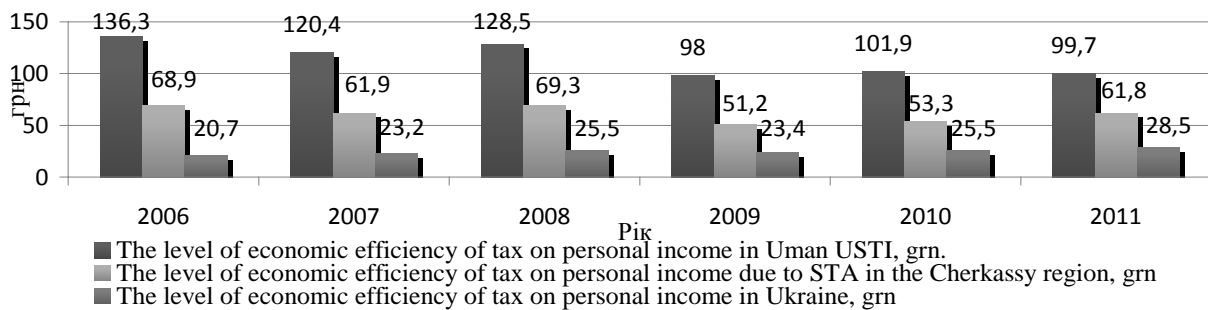

Fig. 2. The level of social efficiency factor of tax on personal income in Uman USTI, STA in the Cherkassy region and in Ukraine during 2006-2011 years, %*
*calculated due to [12; 15]

Another important factor in the research in efficiency of functioning of the current system of taxation is to determine the economic efficiency level. In our opinion the calculation of economic efficiency of taxation is appropriate to the national mechanism of taxation on personal income, as economic efficiency is the result of the ratio of paid tax amounts to the costs incurred to administrate it. Accordingly, the index will increase when the amount of budget incomes from taxation funds grows and the cost for its administration decreases.

It is certified dynamics, according to calculations of economic efficiency of tax on personal income in Uman and Uman district in comparison with similar data in the Cherkassy region and in Ukraine (Figure 3):

The index of economic efficiency of tax on personal income during the studied period indicates a negative downward tendency. The highest rate at all levels was recorded in 2011, when for 1 grn. spent costs on administration were obtained 128.5 grn. of personal income tax in Uman USTI, 69.3 grn. due to STA in the Cherkassy region and 25.5 grn. for Ukraine in general. The lowest level of economic efficiency of taxation in Uman USTI was in 2009 - only 98 grn. tax for 1 grn. spent funds, to STA in the Cherkassy region – also in 2009 - 51.2 grn., and in the Ukraine - in 2006 - 20.7 grn. However, the current mechanism of personal income tax can not be

considered optimal unambiguously: the process of administration of the personal income taxation requires significant expenditures, which were increasing during the studied period, and there is a clear dependence of tax in the economic situation in the country.
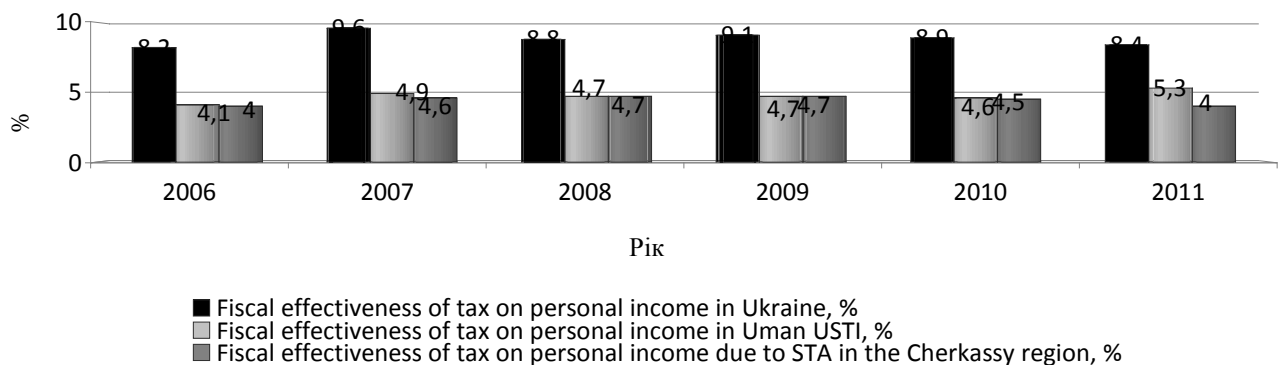

Fig. 3. **The level of economic efficiency of tax on personal income in Uman USTI, STA in the Cherkassy region and in Ukraine during 2006-2011 years, grn.***
*calculated using data of Uman USTI, STA in the Cherkassy region

However, in our opinion, effective measure of tax on personal income at the state level is the indicator of fiscal effectiveness, which expresses the proportion of accumulated tax without the cost of its administration in the gross domestic output of the state.

The tendency observed in fig. 4. demonstrates the level of fiscal effectiveness of tax on personal income in Ukraine, the Cherkassy region, Uman and Uman district.


Fig. 4. **Comparison of the level of fiscal effectiveness of personal income taxation in Uman USTU, STA in the Cherkassy region and in Ukraine during 2006-2011 years, %***
*calculated using data of Uman USTI, STA in the Cherkassy region

The current system of tax on personal income observed unstable indices of fiscal efficiency: its highest level in Uman USTI recorded in 2007 - 9.6%, and the lowest - in 2006 - 8.2%. In the Cherkassy region the highest rate observed in 2011 - 5.3%, and Ukraine in 2008 and 2009 - 4.7%. This situation is explained by the decreasing in the proportion of the accumulated amount of tax on personal income in total gross domestic output of Ukraine and increasing the cost of administration of taxation.

Undisputed fact is that the fluctuations of indices of social, economic and fiscal effectiveness of tax on personal income have a direct impact on the overall efficiency of the mechanism of personal income taxation (fig. 5).
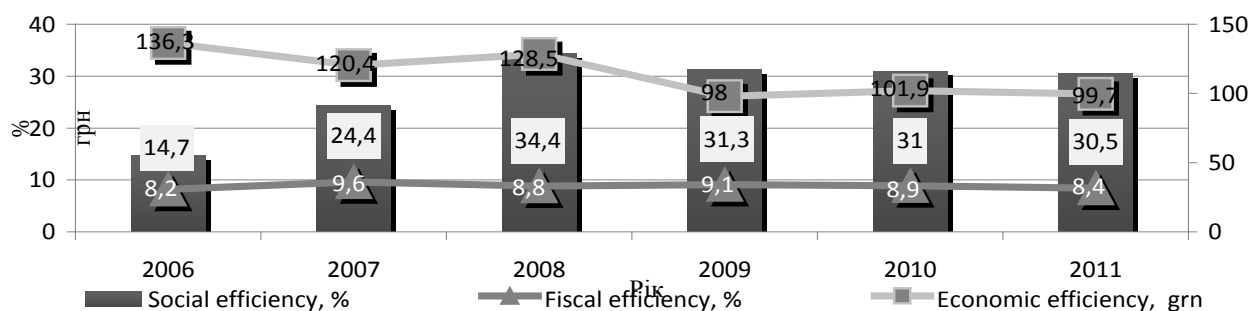
Fig. 5. Comparison of indices of different kinds of efficiency of personal income taxation mechanism in Uman USTI during 2006-2011 years*
*calculated due to data from Uman USTI

Economical effectiveness of the mechanism of personal income taxation has a downward tendency during the studied period: from 136.3 grn. in 2006 to 99.7 grn. of tax for 1 grn. costs associated with its administration, in 2011. This situation is the same for indices of social efficiency, which is characterized by significant downward tendency caused by a high level of incomes hiding. Finally, it is a relatively minor changes observed due fiscal efficiency of personal income taxation - despite fluctuations during 2006 - 2011 years, the overall growth rate was 0.2%, which, in our opinion, caused by imperfection of the current mechanism of personal income taxation.

To determine which of the stated indices of efficiency has the greatest impact on the income of tax on personal income to the budget of the state, let us conduct the correlation analysis based on the dependence of amount of tax income on the tax burden, social, economic and fiscal efficiency. The correlation model includes basic indicators that have an effect on the entry of personal income tax. They include: the tax burden (x1)%; social efficiency,% (x2), economic efficiency, grn. (x3), fiscal efficiency,% (x4) (fig. 1).

1. The outgoing data for correlation and regression analysis of influence of efficiency indices of personal income taxation mechanism on the tax revenue in the years 2006-2011 *

Year	Income PIT, milliard grn.	Tax burden, %	Social efficiency, %	Economic efficiency, grn.	Fiscal efficiency , %
	y	x_1	x_2	x_3	x_4
2006	22,8	4,8	24	20,7	4
2007	34,8	5,6	15,9	23,2	4,6
2008	45,9	5,4	12,4	25,5	4,7
2009	44,5	5	13,3	23,4	4,7
2010	51	4,6	14,4	25,5	4,5
2011	60,2	4,3	14,3	28,5	4

*calculated using data from [8; 9; 10; 11; 15]

Before constructing a general correlation-regression model, we should find out the impact of every factor to the result features.

The first factor that affects the revenue of tax on personal income in the budget is the tax burden (Fig. 6).

Income PIT, milliard, grn   Tax burden, %
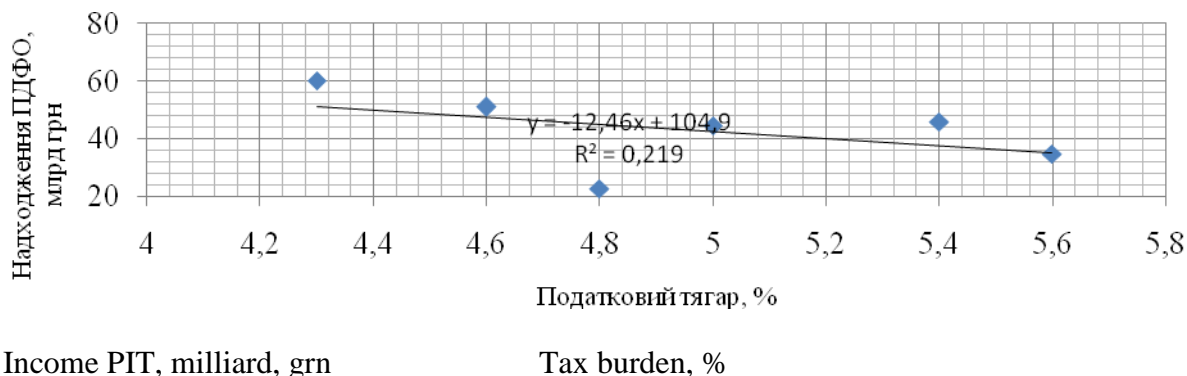
Fig. 6. Dependence of personal income tax revenue on tax burden*
*calculated by the author

The equation circumscribes the change in tax on personal income revenue, depending on the tax:

$$y = 5,7113 - 0,0176x_1 \qquad (1)$$

If y – entry of personal income tax, milliard grn.;
x_1 - tax burden,%

Pair correlation coefficient (R) is equal to 0.47 for this model what indicates that the level of dependence is the average. Let us assume that the level is average within

the pair correlation coefficient changes from 0.3 to 0.7, there is reason to believe that income of personal income taxation depends on the tax burden. Moreover, the model describes the dependence only for 22.0%. Therefore, it is necessary to consider other factors to build a real model. The fact is that the increase or decrease in the tax burden causes higher rates of growth or decline of entrance of tax on personal income, as the increase in the tax burden encourages taxpayers to hide income, and its decline - on the contrary, their legalization.

The result of the influence of another factor - social efficiency is shown in fig.7.

Income PIT, milliard, grn   Social effectivness, %
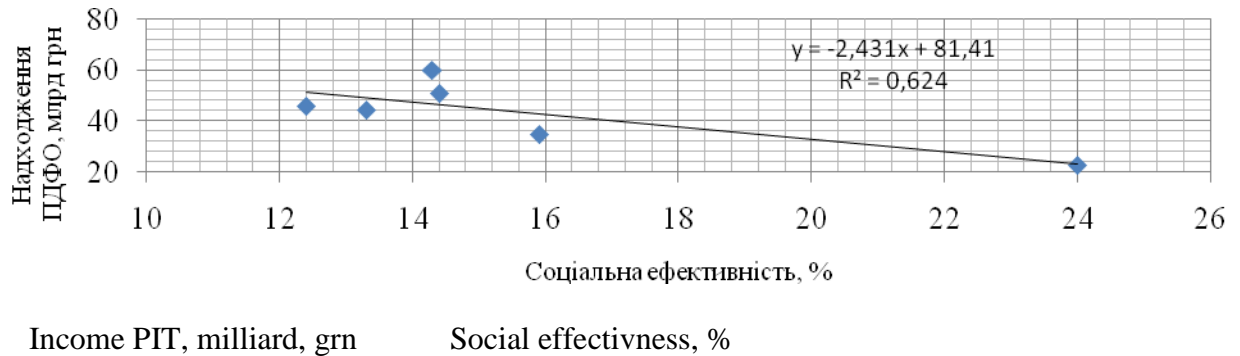
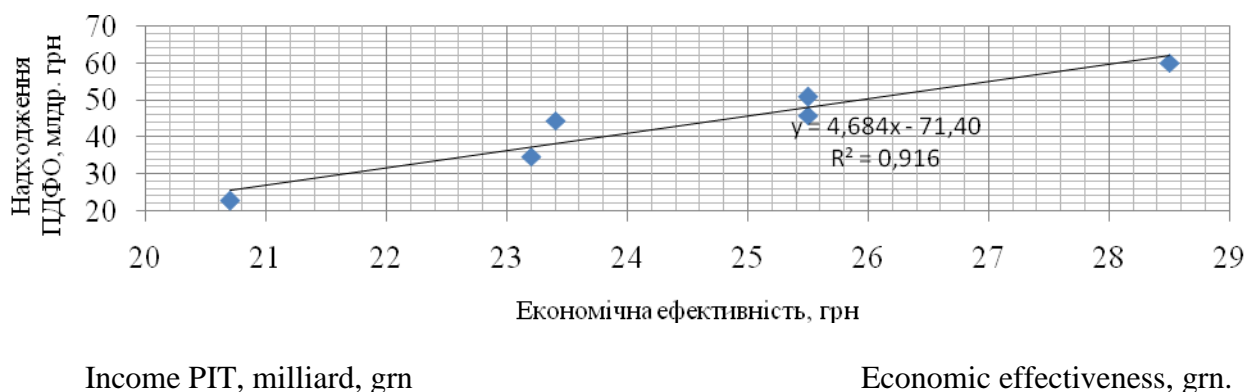**Fig. 7. Dependence of tax on personal income revenue on social efficiency ***
* The author's calculations

The correlation coefficient for this model is R = 0,79, indicating a close relationship between selected factors and efficacious indicators. This model describes the dependence on 62.4%. This supports the idea that taxpayers are more likely to pay the tax when the income remaining after taxes (a measure of social efficiency) is higher. As you would expect, the income tax depends on the social efficiency, and the equation that describes this relationship is:

$$y = 26,802 - 0,2566x_2 \tag{2}$$

if x_2 - social efficiency,%.

Building a model of connection of economic effectiveness and efficacious index gave the following results (Fig. 8):

Income PIT, milliard, grn   Economic effectiveness, grn.

Fig. 8. Dependence of tax on personal income revenue on economic efficiency *
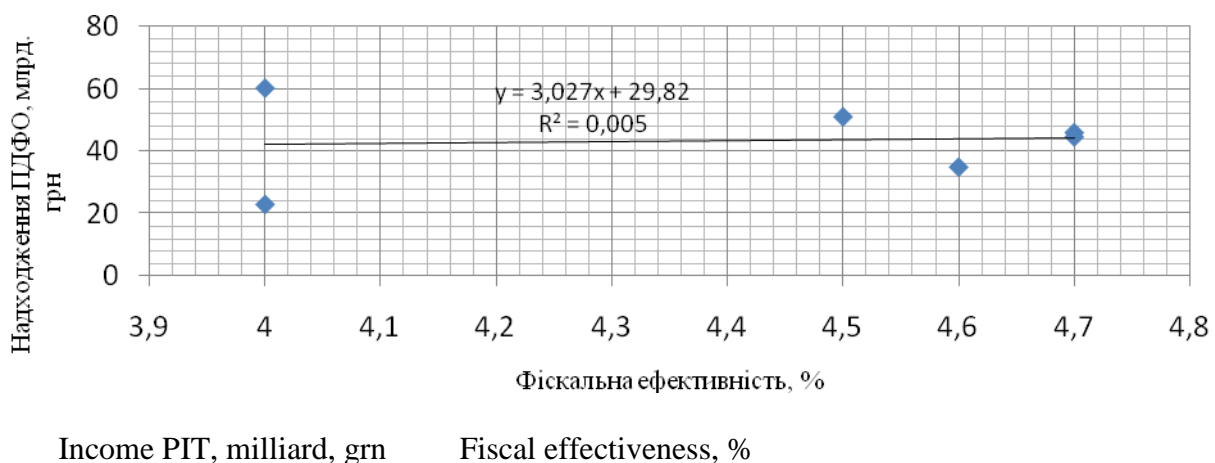* The author's calculations

This model describes the process satisfactorily, as $R^2 = 0,9169$. The close connection between selected factors and revenue of tax on personal income (R = 0,96) can be explained by the reduction in administrative costs that automatically provokes increasing of economic efficiency and, consequently, the amount of income tax.

Accordingly, the model is:

$$y = 16,01 + 0,1957x_3 \qquad (3)$$

if x3 - economic efficiency, grn.

Clarifying the impact of fiscal effectiveness on entrance of tax on personal income appears that this factor practically does not affect the output indicator (R = 0,08) (Fig. 9), due to the state level, which effectiveness characterizes by the indicator.

Income PIT, milliard, grn   Fiscal effectiveness, %

Fig. 9. Dependence of tax on personal income revenue from fiscal efficiency *
* The author's calculations

Thus, to construct a model of entrance of tax on personal income were selected three factors: the tax burden (x_1)%; social efficiency,% (x_2), economic efficiency, grn. (x_3). Since none of them is fully self does not describe a process, was built the dependance model of tax revenues from these three factors. Calculations were carried out by means of statistical analysis and data processing STATISTICA 7.0.

Conclusions. Research of effectivness of personal income tax in Uman USTI showed a slight increasing tendency according to the index of social efficiency, which increased from 14.7 % in 2006 to 30.5 % in 2011, decreasing characteristics of economic efficiency, the level of which decreased during the studied period from 136.3 grn. to 99,7 grn. of received tax for 1 grn. of costs, associated with its administration and rising fiscal efficiency that characterizes the efficiency of the mechanism of personal income tax at the state level, which growth during the dtudied was 0, 2%, primarily caused by rising levels of administrative costs in recent years and reducing the amount of its revenues. In addition, the results of the studies showed the connection between demonstrated indices of mechanism effectiveness of personal

income taxation among each other. However, in general, it should be emphasized that the mechanizm of personal income tax is still unsatisfactory, what causes necessity in the development of optimal directions of its improvement.

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Барабаш Л.В., Концеба С.М.
Оценка функционирования механизма налогообложения доходов физических лиц в Украине на современном этапе

Современный механизм налогообложения доходов физических лиц в Украине характеризируется пропорционным (линейным) подходом к установлению ставок налога. Однако до 2004 года налогообложение доходов населения осуществлялось с помощью прогрессивных ставок. Именно поэтому возникает вопрос об эффективности действующего ныне механизма налогообложения. В статье рассмотрены показатели, которые характеризируют эффективность функционирования действующего механизма для разных субъектов налоговых отношений: плательщика, налоговой службы, государства. Для плательщика такими показателями названы уровень налогового бремени и социальной эффективности; для налоговой службы — экономическая эффективность; для государства — фискальная эффективность. Каждый из рассчитанных показателей засвидетельствовал негативные тенденции в функционировании действующего механизма налогообложения доходов физических лиц. Вследствие этого было произведено исследование влияния вышеописанных показателей на уровень поступлений налога на доходы физических лиц в Сводный бюджет Украины, что в дальнейшем будет способствовать разработке путей оптимизации действующего механизма налогообложения доходов физических лиц.

Ключевые слова: *механизм налогообложения доходов физических лиц, налоговое бремя, социальная эффективность, экономическая эффективность, фискальная эффективность.*

Barabash L.V., Kontseba S.M.
Evaluation of the functioning of the tax on personal income in Ukraine at present time.

The modern mechanism of personal income taxation in Ukraine is characterized by proportional (linear) approach to setting of taxation rate. However, up to 2004 personal income taxation was carried out via progressive rates. That is why there is a question about the effectiveness of the current taxation mechanism. In the article considered indicators that characterize the efficiency of the existing mechanism for different subjects of tax relations: the payer, the tax authorities and the state. For payer such indicators are the level of tax burden and social efficiency; for tax authorities — economic efficiency, for the state — fiscal efficiency. Each of the calculated indices witnessed a negative tendency in the functioning of the existing mechanism of the

personal income taxation. Therefore, it was examined the influence of the aforesaid parameters on the level of revenue of tax on personal income in the Consolidated budget of Ukraine, which further will promote the development of ways to optimize the operating mechanism of the personal income taxation.

Key words: *mechanism of the personal income taxation, tax burden, social efficiency, economic efficiency, fiscal efficiency.*