

Problematic Aspects of Determining the Surface Area of Grounds, Buildings and Premises for Cadastre and Real Estate Taxation Purposes

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Abstract. Real estate cadastre is commonly recognized as a register of an actual state in the range of grounds, buildings and premises. It contains data which represent a standardized description of their fundamental attributes like location or surface area. According to the Geodetic and Cartographic Law, data contained in the cadastre are a base of the real estate taxation. However, this record may be recognized as fulfilled only in the case of cadastral parcel. In Poland, due to the separate rules of calculating buildings and premises usable floor area for the purposes of the real estate tax base assessment, which have been imposed by the Act of 12 January 1991 on Taxes and Local Fees, data revealed in the cadastre are unused. This article constitutes an attempt to compare the rules related to procedure of computing surface area of grounds, buildings and premises for cadastre and real estate taxation purposes in Poland. Author pays attention, inter alia, into a problem of a proper identification of spaces which are classified in whole or in part to the building usable floor area, depending on ensuing circumstances. The issue of methodology of calculating usable floor area of buildings and premises is analyzed as well. The complement of performed research constitutes a comparison between surface area of selected objects revealed in the cadastre and their equivalents which formed the basis for performed activities related to the determination of the real estate tax base assessment.

Keywords: real estate cadastre, real estate tax, surface area, parcel, building, premises.

Conference topic: Technologies of geodesy and cadastre.

Introduction

According to the Act on Local Taxes and Fees (The Act of ... 1991), the tax basis for the land is its surface area, and in the case of buildings and premises, it is their usable floor space. Due to the importance and extensive character of the problem of calculating the amount of property tax due, surface areas of land, buildings and premises ought to be determined unambiguously, while maintaining high accuracy and reliability. The Geodetic and Cartographic Law (The Act of... 1989) specifies that the data contained in the register of land and buildings, referred to as the cadastre, form the basis for the real estate taxation. The current legal regulations provide that the surface areas entered into the database of the register of land and buildings should be used by the competent authorities of Cities and Municipalities to determine the real estate tax basis. However, taking into account different, and not fully accurate rules for calculating surface areas imposed in these acts, the issue remains problematic.

This article discusses the methodology for determining the surface areas of land, buildings and premises for the purposes of the cadastre and real property taxation. It also discusses the differences contained in the existing legislation, as well as their consequences. The rules for determining usable floor space of buildings and premises, as well as surface areas of plots of land and land uses were analyzed. The article also focuses on the primary factors affecting the reliability of the obtained results and creating discrepancies. The conducted considerations were supported by practical examples. Eventually, the steps to be taken to solve the analyzed problem were specified.

Objects of the real estate cadastre and their selected attributes

The real estate cadastre contains the information on land, buildings and premises. This register should be run in a uniform manner for the entire country and it should be kept updated (The Act of... 1989). In order to meet these demands, comprehensive modernization of the records is carried out, and its current update (Regulation of 29 March 2001). Then, the data which are out of date or do not meet the applicable technical requirements, are replaced by the current data. Complementing the missing information is also important. These processes should result in a broadly understood improvement in the quality of the data entered into the cadastre. Despite their relatively high cost, these processes are fully justified. This is due to the fact that the data contained in the register of land and buildings form the basis for the economic planning, spatial planning, tax assessment and benefits, denotation of real estate in Land and Mortgage Registers, public statistics, real estate management and agricultural land records (The Act of... 1989), which makes their use wide.

In order to ensure uniformity and harmonization of the factual status of the register, individual objects of the real estate cadastre were assigned a number of attributes describing their basic characteristics. The manner of entering this information in the database was also defined. Pursuant to the (Regulation of 29 March 2001), the cadastral data relating to land, buildings and premises in terms of their surface areas include:

Table 1. Cadastral data of the parcel, building and premises, determining their surface areas
(source: own study based on Regulation of 29 March 2001)

Parcel	Surface area of the record parcel
	Information defining surface areas of the contours of land uses and quality classes within a record parcel
Building	Built-up area of the building
	Usable floor space of the building determined basing on: a) surveys b) information contained in the construction design
	Total usable floor space: a) of premises constituting a separate real estate b) premises which are not separate property c) additional space which belongs to the premises
Premises	Usable floor space of the premises
	Surface area of the additional space which belongs to the premises

This information may be entered into the cadastral database basing on the existing documentation accepted into the state geodetic and cartographic documentation center database. Updating the data contained in the cadastre is carried out by way of a material and technical procedure or an administrative decision (The Act of... 1989).

The real estate tax basis

Real estate in Poland may be subject to three types of local taxes:

- Property Tax (The Act of... 1991),
- Agricultural Tax (The Act of... 1984),
- Forest Tax (The Act of... 2002).

The revenue from these taxes is allocated to municipalities (Dawid 2012). For this reason, these taxes are often called local government taxes. The decision on which of these taxes will be levied on the land is made regarding mainly the data contained in the real estate cadastre (Konieczna 2012). The land classified as agricultural land use is subject to agricultural tax, and the land classified as forests is subject to forest tax, unless they are occupied by business activities other than agriculture or forestry, respectively. Other land, buildings or parts thereof, as well as structures, will be covered by property tax. Table 2 illustrates the tax basis for land, buildings and premises.

Table 2. Tax basis for Property Tax, Agricultural Tax and Forest Tax (source: own study based on The Act of... 1984, 1991, 2002)

Object	Property Tax	Agricultural Tax	Forest Tax
Land	Surface area expressed in square meters	The number of conversion hectares (farmland) or The number of hectares resulting from the real estate cadastre (for other land)	Surface area expressed in hectares, resulting from the real estate cadastre
Building	Usable floor space expressed in square meters	–	–
Premises	Usable floor space expressed in square meters	–	–

For agricultural tax, the number of conversion hectares is determined basing on the surface area, types and classes of agricultural land resulting from the real estate cadastre, and being assigned to the appropriate tax district. It is worth mentioning, that there are four tax districts which individual municipalities and cities are assigned to (Regulation of 10 December 2001). However, the basic criterion which conditions the meeting of the statutory definition of a farm is

the area norm equal to 1 hectare, or 1 conversion hectare of agricultural land, owned or held by a single entity. The land which belongs to a farm does not need to form an organized unity (The Act of... 1984).

The tax rate for agricultural land is about half the rate applicable to the land which does not meet the statutory definition. The lowest tax rate per unit of land is represented by forest tax, and by far the highest – by property tax. In the case of buildings or their parts, the lowest tax rate provided by the legislator is levied for residential buildings, and the highest for buildings used for business activities. The actual tax rates are annually determined by the competent local municipal council by means of a resolution. They cannot, however, be higher than the rates announced by the President of the Central Statistical Office and determined by the Minister of Finance.

Using the data contained in the cadastre for the purposes of property taxation

Pursuant to the previously quoted provisions of the Geodetic and Cartographic Law (The Act of... 1989) and the Act on Local Taxes and Fees (The Act of... 1991), the information in the cadastre, as demonstrated in Table 1, should be directly used for the real property tax assessment. In practice, however, this matter is not so obvious.

The tax authorities, while assessing the basis for Property Tax, do not use the data contained in the register of land and buildings. A natural person is required to submit the “Information on real estate and building structures” to the competent tax authority, as a filled-in form provided by the competent local Municipal Office or City Hall. In this way, owners and possessors declare surface areas of their properties and the values of building structures which form the basis for taxation. On the other hand, legal persons, organizational units and companies without legal personality, the organizational units of the Agricultural Property Agency, as well as the organizational units of the “State Forests” National Forest Holding, are required to submit the “Declaration of property tax” for a given fiscal year. If a real property or a building object is jointly owned, or is in the possession of natural persons and legal persons, organizational units without legal personality or unincorporated entities, with the exception of those creating a housing community, the natural persons shall submit a property tax declaration and pay the tax due on the basis applicable to the legal persons (The Act of... 1991).

These declarations may act as corrections. The position of the Voivodship Administrative Court in Warsaw regarding the discrepancy between the declared usable floor space of premises and the records contained in the register of land and buildings is worth noting at this point. In its judgment of 8 April 2015 (III SA/Wa 2297/14), the Court states that if the usable floor space of the premises, which is a separate property, has been entered into the register of land and buildings (register of premises), it is not possible for it to be determined basing on the measurements performed by the taxpayer, the result of which is provided in the “Information on real estate and building structures”. The Court states that such an action would lead to an unacceptable undermining of the binding records contained in the register of land and buildings in tax proceedings, and, consequently, to the omission of these records in the property tax assessment. In the analyzed case it was declared that the data contained in the cadastre, regarding the land and the building situated on this land, together with the existing premises, are official documents, which cannot be ignored by the tax authorities. A similar standing was taken by the Supreme Administrative Court in its judgment of 26 September 2014 (II FSK 3099/12) stating that the cadastral data specifying the location, boundaries and surface area of land, as well as the type of land use and soil classification, and for the buildings and premises which are the separate property, also the information on their location, purpose, utility function, and usable floor space of the premises, are the data strictly binding on the tax authorities. In order to correct the submitted information due to the observed discrepancy between the actual state and the status contained in official documents, the data in the real estate cadastre should be previously updated in the appropriate mode. The tax authority is not entitled to make any corrections of the data during tax proceedings.

The position of the administration of justice is therefore quite clear – the surface area of a real property declared by the taxpayer should be consistent with the records contained in the cadastre. For this reason, the issue of a proper specification of usable floor space of a building structure is particularly problematic. This is mainly due to its different definitions contained in the analyzed legislation on keeping the records of the register of land and buildings and the property taxation (Regulation of 29 March 2001; The Act of... 2001, 1991). This problem will be further discussed in the following sections.

The issue of determining the surface area of a record parcel

Pursuant to the Regulation on the register of land and buildings (Regulation of 29 March 2001), the surface areas of cadastral parcels are calculated using the rectangular coordinates of the boundary points contained in the numerical description of the boundaries, and are adjusted by the value of the surface mapping correction. They are defined in hectares, with the record precision of up to 0.0001 ha. It is worth noting at this point that, for the numerical description of boundaries, only those boundary points may be included whose position relative to the first-order geodetic control is determined based on detailed topographic surveys with the mean errors not exceeding 0.30 meters. If this condition is not met, surface areas of the parcels entered into the cadastral database, which have been defined in a manner other than basing on the rectangular coordinates of the boundary points, remain valid until they are replaced by current data,

complying with the applicable standards (Regulation of 29 November 2013). This means that the surface areas of the parcels contained in the register of land and buildings may be of an uneven level of accuracy and reliability.

The methods for calculating surface areas have evolved over the years. In Poland, immediately after the register of land and buildings had been established, mostly graphical and mechanical methods were used. The first one was based on the data derived from cadastral maps by measuring the linear elements using e.g. a compass and transversal scale. In the case of figures of a complex shape, they were divided into elementary figures (mostly triangles). On the other hand, the mechanical method involved the use of appropriate instruments such as planimeters and polometers. The results of the calculations of the areas using the above-mentioned methods included field measurement errors, errors related to the preparation of a map, due to the contraction of paper, as well as errors of the measurements performed on a given cartographic material (Hanus 2006; Bieda *et al.* 2011). Therefore, it should not be surprising that the currently used analytical method provides more accurate results. Taking into account the objectives and tasks set to the contemporary register of land and buildings, the problem of the accuracy of determining surface areas of the record parcels is very important.

Determination of the surface area using the analytical method is performed using Gaussian models:

$$2S = \sum_{i=1}^n X_i \cdot (Y_{i+1} - Y_{i-1}); \quad (1)$$

$$-2S = \sum_{i=1}^n Y_i \cdot (X_{i+1} - X_{i-1}), \quad (2)$$

where: S – the surface area of the parcel; n – the number of turn points of the parcel boundary; X_i , Y_i – the coordinates of the i -th turn point of the parcel boundary.

These formulas can be used interchangeably. It is, at the same time, a control of the performed calculations. It should be remembered that the coordinates of the turn points of the parcel boundaries are subject to errors which affect the accuracy of the analytical determination of the surface area. The formula for the mean error of the surface area of a parcel calculated from the coordinates can be developed using the Gaussian law of error propagation. Assuming that the errors of determining the coordinates m_{X_i} , m_{Y_i} are equal, this formula takes the following form:

$$m_S^2 = \frac{1}{8} \cdot \sum_{i=1}^n m_{P_i}^2 \cdot [(Y_{i+1} - Y_{i-1})^2 + (X_{i-1} - X_{i+1})^2], \quad (3)$$

where: m_S – the mean error of the analytical determination of the surface area; m_{P_i} – the mean error of the position of the i -th boundary point; n – the number of the turn points of the parcel boundary; X_i , Y_i – the coordinates of the i -th turn point of the parcel boundary.

The formula (3) can be further simplified by adopting the assumption that the position of all the boundary points was determined with the same accuracy. However, such a procedure, in some cases, might distort the results. It is worth noting that the data regarding the mean errors of the boundary point positions are entered into the cadastre using the attribute “Mean error of the boundary point position relative to the first-order geodetic control” (BPP attribute). The reliability of this information often raises some doubts. Apart from this problem, estimating the value of the mean error of the surface area calculated basing on the coordinates is not particularly difficult. While analyzing the issue of the accuracy of determining surface areas of parcels using the coordinates of boundary points, it is worth referring to a number of publications, whose authors discussed the most important aspects of this issue in detail (Doskocz 2011; Bieda *et al.* 2014; Benduch 2016). Estimating the mean error of the surface area contained in the real estate cadastre basing on the archival materials is a significantly more difficult task, though. Due to the lack of sufficient data to carry out the calculations, its value is usually considered to be immeasurable. Regardless of the methods used for determining surface areas, this attribute is always a derivative of the parcel boundaries. Their course should be registered with high accuracy and reliability, which guarantees the proper determination of property rights, and the resulting benefits and obligations.

The question of using the surface areas of parcels entered into the cadastral database for the purpose of assessing the tax due, does not raise any doubts. The performed analyses prove that the problem lies in the different accuracy of the data which directly affect the assessment of the property tax, agricultural tax and forest tax. The larger the mean error of the surface area of a parcel, the lower the reliability level of the tax calculated on land property.

The problem of determining surface areas of the contours of land uses and quality classes

While considering the issue of taxation of land property, it is also necessary to raise the question of land uses and quality classes. The problem of the accuracy of the analytical determination of the surface area of a parcel has already been discussed. It was pointed out that the mean error of the surface area propagates to the tax basis for the land. However, in the case of parcels which include various land uses, it may be necessary to levy two, or even all three, of

these taxes. Then, in terms of reliability of the assessment of the tax base, the mean error of the surface area of the land use will be of greater importance.

The area of land uses and the quality classes, in practice, is determined basing on the coordinates of the turn points of the boundaries of their contours, in the same way as in the case of record parcels. Then, this surface is adjusted to the surface area of the parcel. Unfortunately, in the case of boundary points of land uses, the legislator does not provide for any methods of recording information on the accuracy which their position was determined with. The cadastral database does not include any clear information on data capture regarding the position of a given turn point of the boundary of the land use contour, either. Therefore, surveys and other documents entered into the geodetic and cartographic database would have to be analyzed. This means that in the case the course of the contour of land use does not coincide with the boundary of the parcel, there is insufficient data to estimate the mean error of the surface area of the land use and quality class. Three hypothetical real properties have been presented below, which despite their identical shape and surface area, are subject to different taxes:

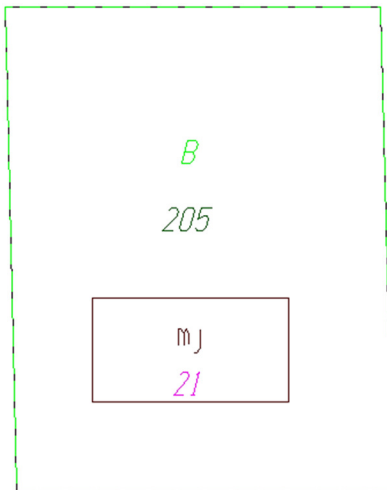


Fig. 1. Example of a land property with property tax only (source: own study)

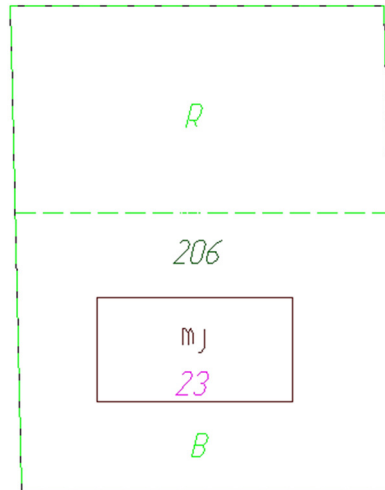


Fig. 2. Example of a land property with property tax and agricultural tax (source: own study)

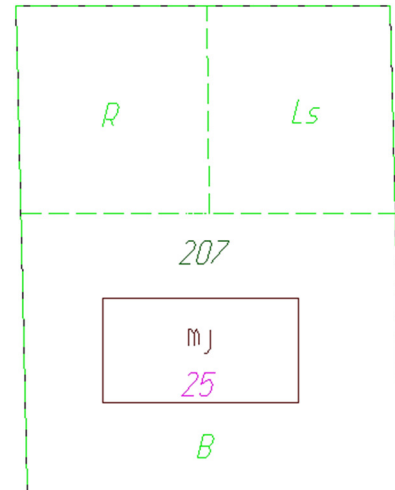


Fig. 3. Example of a land property with property tax, agricultural tax and forest tax (source: own study)

In the case of the parcel with the residential building demonstrated in Fig. 1, the accuracy which its surface area was determined with, will affect directly the basis of property tax. Fig. 2 illustrates the example of two different land uses, resulting in the need to calculate property tax for the southern part of the property in question, and agricultural tax for its northern part. The boundary of the contour of the land use, which at the same time is the boundary of the taxation with agricultural tax and property tax, is defined in this case by two turn points. Fig. 3 illustrates an even more complex situation where the real property is subject to property tax, agricultural tax and forest tax. It should be emphasized that, in accordance with (Regulation of 9 November 2011), the contours of land uses and quality classes belong to the third-order field details. Therefore, the accuracy which their location is determined with should not be less than 0.50 m relative to the closest points of the horizontal geodetic control and measurement control. The technical requirements are therefore less restrictive than in the case of boundary points of a parcel.

It may be concluded that the greater the number of turn points of the boundaries of the contour of the land use which are not identical with the turn points of the parcel boundaries, the lower the reliability level of the data used to determine the tax basis for the real property. Unfortunately, the legislation regarding the determination of boundaries and types of land uses are not very precise. Due to the fact that the data on land uses are an essential element deciding which of these taxes will be levied, those regulations should be amended and unified.

The problem of determining usable floor space of buildings and their parts

When discussing the problem of determining usable floor space of buildings and their parts, the two main factors that may affect the final result of the calculations should be analyzed separately:

- the selection of spaces to be covered by surveys,
- the selection of the survey methodology.

Considering the first factor, it is necessary to refer to the regulations relating to the cadastre and real property taxation. According to the (Regulation of 29 March 2001), usable floor area of premises and additional space belonging to these premises, are determined in accordance with the principles laid down in the Act on the Protection of Tenants' Rights, Municipal Housing Stock and Amendments to the Civil Code (The Act of... 2001), and is expressed in square

meters with a precision to two decimal places. It should be noted that this refers to the usable floor space of the premises. Unfortunately, in this case the definition of usable floor space of a building was not provided by the legislature. This fact raises a lot of controversy and concerns related to the use of the definition contained in the (The Act of... 2001) for the purpose of determining usable floor space of buildings. In practice, most often it is assumed that it is binding. The definition of usable floor space of a building structure, however, was contained in the regulations on property tax (The Act of... 1991). Table 3 presents the basic assumptions regarding the determination of usable floor space pursuant to the listed regulations.

Table 3. Comparison of the principles for determining usable floor space pursuant to different legal regulations
(source: own study based on Regulation of 29 March 2001, The Act of... 1991, 2001)

Description	Regulations relating to the cadastre	Regulations relating to property tax
Spaces included in usable floor area	All spaces included in the premises, in particular: rooms, kitchens, pantries, anterooms, alcoves, lobbies, hallways, bathrooms and other rooms for residential and economic needs of the tenant, regardless of their intended use and method of use	Spaces on every storey, where underground garages, basements, and lofts are also considered to be storeys
Spaces not included in usable floor area	Balconies, terraces and loggias, mezzanines, closets, recesses, laundry rooms, drying rooms, space for keeping prams, attics, basements and spaces intended for the storage of fuel	Staircases and elevator shafts
Spaces or their parts with the clear height equal to, or greater than, 2.20 m	Included in the calculation of usable floor space in 100%	Included in the calculation of usable floor space in 100%
Spaces or their parts with the clear height from 1.40 m to 2.20 m	Included in the calculation of usable floor space in 50%	Included in the calculation of usable floor space in 50%
Spaces or their parts with the clear height not exceeding 1.40 m	Not included in the calculation of usable floor space	Not included in the calculation of usable floor space
Surveying methodology	Clear height of the finished walls. Other regulations for calculating the surface area should be adopted in accordance with Polish Standard suitable for the determination and calculation of surface and cubic indices in construction	Along the inner length of the walls

The above table demonstrates that the principles for determining the usable floor space, which have been defined in the applicable legal regulations regarding the cadastre and property taxes, are not the same. It mainly applies to the qualification of spaces which should be included in usable floor area. When calculating usable floor space for the register of land and buildings, basements are not included. On the other hand, the regulations governing property tax clearly state that the usable area of a basement should be taken into account. As demonstrated in Table 3, it is possible to list several other spaces in the (Regulation of 29 March 2001; The Act of... 2001) which are not included in the usable floor space entered into the cadastral database, such as closets, recesses, laundry rooms, drying rooms. These spaces are not mentioned in (The Act of... 1991), therefore they should be included in the calculation of the usable floor space to assess the property tax basis.

Also, the interpretation of the room names presented in Table 3 may contribute to the occurrence of ambiguities and, as a result, also to the discrepancies between the determined usable floor space. The analyzed legal regulations do not provide for the definition of any of them. It may be problematic to distinguish between a loft, a roof void and an attic. It is worth paying attention to the judgment of the Supreme Administrative Court of 12 August 2014 (II FSK 1715/12), which states that, for the purpose of property taxation, an attic has usable floor space if there is a passage, such as ladder stairs and entrance hatch, which allow entrance to the storey. It is not substantiated to use the definition of the storey contained in the secondary legislation (Regulation of 12 April 2002) of the Construction Law (The Act of... 1994), because the provisions of the tax law do not appropriately refer to this legislation. Thus, for the storey, it is not significant its average height greater than 2 meters, or in the case of attics – its intended purpose to accommodate people. Subject to the quoted interpretation of the Supreme Administrative Court, the attic is another space which, according to Table 3, will cause a discrepancy between the usable floor space of a building structure which forms the basis of taxation, and the usable floor space entered into the cadastral database. It should be noted that, in accordance with the previously quoted statement of reasons to the judgment of the Supreme Administrative Court of 26 September 2014 (II FSK 3099/12), the record data contained in the register of land and buildings are absolutely binding on the tax

authorities in determining the property tax basis. Unfortunately, in some cases, the usable floor space determined for the cadastre will not be the same as the surface area defined for tax purposes. This fact indirectly reveals the existence of contradictions between the quoted positions of the Polish judiciary at the highest level. Moreover, the current regulations do not specify whether, for the purposes of property taxation, the usable floor space of a building structure determined in surveying should be taken into consideration, or the information contained in the construction design. In practice, as the basis for the taxation, the tax authorities in most cases take the usable floor space declared by the taxpayer, and it is rarely controlled.

The fact that both (Regulation of 29 March 2001; The Act of... 2001) and (The Act of... 1991) provide for the same principles for including usable floor space of a certain height in the calculations, should be considered as positive. The reason of the occurrence of some discrepancies might be due to the interpretation of the term "clear height". This issue has been the subject of the judgments of Administrative Courts as well. In its judgment of 6 May 2004, the Administrative Court in Bydgoszcz (SA/Bd 60/04) stated that, for the purpose of tax regulations, "clear height" should be understood as the distance between the floor and the lowest permanent structural component of the ceiling, such as e.g. a bearing beam. From the point of view of taxpayers and tax authorities, it is a very important information. It still remains problematic whether the elements, such as installations creating the infrastructure of the building, should be considered as permanent structural elements. This issue will also be significant while determining the usable floor area of additional space belonging to premises, e.g. basements, attics, storage rooms or garages.

The rules on the methodology for carrying out measurement of usable floor space, presented in Table 3, are very general and not fully consistent with each other, either. (The Act of... 1991) refers only to the surveys along the internal length of the walls. It is not specified whether these walls should be in a raw state, or the measurement should be made taking into account plaster and cladding. However, for the purpose of the cadastre, usable floor space should be determined in the clear height of the finished walls. As regards the remaining issues of the measurement technology, the legislator refers to the Polish Standard relevant for the determination and calculation of surface and cubic indices in construction. Currently, there are two such standards in Poland: PN-70/B-02365 and PN-ISO 9836:1997, but none of them is valid, which means they can be used interchangeably on a voluntary basis (Zbroś 2016). Although in the Regulation on the detailed scope and form of a construction design (Regulation of 25 April 2012) the principles of the standard PN-ISO 9836:1997 were referred to, they can only be used for single-family residential buildings and housing units under the construction permit issued after the entry into force of this secondary legislation.

A number of ambiguities and problems related to determining usable floor space of buildings and their parts for the purpose of real estate taxation and for the cadastre presented in this study point out that this process is subject to uncertainty, resulting from a large number of subjective factors, which are a consequence of ambiguous, imprecise legislation, as well as the possibilities of broad interpretation during their implementation. There is no doubt that both appropriate change and standardizing the regulations are necessary. To finish with, Table 4 demonstrates a summary of usable floor space of a single-family residential building according to the data from the cadastral database, tax authorities and surveys performed by the author of this article, in accordance with the principles described in Table 3.

Table 4. Usable floor area of the building according to the data from the cadastral database, tax authorities and own surveys (source: own study)

Usable floor space of the single-family residential building [m ²]				
Revealed in the cadastre (survey)	Revealed in the cadastre (construction design)	The basis for taxation	Surveyed for the cadastral database	Surveyed for taxation purposes
No entry	No entry	198,35	178,46	260,68

Unfortunately, the presented situation is quite common. In the cadastral database, the usable floor space of a building is frequently not even included, despite being a mandatory attribute which should be recorded and entered. This applies especially to older building structures. The performed observations prove that the data contained in the cadastre, despite the applicable laws, in many cases cannot form, and do not form, the tax basis. In the view of the planned introduction of the "ad valorem" tax in Poland, estimating the cadastral value of the components of land at the moment would be extremely difficult and problematic.

Conclusions

This article discusses the problem of determining surface areas of lands, building structures and their parts. It has been demonstrated that the surface area of the parcels entered into the cadastral database may be the basis for the land taxation. The factor affecting the reliability of this information is the accuracy which the position of the boundary points were determined with. These boundary points are used for the analytical determination of the surface area. The method of capturing data on the parcel boundaries is essential as well. However, for the purpose of land taxation, the

most important are land uses and quality classes. Unfortunately, the rules for determining the boundaries of the contours of land uses and their types are too general and do not allow to unambiguously specify the land use of a given piece of earth's surface, and consequently, the tax that should have been calculated, either. These provisions need to be amended.

The performed analyses prove, however, that the biggest problem is the usable floor area of a building structure. Lack of clear definitions and evident discrepancies between the discussed legal provisions effectively impede the process of its determination. Therefore, at present it is not possible to fully meet the postulate of using the data contained in the cadastre for the purpose of assessing the tax basis for a specific real property, which has been imposed by the geodetic and cartographic law. This means that, in most cases, the data contained in the cadastre are insufficient for this purpose, especially in the aspect of the taxation of building structures. The analyses frequently referred to the position of the administrative courts, which confirms the conclusions drawn. The existing legal regulations regarding the determination of usable floor space for various purposes are inconsistent and ambiguous. They lead to the occurrence of discrepancies and significantly impede both keeping the cadastral records as well as the reliable and fair calculation of the property tax basis. They require a change which would result in the introduction of a unified definition of usable floor space, binding regardless of the purpose which this area will be determined for. This will contribute to the increased public confidence in the local government bodies, and moreover, the data contained in the cadastre, after their thorough updating, will be able to be fully used for statutory tasks.

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