Surface Area and Value Property Taxation. The example of Poland and Germany

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The aim of this article is to assess the surface area and value property taxation on the example of Poland and Germany. The analysis refers to the theoretical concepts in the literature, other research and it also includes such criteria as macroeconomic efficiency (fiscal meaning), the issues of fairness, neutrality and technical elements. We noticed a greater fiscal significance of real property taxation in the cadastral system. Nevertheless, our analysis does not give an explicit answer to the question which tax system is better. Either of them has its own strengths and weaknesses. The choice depends on the social factors and political decisions that may, but do not need to be derived from the financial needs of local government units.

Keywords: municipal revenues, local taxes, real property tax

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Introduction

Property taxation is a significant source of revenues of local budgets in Poland and Germany. In both countries there are ongoing discussions related to the shape of tax systems and the detailed construction of the real property tax. There are different reasons behind considerations in this field. These include macro-economic efficiency, social fairness, neutrality, technical elements and, as recently in Germany, legal issues. In this article, we present solutions adopted in Poland and Germany as well as our evaluation of them. We conduct our deliberations in relation to the theoretical knowledge of this area of interest referring to research on this subject conducted so far.

Theoretical concepts of real property taxation. Literature review

The literature on the taxation of real property is very extensive and considers the subject from many different perspectives. The contemporary theoretical research describing the economic effects of the taxation of real property consists primarily of two trends, interpreting the local property tax differently and treating it as either charges for public services or distorting taxes on the use of capital within the local jurisdiction. The Benefit Tax View is an effective tax on benefits, paid in exchange for local public services, according to the principles assumed in the Tiebout model [1956]. The wealth tax is treated here as the cost of providing the local community with goods and services. Every citizen choosing the community will identify the one that satisfies his preferences to the greatest extent. The declaration of demand for the public good will in practice imply a selection of a region characterised by a high level of public investment and high taxes, and the other way round.

The benefit view was developed by B. W. Hamilton [1975]. The following conclusions result from it:

- Real property tax as an effective charge for the use of local public services does not distort the consumption of residential property and the level of public service provided.
- Replacing local property taxes by other common taxes at the national level will cause reduced efficiency.

The approach to local property tax as a benefit tax is criticized for example P. Mieszkowski [1972] and G.R. Zodrow [1986], representatives of the theoretical trend known as the new or capital view. According to the cited authors, property tax is a differentiated capital tax, distorting the allocation of capital in local jurisdictions. The following conclusions are drawn from this trend of research:

- Property tax as a differentiated capital tax distorts the allocation of capital in local ju-

risdictions; in the case of residential property, it distorts decisions on consumption of residential property.
- The use of property tax by local authorities may lead to a reduction in local public services in order to prevent the outflow of mobile capital outside their jurisdiction (the problem of tax competition).

Speaking about real property tax, one should take into account two different taxes: on residential property and non-residential property (commercial, business). The need to look at the problem of taxation of business and residential property is justified in the context of the planes disturbing the market mechanism by distorting taxes and the role of taxes at the local level. Real property in the possession of entrepreneurs is used as production factors in the manufacturing process, hence their taxation leads to the distortion of the structure of the production factors. Such consequences will not emerge in the case of residential property levies. Real property tax can be attributed certain characteristics considered desirable for local taxes and is therefore treated in most European countries as the most common local tax. It appears that among the features of taxes constituting the primary revenue potential of local governments, it is necessary to indicate an evenly distributed tax base, territorial explicitness, a permanent spatial relationship of the tax base and tax visibility (ensuring public accountability and transparency) [Swianiewicz 2004, pp. 43–46]. In this regard, the property specificity is important as a category of the sources of own revenue at the local level, i.e. its diversity, a strong connection with a specific place and stability over time. It should therefore be assumed that the real property tax – due to the characteristics, as well as the connection between the kinds of services financed at the local level and the benefit to the value of the property, is a suitable solution to the financial management of the local government. However, there are serious doubts as to whether the role of taxes on residential and non-residential

real property can be equally treated, for instance, because any tax imposed on production factors affects the market decision of the manufacturer, adjusting the size and structure of production to the fiscal rationality [Grądalski, 2006]. Hence, in the literature it is stressed that, admittedly, many economic arguments can be quoted in favour of residential property taxes, but it cannot be said about commercial property taxes [Slack, 2010]. Imposing high property taxes on entrepreneurs can lead to hampering investment and modernisation processes. They pose a potential threat with a tendency to an unjustified liquidation of some fixed asset, which, for various reasons, may not be involved in manufacturing.

In most developed countries, property value taxation systems are dominating, based on the capital or rent value of the property. In few countries only, mainly in Central and Eastern Europe, surface area systems of property taxation are used. The scientific output, presented in brief, in the field of taxation of real property is dominated by the American and English literature, to some extent completed by the German and Canadian literature. The research carried out by the scientists in the area neglect the specificity of the surface area taxation of real property. In the Polish scientific literature, the problem of economic and social consequences of real property taxation is presented for example in the works of such authors as L. Etel [1998], K. Wójtowicz [2007], P. Felis [2012, 2015b].

Surface area taxation of real property in Poland

The idea and consequences of the surface tax formula

Real property tax is a classic wealth tax, imposed by the municipal authorities under the law on taxes and local charges [Law, 1991]. This tax has a wide scope as it covers land, buildings and structures. The main feature of the current method of taxation on real property is that it is calculated in proportion to the land area and buildings (in exceptional cases on the value of the structure).

The implementation of the concept of quantitative (surface area) tax, as opposed to value tax, does not provide the public authorities, under the conditions of constant inflation, with a regular real level of revenue. The size of the tax base, expressed in physical units, is free from the effects of inflation. Therefore, the adoption such a solution necessitates the introduction of a valorisation mechanism, most often within the structure of tax rates. But not always – as it is in Poland – specific valorisation rules bring the expected results. Moreover, the use of an explicit mechanism to prevent the decline in the real burden of quantitative tax, as a result of inflationary processes, is perceived by taxpayers as an increase in the tax levy.

The surface area tax model of real property means in practice the rigidity of the tax base. It is notable that its consequences relate to both municipalities and taxpayers. A reduced growth in their tax revenues may become a problem for municipalities. And, in the case of taxpayers, referring to the principle of fairness, according to which the tax system should treat citizens in a uniform manner in relation to their characteristics, positions and conditions [Stiglitz, 2004, p. 553], in the distribution of the burden of tax on real property in its surface area formula, the payment capacity is hardly taken into account.

When determining the amount of tax on the unit value (unit of the area of real property), the factors which may affect the tax base reflecting the location, market conditions and quality of the property are omitted. Naturally, the valuation model of the tax value by the unit of the property surface area does not exclude the differentiation of burden depending on the type of real property, its location and use. It remains a responsibility of the legislator to differentiate the tax base (correcting the unit area of real property) or to apply a developed and complex system of amount tax rates. The structure of tax rates in the surface area model in the version currently used in Poland contains a serious defect, whose signifi-

cance grows in unstable economic conditions. One of the basic tax rules, namely the principle of tax certainty, is undermined. It results from frequent adjustment of tax rates, applied due to price increases. The amount of the rates can be determined by the type of taxable object (undeveloped or non-developed land) and its intended use (not used in business, used in business, used in business preferred by the legislator).

When examining the problem of the correct setting of the rates of real property tax, including in the surface area system, it is impossible to ignore the considerations on tariff differentiation depending on the type, destination and location of the real property concerned. It may be concluded that a much higher taxation of business real property implies some doubts about the economic efficiency and fairness. The key point of this controversy is whether it is possible to meet the criterion of efficiency of local benefits if the benefits consumed by the owners of the housing sector are mainly subsidised from taxes chargeable to business real property. Referring to H. Kitchen's article [2005, p. 10], an argument in favour of a negative answer may be submitted. Actually, the level of benefits in each administrative district is determined primarily by the needs of the housing sector ("residents have voting rights"). This fact determines that the subsidised services provided to it make the rate of tax lower than without subsidies, which entails excessive benefits to be provided by local authorities. Referring to the second criterion, i.e. fairness, it should be noted that it will not be achieved either if the beneficiaries of local benefits are not fully charged with their costs.

When analysing the disadvantages and advantages of a surface area real property tax, it is not possible to ignore its simplicity. There is no doubt that the lack of complicated calculation procedures, allows for savings in administrative costs. The current level of administrative costs and the cost of taxpayers' adjustment is not excessive in Poland. Under the conditions of the current system of real property taxation, the implementation of the task of putting a fiscal amount at the disposal of the local municipal government, as well as its time intensity (the time needed to prepare, fill in and submit forms to relevant tax administration institutions, the number of tax return forms submitted by taxpayers and the necessary information on real property) and the cost intensity (alternative cost of the time unit designed for meeting the tax obligation, costs incurred in favour of tax advisory companies) do not cause major difficulties.

Fiscal efficiency of the real property tax against other components of the municipal financial system

Real property tax is one of the components of the financial system of municipalities, constituting an important category of own revenue sources – the revenues which determine the extent of the financial autonomy of a local government. A detailed list showing the amount of budget revenue of municipalities between 2010–2018 in Table 1 confirms, however, that this system has been shaped in Poland in such a way that the transfers from the state budget are predominating. In the analysed period, it was on average slightly over 68%. The share of own revenue excluding PIT and CIT (own revenue minus transfer from state taxes)[1] is low (on average less than 32%). This level of own revenue is not the only drawback of the financial system of municipalities. A wide catalogue of local taxes[2] does not translate into the efficiency satisfying local government units. The only exception is the real property tax. For some municipalities – depending on the type – some fiscal significance may also be attributed to agri-

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[1] Although the shares in the PIT and CIT in the Polish budget reporting are regarded as categories of own revenue, it is difficult to find substantive arguments for such an approach. In the field of these income titles, the municipalities do not have any rights related to the tax authority.

[2] Local taxes with the active tax authority include real property tax, agricultural tax, forestry tax and tax on means of transport. Local taxes with passive tax authority include tax on civil law activities, inheritance and gift taxes and flat-rate income tax in the form of a tax card.

cultural tax and tax on means of transport, not as great however as in the case of real property tax.

The real property tax as the largest and most important source of own revenues of municipalities among local taxes provided a significant proportion of the resources for public tasks. In 2018, it was the amount of PLN 22.62 billion and compared to the value of 2010 it increased by more than 49.5%. It may be assumed that the revenues on this account were stable and, what is of great importance for municipalities, the most predictable source of budget revenue. The revenues from the area-based property taxes are hardly sensitive to business downturns [Poniatowicz, 2013], which also has a favourable and stabilising effect at the time of economic declines, when revenues from the share in state taxes decreased significantly. The position of real property tax in municipal budgets is therefore dependent on the adopted systemic arrangements (taxes primarily on the real property surface area; a considerable variation in the taxation of real property depending on its purpose; the mechanism of valorisation of tax rates, which does not always adequately reflect real changes in prices on the real property market) and actions by local authorities, i.e. the scale of the use of their competences in shaping local tax revenues.

The analysis of the structure of total revenues and the tax revenue of municipalities also allows, thanks to the static measures of autonomy of local finances, for the assessment of the level of independence and financial autonomy of municipal authorities (Table 2). Indicator 1 – the financial autonomy of municipalities in the analysed period was higher than 50% and showed an upward trend till 2015. The height of indicator 2 – the income autonomy of municipalities was not so favourable. The share of own revenue without the share in PIT and CIT in the total revenue was considerably lower and in the last years of the analysis it was below 30%, which indicates the process of deterioration of the income autonomy of municipalities. The aforementioned financial autonomy indicators are completed by another three (3–5), with which it is possible to assess

the actual fiscal significance of the real property tax. The average levels during the analysed period are: 12.2% share of real property tax in the total revenue (Indicator 3); nearly 23% of the share of property tax in own revenue (Indicator 4) and more than 38% of the share of property tax in own revenue excluding PIT and CIT (Indicator 5). It seems that we can only speak about the last indicator as a level of fiscal efficiency of real property tax that satisfies municipalities. Undoubtedly, of all local taxes feeding municipalities' budgets, the greatest fiscal significance should be attributed to this levy[3]. Unfortunately, in the context of the doctrine of the necessity to finance local units from own revenue, including local taxes, the level of other indicators leaves much to be desired. Fiscal efficiency of the real property tax – the tax, which, as already mentioned, with numerous attributed desirable features which should characterise local taxes is not high in comparison with the total revenue or even own revenue. These figures confirm the fact that municipalities are less autonomous and thus their activities are dependent on sources of external funding.

Financial autonomy, as the supreme principle of the financial management of local units, means also the possession of a statutory tax authority in the sense of applying and observing legal regulations within the framework of an autonomously run financial economy in accordance with the Act on Financial Economy [Brzozowska, Kogut-Jaworska, 2016]. In the case of real property tax, the rights of the municipal council are primarily to determine the rates which may not exceed the maximum rates stipulated in the Act. In the years 2010–2018, the fiscal effect of the use of such instruments in the real property tax amounted to nearly PLN 20 billion in all municipalities, accounting for 11.54% of the tax revenues. In relation to own revenue excluding PIT and CIT, it was on average about 4.5%; in relation to own revenue on average below 3%; and in relation to total revenue below 1.5%. Thus, the scale

[3] However, it is important to remember that own revenue is not only local taxes, but also local charges and significant remaining fiscal revenues.

Table 1: Municipal budgetary revenues in years 2010–2018 (millions of zlotys)

Specification	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total revenue	126 196.1	132 690.5	139 654.5	144 260.0	152 808.8	158 227.3	176 214.9	189 718.8	206 933.4
Own revenue, including	66 548.2	70 441.7	73 930.5	78 604.8	84 604.7	88 347.0	91 003.8	96 388.9	104 941.6
transfers from state taxes	25 240.6	27 617.4	28 738.0	29 977.2	32 278.3	35 058.4	37 752.3	41 282.8	46 881.5
Real property tax	15 122.2	16 253.1	17 602.6	18 729.4	19 532.1	20 171.3	20 774.5	21 829.0	22 617.4
Total subsidies	25 168.3	26 498.0	27 794.3	27 314.9	30 054.0	30 579.2	44 368.9	51 438.4	58 249.0
General subvention	34 479.6	35 750.8	37 929.6	38 340.3	38 150.0	39 301.0	40 842.3	41 891.6	43 742.8

Source: based on a state budget implementation Report. Information on the implementation of the budgets of local governments in 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, Council of Ministers, Warsaw.

Table 2: Selected financial autonomy indicators of municipalities (%)

Specification		2010	2011	2012	2013	2014	2015	2016	2017	2018
Indicator 1 =	$\dfrac{\text{own revenue}}{\text{total revenue}}$	52.73	53.09	52.94	54.49	55.37	55.84	51.64	50.81	50.71
Indicator 2 =	$\dfrac{\text{(own revenue – shares in PIT and CIT)}}{\text{total revenue}}$	32.73	32.27	32.36	33.71	34.24	33.68	30.22	29.05	28.06
Indicator 3 =	$\dfrac{\text{real property tax}}{\text{total revenue}}$	11.98	12.25	12.60	12.98	12.78	12.75	11.79	11.51	10.93
Indicator 4 =	$\dfrac{\text{real property tax}}{\text{own revenue}}$	22.72	23.07	23.81	23.83	23.09	22.83	22.83	22.65	21.55
Indicator 5 =	$\dfrac{\text{real property tax}}{\text{(own revenue – shares in PIT and CIT)}}$	36.61	37.95	38.95	38.52	37.33	37.85	39.01	39.61	38.96

Source: see Table 1.

Table 3: Effects of tax authority in real property tax

Specification	2010	2011	2012	2013	2014	2015	2016	2017	2018
Amount of lost revenues resulting from rate reduction (millions of zlotys)	1938.3	2199.7	2100.8	2305.4	2411.2	2627.8	2095.6	2018.6	2217.5
Share of lost revenue from real property tax (%)	12.82	13.53	11.93	12.31	12.34	13.03	10.09	9.25	9.80
Share of lost revenue in own-revenue excl. PIT and CIT (%)	4.69	5.14	4.65	4.74	4.61	4.93	3.94	3.66	3.82
Share of lost revenue in own revenue (%)	2.91	3.12	2.84	2.93	2.85	2.97	2.30	2.09	2.11
Share of lost revenue in total revenue (%)	1.54	1.66	1.50	1.60	1.58	1.66	1.19	1.06	1.07

Source: see Table 1.

Table 4: Comparison of the amounts of tax rates in 2015-2019

Object of taxation	Average rate per 1 m2 of area (zl)	The multiple of the rate in relation to the tax rate of business-related items
Land related to business activity	0.90	1.00
Other land	0.48	1.88
Residential buildings	0.76	30.26
Buildings related to business activity	23.00	1.00

Source: based on data on the height of the upper rates in the real property tax (announcement of the Minister for Public Affairs).

of the use of local tax policy tools still remains small. Moreover, in the second part of the analysed period, there was a downward trend in the effects of tax decisions of municipal councils. In general, it must be stated that the implementation of the tax authority of the municipalities did not significantly reduce tax revenues. It is possible to have doubts as to whether this activity of local authorities was sufficient to ensure that other objectives justified from the perspective of their development were achieved (e.g. increasing investment attractiveness for potential investors). Indeed, the dilemma concerning the justification and the scale of the use of the tax authority tools is difficult to resolve. On the one hand, the reason for their application and the objective of local tax policy is exactly the need to support local socio-economic development. On the other hand, it is the question of the effectiveness of tax policy in the current form of the real property tax[4]. In any event, the property tax was used in a limited way to pursue non-fiscal purposes. It results from the character of the real property (it is a benefit in kind, with the object of taxation in the foreground). The impact of this element was additionally strengthened by the construction of the tax adopted in Poland on the possessed property – the surface area was used as the basis for its measurement. The limited use of real property tax for the implementation of non-fiscal functions may also result from a low tax burden of on the owners of property used to meet their housing needs.

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[4] The subject was discussed for example by P. Felis [2015a], M. Korolewska [2014].

The question of fairness in real property tax

The fairness of tax is identified with the generality and relative egalitarism. Let us then take into account the aforementioned large spread of tax rates in the aspect of fair tax fairness (Table 4).

The maximum rates for residential property are 30-fold (buildings) and almost 2-fold (land) lower than for real property for business purposes. The rates for residential buildings are symbolic, which translates into preferential burden on these properties. Then, the reduction in the share of the real property tax in the total tax burden of households can be seen as an action in which the social function of taxation is implemented by the resignation of the municipality from part of its revenue in favour of a selected group of taxpayers. Given that the property tax is a wealth tax, social injustice is more troublesome here, as the surface tax system of real property prevents variations in the amount of tax burdens depending on the type and value of the real property possessed by a taxpayer. And the quota system adopted by the legislator does not take into account the payment capacity of the taxable. In this situation, the owners of properties of lower market value pay the same tax as property holders with much better housing conditions. All this causes that the relation of the amount of tax calculated on the basis of the adopted system of tax rates to the value of the property gives rise to the effect of regressiveness of the real property tax.

Table 5: Budget revenue of municipalities in the years 2015–2020 (actual and projected)

	2015	2016	2017	2018	2019	2020
revenue (€ bn)	219.1	233.7	246.9	251.4	256.8	266.4
Including revenue						
from taxes (€ bn)	84.8	89.8	94.3	98.2	102.7	110.0
from taxes	38.7%	38.4%	38.2%	39.1%	40.0%	41.3%
from tax on real property (€ bn)	11.8	12.2	12.5	12.7	12.9	13.1
from tax on real property	5.4%	5.2%	5.1%	5.1%	5.0%	4.9%
from industrial tax (€ bn)	34.9	38.3	39.4	40.6	43.0	47.6
from industrial tax	15.9%	16.4%	16.0%	16.1%	16.7%	17.9%

Source: authors' own material based on [Deutscher Städtetag 2017, 5].

## Real property tax and its reform in Germany

Fiscal significance and tax rate

The real property tax is an important source of funding for municipalities. Table 5 shows an increase in revenue from this tax over a few years and its share in the total revenue at the level of approximately 5%. It is worth noting, however, that the industrial tax is a more important source

of funding for municipalities, the total revenues of which is about 16% according to the forecast of growth in the years 2019–2020.

On the basis of Article 106, Section 6 of the German Constitution (GG), municipal authorities are entitled to the revenue from the real property tax (Grundsteuer) and industrial tax (Gewerbesteuer). According to this provision, municipalities have the right to determine the amount of the multiplier (Hebesatz) for both taxes, which determines the amount of the tax burden. Within

Figure 1: Municipal real property tax multipliers in 2018 [in%]
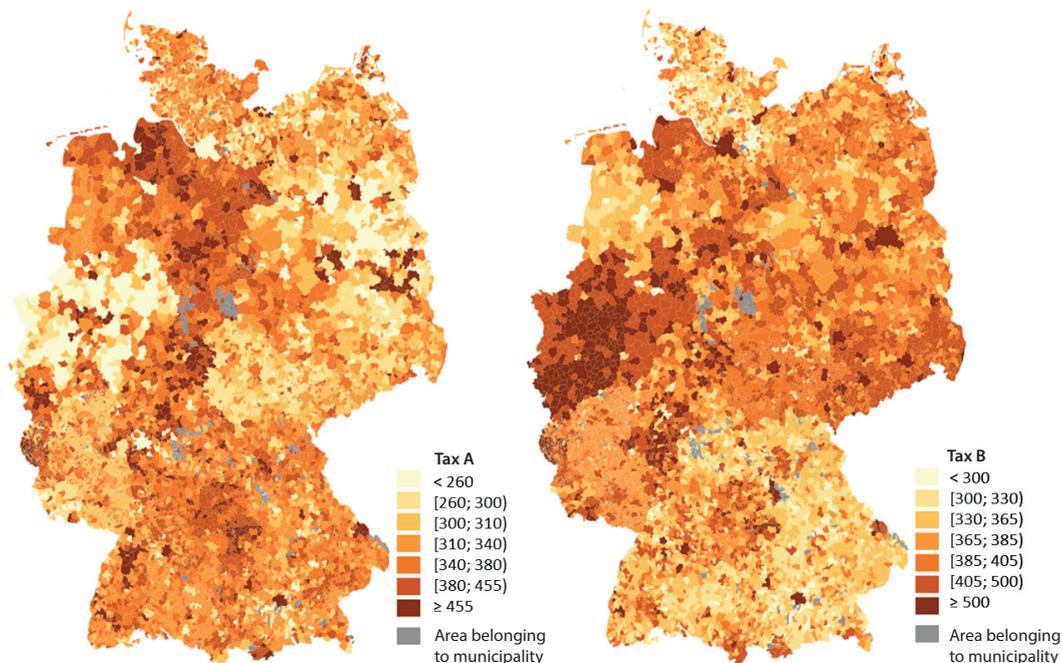
Source: material based on [Destatis 2019c].

Figure 2: Development of tax multipliers of real property A and B and revenue from this tax on a national scale of selected states and municipalities
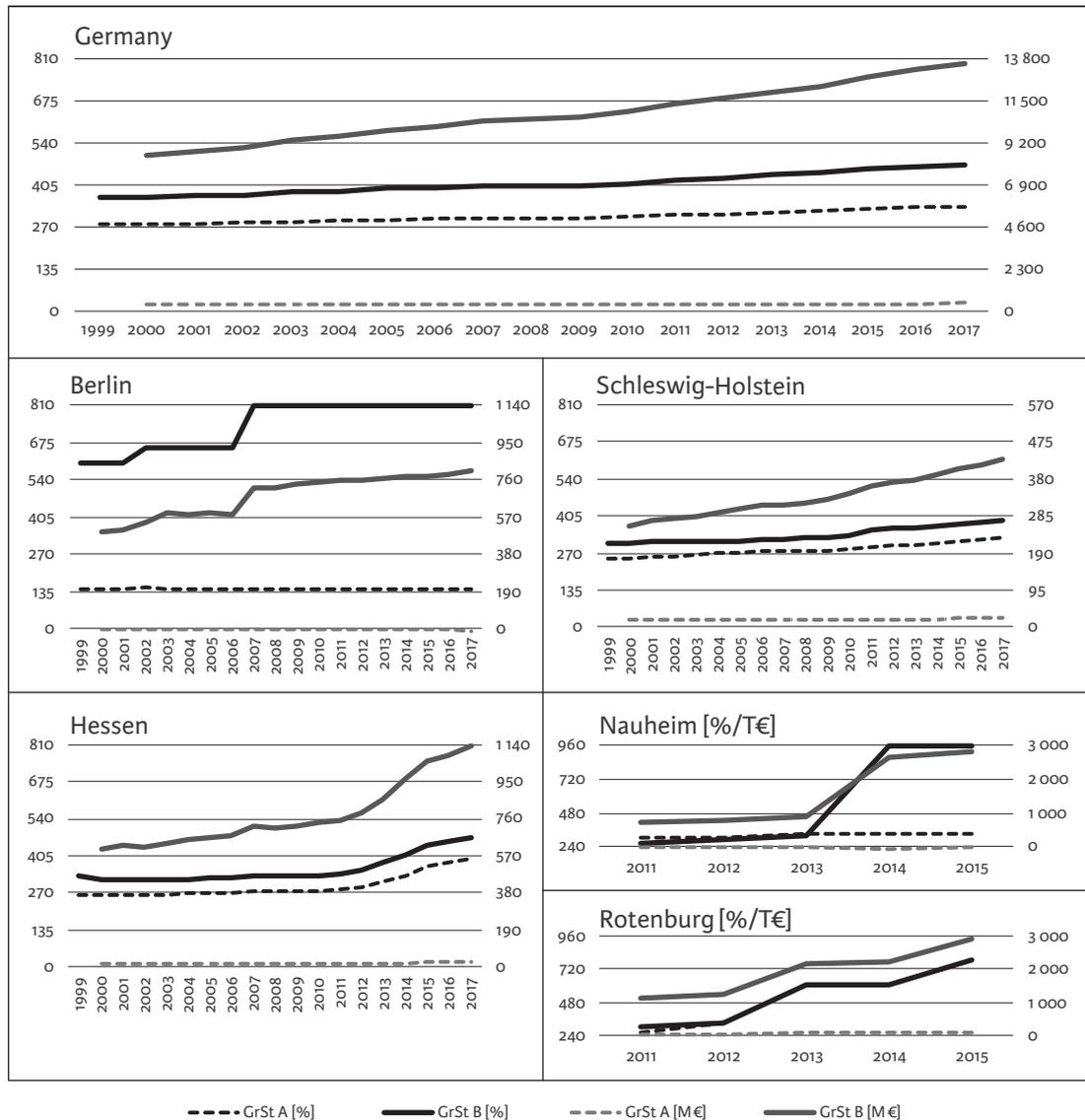
Source: authors' own material based on [Destatis 2019d] and [Hesis 2019].

the real property tax, municipalities establish two multipliers which must be the same for the premises located within the municipality area (§ 25, 4 GrStG, Grundsteuergesetz, German Property Tax Act). The first multiplier (A) refers to the assets of agricultural and forestry companies, while other properties are subject to the other multiplier (B). Apart from the multiplier, the tax rate consists of a statutory tax rate (generally applicable) (Steurmesszahl), which amounts to 6 per mille for agricultural and forestry properties and 3.5 per mille

for other facilities, the rate being lower in specific cases of single- and double-family houses (§§ 14, 15 GrStG).

Figure 1 presents the regional differentiation of real property tax multipliers. Relatively high multipliers for agricultural and forestry properties (A) are laid down by municipalities in Lower Saxony and Hesse. In addition, relatively low multipliers for tax A are characteristic of municipalities in North Rhine-Westphalia, or the townships of Berlin, Bremen, and Hamburg. At the

same time, these regions decide to have relatively high B-tax multipliers (on other real properties).

Figure 2 shows the development of multipliers and property tax revenue A and B over the past years. Between 2000 and 2017, there is an increase in averaged multipliers in Germany of 59 percentage points in tax A and 103 percentage points in tax B (corresponding to a growth of 20.9% and 28.1% respectively in 2000). In this period there was A similar increase in revenue from tax A (by 21.4%), suggesting a low flexibility of the tax base in the form of value of agricultural or forestry assets. The area used for agricultural purposes decreased slightly between 2001 and 2017 by 2.39% [Destatis 2019a].

The revenue from tax B, which increased by 59.2% over the period in question, so significantly more dynamically than its multipliers, resulting from an increase in the tax base of real property outside agricultural or forestry activities. It is confirmed by the increase in the number of residential buildings in Germany to have grown of nearly 13% and their area of more than 17% in the years 2000–2017 [Destatis 2019b].

The analysis at the federal states level exposes regional differentiation of multipliers and revenue from property taxes. Berlin with agricultural areas little over 1,800 hectares (which represents about 0.2% of the area of Berlin and 0.01% of the agricultural area in Germany, [Destatis 2019a]) is characterised by a very low tax multiplier A, for years at a constant level of 150%. Between 2000 and 2017, revenues from this tax decreased by more than 30%. An undoubtedly much more significant tax multiplier B increased over the analysed period from 600% to 810% and the revenue from this source increased by more than 64%. After eliminating of the effect of change of the multiplier, the change corresponds to a tax base growth of approximately 21.67%. In Schleswig-Holstein, the federal state with the lowest (averaged) multiplier for tax B, the growth of this multiplier between 2000 and 2017 of 29.6% (74 percentage points) was accompanied by an increase in revenue of 68%, i.e. the growth in the tax base by more than 30%. As regards agricultural and forestry facilities, the in-

crease in the multiplier in the period concerned of 28.7% (87 percentage points) contributed to an increase in revenues of about 31%, indicating a slight increase in the tax base of 1.5%. In Hesse, a state with the highest averaged tax multiplier A, there is a relatively similar increase of 49% (tax A) and less than 47% (tax B) in 2017 compared to 2000. However, the growth in B tax revenue (87.2%) is much more dynamic than tax A (37.7%), which confirms the aforementioned observations.

Due to the local character of the tax, it is worth deepening the analysis by the situation in each municipality. Figure 2 illustrates the development of multipliers and property tax revenues for two municipalities in Hesse with the highest tax multiplier A (785% in Rotenburg-on-Fulda) and tax B (960% in Nauheim). In Rotenburg, a significant increase in multipliers between 2011 and 2015 was observed from 270% to 785% (tax A) and from 310% to 785% (tax B), which resulted in the revenue growth of 180% from tax A with a decreasing tax base and 159% of B tax, which corresponds to a slight growth in the tax base. As regards the previously observed trend of growth in tax base B, it should be noted that while a dramatic increase in the burden of property tax by the municipality does not result in evasion attempts (due to a negligible mobility tax base), but may constitute an obstacle to new construction investments. A similarly significant increase the tax B multiplier in Nauheim from 270% to 960% resulted in an increase in revenue from this tax of 289% between 2011 and 2015 but was accompanied by a slight change in the tax base of about 9%. A tendency of shrinking tax base in tax A is also confirmed by the revenue of the municipality of Nauheim; though a small significance of this tax for the municipality should be indicated (11 thousand euros in 2015 compared to 2.8 million euros from tax B).

Cadastral value

Cadastral value is defined with the concept of standard value (Einheitswert) due to the idea of the legislator at that time, according to which the value of the real property was to have a uniform

application not only in relation to real property tax, but also to inheritance or wealth tax (on total assets after accounting for liabilities). As a consequence of the ruling of the Constitutional Tribunal of 1995, the wealth tax is not levied in Germany and outdated values of real property are not applicable in the inheritance and gift tax [BVerfG 1995a, 1995b, Bundestag 1996, 1, 38].

§ 21 BewG (Bewertungsgesetz, the German Law on rules of wealth valuation for tax purposes) provides for the determination of the cadastral values in a six-year-period mode, but this sort of update has not taken place since 1964. Properties located in the former GDR are taxed on the basis of the cadastral values of 1935. An undeniable disadvantage of the real property tax based on its value is a regular valuation of the property, which with about 35 million premises in Germany gives rise to the situation in which the administration is up against an enormous challenge [BVerfG 2018a, Fuest et al. 2018].

The cadastral value of undeveloped land is determined in Germany, as a matter of principle, on the basis of the product of the surface area and the approximate value of the land (the so-called Bodenrichtwert), according to the realities of 1964 or 1935 [Halachinsky 2018, no. 43–46].

The value of developed land (except for agricultural and forestry assets) is determined by the capitalised value of net income (EWV, Ertragswertverfahren). This method is applicable to premises for which an (actual or potential) amount of rental revenue can be determined. § 76 para. 1 BewG includes rented residential premises, commercial and mixed-purpose buildings as well as single and double-family houses. Within the framework of the EWV, annual rent revenues (according to the realities of 1964 or 1935) are subject to a multiplier, the amount of which depends on many factors, such as the type and structure of the facility, the year of construction or the population of the municipality (§ 80 (1) BewG). In economic terms, the multiplier is a capitalisation factor.

In cases of real property for which it is not possible to determine the rental revenue, or in cas-

es of single and double-family houses of unusual construction or equipment, the method of determining the value of the substance (SWV, Sachwertverfahren, § 73 (2.3) and §§ 83–90 BewG). This method consists in aggregating separately determined land value of the building and external premises (such as the fences or roads). The land value is determined as in the case of undeveloped land (see above). The value of the building and the external infrastructure is determined in the form of average costs of production.

In order to calculate the real property tax, the cadastral value is multiplied by a generally applicable tax rate described above and the current multiplier in the municipality.

Selected models within the German real property tax reform

In Germany, the reform of the property tax has been the subject of intensive discussion for years [BMF Beirat 1982, BMF Beirat 2010]. However, the specific actions of the legislator were only forced the Constitutional Tribunal in Karlsruhe, which, in its ruling of 10 April 2018, recognised the tax base in the form of value based on the realities of 1964 as unconstitutional [BVerfG 2018a, 2018b]. Due to administrative costs and the importance of tax for municipalities, the current regulations may be applied until the end of 2019. At this time, the legislator is obliged to work out a new system, after the announcement of which unconstitutional regulations may be applied for a period of five years, and no longer than the end of 2024. Within the tax reform, both surface and cadastral models were discussed. In the next section of the article, selected tax proposals are presented without taking into account the taxation of agricultural and forestry activities.

A surface area model of real property taxation

In order to simplify the taxation regime, Baden-Württemberg, Bavaria and Hesse opted for a tax reform based on the surface model. These fed-

Table 6. Tax calculation examples of the surface area model

		undeveloped plot	single-family house	shopping centre[b]
1	land surface area [m²]	500	500	1,500
2	LE [€]	0.02	0.02	0.02
3	(1) · (2) = land tax base [€]	10	10	30
4	building surface area (at the base)[b] [m²]		100	2,000
5	building height [m]		8	-
6	number of floors[a]		2	-
7	LE [€]		0.20	0.40
8	(4) · (6)[b] · (7) = building tax base [€]		40	800
9	(3) + (8) = total tax base [€]	10	50	830
10	municipal multiplier [%]	4	4	4
11	(9) · (10) = tax amount [€]	40	200	3,320

Legend:

a The number of floors would depend on the height of the building: (0-5m)-1 floor, (5-10m)-2 floors, (10-15m)-3 floors, (15-19m)-4 floors, (19-22m)-5 floors, > 22m-(5 + 1 · each successive begun 3m) floors.

b As a rule, the tax base of the building would be calculated as the product of its surface at the base and the number of floors adopted (see a). The taxpayer would have the opportunity to show (smaller) actual building surface areas. The actual surface would have to be determined in the case of specific structures such as factory hall, shopping centre, etc.

Source: authors' own materials based on [Arbeitsgruppe 2010, 12-13].

eral states underline the simplicity of such a tax (simple, automated and non-conflicting calculation of the tax base and tax), a stable tax base and hence the financial stability of municipal self-governments [Arbeitsgruppe 2010, 4].

The presented proposal assumes the tax base in the form of the product of the surface and the so-called land equivalent number (LE, Äquivalenzzahlen). The LE per square metre would be:

- €0.20 in the case of residential buildings
- €0.40 in the case other buildings and
- €0.02 in the case of land surface area.

The tax base calculated in this way would be subject to the above-mentioned multipliers of local authorities. Table 6 shows the construction of the proposed tax for selected examples.

Value models of real property taxation

Despite relatively low administrative cost of the tax in the surface model described above, it is rejected by the supporters of the tax based (direct-

ly) on the value of real property. The common feature of this type of taxation model is – also included in the current system – the standard land value (BRW, Bodenrichtwert).

For example, the Tenant Union [Deutscher Mieterbund 2018] supports the land value tax only, which would be calculated as the product of BRW and the land surface. The development of the plot and the form of development as well as the function of the building would not be taken into account for the purposes of taxation, which makes the land value tax (Bodenwertsteuer) relatively simple in application.

The Bundesrat's draft law of 2016 assumes the inclusion of the value of buildings in the taxable base besides the value of land. It would have to be fixed on the basis of the lump-sum of production costs of one square metre. These costs would be differentiated according to the year of construction and the type of building [Bundesrat 2016, 18, 32, 38]. Additional consideration of the production costs of the building undoubtedly increases the tax collection costs.

However, in this regard, the market value model (Verkehrswertmodell), which was developed by a working group composed of representatives of Berlin, Bremen, Lower Saxony, Saxony and Schleswig-Holstein [Senatorin für Finanzen 2010, 6], is no less problematic. However, this group predicts, thanks to the automation of the valuation process, the reduction in its annual costs to 6 euros per facility, compared to the current average of more than 9 euros or even more than 128 euros, taking into account only the cases of actually updated cadastral values [Senatorin für Finanzen 2010, 57]. The abovementioned federal states refer to Dutch experiences where, since 1995, the taxation of real property has been based on its market price, which is automatically determined with the use of databases and the multiple regression method [Senatorin für Finanzen 2010, 26–30].

Analyses of taxation methods

The discussion about real property tax has become a stimulus for quantitative analyses of selected tax models. The simulations carried out by Färber et al. [2014], Henger and Schaefer [2015] and Fuest et al. [2018] illustrate the fiscal implications of the surface and value model within the compensatory procedure between the federal states. The departure from the cadastral value would reduce the obligations of the federal states, which are in favour of the surface model (Bavaria, Baden-Württemberg, Hesse). However, economically weaker federal states would benefit from the adoption of the market price method.

The analysis made by Fuest et al. [2018] suggests major changes in both the revenue of local governments and tax burdens in the case of value models. Nehls and Scheffler [2015] simulate the use of, inter alia, the surface model and the market price model for Fürth (in Bavaria). With the fixed tax rates and multipliers, the surface model leads to a 20% reduction in tax revenues, while the market price model carries ten times higher revenues. But, the objective of fiscal neutrality of the reform "forces" the adjustment of mul-

tipliers, which would result in a higher burden in the surface model in more than 40% of cases. The beneficiaries of the surface and market price models would primarily be the owners of flats. The owners of single-family houses would have to be prepared for a higher burden in the case of market price taxation.

Maiterth and Lutz [2019] analyse models of real property taxation from the perspective of the dispersion of proportion of cadastral value to the market price of property in Berlin. This research indicates large variations in the cadastral value of the analysed models, the worst of which, as it is assessed, is the surface model. This result does seem really surprising due to the accepted measure in the form of market price, which is not a determinant of surface taxation. Maiterth and Lutz [2019] conclude that, if the discrepancies of more than 35% are considered unacceptable, the collection of property taxes should be waived.

Draft Law

Contrary to the above models (in particular the surface model), the German government did not decide to go in for radical changes in the taxation of real property and opted for further evolution of the existing system, taking into account the guidelines of the Constitutional Tribunal and the possibility of automating taxation processes [Bundesrat 2019a, 2].

The tax base for undeveloped land is to be the product of BRW and the land surface. And for developed land, the current methods are to be used. The capitalised value of net income (EWV) is to be applied in the case of single- and double-family houses, condominiums and rent-houses. Other premises are subject to the present value method (SWV), in which the land value is calculated on the basis of the BRW and added to the building value based on the cost of production.

The cadastral value according to the EWV is to be the sum of the capitalised income and the discounted value of land. In order to standardise the tax base, the draft includes annexes specifying the amount of (potential) income, costs or inter-

Tabela 7. Calculation of cadastral value with EWV according to the draft law

cadastral value according to EWV § 252 BewG*		
example - randomly chosen real property sale advertisement at € 640,000 Immobilienscout, Scout-ID: 113232923		
a) single-family house		**€ 452,991**
b) location - Stahnsdorf/Brandenburgia		
c) construction - 200		price deviation
d) building surface area - 170m²		**-29.2%**
e) land surface area 429m²		

capitalised net income § 253 BewG*	+	land discounted value § 257 BewG*
€ 415,604		€37,386.90

annual net income RCP	x	capitalisation ratio annex 37*		land value § 247 BewG*	x	discount ratio annex 41*
€ 12,847		32.35		€ 195 538		0.1912

annual income § 254 BewG, annex 39*	-	costs § 255 BewG, annex 40*	$\sum_{i=1}^{n} \frac{1}{(1+r)^i}$	BRW	x	surface area annex 36*	$\frac{1}{(1+r)^n}$
170ᵈ x 12 x 7.68		15,667 x 18%		430		429ᵉ x 1.06 (adjustment)	
€15,667		€2,820.10				429	

r	real property interest rate § 256 BewG*	2.5%
n	remaining period of use annex 38*	remaining period of use annex 38*
BRW	approximate land value	430 based on [BORIS 2018]
BewG	*Bewertungsgesetz*, Law on valuation rules of wealth for tax purposes principles	
*	according to the draft law [Bundesrat 2019a]	

Source: authors' own material based on [Bundesrat 2019a].

est rate depending on the type, age, location and size of the facility. Table 7 shows the method of calculation cadastral value.

The value of the property relates mainly to the annual revenue minus costs, and then capitalised with the interest rate specified by the legislator and the number of years in which the revenue will (potentially) be obtained. This period is the difference specified by the legislator of the period of use (depending on the type of building) and the actual age of the building. In this way the settled value of the property contains the land value. However, the value of the plot is accounted for while discounting it for the remaining period of the use of the building (Table 7, discount coefficient). In the randomly chosen example, the cadastral value is about 453 thousand euros and it differs considerably (29.2%) from the price (640 thousand euros), which can be considered (similar) to the market value. It is worth noting, however, that the draft law provides for an adjustment of an-

nual rental revenues of −22.5%, −10%, +10%, +20% or +32.5% [Bundesrat 2019a, 71]. Taking into account the attractiveness of the location of the site (Stahnsdorf municipality is located near Berlin and Potsdam) and adopting an adjustment of +32.5%, the cadastral value would be about 588 thousand euros, and the deviation from the price is little over 8%.

Updating the cadastral value carries an increase in the tax base. In view of the objective of a fiscally neutral tax reform, the reduction in tax rates is planned from 2.6–6 per mille to 0.34–0.55 per mille [Bundesrat 2019a, 2, 32]. Such a solution will not prevent the change in property tax revenue at the local level, so in addition to the new tax rates, the change of multipliers by municipal authorities should be expected [Bundesrat 2019a, 92]. In order to reduce speculative investment, it is also planned to entitle municipalities to use higher multipliers for housing land that remains undeveloped and is located in areas of considerable residential demand [Bundesrat 2019b].

Summary

Referring to the literature as well as our analysis, it should be explicitly stated that the real property tax is an appropriate solution for the financial economy of local governments. While this general statement is not questionable, the details of this solution are. Many of them can start with a question, even about the role of residential and non-residential property tax. However, we confined our considerations to systemic solutions relating to the construction of tax. We mean the surface and value property taxation systems. In most developed countries value property taxation systems dominate, based on the property capital or rent value. Only in a few countries, including in Poland, the surface area property taxation system is used. We wished to show the Polish realities of real property taxation, against the background and in the context of solutions in Germany.

The real property tax in both the Polish and German local government financing systems is an important source of funding. It is decisive in assessing the financial autonomy of these entities. In other words, its fiscal significance is considerable. Especially in Polish conditions, this assessment will depend on the share in PIT and CIT revenues, in Germany on the share in the industrial tax and in both on the philosophy of the approach to the way of financing local government entities. The fiscal role of real property tax is greater, if in the comparison, we consider the sources of funding affected by local governments.

Interestingly, in the face of the necessity for changes in the German property tax system due to the ruling of the Constitutional Tribunal in Karlsruhe, both the surface and cadastral models were discussed. There were supporters of one solution and the other. When creating different models and their comparisons, it was noted that the surface model leads to a reduction in tax revenues, which from a fiscal point of view indicated its defect. At the same time, from the point of view of fiscal neutrality and the need to adapt the multipliers (of specific solutions adopted in Germany), the surface model leads to higher burdens in more than 40% of cases. The beneficiaries of this model and the market price would primarily be the owners of flats. The owners of single-family houses would have to be prepared for a higher tax burden. Another conclusion from the research is that the property tax must be based on the value of real property. Specifying and updating this value carries high administrative costs, the reduction potential of which is seen in process automation. A deficiency of real property tax as a wealth tax is the failure to take into account the obligations of real property and a possibility of transferring the tax to the tenant. These aspects are in favour of the area tax, simple in application having a character of benefit tax. Ultimately, the German government decided to evolve the existing cadastral system.

Due to the complexity of the German property taxation system, the conclusions from the comparison with the solution of surface taxation in Poland are not explicit. However, several drawbacks are worth noting, but also the advantages of the solutions adopted in Poland. The system operating in Poland is relatively simple and allows for saving administrative costs. Nevertheless, the fiscal efficiency of the Polish model appears to be lower than the value-based model, which, in the light of the declining financial autonomy of local government units, can be an important reason for considering its change. At the same time, property tax in a value formula is more efficient and increases motivation for rational transformations in the spatial structure and enhances the efficiency of the use of real property. The drawback of the Polish system is also the construction of tax rates, which are often adjusted as a result of rising prices, undermining the principle of tax certainty. However, similar reservations can be made in relations to solutions in the models based on property value. There is a need for a regular valuation there. The issues of fairness and relative neutrality of taxation depend on a number of specific solutions. It is therefore difficult to assign them to the advantage of one system or the other.

The analysis conducted by us does not give a clear answer to the question which tax system is better. Either of them has its own strengths and weaknesses. The choice depends on social factors and political decisions that may, but do not need to be derived from the financial needs of local government units. The question which may be connected with it is the decision on the greater or lesser involvement of the central budget in the financing of public tasks at the level of local governments. The final assessment should be individualised and it depends on the principle according to which tax is constructed.

References

Arbeitsgruppe, Arbeitsgruppe der Länder Baden-Württemberg, Bayern und Hessen [2010], Eckpunkte für eine vereinfachte Grundsteuer nach dem Äquivalenzprinzip.

BMF Beirat, Wissenschaftlicher Beirat beim Bundesministerium der Finanzen [1982], Gutachten zur Reform der Gemeindesteuern in der Bundesrepublik Deutschland, Bonn 1982.

BMF Beirat, Wissenschaftlicher Beirat beim Bundesministerium der Finanzen [2010], Reform der Grundsteuer, Berlin 2010.

BORIS, BORIS Land Brandenburg – Gutachterausschüsse für Grundstückswerte [2018], Bodenrichtwerte 31.12.2018, https://www.boris-brandenburg.de/boris-bb/ [accessible: 02.09.2019].

Brzozowska K., Kogut-Jaworska M., [2016], Władztwo podatkowe w ocenie samodzielności dochodowej gmin w Polsce, ANNALES Universitatis Mariae Curie-Skłodowska, Sectio H OECONOMIA, Vol.50, No1, Lublin.

Bundesrat [2019a], Entwurf eines Gesetzes zur Reform des Grundsteuer- und Bewertungsrechts (Grundsteuer-Reformgesetz – GrStRefG), Drucksache 354/19.

Bundesrat [2019b], Entwurf eines Gesetzes zur Änderung des Grundsteuergesetzes zur Mobilisierung von baureifen Grundstücken für die Bebauung, Drucksache 353/19.

Bundesrat [2016], Entwurf eines Gesetzes zur Änderung des Bewertungsgesetzes, Drucksache 515/16.

Bundestag, Deutscher Bundestag [1996], Entwurf eines Jahressteuergesetzes (JStG) 1997, 11.06.1996, Drucksache 13/4839.

BVerfG, Bundesverfassungsgericht [1995a], Beschluss vom 22. Juni 1995 – 2 BvL 37/91, BStBl. II 1995, 655.

BVerfG, Bundesverfassungsgericht [1995b], Beschluss vom 22. Juni 1995 – 2 BvR 552/91 –, Rn. [1–42], http://www.bverfg.de/e/rs19950622_2bvr055291.html (accessible: 20.08.2019).

BVerfG, Bundesverfassungsgericht [2018a], Judgment of the First Senate of 10 April 2018 – 1 BvL 11/14–, paras. [1–182], http://www.bverfg.de/e/ls20180410_1bvl001114en.html, (accessible: 14.08.2019).

BVerfG, Bundesverfassungsgericht [2018b], Provisions on standard rateable values for assessing property tax are unconstitutional, Press Release No. 21/2018 of 10 April 2018, https://www.bundesverfassungsge-richt.de/SharedDocs/Pressemitteilungen/EN/2018/bvg18-021.html, [accessible: 14.08.2019].

Deutscher Mieterbund [2018], Modellrechnungen zeigen: Die Grundsteuer-Reformalternative „reine Bodensteuer" ist investitionsfreundlich, sozial und gerecht, https://www.mieterbund.de/presse (accessible: 04.09.2019])

Deutscher Städtetag [2017], Gemeindefinanzbericht 2017, http://www.staedtetag.de/imperia/md/content/dst/veroeffentlichungen/gemeindefinanzbericht/gemeindefinanzbericht_2017_langfassung.pdf, [accessible: 20.08.2019].

Destatis, Statistisches Bundesamt [2019a], Code 41271, https://www-genesis.destatis.de/genesis/online/data (accessible: 20.08.2019).

Destatis, Statistisches Bundesamt [2019b], Code 31231, https://www-genesis.destatis.de/genesis/online/data (accessible: 20.08.2019).

Destatis, Statistisches Bundesamt [2019c], https://www.destatis.de/DE/Themen/Staat/Steuern/Hebesaetze.html (accessible: 21.08.2019).

Destatis, Statistisches Bundesamt [2019d], Code 71231, Realsteuervergleich, https://www-genesis.destatis.de/genesis/online/data (accessible: 21.08.2019).

Etel L., [1998], Reforma opodatkowania nieruchomości w Polsce, Temida 2, Białystok.

Färber, G., Salm, M., Hengstwerth, S. [2014], Grundsteuerreform in Deutschland: eine unendliche Geschichte? Wirtschaftsdienst, 94(10), 740–747.

Felis P., [2012], Elementy teorii i praktyki podatków majątkowych. Poszukiwanie ładu w opodatkowaniu nieruchomości w Polsce z perspektywy przedsiębiorców oraz jednostek samorządu terytorialnego, SGH, Warsaw.

Felis P., [2015a] Podatki od nieruchomości a polityka podatkowa gmin w Polsce, SGH, Warsaw.

Felis P., [2015b], Funkcja fiskalna i społeczna w powierzchniowym systemie opodatkowania nieruchomości na przykładzie gmin w Polsce, Gospodarka Narodowa, no. 3/2015, Warsaw.

Fuest, C., Immel, L., Meier, V., Neumeier, F. [2018]. Die Grundsteuer in Deutschland: Finanzwissenschaftliche Analyse und Reformoptionen, ifo Institut.

Grądalski F. [2006], System podatkowy w świetle teorii optymalnego opodatkowania, SGH, Warsaw.

Halaczinsky, R. [2018], Rössler/Troll – Bewertungsgesetz – Kommentar, 29. EL, 10/2018, § 72.

Hamilton B.W. [1975], Zoning and Property Taxation in a System of Local Governments, Urban Studies no. 12.

Henger, R., Schaefer, T. [2015], Mehr Boden für die Grundsteuer – Eine Simulationsanalyse verschiedener Grundsteuermodelle, IW policy paper 32/2015.

Hesis, Hessisches Statistisches Landesamt [2019], https://statistik.hessen.de/hesis (accessible: 18.08.2019).

Kitchen H., Property Taxation: Issues in Implementation, Queen's University, „Working Paper" 2005, no. 3.

Korolewska M, [2014], Polityka podatkowa gmin i miast na prawach powiatu w zakresie podatku od nieruchomości a wspieranie przedsiębiorczości przez samorząd terytorialny, w: Rozwój przedsiębiorczości oraz sektora małych i średnich przedsiębiorstw, ed. G. Gołębiowski, Studia BAS, No. 1 (37) 2014, Biuro Analiz Sejmowych Kancelarii Sejmu.

Maiterth, R., Lutz, M. [2019], Grundsteuerreform und Gleichmäßigkeit der Besteuerung, Steuer und Wirtschaft, 1/2019, 22–35.

Mieszkowski P. [1972], The Property Tax: An Excise or Profits Tax, Journal of Public Economics no.1.

Nehls, D., Scheffler, W. [2015], Grundsteuerreform: Aufkommens- und Belastungswirkungen des Äquivalenz-, Kombinations- und Verkehrswertmodells, ifst 503.

Poniatowicz M., [2013], Kryzys a zmiany dochodów i polityki podatkowej jednostek samorządu terytorialnego (na przykładzie miast Unii Metropolii Polskich), in: Konsekwencje zmiany obciążeń podatkowych w Polsce, red. naukowa J. Głuchowski, K. Piotrowska-Marczak, J. Fila, Difin, Warsaw.

Senatorin für Finanzen [2010], Freie Hansestadt Bremen, Grundsteuer auf der Basis von Verkehrswerten – Machbarkeitsstudie, Bremen.

Slack E. [2010], The Property Tax...in Theory and Practice, IMFG Working Paper 02, Toronto.

Sprawozdanie z wykonania budżetu państwa. Informacja o wykonaniu budżetów jednostek samorządu terytorialnego w 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, Rada Ministrów, Warsaw.

Stiglitz J.E., [2004], Ekonomia sektora publicznego, Wydawnictwo Naukowe PWN, Warsaw.

Swianiewicz P., [2004], Finanse lokalne, teoria i praktyka, Municypium, Warsaw.

Tiebout, C.M. [1956], A Pure Theory of Local Expenditure, Journal of Political Economy 64.

Act of 12 January 1991 on taxes and local charges, Journal of Laws of 2019, item 1170.

Wójtowicz K., [2007], System opodatkowania nieruchomości w Polsce, Uniwersytet Marii Curie-Skłodowskiej, Lublin.

Zodrow G.R., Mieszkowski P. [1986], The New View of the Property Tax: A Reformulation, Regional Science and Urban Economics 16.