third part of their GDP because of ineffective using of existing resources. The calculations show that Ukrainian economy is situated on the halfway toward its production possibility frontier, crying for its leaders' market power restrictionas a ticket to progress, which is called an economic growth. We can invest in innovations, hopping that they move out the quasi production possibility frontier and raise the output at fixed input. We can raise the age of retirement or aggradesand islands to expand the resource base of the economy. But we have to realize that until welfare loss from market power is a third part of the GDP every positive effect of such actions on the economy must be divided in the same proportion. At the best only two thirds of all the efforts and spent resources would go to economic growth stimulation. The remainder would provide the growth of market power holders' prosperity and the rooting of such an institutional environment, which is favorable for preserving the inefficiency of actual economic system in Ukraine.

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ОЦІНКА ВТРАТ ДОБРОБУТУ ВІД РИНКОВОЇ ВЛАДИ В ЕКОНОМІЦІ УКРАЇНИ

В статті досліджено та удосконалено методологію оцінки величини втрат суспільного добробуту, обумовлених ринковою владою. На основі удосконаленої методології здійснено оцінку величини таких втрат для економіки України2008-2011 років.
Ключові слова: втрати суспільного добробуту; ринкова влада.

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ОЦЕНКА ПОТЕРЬ БЛАГОСОСТОЯНИЯ ОТ РЫНОЧНОЙ ВЛАСТИ В ЭКОНОМИКЕ УКРАИНЫ

В статье исследована и усовершенствована методология оценки величины потерь общественного благосостояния, обусловленных рыночной властью. На основе усовершенствованной методологии осуществлена оценка величины таких потерь для экономики Украины 2008-2011 годов.
Ключевые слова: потери общественного благосостояния; рыночная власть.

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LOCAL GOVERNMENT TAX COMPETITION IN CZECHOSLOVAKIA 1918-1938

The study evaluates tax competition among local governments in Czechoslovakia during the interwar period. Using correlation and regression analysis it proves that (1) local politicians took into account the tax policies of neighbouring jurisdictions when imposing additional tax rates on top of the direct central taxes, (2) there were some regional differences, (3) migration played its role in tax rate setting and (4) the "race-to-the-bottom" did not take place.

Keywords. Tax competition; local government; Czechoslovakia

Introduction. Czechoslovakian local government in the 1920´s and 1930´s enjoyed significant tax autonomy, in many aspects absolutely unimaginable from today's point of view. Contemporary literature on tax competition confirms, that local government tax policy interaction (i.e., tax mimicking) occurs in most countries and concerns all taxes and all government levels [1, p.4].

The purpose of the paper is to find out if tax mimicking occurred in the pre-war Czechoslovakia and if there was a relationship between local tax policy and migration. After a brief review of recent research on local government tax competition there is provided an overview of the local government tax autonomy in Czechoslovakia between 1918 and 1938 as well as its roots from pre-war Austrian – Hungarian Empire. Then there are presented data, methods

and results of the econometric analysis (i.e., correlation and regression analysis) of the relationships between the additional tax rates in neighbouring districts and relationships between additional tax rates and migration. Finally the results are summarized.

Local government tax competition. Government tax policy is not determined isolated but it takes into account the tax policy of other governments. Tax mimicking is a widespread behaviour of strategic interaction of tax policy in neighbouring governments. "Strategic" refers to the fact that politicians decide upon their own tax policy with the aim to attract mobile base, i.e., "genuine tax competition" or get votes, i.e., "yardstick competition" [1, p.6]. In reality it is, however, impossible to disintegrate these two tax competition types. Number of studies, conducted in the last fifteen years, confirms spatial interactions among state and local governments mainly for property and income taxation.

Regarding the property tax Bordignon, Cerniglia and Revelli [2] found a positive spatial autocorrelation in the case of local business property tax rates in 143 adjacent municipalities in the Province of Milan, Italy. Allers and Elhorst [3] found strong evidence of tax mimicking among 496 Dutch municipalities. Delgado and Mayor [4] found a positive spatial property tax interaction evaluating data for all 78 municipalities in Spanish region Asturias. Fiva and Rattso [5] found evidence of a geographic pattern in 301 Norwegian municipal decisions about having property taxation or not. Sedmihradská [6] confirmed that Czech municipalities which increased the property tax rates applying the local coefficient are surrounded by a higher share of municipalities with local coefficient than municipalities without it. Unlike the other studies Lyytikäinen [7] did not find any strategic interaction in property tax rates among neighbouring 411 Finish municipalities.

Studies dealing with more than one tax prove tax interactions as well. Heyndels and Vuchlen [8] conclude that local income tax and local property tax rates are copied among neighbouring Belgian municipalities. Silva Costa, Carvalho and Coimbra [9] found a positive strategic interaction among all 278 municipalities in continental Portugal in case of income tax, property tax and business tax. Delgado and Mayor [4, p.150] present several other studies which proved horizontal or vertical tax interactions among local governments in case of different taxes and countries.

The basic model of tax competition formalized by Zodrow and Mieszkowski predicts that tax policies of two jurisdictions which share one mobile base will lead to the "race to the bottom" in taxation and that the tax rates will decline and/or be too low [10, p.341]. This is in line with the claim of Oates [11, p.207-508], that tax competition may lead to inefficiently low taxes and benefits. On the other hand, Tiebout [12] argued that local governments compete among each other through different revenue and expenditure patterns, i.e., mobile individuals choose their location not only based on the tax rates, but they consider provided public services as well and hence may prefer higher taxes and better services. The results of empirical studies on fiscally induced migration are mixed and fail to produce conclusive results [13, p.810].

The grow of tax rates can be explained by the yardstick type of tax competition: In the perfect world tax rates match voters' preferences and allow financing of the preferred set of public services. In the real world there is asymmetric information between voters and politicians, who know more about the costs of providing public services. At the same time some politicians do rent-seeking, i.e., increase taxes in order to finance their whims at taxpayer´s expense [14, p.25]. It is hard for voters to distinguish between good and bad politicians. The behaviour of politicians in the neighbouring local governments may give some clue: If the tax rates are growing everywhere voters may be convinced about the necessity of it, i.e., evaluate the politician as good and re-elect him. The phenomena when politicians care what politicians from other jurisdictions are doing in order to get their votes is called yardstick competition [14, p.25].

Local tax autonomy between 1918 and 1938. Local government system was composed of three levels, which were inherited from the times of the Austrian-Hungarian Empire: four lands (Bohemia, Moravia and Silesia, Slovakia and Subcarpathia, which is a part of today Ukraine) existed since the medieval times. Four hundred districts, the medium level, were established during the 1860s, although the number was decreased to one half during the twenties of the 20th century. Municipalities (about 15.6 thousands), the lowest and basic level, were established after the year 1848 as a result of the end of the feudal system. All three local government levels were allowed to impose autonomous levies and fees and, more important, they gained the authority to levy additional tax rates (i.e., tax surcharges) on top of central government taxes.

The additional tax rates were imposed on top of all direct taxes with the exception of personal income tax, i.e. corporate income tax, entrepreneurial tax, property taxes (various types depending on the type of the property), rental tax etc. The legislation body for settling additional tax rate was local (land, district, municipal) assembly composed of directly elected deputies. The tax rate was settled for the minimal period of one year. There were no upper limits to the tax rates. However, tax rates above a certain level had to be approved by a higher authority [15].

How did the system of additional tax rates work? The tax base was the same as the amount of the central government tax that was individual or firm obliged to pay to the state budget. Local government imposed additional rate as the percentage of the central government tax. For instance, if the state property tax burden was 100 CZK and the municipal additional rate was 200 %, the taxpayer had to send to the municipal budget additional 200 CZK.

Over the years additional tax rates grew regularly as well as the tax base influenced by the central government tax decisions and inflation during the First World War. As the result the additional tax burden per person jumped twelve times between the years of 1901 and 1922. The additional tax rates increased four times and this increase is recorded for all local government levels (Table 1). There were big differences among individual taxes: while the land tax rates doubled, the municipal tax rates rocketed almost seven times [16].

Table 1. Additional Tax Rates, Tax Burden

Year	Overall	Lands	Districts	Municipalities	Tax base per person	Additional tax per person
1901	140.0 %	78.0 %	26.0 %	36.0 %	8.29 CZK	11.63 CZK
1912	180.0 %	80.0 %	38.0 %	62.0 %	9.92 CZK	17.84 CZK
1922	526.0 %	150.0 %	126.0 %	250.0 %	25.74 CZK	135.41 CZK

Source: Zelenka (1986, p. 37).

The importance of additional taxes was growing and the taxes eventually became the main source of local government revenues as it is shown in the Table 2:

Table 2. Proportion of Individual Types of Revenue of Sub-central Governments, 1926

	Additional Taxes	Subsidies	Levies and Fees	Own Property Revenue
Total	**38.0 %**	**36.0 %**	**16.0 %**	**10.0 %**
Municipalities	44.0 %	9.0 %	25.5 %	21.0 %
Districts	70.5 %	27.0 %	5.0 %	2.0 %
Lands	22.5 %	66.0 %	10.0 %	1.5 %

* *Source*: Zelenka (1986, p. 41).

We have to notice another considerable feature of local taxation as well. Over the years there was a huge shift in the structure of local tax base as it was created by central government revenues [17]. The most important change was the exception of the personal income tax from the tax base of the local governments in 1896. At that time the personal income tax represented only marginal share of tax revenue, however, after that its share was growing rapidly as the result of its progressive tendency. Just before the First World War it assured around one quarter of the central government revenue from direct taxes, in the year 1930 it was responsible for two thirds of that share (Table 3). It is obvious that the exception of the personal income tax from local tax base deteriorated the receipts of all three levels of local government very badly. This narrowing of the tax base to one third of the direct taxes revenue led to the vigorous increase in the additional tax rates.

Table 3. The Structure of Direct Taxes

Type of tax	1913	1930	Change (percentage points)
Property, housing, rental	42.1 %	13.8 %	-28.3
Entrepreneurial	8.6 %	6.1 %	-2.5
Corporate income	21.0 %	6.7 %	-14.3
Personal income	23.5 %	65.9 %	+42.4
Rent	3.1 %	6.5 %	+3.4
High income	1.7 %	0.5 %	-1.2

* *Source*: Data from Fux, Wichta (1932, passim).

The increasing importance of additional taxes has manifested itself in the form of an increased tax burden for the taxpayers. There were excessive additional taxes in the majority of municipalities which had to be approved by a superior office (73 % in 1926) Table 4 shows the overall additional tax rates in 1926, i.e., before the ceilings were imposed.

Table 4. Number of Municipalities According to Overall Additional Tax Rates in 1926

Lands	Total number of Municipalities	Over 500 %	Over 600 %	Over 700 %	Over 800 %	Over 900 %	Over 1,000 %	Over 1,500 %	Over 2,000 %	Municipalities with Excessive Additional Taxes
Bohemia	8,375	1,308	1,451	1,340	985	635	1,317	215	143	88%
Moravia and Silesia	3,328	390	472	555	471	340	696	111	43	92%
Slovakia	3,467	265	182	126	96	76	120	28	9	26%
Subcarpathia	484	14	12	10	7	3	6	6	2	12%
CSR in total	**15,654**	**1,977**	**2,117**	**2,031**	**1,559**	**1,054**	**2,139**	**360**	**197**	**73%**

* *Source*: The State Bureau of Statistics (1931), passim.

The extreme and excessive tax burden was not the only problem of the local taxation system. The unlimited tax autonomy became the reason of huge differences of tax burden even among the municipalities in one district. We easily found many examples where overall additional tax rate in one village were many times higher than in a village 10 – 20 kilometres far away. One of these examples from the district Jindrichuv Hradec from Bohemian Land is shown in Table 5. We took unknown villages with minimal and maximal additional tax rate and hypothetical entrepreneur with taxable profit of 40,000 CZK. We see that the difference is cause only by the municipal rate because district and land rates are the same. We identify that overall tax burden is doubled for an entrepreneur from the second village if we take into account central government taxation. What is more, in the first village local taxation accounts for only one third of the tax burden, in the second village two thirds of tax burden is receipt of three lever of the local government:

Table 5. Composition of Local Government Tax Burden

Tax payer/year	Min./1926	Max./1926
Overall Additional Tax Rate	492 %	1918 %
Taxable Profit	40,000 CZK	40,000 CZK
State Entrepreneurial Tax (ET) = Tax Base for Additional Tax Rate	300 CZK	300 CZK
Extra Additional State Tax in addition to ET	230 CZK	230 CZK
Additional Tax	1,476 CZK	5,754 CZK
Tax Base of the Personal Income Tax (PIT)	37,994 CZK	33,716 CZK
Personal Income Tax	1,463 CZK	1,267 CZK
Extra Additional State Tax in addition to PIT	1,170 CZK	950 CZK
Overall Tax Burden	4,639 CZK	8,501 CZK
Effective Rate of Taxation	**11.6 %**	**21.3 %**
Proportion of Sub-central Additional Tax on Overall Tax Burden	**31.8 %**	**67.7 %**

* *Source*: The State Bureau of Statistics (1931), own calculation

The centre-right federal government which was formed in 1926 wanted to lower the tax burden as well as high regional differences, but the high tax autonomy of sub-central governments was able to effectively thwart its efforts. Therefore, the tax reform from 1927 imposed ceilings on additional tax rates: 160 % in case of lands, 110 % in case of districts and 200 % in case of municipalities so that overall additional tax rates could be 470 % with some exceptions. Originally it was possible to surpass these ceil-ings but only under very strict conditions: Superior offices which approved higher rates gained significant power. However, the Great Depression caused a deterioration of the finances of the local governments and new legislation from 1930 and 1935 brought more lenient conditions for the passing of higher additional taxes. The progress and development of the rules and mechanism of approval is shown in the Table 6:

Table 6. Rules for the Additional Tax Rates

Period	Limits	Role of the superior offices	Procedural condition
Before 1927	None	Three-stage of approval according to the rate. When disagreement occurred, Emperor, after 1918 central government, decided.	Decision of local assembly, simple majority of present members of assembly.
1927 – 1930	Municipal – 200 % (300 %, 350 %); district – 110 % (150 %); land – 160 %; half rates for rental tax.	One-stage approval by the direct superior office: for municipalities the Board of district, for districts the Board of land, for lands central government.	Decision of local assembly, simple majority of present members of assembly.
1931 – 1935	Municipal – 200 % (300 %, 350 %); district – 110 % (150 %); land – 160 %; half rates for rental tax.	One-stage approval by the direct superior office: for municipalities the Board of district, for districts the Board of land, for lands central government. Possibility of lower limit (300 %) for the municipal rates without approval of the Board of district.	Decision of local assembly, simple majority of present members of assembly; for higher rates without binding constraints necessity of three quarters majority of all members of assembly: municipal (300 %) a district (150 %).
After 1935	Municipal – 200 % (300 %, 400 %), district – 110 % (200 %), land – 160 %; rental tax: municipal 125 % (200 %), district 55 % (110 %), land 80 % (160 %).	One-stage approval by the direct superior office: for municipalities the Board of district, for districts the Board of land, for lands central government. The higher rate of discretion for superior office, some binding constraints abolished.	Decision of local assembly, simple majority of present members of assembly; for higher rates without binding constraints necessity of three quarters majority of all members of assembly: municipal (350 %) a district (200 %).

Source: all relevant laws, passim.

Data. The Statistical Office of Czechoslovakia has released three publications which provide statistics for only four years – 1926, 1928, 1930 a 1933 [18, 19, 20]. They contain data for all districts and average municipal tax rates for all districts. Using those, it is possible to compute the average additional tax rate for all districts including additional land, district and municipal rates. Unfortunately, data of migration were available only for 147 Bohemian and Moravian-Silesian districts.

Table 7. Descriptive Statistics

	No. of districts	Average overall rate in %				Average municipal rate in %			
		1926	1928	1930	1933	1926	1928	1930	1933
Czechoslovakia	242	552	407	417	469	281	181	179	221
Bohemia	103	697	461	431	474	329	191	183	217
Moravia-Silesia	47	710	443	438	499	354	200	195	237
Slovakia	78	312	322	384	444	195	160	167	219
Subcarpathia	14	291	354	418	464	160	151	174	212

Source: The State Bureau of Statistics documents, own calculations.

As it is visible from the Table 7, the average additional tax rates, both overall and municipal, converged in time. Differences were smashed by tax reform of 1927 described above. The economically more developed lands (Bohemia, Moravia-Silesia) had imposed significantly higher rates before tax reform. On the contrary, the reform had no real impact on Slovakia and Subcarpathia where the rates were remarkably lower but they were consecutively growing. Unfortunately, the inflation rate was not measured that time, so the trend might be biased by fluctuation of the price level.

The following analysis contains these variables:

Overall additional tax rate (OATR) – the percentage rate of additional tax burden that is imposed on tax base (central government tax burden) by the land, district and municipality together

Municipal additional tax rate (MATR) – the percentage rate of additional tax burden that is imposed on tax base (central government tax burden) by the municipality

Neighbouring overall additional tax rate (NOATR) – the average overall additional tax rate computed from all neighbouring districts

Neighbouring municipal additional tax rate (NMATR) – the average municipal additional tax rate computed from all neighbouring districts

Rate of migration (RM) – the percentage change in the number of population of each district computed as the difference between the number of immigrated and emigrated persons during specific period divided by the number of population in the previous examined year

Correlation Analysis. First we compare the overall and average additional municipal tax rates in a district using simple arithmetic average of the overall and additional municipal tax rates in the neighbouring districts (Table 8). Similar method was used in [21] and in [22]. As far as the whole country is concerned, every analysed year provides evidence of yardstick competition regarding the overall and additional municipal tax rates. The correlation is remarkably strong during the pre-crisis years. This relation weakens in the following years.

When examining each land separately, we have found different situation. Tax mimicking was only proved in Bohemia during each examined year, albeit it was not very strong. No statistically significant relation was found in Subcarpathia. In Slovakia, moderate relation appears during the Great Depression years for both the overall and additional municipal rates.

Table 8. Correlation Coefficients: Overall and Neighbouring additional tax rate

	Overall – OATR x NOATR				Municipal – MATR x NMATR			
	1926	1928	1930	1933	1926	1928	1930	1933
Czechoslovakia	0.805***	0.795***	0.571***	0.456***	0.623***	0.502***	0.440***	0.580***
Bohemia	0.200*	0.233**	0.377***	0.413***	0.193**	0.233**	0.384***	0.417***
Moravia-Silesia	0.153	-0.171	-0.015	0.231	0.172	0.225	-0.097	0.043
Slovakia	0.214*	0.121	0.421***	0.341***	0.121	0.180	0.339**	0.273**
Subcarpathia	-0.256	0.490*	-0.063	-0.413	-0.388	0.558*	-0.183	-0.164

Note: * denotes 90%, ** 95 % and *** 99% of statistical significance respectively.

Next we considered migration. Migration influences the tax base, so local politicians have to take it into account in their tax rate decisions. Table 9 shows the results of analysis in 147 districts in Bohemian and Moravian-Silesian lands where the data on the rate of migration were available. In the years of 1926, 1930 and 1933 there is a statistically significant negative correlation. The exception of the year 1928 can be explained by the administrative reform that changed the borders of the districts and the rate of migration is biased. What is important, the negative correlation has the tendency to become stronger.

Table 9. Correlation Coefficients: Overall additional tax rate and Rate of Migration

Variable	RM 1926	RM 1928	RM 1930	RM 1933
OATR 1926	**-0.357***	0.039	-0.418***	-0.393***
OATR 1928	-0.260***	**0.111**	-0.294***	-0.261***
OATR 1930	-0.442***	0.124	**-0.493***	-0.465***
OATR 1933	-0.502***	0.121	-0.567***	**-0.549***

Note: * denotes 90%, ** 95 % and *** 99% of statistical significance respectively.

In the next step of our analysis we divided the sample into two groups: One quarter of districts with the highest rates and one quarter of districts with the lowest rates belong to the extreme group, remaining district to the others group. Table 10 shows that the correlation is statistically significant in districts with extreme OATR and it becomes stronger over time as well. On the contrary, the relationship in the other districts is not significant in 1926, but in the corse of time becomes stronger. The year of 1928 is exceptional again. Figure 1 displays the graphical example of correlation of the extreme districts in 1933.

Table 10. Correlation Coefficients: Overall additional tax rate and Rate of Migration

	RM 1926		RM 1928		RM 1930		RM 1933	
Variable	extreme	others	extreme	others	extreme	others	Extreme	others
OATR 1926	-0.431***	-0.005						
OATR 1928			0.194	0.086				
OATR 1930					-0.618***	-0.243**		
OATR 1933							-0.681***	-0.948***

Note: * denotes 90%, ** 95 % and *** 99% of statistical significance respectively.
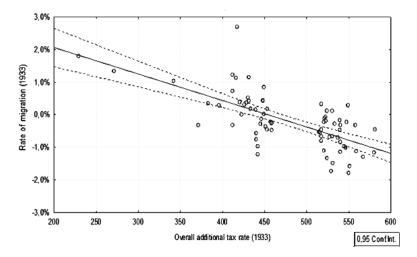

Figure 1. Relation between Overall additional tax rate and Rate of Migration, Districts with Extreme Rates, 1933

Regression Analysis. In order to better describe the relationship among more variables and to incorporate the time lags due to time needed for decision of both tax payers to move or local government to increase taxes we run regression analysis for the years of 1930 and 1933 and for 147 districts, as we did not have time for the other years and districts. The results are shown in tables 11 and 12 and are very similar for both the analyzed years.

***Table 11.* Regression Summary for Dependent Variable: Overall additional tax rate 1930**

Variable	b*	Std.Err. (of b*)	b	Std.Err. (of b)	t(142)	p-value
Intercept			35.78	42.033	0.851	0.396
NOATR 1928	-0.165	0.060	-0.32	0.118	-2.761	0.007
OATR 1928	0.697	0.047	0.68	0.046	14.881	0.000
RM 1930	-0.190	0.050	-1153.79	299.913	-3.847	0.000
NOATR 1930	0.324	0.062	0.53	0.103	5.213	0.000

R^2 = 0,7298, adjusted R^2 = 0,7221, F(4,142) = 95,889, p<0,0000.

***Table 12.* Regression Summary for Dependent Variable: Overall additional tax rate 1933**

variable	b*	Std.Err. (of b*)	b	Std.Err. (of b)	t(142)	p-value
Intercept			76,91	44,5964	1,72449	0,086795
NOATR 1930	-0.276	0.072	-0.52	0.137	-3.822	0.000
OATR 1930	0.660	0.055	0.76	0.063	12.045	0.000
RM 1933	-0.207	0.053	-1428.17	366.342	-3.898	0.000
NOATR 1933	0.371	0.071	0.62	0.118	5.243	0.000

R^2 = 0,6979, adjusted R^2 = 0,6893, F(4,142) = 82,008, p<0,0000.

In both models all the explanatory variables are statistically significant as well as the overall F-test. Therefore the model can be used for estimation of the Overall additional tax rates. Note that the model explains about 70 % of total variation of outcome (R-squared). In case of 1933 this means that increase of the neighbouring overall additional tax rate in the previous period (1930) by 1 percentage point causes a degrease of Overall additional tax rates in 1933 by 0,27 p.p., the change of the neighbouring overall additional tax rate in the same year is followed by the 37 percent reaction of Overall additional tax rates in the same direction. Every percentage point of the net migration adjusted the Overall additional tax rates in 1933 by almost 21 p.p.

This shows that the major reasons for increasing the overall additional tax rates were the increases of these tax rates in the neighbouring districts and outflow of inhabitants (negative migration).

Conclusions. In case local governments are granted any fiscal autonomy it is likely that they will interact in case of their tax policy. The greater the granted tax autonomy the greater is the space for these strategic interactions, i.e. tax mimicking, and for tax competition. There are described two types of tax competition: "genuine tax competition", when politicians try to attract mobile base and "yardstick competition" when they try to get votes. In reality, however, it is impossible to disintegrate these two types of tax competition.

Local governments in the pre-war Czechoslovakia enjoyed significant fiscal autonomy as they could set additional tax rates to the centrally imposed direct taxes. Empirical analysis of the municipal and overall additional tax rates in 242 districts proved tax mimicking among them, however with significant regional differences. While the its statistical significance was very high in case of Bohemia, which represented two thirds of the economic potential of Czechoslovakia, lower but still significant presence of tax mimicking was confirmed in the Moravian-Silesian Land and the Slovakian Land and no evidence was found with regards to Subcarpathia. One of the reasons can be the fact that in Subcarpathia almost every district was at the country border, so there were less neighbouring districts they could interact with. There were no differences between overall additional taxes and additional municipal taxes. Politicians on each level of local government acted the same way. This findings are consistent with the recent empirical studies on local government tax interactions.

We also found statistically significant evidence of interaction between additional tax rates and migrations. Higher additional tax rates were in districts with higher out migration. This was probably a reason of interconnected processes: district with low tax base had to impose higher tax rates in order to collect sufficient revenue, low tax base is associated with low economic performance which pushes people to move to wealthier districts which can at the same time impose lower tax rates because of high tax base. Continuation of this process caused increase of the differences in the additional tax rates in the districts. Taking into account the impact of the Great Depression (1930-1933) which speeded the whole process, the strength and significance of the relationships proven by our analysis is surprisingly high.

The application of contemporary approaches in the study of our history is extremely interesting because it confirms that many processes we are exploring now are present in our societies for decades or even since ever. The fear of central governments in central and eastern Europe to grant more fiscal autonomy to local governments is not justified by the fear of harmful tax competition. The example from our past clearly shows that no "race to the bottom" took place and that the possibility to generate revenues (in opposite to wait for grants) by local governments even in hard times enabled local governments to function well.

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ПОДАТКОВА КОНКУРЕНЦІЯ МІСЦЕВОГО САМОВРЯДУВАННЯ У ЧЕХОСЛОВАЧЧИНІ 1918-1938

Дослідження оцінює податкову конкуренцію між місцевими органами влади в Чехословаччині в міжвоєнний період. Використовувався кореляційний і регресійний аналіз, який дозволив довести, що (1) місцеві політики враховували податкову політику сусідніх країнах, при введенні додаткових податкових ставок на верхню частину прямих центральних податків, (2) були деякі регіональні відмінності, (3) міграція зіграла свою роль при виведенні ставки податку і (4) "гонка на скочування" не відбулася.

Ключові слова. Податкова конкуренція ; місцеве самоврядування; Чехословаччина.

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НАЛОГОВАЯ КОНКУРЕНЦИЯ МЕСТНОГО САМОУПРАВЛЕНИЯ В ЧЕХОСЛОВАКИИ 1918-1938

Исследование оценивает налоговую конкуренцию между местными органами власти в Чехословакии в межвоенный период. Использовался корреляционный и регрессионный анализ, который позволил доказать, что (1) местные политики учитывали налоговую политику соседних странах, при введении дополнительных налоговых ставок на верхнюю часть прямых центральных налогов, (2) были некоторые региональные различия, (3) миграция сыграла свою роль в выведении ставки налога и (4) "гонка на скатывание" не состоялась.

Ключевые слова. Налоговая конкуренция; местное самоуправление; Чехословакия.

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ENVIRONMENTAL SAFETY AND ECONOMIC DEVELOPMENT OF UKRAINE: IMPACT ASSESSMENT

The process of overcoming scientific and technical backwardness and unsustainable use of natural resources requires the development of new methods and models of ecological-economic interaction. Paper highlights main views on the environmentalization as a concept. The main vectors of environmentalization are depicted. Most broadcasted domestic mathematical models of eco-economic modeling are reviewed. VAR model approach and impulse analyses are used to identify and assess the relationship between environmental security and level of economic development of Ukraine; at the macro and regional level.

Keywords. Environmental security, ecological safety, economic growth, VAR model.

Introduction. In many countries, the degradation of biosphere has led to large-scale natural disasters, decreasing in quality of life and health. There is a challenge for the world and the state particularly to develop methodological principles of regional and global greening of economy and, therefore, an effective mechanism for its practical implementation. Nowadays to transit the entire system of economic reproduction of humanity on the principles that correspond to the tasks of environmental conservation is the most essential for sustainable development of individual countries and the world economy as a whole.

If to consider the sense of the term "ecologization"/"greening"/ "environmentalization" we can see the diversity of notions and meanings despite general common understanding of this term's usage. If we browse Google and Google Scholar searching links using this term in title we detect different spreading of its variation: so term "ecologization" counted aprox.16800 links in Google and aprox. 3800 papers in Google Scholar (that could be mostly considered as scientific search, however having some merges and limits); term "greening economy" counted aprox. 6920 and just 100 respectively, and term "environmentalization" counted aprox. 19000 and 604, respectively. So quite clear is the broadest usage of "environmentalization" term when we talk about the ecological aspect of economy.

There is still diversity in meaning of the "environmentalization" (Tab.1).

Table 1. **"Environmentalization": meaning of the term in scientific literature**

Source	Description
Shevchuk V. [1]	process of penetration of ideas, knowledge and laws of ecology, ecological thinking in the niche areas of science, production and livelihoods society
Kyslyi V. et al. [2]	the objectively caused process of transformation of the entire social work aimed at the preservation and development of socio-economic functions of the nature.
Tunytsya T. [3]	complex, multifaceted and contradictory process of maximum possible approximation of economic activity to such forms of life that exist in the natural system without human intervention. In the life of natural systems there are no wastes, therefore, such concept should be taken into the state policy.