

ANALYSIS OF THE EFFECTS OF REPLACING CURRENT PROPERTY TAX WITH AD VALOREM PROPERTY TAX IN A SAMPLE MUNICIPALITY

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Received 11 February 2010, Accepted 8 June 2010

Abstract

Analysis of consequences of introducing land value taxation in one of the zachodniopomorskie voivodeship municipality was presented. There has been property evaluation conducted along with current land tax charges estimation. Effects of tax system reorganization were presented with emphasis on commune's budget income changes and single plots tax ballast changes.

Keywords: property tax systems, real estate mass appraisal.

JEL classification: H71.

Introduction

As local government entities, municipalities are obliged to carry out specific tasks. In the vast majority of cases, these tasks require funding. One of the sources of funding are the revenues derived from local taxes and charges. In turn, one of such taxes is a tax on real estate. Since the Polish entry onto the path of free market economy, there have been voices, projects and legal provisions reforming the taxation of real estate. This reform would include the replacement of the current property tax with an ad valorem property tax. The tax would be levied on the cadastral value of the property. The current tax is based on the square area of the property as the base of the real estate tax. Taxation of the value of property raises a huge concern about the excessive tax burden on property owners. Returning from time to time, however, the discussion does not change the fact that the introduction of ad valorem taxation seems to be, in the short or long term, a foregone conclusion. In the European Union, with a long and unbroken tradition of the property, this system works and does not arouse much controversy. It is believed that the current system of taxes on property, including real estate tax system (taxes from real property, agriculture and forestry) does not meet the requirements of market economy. The weakness of this system contributes to the financial difficulties of local government entities. These taxes do not carry out other than fiscal functions in Poland. They are not used as an instrument of rational land use policy¹. Taking into account the low public awareness about the taxation of property value, the key seems to be shedding more light on the subject, as well as conducting studies aimed at outlining the potential impact of changes in the system of property taxation.

Introduction of ad valorem property tax, and determining its rate, is very debatable and ambiguous. Hence, the idea to simulate the introduction of ad valorem property tax and formation of its rates in the context of the municipal budget and property owners. The decision as on the amount of ad valorem property tax will result in a range of effects. This may lead to an increase or decrease in income of municipalities in comparison with the current situation. Before deciding on the amount of ad valorem property tax there should be an analysis that will determine the effects of ad valorem property tax rates both for municipalities and taxpayers – owners of the property. It should also be taken into account that maintenance of the cadastral system will be more expensive than the current system-wide solutions. It is said that the introduction of ad valorem property tax can improve public finances by creating a stable and efficient source of public revenue². It is also noted that thanks to the reform of property taxation, local governments will obtain funds for the projects

which were rested on them as a result of the administrative reform³.

Taxation of property value occurs primarily in countries with centuries-old traditions of respect for property rights and seems to be a more appropriate and fair mechanism for property taxation. Its introduction in Poland will lead to many difficult, sensitive and socially costly projects, even such as the construction of the property cadastre and the associated valuation of property existing in Poland. Initially, the introduction of such a tax may be associated with an increase in the tax burden of the population. There is therefore a need to develop and smoothly introduce procedures of determining and collecting the tax and its further functioning in the Polish socio-economic reality.

The most important issue is to establish the tax rates, which must on the one hand provide funds to municipalities in amounts not less than the present funding and yet not be too onerous for taxpayers. It is impossible to experiment with the amount of ad valorem property tax rates. Thorough study should be conducted, during which the municipality is to examine the revenue and fiscal burden on legal and natural persons – owners of the property. The study is intended to approximate the financial effects of changes understood as changes of the tax burden and revenue for the municipal budgets. This study will assess whether the reform of property tax actually brings together such a change as dramatic as what its opponents are actually afraid of, and whether there is a chance for positive effects of the replacement of property tax, the existence of which requires significant changes in the distribution of tax burdens.

1. Property tax

Property tax is a local tax which forms part of the income of municipalities and is shaped by the municipal bodies, albeit within limits stipulated by law. This tax is a local tax for several reasons:

- it is closely related to the area on which it is levied,
- it has a relatively simple tax structure, which makes it a model of tax appropriate to the nature and essence of local taxes,
- there is a very close link between the purpose of real estate, the way it is used and the tasks of local authorities.

Taking into account the ability of the local authorities to influence real estate management through these taxes, property taxes should be granted special importance in the system of local taxes.

The subjects of taxation are^4 :

- land,
- buildings or their parts,
- structures or their parts involved in running a business.

Payers of property tax are natural persons, legal persons, organizational units, including companies or partnerships without legal personality that are:

- owners of real estate or buildings,
- owner-like possessors of property or buildings,
- perpetual land users,
- possessors of property or their parts or structures or their parts, owned by the State Treasury or local authority, where possession is apparent from the agreement concluded with the owner, the Agency for Agricultural Property, or any other legal title, with the exception of the possession by natural persons of dwellings not forming separate property.

The tax is calculated on the basis of:

- for the land the land surface,
- for buildings or their parts usable building space.
- for structures or their parts involved in running a business the value referred to in the provisions on income tax, as determined as of January 1 of the fiscal year, which is the basis for calculating depreciation in that year without depreciation expenses and for fully depreciated structures – their value as of 1 January of the year of the most recent depreciation expense.

2. Ad valorem property tax

Ad valorem property tax is a tax levied ad valorem, or on the value, in this case the value of the property. Taxation of property value is used in many Western European countries, but also in countries such as Canada and the USA, or some Asian countries. This tax is considered more fair than taxes charged on the size of the floor area of the property. The assumption is that the tax is to induce more efficient management of real estate. In most countries where the ad valorem property tax is used, revenues from this tax form the income of local government entities.

It should be noted that the concept of greater justice of the ad valorem property tax raises a lot of controversy and discussion. On the one hand, the purpose of tax on value is for valuable property, i.e. property of high value, to be possessed and managed by persons who have adequate financial resources for these purposes. Ad valorem property tax is thus to prevent a situation in which valuable property located in an attractive location would be acquired by a person not taking proper care of the property, not having the financial means to keep it well-maintained and invest in the property, which would further the deterioration of the quality of public space. Possession of property by persons who have the adequate financial resources would lead to the harmonization of development and greater intensity of investment and efficient use of the property. All this apparently seems to be reasonable and economically justified. On the other hand, however, this does not take into account the specific situation in a post-communist country like Poland. The concept of and respect for property and value is not deeply rooted in our country. Poles are not a wealthy and mobile nation. Introduction of ad valorem property tax in lieu of taxes charged on the size of floor area of the property would, at least in some cases, increase the tax burden on households, which, for obvious reasons, is objectionable.

Interestingly, the current property taxation arrangements relate to the value of property in an indirect way. The tax rates vary depending on whether the property is used by businesses or natural persons, and thus in some sense take into account the revenue generated by the property. Also, agricultural and forestry taxes take into account in their design some elements of value, as their amount is dependent on the potential revenue from the sale of grain or wood. The introduction of value as the tax base would eliminate those peculiar "artificial" values from the tax system. Given the arguments for and against ad valorem property tax, its introduction seems to be reasonable and logical.

The design proposal for an ad valorem property tax in Poland according to the document "Strategy for Poland" is as follows⁵:

- **Subject of taxation: t**he tax will be levied on property owners, or in the case of perpetual usufruct of immovable property of the State Treasury or the municipality users of the property;
- **Object of taxation: a**ny property classified by the Civil Code: land, buildings, structures and other constructions erected on the ground and permanently bound with it. For the purposes of ad valorem property tax, non-agricultural and non-forestry real estate will be divided depending on their purpose into property serving economic purposes, serving personal needs (residential or public), and real estate for rent;
- **Tax base:** the tax base is a percentage of the value of the property determined in accordance with the provisions of the law on real estate cadastre;

Tax rates: tax rates will vary depending on the type (purpose) of the property. Setting the rates would be left to the municipal council within the limits stipulated by law.

Ministry of Finance assumes that the ad valorem property tax rate should range from 0.1 percent. (residential buildings) to no more than 2 percent (structures involved in running a business) of the property value per year.

3. Land valuation

An essential element in the process of tax assessment is to determine the cadastral value of the property. This process is called common taxation of the property. Its framework project is included in Regulation of the Council of Ministers of 29 June 2005 on the universal taxation of property. To a large extent consistent with the provisions of this act is Szczecin Mass Real Estate Valuation Algorithm, which allows one to specify the value of the property according to the following formula⁶:

$$\hat{W}_{ri} = W \hat{W} R_i \cdot pow \cdot C_{baz} \cdot \prod_{l=1}^p (1 + A_l)$$
(1)

$$\hat{WWR}_i = \frac{C_{ri}}{C_{hi}} \tag{2}$$

where:

 w_{ri} – market value of property *i*,

pow-land area,

- C_{baz} value of 1 sq. m. of cheapest (undeveloped, agricultural) land within the municipality,
- A_l calibrated parameter values, linked to specific attributes of the property (they are determined on the basis of analysis and diagnosis of the local market and reflect the strength of influence of individual attributes on the value of the property),

p – number of market attributes,

 WWR_i – coefficients of market value,

 C_{ri} – property value estimated by a property valuer,

 C_{hi} – notional value estimated according to the following formula:

$$C_h = pow \cdot C_{baz} \prod_{l=1}^p (1 + A_l).$$
(3)

It is stressed that the originality of the presented model lies in the fact that some parameters are estimated, and some calibrated. The investigation of the market value in this model is a two-step process:

- valuation on an individual basis by a group of valuers of properties selected through stratified sampling – samples,
- 2. the generalization of the results of valuation of samples onto all (population) properties in accordance with the proposed model.

Szczecin Mass Real Estate Valuation Algorithm is an approach of large utility value in the context of universal taxation of property, whose principles include a two-stage nature of property valuation.

Valuation was made by the price level from 2006. It was the year preceding the period of large fluctuations in property prices in Poland. The relatively low dynamics of real estate prices allowed to carry out the process of land valuation with no additional complications. In this study, only land was subject to the valuation. Other types of property were not taken into account. The process of mass property valuation using the Szczecin algorithm for the purposes of this paper was as follows:

- Information on the valued plots of land was gathered. The information collected on the valued parcels should be as exhaustive and come from as many sources as possible. The total number of parcels valued exceeds 2000.
- The area of the municipality was divided into elementary areas. Elementary areas are areas with similar social, economic, urbanization, and geographical features. Such a breakdown guarantees that the valuation process will be more accurate because valuation will be made for each of the elementary areas separately. Market values of parcels located in the same elementary areas will be close to each other insomuch as their attributes are similar, i.e. the same value in a given elementary area will be assigned to those parcels, which are characterized by the same variations of market characteristics. In the study, elementary areas have been shaped to reflect the administrative division of the municipality by introducing additional elementary areas, called enclaves. Enclaves were compact areas of parcels of similar physical and economic features.
- So called samples have been randomly selected from all specified elementary areas. Sample plots should be chosen through stratified sampling. Each of the taxation zones (in this case elementary areas) should be included in the sampling pool. It was also adopted as a principle that the more land is located in an elementary area, the more samples will come from that area. This rule is intended to reflect the fact that in elementary areas containing more plots, we usually deal

with a greater variety of real estate. The selected samples will be valued by a valuer through appraisal by comparison.

- Valuer established the values of the samples. At this stage, the valuer used the information about the local market already collected during the first stage of the procedure. Market values were estimated through appraisal by comparison.
- Values of A_l parameters, which illustrate the impact of the variants of market characteristics on the value of the property, were established. These parameters reflect the strength of influence of individual attributes on land values. They are de facto increases in the market value of each variant of market characteristics increases in the price as compared to the lowest price of undeveloped land recorded in the area subject to valuation.
- The values of market value coefficients *WWR* for individual elementary areas were established. In the elementary areas in which more than one plot was randomly selected for valuation, thee coefficients are calculated as the arithmetic mean of the coefficients of market value calculated for each sample. *WWR* coefficients are quotients of market values estimated by valuers and their notional values. Market value coefficients, according to the authors of the algorithm, show "how much higher or lower is the singular value of the appraised property in relation to the notional, and thus in some sense artificial, value, where the differences between the values of different properties are a result only of the differences in their market characteristics"⁷.
- The market values of all valuated plots of land were established. The values are obtained using formula [1], based on previously gathered information, established parameters A_l, individual valuations and the establishment of WWR.

Table 1 summarises selected measures of the structure of values of 1 sq. m. of plots which are the subject of the study. The value of 1 sq. m. fluctuated within the municipality between about 5 and more than 300 PLN. The lowest singular value was related to plots with a large surface area, poor shape, used for economic purposes (located on those plots were barns and similar buildings). Plots worth over 300 PLN per 1 sq. m. were found in the elementary area Przecław. Such values were characteristic of land used for commercial purposes, in attractive locations, well-shaped and fully developed.

Elementary area	Minimum (PLN)	Maximum (PLN)	Average (PLN)	Standard deviation (PLN)	Coefficient of variation
Barnisław	4.58	25.09	13.26	8.44	64%
Będargowo	5.73	31.36	19.07	10.64	56%
Bobolin E1	22.32	29.77	27.96	1.30	5%
Bobolin E2	12.29	35.12	32.10	2.03	6%
Bobolin	4.98	27.26	18.97	10.02	53%
Kamieniec	7.30	34.78	19.89	12.14	61%
Karwowo	11.21	34.24	14.99	5.24	35%
Kołbaskowo	12.18	66.73	34.01	22.90	67%
Kurów E3	65.26	88.99	72.83	5.96	8%
Kurów	10.22	55.95	30.33	18.59	61%
Moczyły	5.00	22.40	15.22	7.69	51%
Pargowo	10.00	38.96	12.11	7.44	61%
Przecław E4	16.99	248.60	79.15	57.13	72%
Przecław E5	38.94	45.43	45.34	0.73	2%
Przecław	17.72	324.96	65.21	39.66	61%
Przylep E6	54.52	59.48	55.57	2.03	4%
Przylep	8.91	31.81	29.06	5.36	18%
Rajkowo	8.54	33.29	24.13	10.80	45%
Siadło Dolne E7	45.45	49.58	46.83	1.98	4%
Siadło Dolne E8	46.77	51.02	50.08	1.78	4%
Siadło Dolne E9	43.35	47.30	46.79	1.34	3%
Siadło Dolne	13.34	54.78	16.70	6.19	37%
Siadło Górne	16.36	18.81	17.78	0.81	5%
Smolęcin	16.50	18.00	17.00	0.73	4%
Stobno E10	50.00	54.54	52.22	2.30	4%
Stobno E11	37.51	57.31	49.47	2.85	6%
Stobno E12	42.68	53.54	49.27	2.59	5%
Stobno	14.74	80.71	30.72	22.30	73%
Ustowo	12.13	57.75	29.59	19.72	67%
Warnik	12.98	16.29	15.33	0.84	5%
Warzymice	9.72	53.25	36.92	17.92	49%
Municipality in general	4.58	324.96	41.29	27.64	67%

Table 1. Market values of 1 sq. m. of parcels

Source: Gnat (2010), p.141.

Table 2 contains selected measures of structure of the total market value of parcels of land. The lowest value was characteristic of the plots of a very small area and bad shape located in the complexes of plots used for commercial purposes. In turn, commercial parcels within the Przecław area were worth over one million PLN. It may be noted that the Przecław precinct is the most urbanized area in the Kołbaskowo municipality.

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Elementary area	Minimum [PLN]	Maximum [PLN]	Average [PLN]	Standard deviation [PLN]	Coefficient of variation	
Barnisław	484.15	200 943.45	23238.79	29671.83	128%	
Będargowo	328.03	112 957.45	32466.33	26647.76	82%	
Bobolin E1	4 484.04	204 493.86	30271.53	22769.76	75%	

Table 2. Market values of parcels

Elementary area	Minimum [PLN]	Maximum [PLN]	Average [PLN]	Standard deviation [PLN]	Coefficient of variation
Bobolin E2	1 424.27	395 848.55	48204.68	46700.81	97%
Bobolin	1 161.20	67 685.12	19729.77	15519.99	79%
Kamieniec	1 120.38	97 154.58	23276.97	20388.95	88%
Karwowo	305.60	113 846.94	20187.90	28834.14	143%
Kołbaskowo	949.60	236 112.94	41146.50	35781.97	87%
Kurów E3	5 691.04	202 144.42	78810.15	50272.23	64%
Kurów	556.29	148 292.60	38783.68	32511.25	84%
Moczyły	5 400.13	134 489.39	26444.11	26749.63	101%
Pargowo	2 866.75	39 976.67	19168.33	10740.13	56%
Przecław E4	5 967.26	1 593 481.78	159166.23	317829.28	200%
Przecław E5	4 180.57	43 559.85	16696.94	7581.46	45%
Przecław	311.96	1 633 556.67	82575.73	149954.59	182%
Przylep E6	34 501.03	271 154.96	81628.35	38473.00	47%
Przylep	2 767.76	65 526.64	32747.82	16665.34	51%
Rajkowo	2 249.77	56 535.92	26904.62	15904.71	59%
Siadło Dolne E7	43 659.22	141 565.66	62895.93	24405.01	39%
Siadło Dolne E8	13 212.49	97 014.14	45474.44	11597.15	26%
Siadło Dolne E9	34 620.20	149 215.21	43022.49	20268.13	47%
Siadło Dolne	1 593.53	353 155.76	27268.07	56729.83	208%
Siadło Górne	1 789.44	79 259.33	26111.39	17714.08	68%
Smolęcin	2 431.70	59 769.13	26841.32	14659.32	55%
Stobno E10	3 523.85	241 860.41	59652.12	30667.04	51%
Stobno E11	16 386.38	216 005.00	45306.04	37820.13	83%
Stobno E12	30 889.15	132 503.05	84930.48	31255.83	37%
Stobno	1 098.74	685 726.16	68800.24	104642.42	152%
Ustowo	2 722.19	103 464.31	31679.95	21687.80	68%
Warnik	4 252.96	38 476.24	20774.62	9208.38	44%
Warzymice	813.35	387 222.16	53786.71	60562.66	113%
Municipality in general	305.60	1 633 556.67	52672.91	96717.55	184%

Source: Gnat (2010), p.143.

4. Current tax burden

The decision-making model outlined in the current paper is based on the comparison of the economic situation, both in terms of the municipal budget and tax burdens of individual parcels of land before and after the introduction of ad valorem property tax. The amounts charged on each parcel of land was calculated using the tax rates specified in Resolution No. X/111/07 of the Kołbaskowo Municipal Council of 19 November 2007 on determining the property tax rates. The tax base was the area expressed in square meters. Table 3 presents selected measures of structure showing the tax burden of the parcels located in the municipality of Kołbaskowo.

The amount of property tax calculated for the individual parcels is between 1.06 PLN and over eight thousand PLN. The land with the lowest burden was in the elementary area of Przecław, the parcel with the highest burden was in the elementary area of Stobno. The plot of land in the municipality charged with the lowest property tax had an area of only 5 square meters, and was located in the complex of land used for residential purposes – multifamily housing. The plot of land having the highest tax burden in the municipality was a parcel of land with an area of 4 hectares located in Stobno and used for business purposes. The average amount of property tax was 305.62 PLN, with a standard deviation of 534.47 PLN, which translated into the level of volatility of 175%. The main determinants of the amount of property taxes are usable space and the purpose – commercial or non-commercial.

Elementary	Minimum	Maximum	Average	Standard deviation	Coefficient
area	[PLN]	[PLN]	[PLN]	[PLN]	of variation
Barnisław	13.78	7 628.02	488.50	1 037.84	212%
Będargowo	8.59	2 056.08	427.05	413.22	97%
BobolinE1	30.13	1 831.98	223.19	200.65	90%
BobolinE2	8.11	3 005.36	310.55	354.70	114%
Bobolin	24.19	1 248.99	264.35	248.27	94%
Kamieniec	16.59	1 668.16	262.56	240.88	92%
Karwowo	4.70	2 031.79	284.87	487.19	171%
Kołbaskowo	11.69	2 939.27	332.78	425.95	128%
KurówE3	15.99	619.52	213.15	126.02	59%
Kurów	6.35	2 370.22	307.24	373.50	122%
Moczyły	88.23	2 287.50	432.41	470.05	109%
Pargowo	52.56	799.61	355.84	222.72	63%
PrzecławE4	34.12	5 982.38	577.23	1 190.87	206%
PrzecławE5	18.41	209.22	73.79	33.94	46%
Przecław	1.06	7 372.94	318.99	615.96	193%
PrzylepE6	116.01	994.61	295.70	143.60	49%
Przylep	47.28	449.50	222.14	113.17	51%
Rajkowo	13.52	423.63	234.97	100.23	43%
SiadłoDolneE7	176.11	622.97	271.27	111.76	41%
SiadłoDolneE8	51.79	414.86	182.59	50.63	28%
SiadłoDolneE9	146.40	688.36	185.66	96.58	52%
SiadłoDolne	21.90	2 251.07	263.63	334.64	127%
SiadłoGórne	21.88	919.16	298.57	208.68	70%
Smolęcin	27.02	724.61	321.31	181.58	57%
StobnoE10	12.92	967.53	230.62	125.20	54%
StobnoE11	65.52	1 151.58	192.16	198.78	103%
StobnoE12	115.39	539.96	346.44	127.93	37%
Stobno	9.72	8 091.66	635.59	1 241.85	195%
Ustowo	23.25	1 456.14	276.25	239.99	87%
Warnik	52.23	515.44	275.80	129.71	47%
Warzymice	10.91	4 375.69	388.22	624.04	161%
Municipality in general	1.06	8 091.66	305.62	534.47	175%

Table 3. Property tax burden on urbanized parcels

Source: Gnat (2010), p.146.

From the point of view of the municipal budget, a very important question is whether the introduction of ad valorem property tax will lead to an increase or decrease in revenue for the municipal budget. Figure 1 compares the calculated aggregated revenues from the municipal property tax and ad valorem property tax depending on the rate expressed as percentages of value. The data presented in the figure shows that for the conditions adopted in the study, it is not justified, in terms of revenue for the municipal budget, to adopt an ad valorem property tax rate lower than 0.6% of property value. Of course, this is a flat rate for all land parcels which in the existing conditions are subject to property tax. Only above the 0.6% level will the municipality gain more financial resources than under the current arrangement. Taking also into account that the taxation of value would require more funding than the taxation of area, it must be assumed that the ad valorem property tax rate should be set so that the proceeds of both taxes are not equivalent, but calculated so that the municipality gains more revenue than it currently has.



Fig. 1. Proceeds to the municipal budget from property tax and ad valorem property tax Source: own calculations based on Gnat (2010).

Another issue raised in the discussions on the introduction of ad valorem property tax is the view which says that the introduction of ad valorem property tax will lead to a sharp increase in tax burden on all property owners. The study shows that this view is not entirely legitimate. Figure 2 shows the structure of the increases and decreases of the tax burden caused by the replacement of property tax with ad valorem property tax. As is apparent from the data, with a very low rate of ad valorem property tax, there would be a situation in which owners of all the analyzed land would pay less tax than at present. However, as already mentioned, such low rates are not acceptable from the point of view of the municipal budget. Analysing the rates guaranteeing higher than the current municipal budget revenues, it can be concluded that at levels of 0.6-0.7%, around 60% of the parcels would be burdened with a higher amount than today. This means that 40% of the owners of parcels would be obliged to pay smaller amounts for the benefit of the municipal budget than today. Moreover, even adoption of very high rates, around the upper limits adopted in the study, would not lead to a higher tax burden on all owners of parcels. In light of these results, stating that the view which speaks of "global" increase in the tax burden is not justified. Although tax burdens are simulated and not real, it does not change the fact that these results give a view of increases and decreases in tax burden caused by the reform of property taxation.



Fig. 2. Structure plots of land according to the increase and decrease in the tax burden caused by the introduction of ad valorem property tax Source: see above.

The argument that somehow goes hand in hand with the voice of the general increase in the tax burden is the scale of this growth. Opinions can be found that the increase in the tax burden will be gigantic. Also in this issue, the results of the study can produce a slightly different outlook. Figure 3 presents the data showing how many times more and how many times less than currently the owners of land which at a given rate of ad valorem property tax would carry the heaviest and the lightest burden in comparison to the current tax burdens adopted in the study would have to pay into the municipal budget. Results were presented from the first rate for which both increases and decreases in the tax burden were recorded. In case of the rate leveling ad valorem property tax revenue with the current revenue from the property tax, it can be seen that the maximum recorded increase in the tax burden was 79% (1.79 times). At the other extreme, at a rate of 0.6%, a maximum decrease in the tax burden of 86% (7.14 fold decrease) was recorded. Until the level of ad valorem property tax rate of 1.1%, the maximum decreases were greater than the maximum increases. In light of these results, the assertion of many-fold higher tax burden also is unconfirmed. Obviously, assuming adoption of a reasonable rate of ad valorem property tax.



Fig. 3. Ratios of maximum recorded increases and decreases in the tax burden caused by the introduction of ad valorem property tax Source: see above.

The argument that the reform of property taxation will change nothing in the structure of the tax burden can also be refuted. This will be the abolition of one tax, and introduction of another tax in its place. However, taxpayers will bear the cost of reform. Figure 4 shows the percentages of plots of low, 10-percent difference between the current real estate tax burden and the burden carried by the ad valorem property tax. It seems reasonable to say that if the reform should bring about the intended or otherwise effects, there must be a substantial shift in tax burden. Change in the taxation system will make little difference, if after that change the persons paying low taxes should continue to pay little and a high tax burden would also still be levied on the same land as today. As is apparent from the data illustrated in Figure 4, the maximum percentage of plots with similar tax burden amount significantly different from the

present amount, without distinguishing whether that amount would be higher or lower. Given the rate of "balance", i.e. 0.6%, the percentage of a lack of significant change in burden is just under 10%. A conclusion can be drawn that such tax reform would not be just a simple replacement of one tax by another.



Fig. 4. The percentage of plots with a difference in tax burden caused by the introduction of ad valorem property tax, not higher than 10% Source: see above.

Conclusions

Ad valorem property tax is a concept that is likely to attract a lot of excitement around, and which has accumulated a lot of myths and beliefs that are not always hooked in reality. This study has undertaken the attempt to quantify the selected effects of introducing ad valorem property tax for land located in a sample municipality. The reform of the taxation of value has been viewed through the prism of the height of a possible rate of ad valorem property tax. It should be strongly emphasized that the specified ad valorem property tax rates and the accompanying effects are closely related to the assumptions regarding the current tax burden and land value adopted in the present study. They should not be treated in an arbitrary and conclusive manner. However, that study brings an element of reality, as it was carried out based on the greatest possible share of actual data. Valuation was based on recorded market transactions, and the current tax burden was based on the municipal council resolution regarding property tax rates. The conducted analysis shows that the replacement of the current property tax with ad valorem property tax does not necessarily lead to an increase in the tax burden on all subjects of taxation. What is more, the maximum tax increases do not reach, at a reasonable rate adopted, abnormally high levels. However, the scale of recorded maximum decreases in tax burden is higher than the scale of maximum increases. The chances of occurrence of changes in the tax burden were also examined. This aspect of the study indicates that the vast majority of taxpayers would pay a different amount in plus or in minus from the current rates. This suggests that the ad valorem property tax would not only be a new designation of property tax, but could fuel the growth of efficiency in management of real estate or, on a wider scale, management of the surrounding space.

Notes

³ Pietraszko (2003).

⁴ Act of 12 January 1991 on local taxes and charges (consolidated text, Journal of Laws of 2006 No. 121, item 844, No. 220, item 1601, No. 225, item 1635, No. 245, item 1775, No. 249, item 1828, No. 251, item 1847.

⁵ Bien, Nowecki (1995).

⁶ Hozer et al. (1999), p.48.

⁷ Hozer, Kokot (2004).

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¹ See Wojtowicz (2006).

² Brzeski, Frenzen (1999).

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