

Vědecký časopis / Scientific journal

Socioekonomické a humanitní studie

Studies of Socio-Economics and Humanities

2/2012 Volume 2



ODBORNÉ RECENZOVANÉ STATĚ
Z OBLASTI SOCIOEKONOMICKÝCH A HUMANITNÍCH VĚD

THE EXPERT REVIEWED ARTICLES
FOCUSED ON SOCIO-ECONOMIC SCIENCES AND HUMANITIES

Socioekonomické a humanitní studie

Studies of Socio-Economics and Humanities 2/2012 Volume 2

VYDAVATEL
(PUBLISHER)

Bankovní institut vysoká škola, a.s.
(Banking Institute/College of Banking)
Nárožní 2600/9, 158 00 Praha 5
IČ: 61858307

REDAKČNÍ VĚDECKÁ RADA
(EDITORIAL SCIENTIFIC BOARD)

šéfredaktorka / Editor in Chief:
Bojka Hamerníková – (bhamernikova@bivs.cz)
Odpovědná redaktorka / Responsible Editor
Ingrid Matoušková (imatouskova@bivs.cz)
Odborný editor / Scientific Editor
Josef Palán (jpalan@bivs.cz)

Členové:

John Anchor – University of Huddersfield, United Kingdom
Hana Březinová – BIVŠ, a.s. Praha
Lubomír Cívín – BIVŠ, a.s. Praha
Ludmila Čírtková – Policejní akademie ČR
Vratislav Izák – Vysoká škola ekonomická v Praze
Jozef Klučka – Žilinská univerzita v Žiline
Vojtěch Krebs – Vysoká škola ekonomická v Praze
Václav Liška – ČVUT v Praze
Ivan Malý – Masarykova univerzita v Brně
Jozef Medved – BIVŠ Slovensko
Juraj Nemeč – Univerzita Mateja Bela Banská Bystrica
František Pavelka – BIVŠ, a.s. Praha
Jaroslava Pavelková – BIVŠ, a.s. Praha
Ladislav Průša – Výzkumný ústav práce a sociálních věcí
Slavomíra Svátková – BIVŠ, a.s. Praha

REDAKCE
(EDITORIAL STAFF)

Helena Sýkorová
(hsykorova@bivs.cz) tel.: +420 251 114 584
Helena Hakenová
(hhakenova@bivs.cz) tel.: +420 251 114 585

Přebírání materiálů je povoleno s prokazatelným souhlasem autora a redakční vědecké rady.
Taking over materials is permitted only with demonstrable author's and scientific editorial board agreement.

Prepress:
Print:
Evidence number:
ISSN:
ISSN of the on line version:
URL:
Periodicity:
Distribution:
Deadline:

Robída
Robída
MK ČR E 19842
ISSN 1804-6797
ISSN 1804-6800
sehs.bivs.cz
2 issues per year
Bankovní institut vysoká škola, a.s.
31. 10. 2012

Socioekonomické a humanitní studie

Studies of Socio-Economics and Humanities 2/2012 Volume 2

EDITORIAL

PAVEL MERTLÍK 80
Specifické dopady finanční krize
Particular Effects of Financial Crisis

STATĚ / ARTICLES

GALINA AZARENKOVA, ELENA GOLOVKO 81
Finanční stabilita ukrajinských bank: analýza a perspektivy /
Financial Stability of Ukrainian Banks: Analysis and Prospects

TOMÁŠ PILAŘ 91
Fiskální stimulační opatření zemí eurozóny: odpověď na ekonomickou krizi
Fiscal Stimulus Measures in the Eurozone Countries: Response to Economic Crisis

IVANA REŽNÁ 99
Stabilizační opatření vybraných evropských zemí jako reakce na finanční krizi
Stabilization Measures in Selected European Countries as a Response to the Financial Crisis

INNA SHKOLNIK, TETYANA KUBAKH 108
Kapitálový trh: dopady na finanční bezpečnost země (v případě Ukrajiny)
Capital Market: Effects for the Financial Security of a Country (The Case of Ukraine)

OLENA BORYSIVNA ZHYHOR, TETYANA MYKOLAIVNA KUTSENKO 114
Hlavní tendence inovativního rozvoje ukrajinské ekonomiky
The Main Tendencies of Innovative Development of Ukrainian Economy

SERHII LYEONOV, DMITRO VEREMCHUK 122
Ocenění míry sblížení nepřímého zdanění na Ukrajině a v členských zemích Evropské unie
Assessment of Proximity Indirect Taxation in Ukraine and the Member States of the European Union

JANA MARKOVÁ 132
Reforma mezinárodního měnového fondu je dlouhodobý proces
Reforming of the International Monetary Fund Is a Long Term Process

RÓBERT JÁGER 142
Právna úprava poskytovania pomoci, tým, ktorí na to boli odkázaní, v období kapitalizmu
Legislation of a Provision of Assistance to those Who Were Dependent on It in the Period of Capitalism

AKTUÁLNÍ TÉMA / CURRENT TOPIC

EILA JERONEN & JUHA JERONEN 152
Outdoor Education in Finland

OCENĚNÍ MÍRY SBLIŽOVÁNÍ NEPŘÍMÉHO ZDANĚNÍ NA UKRAJINĚ A V ČLENSKÝCH ZEMÍCH EVROPSKÉ UNIE

ASSESSMENT OF PROXIMITY INDIRECT TAXATION IN UKRAINE AND THE MEMBER STATES OF THE EUROPEAN UNION

Serhii Lyeonov, Dmitro Veremchuk

ABSTRAKT

Článek se zaměřuje na analýzu míry a směru sblížení vývoje nepřímých daní na Ukrajině a v evropských zemích a na míru tohoto sblížení. Stať prezentuje metodický přístup k hodnocení úrovně podobnosti systému nepřímých daní na Ukrajině a v členských státech Evropské unie za použití taxonomického indexu úrovně podobnosti nepřímých daní. Uplatnění tohoto přístupu umožnilo charakterizovat rozsah a dynamiku změn v trendech zdaňování spotřeby, jakož i dosaženou míru jednotnosti daňové politiky v Evropské unii v oblasti nepřímého zdaňování.

Klíčová slova:
daně, daňová politika, nepřímé zdanění, politika daňové integrace, jednotnost systému nepřímých daní, taxonomická analýza

ABSTRACT

The article determines the scale and directions of indirect taxation in Ukraine and the European countries, investigates the level of its proximity. It presents the methodical approach to assessing the level of proximity of indirect taxation in Ukraine and the European Union by using the taxonomic index of proximity of indirect taxation. The application of this approach made it possible to characterize the degree and dynamics, change in directions of taxation, the proximity of tax policy in the European Union in the field of indirect taxation.

Keywords:
taxes, tax policy, indirect taxation, tax policy integration, proximity of indirect taxation, taxonomic analysis

INTRODUCTION

The dynamic development of economies' internationalization processes became one of the twentieth century's features that led to a qualitatively new stage – globalization of the world economy, within which the processes of international economic integration dominate. They establish priorities for the current stage of economic life, creating an environment of global competition, affecting the interests of a particular country or region and the whole world in general. The development of the country is increasingly dependent on favorable economic environment, cooperation of the economic structures, national and international institutions in the world economy. Therefore, each state must focus on the gradual integration into the world economy, especially through participation in regional integration associations.

An important part of economic integration within the European Union (EU), especially at the present stage of its development, includes the convergence of tax systems of Member States. Considering the strategic aspirations of Ukraine to join the EU, areas of gradual integration of national tax policies are the subject of intensive theoretical studies today.

In the context of European integration for any candidate country the proximity of indirect taxation plays an important role, and the prospects of Ukraine's accession to the EU as equal strategic partner along with other European countries, provide new approaches in its own tax policy. On the other hand, the degree of scientific validity of the indirect taxes system, its practical application and compliance with modern European trends, largely determine the political, economic and social relations in society.

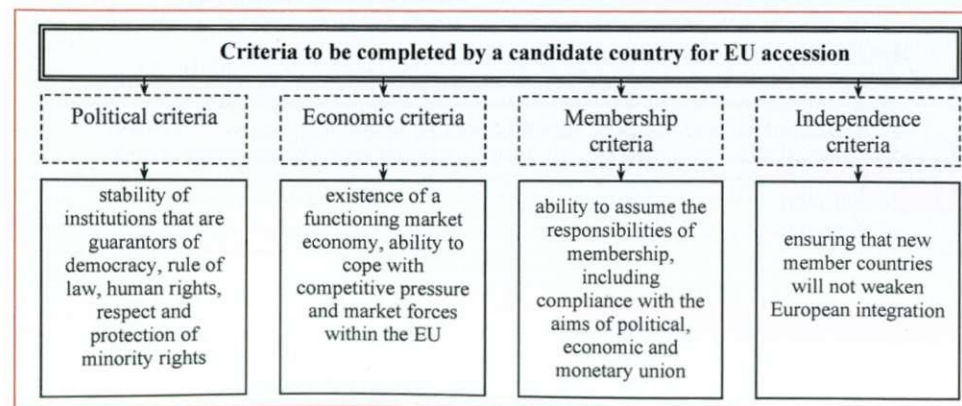
So, the problem of identifying the impact of proximity of indirect taxation in EU on the tax policy of Ukraine and directions of tax reform, particularly in terms of European integration, is the subject of thorough scientific analysis, which requires specific solutions.

In recent years, researchers pay much attention to the study of theoretical and practical principles of tax policy in the integration process. Significant achievements are made by foreign scientists F. Velayos [8], R. B. Davies [2], C. Peters [5], V. Tanzi [6], E. K. Hayes [4] and others. The achievements of Russian scientists and experts in this scientific area are reflected in the studies of Zh. N. Mambetaliyeva [17], A. I. Pohorletskiy [21], M. T. Ospanov [18] and others. Problems of transformation of the tax policy in Ukraine under the influence of integration processes, especially European integration, are developed in studies of modern Ukrainian scientists, including V. A. Valihuru [9], L. M. Demydenko [10], A. I. Krysovatiyi [14], I. V. Ped [19], V. M. Fedosov [26] and others. Despite all the importance of scientists' research the problem of proximity of indirect taxation in European countries is not sufficiently revealed. There is a need for the construction of the system for comparative evaluation of indirect taxation in European countries and Ukraine, and identification of the level of its proximity.

1. ANALYSIS OF CURRENT TRENDS

Since the late 90's century Ukraine has repeatedly stated its desire to integrate into the EU [22, 23, 24, 25]. For the realization of this aspiration it should complete a series of requirements, including those provided under the Copenhagen criteria [1] (Fig. 1).

Figure 1:
The requirements for candidate countries for accession to EU



Each of these criteria in Figure 1 contains several sub-criteria. Thus, the membership criteria are the most difficult for execution. During negotiations about accession of the candidate country to the EU it is necessary to adhere to the 35 sub-criteria of a membership which satisfy the 35 chapters of *acquis communautaire*. Section 16 applies to taxation, and one of its directions is proximity of a policy in the field of indirect taxation, especially VAT and excise tax [8].

The general economic and legal basis of proximity of taxation is determined by the EC Treaty [13]. Particularly, in the field of indirect taxation this process is implemented by adoption by the EU Council of directives on the proximity of indirect taxes and the following adjustment in accordance with the national legislation of EU member states and candidate countries. In the modern conditions of the functioning of the European economic area the structure of indirect taxation in EU member states is characterized by a high degree of proximity. Thus, national tax systems of all EU member states include such taxes as VAT and excise taxes (on alcohol, tobacco, energy production). These taxes are an important source of budget revenues of most European countries. In addition, such items of indirect taxes as the order of calculation and payment, tax reliefs, system of administration, in some way are also close. Tax policies in almost all European countries implement identical directions of reforms in the field of indirect taxation, which usually consist in the reduction of the level of VAT and excise rates increase.

At the same time, the Ukrainian VAT and excise tax, according to V. Fedosov, are slightly different from VAT and specific excise duties on goods and services in European countries by both the share in tax revenues, and first of all by the calculation mechanism, rates, range of

taxable goods and services, benefits, etc. [26]. But in terms of prospects of Ukraine and its future we believe that the process of gradual and systematic proximity of indirect taxation to the European standards is not only economically objective, but also vital, and this process is a step forward in the general civilizational development of Ukraine. Moreover, according to L.M. Demydenko, primarily it is necessary to proximate the provisions of the legislation of Ukraine, which regulate the tax collections that are the basis of budget tax revenues, including VAT and excise duties, arguing that "since the differences in taxation do not favour the achievement of sustainable economic development but cause some conflicts, than for countries of Eastern Europe that are interested in integration, in the first phase it should be talked about the achievement of uniform taxation conditions in the major taxes that hinder a free movement of goods and services, capital and labor" [11].

So given this, and juxtaposition of the EU, in formation of domestic tax policy in the field of indirect taxation should take into account the requirements of EU directives and other documents of a recommendatory nature, which determine the proximity of indirect taxes, and the choice by Ukraine of the direct integration into the EU system involves a system of reforming the tax policy in general, and rethinking the approaches to the formation of national priorities in the field of indirect taxation in particular.

2. STUDIED MODEL AND ITS ECONOMICAL GROUNDING

In our view, under the conditions of the high level of proximity of indirect taxes achieved in EU, it is important to calculate the integral index, the generalized value of a

set of attributes that comprehensively describe the degree of proximity of indirect taxation in European countries and Ukraine. For solving this problem we would propose a method of integral evaluation of proximity of indirect taxation in EU member states and Ukraine, which is based on the use of taxonomic analysis.

The essence of taxonomic analysis is in comparing the objects that are characterized by many features. Methods of taxonomic analysis solve the problems of ordering the multivariate statistical material into a single quantitative characteristic, and also offer the possibility for construction of a generalized evaluation of a complex object or process [16]. One of the earliest methods of multidimensional objects (taxonomic analysis) was proposed by Z. Heilvig as a taxonomic indicator of the development level. This indicator represents the synthetic amount, "resultant" of all the attributes that characterize units of the studied set, which allows with a help of it to linearly order the elements of this set [20]. We will apply the modified taxonomic indicator (index) of the level of indirect taxation proximity (I), which has the following interpretation: the closer its value is to unity, the higher level of proximity of indirect taxation is in the country compared to the European average.

Computation algorithm for indicator I is shown in Figure 2.

At the first stage it is carried out through the formation of an observation matrix (X_k) for the studied country k that can be represented as follows (1):

$$X_k = \begin{pmatrix} x_1 & x_2 & \dots & x_j & \dots & x_{1n} \\ x_2 & x_2 & \dots & x_j & \dots & x_{2n} \\ \dots & \dots & \dots & \dots & \dots & \dots \\ x_{i1} & x_{i2} & \dots & x_j & \dots & x_{in} \\ \dots & \dots & \dots & \dots & \dots & \dots \\ x_{m1} & x_{m2} & \dots & x_j & \dots & x_{mn} \end{pmatrix}, \quad (1)$$

where i – serial number of a period (from 1 to n);
 j – indicator that characterizes the condition of certain object;
 x_{ij} – value of the indicator j for the period i (від 1 до m).

The construction of the matrix X_k is conducted by the selection of indicators that, in our opinion, characterize the degree of proximity of indirect taxation most qualitatively. On this basis we calculate the taxonomic index I . Given the complexity of data accessing, we consider it appropriate to use the indicators that can be calculated on the basis of official statistics by Eurostat [3] and NEA [11]. The following set of data is considered: 1) the level of total tax burden (T); 2) the share of indirect taxes in a

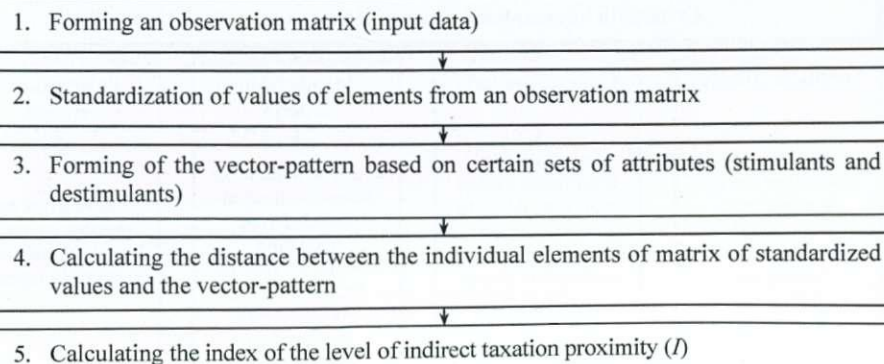
total tax burden ($IndirT$); 3) the share of VAT in GDP (VAT); 4) the share of excise duty and other taxes on consumption in GDP (ED); 5) the effective tax rate on consumption (ITR_C); 6) index of the proximity of VAT (I_{VAT}); 7) index of the level of proximity of excise duty on energy products (I_{ED}^e); 8) index of the proximity of excise duty on alcoholic drinks and tobacco (I_{ED}^{al-cig}). It should be noted that the use of relative indicators makes it possible to eliminate the influence of differences in size of the countries, to ensure homogeneity of selected indicators, as well as to minimize the costs of data accessing. Additionally, the use of indicators of dynamics allows to obtain a generalized characteristic of changes in the set of characteristics.

We believe that the implementation of indicators I_{VAT} , I_{ED}^e , I_{ED}^{al-cig} is conditioned by the degree of indirect taxes closeness to the conditions of integration process. The methodology of indices calculation is based on capabilities for evaluation of weight of VAT and excise tax in a structure of indicator ITR_C for each analyzed country and comparing such correlations with the total set of parameters that characterize a certain regional association of countries.

Since there is a set of components of indirect taxes in the structure of ITR_C , which are proximate at the EU level (VAT, excise tax on energy products, the excise tax on alcoholic beverages and tobacco), one can calculate the indexes that show the importance of each component ITR_C in the overall index ITR_C for the country k in the certain period i . These relations can be represented as follows: ($ITR_C^{VAT}_{ki} : ITR_{Cki}$) – the share of VAT in the structure of the ITR_C ; ($ITR_C^e_{ki} : ITR_{Cki}$) – the share of excise duty on energy products in the structure of the ITR_C ; ($ITR_C^{al-cig}_{ki} : ITR_{Cki}$) – the share of excise duty on alcoholic beverages and tobacco in the structure of the ITR_C .

The next task is to study changes in the level of indirect taxation of consumption, which are caused by the proximity of these taxes in EU. Assuming that tax proximity was of the same size and in the same areas in EU member states and Ukraine, then the above indicators concerning a particular country can be applied towards the EU and Ukraine in general, that is, regarding the current policy of indirect taxation proximity in EU and under the hypothetical condition of Ukraine's accession to the European economic area (denote it as t). Consequently, the discovered correlations will have the following mathematical formulation: ($ITR_C^{VAT}_{ti} \div ITR_{Cti}$) – the share of VAT in the structure of the ITR_C ; ($ITR_C^e_{ti} \div ITR_{Cti}$) – the share of excise duty on energy products in the structure of the ITR_C ; ($ITR_C^{al-cig}_{ti} \div ITR_{Cti}$) – the share of excise duty on alcoholic beverages and tobacco in the structure of the ITR_C .

Figure 2:
Algorithm for calculating the index of level of indirect taxation proximity by using the taxonomic analysis



If we divide the obtained ratio for a particular country (k) on the same ratio for the EU-27 and Ukraine in the aggregate (i), we will get the indices that characterize an exceeding of the share of indirect taxation of consumption in a particular country over the share of these taxes in the ITR_c in general for all European countries, thus assuming that such situation probably is caused by the proximity of indirect taxation in EU and its significant impact on tax policy in Ukraine. So, the methods for the calculation of the index of the level of VAT proximity (I_{VAT}), index of the level of proximity of excise duty on energy products (I_{ED}^e) and index of the level of proximity of excise duty on alcoholic drinks and tobacco (I_{ED}^{a-cig}) will be as follows:

$$I_{VATk,i} = \frac{ITR_{Ck,i}^{VAT} : ITR_{Ck,i}}{ITR_{C,i}^{VAT} : ITR_{C,i}} \cdot 100\%, \quad (2)$$

$$I_{EDk,i}^e = \frac{ITR_{Ck,i}^a : ITR_{Ck,i}}{ITR_{C,i}^a : ITR_{C,i}} \cdot 100\%, \quad (3)$$

$$I_{EDk,i}^{a-cig} = \frac{ITR_{Ck,i}^{a-cig} : ITR_{Ck,i}}{ITR_{C,i}^{a-cig} : ITR_{C,i}} \cdot 100\%. \quad (4)$$

Proposed indexes can take values in the following ranges: $(-\infty; 0]$ – an area with no tax proximity, which implies a situation where a certain tax is not available in the country at all; $(0, 1)$ – an area that defines the low level of taxes proximity (level of consumption taxation by the certain tax is lower than the European average in connection with insufficient degree of regarding the proximate rules at the level of EU legislation in the national tax policy of the country); $[1; +\infty)$ – an area that characterizes normal (absolute) level of proximity of VAT and excise tax when the country, in terms of taxation of these proximate taxes, completely meet the European average (in the future this area will be referred to as the vector-pattern (E), while $E = 1$); $(1; +\infty)$ – an area with a high level of indirect taxes proximity (the country's level of consumption taxation by the certain tax is much higher compared to the EU average, while in the national tax legislation many provisions of the directives that define the proximate elements of the certain tax, are included).

The value of indexes included in the matrix of input data, is heterogeneous, because they are describing different features of objects. In addition, their units of measure are different, which further complicates the implementation of some arithmetic functions needed in certain procedures. Therefore it is necessary to perform preliminary transformations that include features standardization in order to align the value of features. In the second phase of the algorithm of calculation of the index for the level of indirect taxation proximity the formation of the matrix of standardized values (z_i) is carried out as follows (5):

$$z_i = \frac{x_i}{\bar{x}}, \quad (5)$$

where \bar{x} – an average value of the index during the period i (from 1 to n).

Further on, the differentiation of the matrix features is carried out (step 3). All the variables must be divided into stimulants and de-stimulants. The reason of this division is the nature of the impact of every indicator on the level of the investigated object. Features that make a positive (stimulating) effect on the overall development of the object are called stimulants, as opposed to features that hinder the development and are so called de-stimulants [21].

Distribution of characteristics on stimulants and de-stimulants is the basis for construction of the vector-pattern of development P_{σ} . Elements of the vector-pattern have coordinates $z_{\sigma i}$, formed as follows (6):

$$\begin{cases} z_{\sigma i} = \max_y (\text{stimulant}); \\ z_{\sigma i} = \min_y (\text{de-stimulant}). \end{cases} \quad (6)$$

The next stage of the proposed algorithm is to determine the distances between individual observations and vector-pattern as follows (7):

$$C_{i0} = \sqrt{\sum_{j=1}^m (z_j - z_{0j})^2}, \quad (7)$$

where z_{ij} – standardized value of j indicator in a period i ;
 z_{0j} – standardized value of j indicator in a vector-pattern.

Received distances are the initial values for calculating of a taxonomic index – an index of level of indirect taxation proximity (I) (as a modification of taxonomic index of the development level), as follows (8):

$$I_i = 1 - d_i. \quad (8)$$

This requires the calculation of such indicators as the average distance between observations (\bar{C}_0), standard deviation (S_0), the maximum possible deviation from the standard reduced pattern (C_0), reduced dynamic indicator of the level of development (proximity) (d_i) by the formulas [3]:

$$\bar{C}_0 = \frac{1}{m} \sum_{i=1}^m C_{i0}, \quad (9)$$

$$S_0 = \sqrt{\frac{1}{m} \sum (C_{i0} - \bar{C}_0)^2}, \quad (10)$$

$$C_0 = \bar{C}_0 + 2S_0, \quad (11)$$

$$d_i = \frac{C_{i0}}{C_0} \quad (12)$$

3. THE RESULTS OF MODELING

The dynamics of indicator I_{VAT} in Ukraine gives an opportunity to argue about rather high, but uneven level of VAT proximity (Figure 3).

During 1998-2008 the change of indicator I_{VAT} was -0.110, and its value in 2008 was 1.070, which is 0.070 points higher than E . This trend makes it possible to speak about the improving level of proximity of value added taxation in Ukraine since 2004, that is, caused by a high taxation level of consumption in general and active government actions concerning the adaptation of VAT tax legislation with EU requirements.

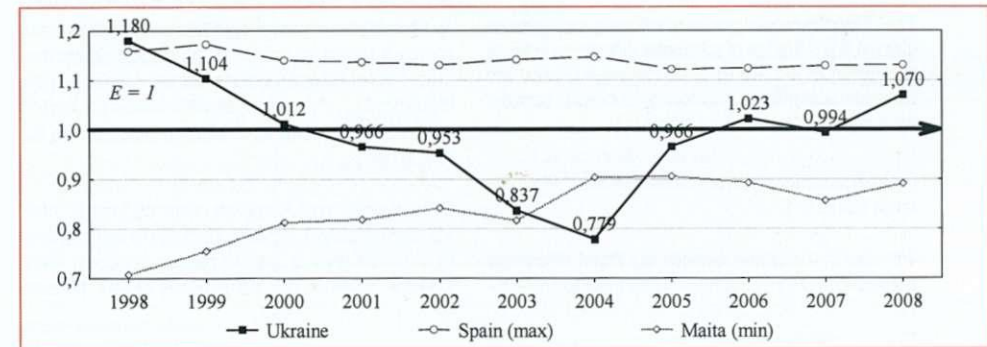
Among the European countries, there is the lowest level of VAT proximity in Malta, the highest in Sweden. Totally, 12 member states have values of an indicator I_{VAT} less than $E = 1$ (from 0.832 (Hungary) to .985 (Bulgaria)) and 15 EU member states have more than

$E = 1$ (from 1.007 (Denmark) to 1.130 (Sweden)). Consequently, most European countries have a high level of VAT proximity.

The dynamics of the index for the level of proximity of excise duty on energy products (I_{ED}^e) in Ukraine and several EU member states is represented in Figure 4. Unlike a sufficiently high level of proximity of excise duties on energy products in Europe (15 out of 27 EU member states have more value than $E = 1$), in Ukraine in 2008 the value I_{ED}^e was only 0.521. Thus, during 1998-2004 the value of this indicator constantly increased, and since 2005, in contrast, decreased.

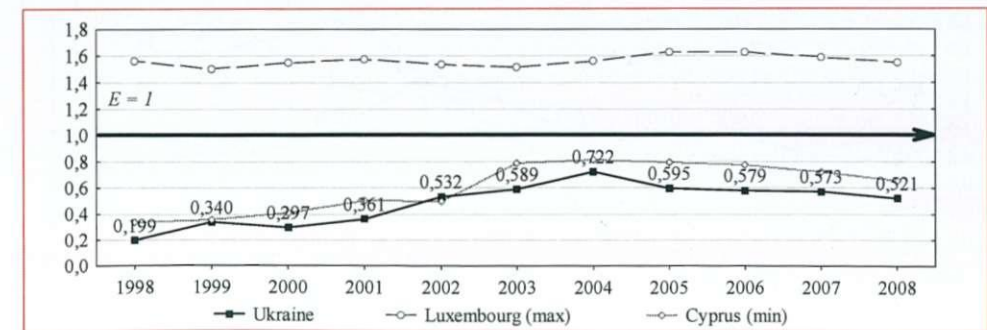
Generally, this indicator can argue about a very low degree of coordination of mechanisms for levying energy taxes in Ukraine comparing with EU (figure I_{ED}^e is even lower than the lowest European level in Cyprus). In this regard, the problem of low taxes on fuel and energy, pollution and resources, their poor budgetary matter, should

Figure 3: Dynamics of the index of the level of VAT proximity (I_{VAT}) during 1998-2008



Source: compiled by authors.

Figure 4: Dynamics of the index for the level of proximity of excise tax on energy products (I_{ED}^e) during 1998-2008



Source: compiled by authors.

be taken into consideration during the development of strategic directions of tax reform in Ukraine.

Despite the significant deviation of Ukraine from the EU in terms of I_{ED}^{al-cig} , the degree of closeness of the system of excise taxation on alcohol and tobacco products in Ukraine to European standards are higher (Figure 5).

For Ukraine the value of an indicator I_{ED}^{al-cig} in 2008 was 0.743, testifying to the low level of proximity of excise taxes on alcoholic beverages and tobacco products. A decrease since 2004 is connected, in our view, with the slowing of an increase in excise tax rates for this group of proximate goods in Ukraine in comparison with the minimum requirements of EU.

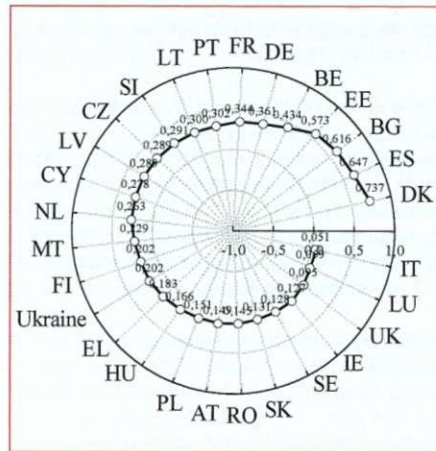
During 1998-2008 in the "new" EU member states the level of excise tax proximity on alcohol and tobacco products far exceeded the average European level as well as Ukrainian one and increased every year (in 2008 – 1.260). This trend is caused by a rapid growth in excise tax on alcohol and tobacco, bringing them closer to EU levels, that is a result of the requirements to joining of these countries into EU in 2004 and 2007.

The study of proposed proximity indices in the dynamics give the first indication of substantial differences in levels of proximity of VAT and excise tax between Ukraine and European countries, thus justifying the need to consider them in general taxonomical indicator I .

Figure 6 presents values of indicator I in 2008, which can range from 0 to 1.

The results of analysis revealed significant differences between countries by the investigated indicator (differen-

Figure 6: Index of the level of indirect taxation proximity (I) in 2008

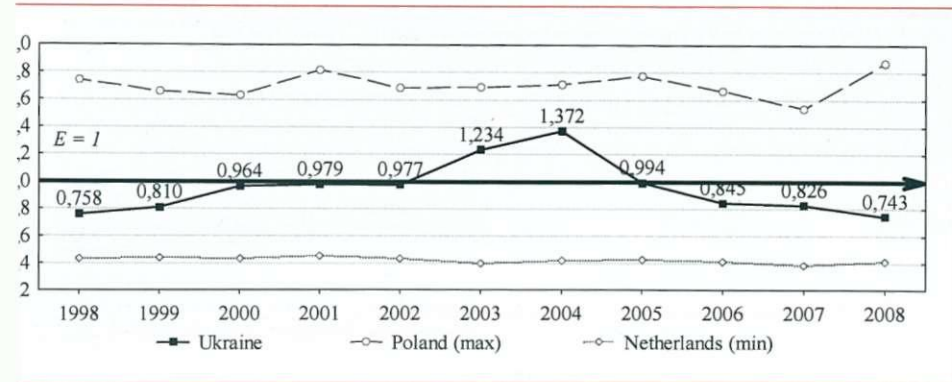


Source: compiled by authors.

ce between extreme values of the index I was 0.69). This fact allows to select several groups of countries (Table 1). Studying the impact of input data on the rate I in each country it should be noted that the biggest significance of the level of indirect taxation proximity is defined by the indicators I_{VAT} , F_{ED} , I_{ED}^{al-cig} ; all other factors (T , $IndirT$, VAT , ED , ITR_c) have an ambiguous impact on the formation rate I .

Consequently, most European countries (mainly "new" EU member states), including Ukraine are characterized by a middle level of indirect taxation proximity. Thus, the main influence has the proximity of VAT, because

Figure 5: Dynamics of the index for the level of proximity of excise tax on alcohol and tobacco products (I_{ED}^{al-cig}) during 1998-2008



almost all countries of this group implemented proximate standards of the legislation at the EU level regarding the elements of this tax (the rates, benefits, calculation mechanism, etc.). As a result, revenues from VAT have usually the largest share in total tax revenues of these countries. In addition, proximity of excise tax on alcoholic beverages and tobacco products also positively affect the general level of proximity of indirect taxation, as opposed to energy products taxation, the level of which in most countries is very low, that is not consistent with an attempt of the EU institutions to enhance the degree of their proximity at a Union level.

Since in the proposed method of calculation of the indicator I the input data were evaluated by the principle of maximization of factors-stimulants and minimization of factors-de-stimulants, the positive dynamics of the I reflects the growing level of indirect taxation proximity (Figure 7).

The level of indirect taxation proximity both in EU and in Ukraine is unstable during the analyzed period. Change of the indicator I during 1998-2008 years in the EU-27 was 0.10 points. More unstable dynamics was identified in Ukraine. If from 2000 to 2004 the value of this indicator fell from 0.44 to 0.01 points, then from 2005 to 2008 the inclusive indicator I grew by 0.19 points, and reached 0.20 points in 2008. This trend characterizes the improvement of the level of indirect taxes proximity and confirms the intentions of Ukraine to extend the application of proximate at the EU level common mechanisms of indirect taxation on its own practice.

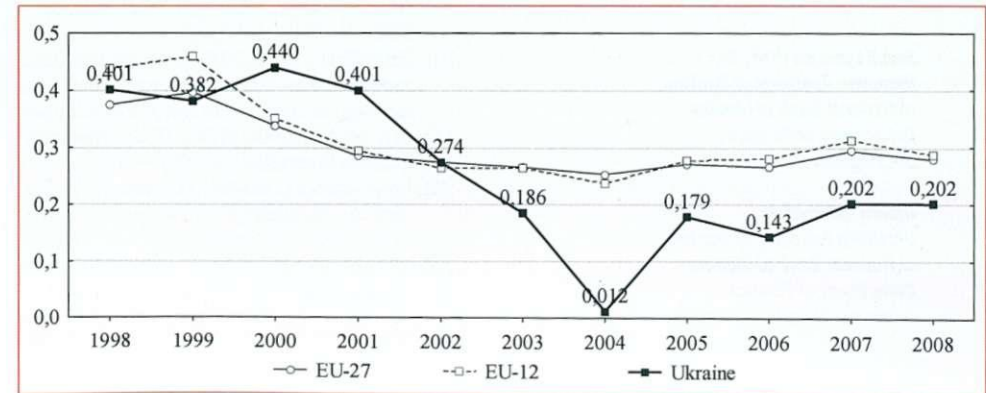
Thus, the proposed synthetic index of the level of indirect taxation proximity as a modification of a taxonomic development indicator characterizes the level and dynamics, and also the change of directions and scale of consumption taxation in EU and Ukraine in the conditions of functioning of the single economic space with a certain

Table 1: Groups of countries and the level of indirect taxation proximity in 2008

Level of indirect taxation harmonization	Range of value I_{INDT}	Structure of the group (average value of indicator I_{INDT} in a group)		The significance of parameters in the structure of I_{INDT} ("+" – high; "-" – low)		
		EU-15	EU-12	I_{VAT}	F_{ED}	I_{ED}^{al-cig}
Low	[0; 0,1)	IT, LU, UK (0,068)	-	-	+	+
Middle	[0,1; 0,3)	IE, AT, EL, FI, NL (0,185)	SE, SK, RO, PL, HU, MT, CY, LV, CZ, SI, LT (0,218)	+	-	+
		Ukraine (0,202)				
High	[0,3; 0,5)	PT, FR, DE, BE (0,360)	-	+	+	-
Very high	[0,5; 1]	ES, DK (0,471)	EE, BG (0,595)	+	+	+

Source: compiled by authors.

Figure 7: Dynamics of the index for the level of indirect taxation proximity (I) during 1998-2008



degree of proximity of tax policy in the field of indirect taxation. The results of analyses indicate the need for further proximity of indirect taxation in Ukraine to EU requirements. Moreover, the emphasis should be placed, in our opinion, in favor of transforming the current mechanism for collecting VAT and excise tax.

CONCLUSIONS

As a result of application of taxonomic analysis to the study of the level of indirect taxation proximity, it was discovered that, firstly, most countries (mostly "new" EU member states), and Ukraine are characterized by a middle level of indirect taxation proximity, and secondly, VAT made the main impact on proximity, because almost all countries implemented the proximate rules regarding the elements of this tax, and thirdly, the proximity of excise tax on alcoholic beverages and tobacco products also positively affects the level of proximity of indirect taxation, as opposed to energy products taxation, the level of which in most countries is very low, that is not consistent with an attempt of the EU institutions to enhance the degree of their proximity. The positive trend in the indicator *I* demonstrates a growth of indirect taxation proximity in Ukraine (since 2004 index rose on the 0.19 points).

Identified tendencies confirm the intentions of Ukraine to extend the application of the proximate at the EU level common mechanisms of indirect taxation to the national tax practices. Generally, the proposed index of indirect taxation proximity as modification of taxonomic changes characterizes the level and dynamics, and also the change of directions and scale of consumption taxation in EU and Ukraine under the conditions of the functioning common economic space with a certain degree of proximity of tax policy in the field of indirect taxation. The results show the need for further proximity of indirect taxation in Ukraine to the EU requirements.

Serhii Lyeonov Prof., Dr.
Ukrainian Academy of Banking
of National Bank of Ukraine
Department of Finance
SVL76@mail.ru

Dmitro Veremchuk
Ukrainian Academy of Banking
of National Bank of Ukraine
Department of Finance
veremchuk@academy.sumy.ua

REFERENCES

- [1] Accession criteria (2010). [Electronic resource] / European Commission. – Available at: http://ec.europa.eu/enlargement/enlargement_process/accession_process/criteria/index_en.htm. – 01. 01. 2010.
- [2] DAVIES, R. B. (2008). Tax Competition in an Expanding European Union [Electronic resource] / R. B. Davies, J. Voget. – Available at: <http://www.ecore.be/Papers/1231163470.pdf>. – 01. 01. 2010.
- [3] EUROSTAT (2010). [Proceedings official site] [Electronic resource]. – Available at: <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>. – 01. 01. 2010.
- [4] HAYES, E. K. (2010). Integration, tax competition and harmonization: Should ASEAN be concerned? [Electronic resource] / E. K. Hayes. – Available at: <http://biblioteket.eh.lu.se/olle/papers/0002985.pdf>. – 01. 01. 2010.
- [5] PETERS, C. (2002). Exploring Caribbean tax structure and harmonization strategies [Electronic resource] / C. Peters. – Available at: <http://www.unc.edu/~acpeters/>. – 01. 01. 2010.
- [6] TANZI, V. (1996). Globalization, Tax Competition and the Future of Tax Systems [Electronic resource] / V. Tanzi; IMF. Available at: <http://papers.ssrn.com/sol3/papers.cfm?>. – 01. 01. 2010.
- [8] The content of the acquis (2010). [Electronic resource] / European Commission. – Available at: http://ec.europa.eu/enlargement/enlargement_process/. – 01. 01. 2010.
- [9] VELAYOS, F. (2007). Regional Integration and Tax Harmonization: Issues and Recent Experiences [Electronic resource] / F. Velayos, A. Barreix, L. Villega. – Available at: <http://siteresources.worldbank.org/>. – 01. 01. 2010.
- [10] ВАЛІГУРА, В. (2008). Теоретичні засади міждержавної податкової гармонізації та характеристика податкових систем країн Європейського Союзу в контексті євроінтеграції України [Текст] / В. Валігура // Світ фінансів. – 2008. – № 1(14). – с. 183-194.
- [11] ДЕМИДЕНКО, Л. М. (2000). Інтеграція податкової системи України до європейського економічного простору : автореф. дис. на здобуття наук. ступеня канд. екон. наук : спец. 08.04.01 [Текст] / Демиденко Людмила Миколаївна. – К., 2000. – 19 с.
- [12] State Statistics Committee of Ukraine (2010). [Proceedings official site] [Electronic resource]. – Available at: <http://www.ukrstat.gov.ua/>. – 01. 01. 2010.
- [13] ДЖОНСТОН, ДЖ. (1980). Эконометрические методы [Текст] / Дж. Джонстон ; пер. с англ. А. А. Рывкин. – М. : Статистика, 1980. – 445 с.
- [14] Treaty on European Union (consolidated version) (2002). [Electronic resource]: Agreement of 24. 12. 2002, № 12002M/TXТ. Available at: <http://eurodo>
- [15] КРИСОВАТИЙ, А. І. (2010). Домінанти гармонізації оподаткування: національні та міжнародні вектори [Текст] : монографія / А. І. Крисоватий, В. А. Валігура. – Тернопіль : Підручники і посібники, 2010. – 248 с. – ISBN 978-966-071-843-2.
- [16] Criteria for membership in the WTO, the EU and NATO. Integration Prospects of Ukraine: an analytical study (2010). [Electronic resource] / Інститут Євро-Атлантичного співробітництва. – Available at: http://www.kas.de/wf/doc/kas_10203-544-1-30.pdf. – 01. 01. 2010.
- [17] КРУШЕВСКИЙ, А. В. (1982). Справочник по экономико-математическим моделям и методам [Текст] / А. В. Крушевский. – К. : Техніка, 1982. – 208 с.
- [18] МАМБЕТАЛИЕВА, Ж. Н. (2005). Согласованная налоговая политика в ЕврАзЭС [Электронный ресурс] / Ж. Н. Мамбеталиева. – Available at: http://www.tam-zap.ru/n_1_23_2005/. – 01. 01. 2010.
- [19] ОСПАНОВ, М. Т. (1997). Налоговая реформа и гармонизация налоговых отношений : монография [Текст] / М. Т. Оспанов. – СПб. : Санкт-Петербургский гос. ун-т экономики и финансов, 1997. – 425 с.
- [20] ПЕДЬ, І. В. (2009). Податкова конкуренція [Текст] : монографія / І. В. Педь. – К. : Експерт-Консалтинг, 2009. – 416 с. – ISBN 966-7645-09-6.
- [21] ПЛЮТА, В. (1980). Сравнительный многомерный анализ в экономических исследованиях: методы таксономии и факторного анализа [Текст] / В. Плюта ; науч. ред. В. М. Жуковской. – М. : Статистика, 1980. – 151 с.
- [22] ПОГОРЛЕЦКИЙ, А. И. (2005). Конвергенция национальных налоговых систем [Текст] / А. И. Погорлецкий // Вестник СПбГУ. Сер. 5. – 2005. – Вып. 2. – с. 65-73.
- [23] About approval of the Strategy of Ukraine's integration into the European Union (1998). [Electronic resource]: Order of the President of Ukraine of 11.06.1998, № 615/98. – Available at: <http://zakon1.rada.gov.ua/>. – 01. 01. 2010.
- [24] About strategy for economic and social development of Ukraine „Towards European Integration“ for 2004-2015 (2004). [Electronic resource]: Decree of the President of Ukraine of 28.04.2004, № 493/2004. – Available at: <http://zakon1.rada.gov.ua/cgi-bin/laws/main.cgi>. – 01. 01. 2010.
- [25] Economic reform program for 2010-2014 (2009). [Electronic resource] / Committee on Economic Reforms under the President of Ukraine. – Available at: http://www.president.gov.ua/docs/Programa_reform_FINAL_1.pdf. – 01. 11. 2010.
- [26] Agreement on Partnership and Cooperation between Ukraine and the European Communities and their Member States (1994). [Electronic resource] : Agreement of 14.06.1994. – Available at: <http://zakon1.rada.gov.ua/cgi-bin/laws/main.cgi>. – 01. 01. 2010.
- [27] ФЕДОСОВ, В. (2007). Гармонізація податків в Європейському Союзі: фіскальна парадигма [Текст] / В. Федосов, Г. Яренко // Ринок цінних паперів України. – 2007. – № 1-2. – с. 9-25.