



## **THE INFLUENCE OF THE CADASTRE MODERNIZATION ON THE REAL ESTATE TAX BASE ASSESSMENT**

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### ***Abstract***

The modernization of the cadastre is such a complicated and complex process that may cause many significant results. Cadastral parcel surface areas changes and changes in land use are the most important of them. These factors have also a direct influence on the real estate tax base assessment.

Using materials obtained from geodetic and cartographic documentation centres, the analysis concerning the considered problem has been performed. The basic facts connected with the cadastre modernization and legal rules concerning the real estate, agricultural and forestry tax bases determination have been analysed too. It has been proved, that changes in spatial data which have arisen during the modernization of the cadastre, especially in the scope of land use, may have an essential significance for taxpayer.

Performed analysis denote, that comprehensive cadastre modernization from proper Municipal and Communal Offices' point of view which are real estate tax collectors, is financially profitable enterprise.

**Key words:** cadastre, modernization, real estate tax, forestry tax, agricultural tax

### **INTRODUCTION**

The main problems presented in this article are the consequences of carrying out the process of the modernization of the cadastre. The most important issue, especially from the point of view of real property owners, are changed

surface areas of parcels and changes in land use, associated with changed course of their boundaries, as well as to their group, type and quality class. These factors influence directly the real estate tax base assessment. The main objective of the performed tests and analysis was to determine the extent and scope of the influence. This performance required capturing data from geodetic and cartographic documentation centers. The materials were collected from three cadastral units, located in different districts and provinces.

Besides the considerations based on practical data, the article also attempts to analyse some issues related to the process of the modernization of the cadastre. In addition, the regulations regarding the assessment of the base for real estate tax, agricultural tax and forestry tax were discussed.

## MODERNIZATION OF THE CADASTRE

The problem of the census and description of land has existed since ancient times. In Poland, the first attempts to create a cadastre were already made in the thirteenth century. After Poland had lost independence in 1795, the territory was divided into three parts: the Prussian, Austrian and Russian annexation. The invaders on the occupied lands created three different systems of land records:

- Prussian cadastre in the areas under the Prussian rule,
- Austrian cadastre in the areas under the Austrian rule,
- property enfranchisement records, i.e. the registration system in the areas under the Russian rule.

Since Poland regained its independence in 1918, work was carried out aimed to integrate the three existing cadastral systems. After World War II, these activities were continued. In 1955, a decree on the register of land and buildings was issued (Decree, 1955), which was in force until the enactment of the Geodetic and Cartographic Law in 1989 (Law, 1989). This law contains the definition of land and buildings register (real estate cadastre), which in the current state of the law reads as follows: *“The information system that ensures the collection, updating and making available, in the manner which is uniform for the country, information on land, buildings and premises, their owners and other entities managing or possessing this land, buildings or premises”*.

There is no doubt, therefore, that the register of land and buildings, hereinafter referred to as the cadastre, is a system which has undergone significant transformations over the years. The Polish accession to the European Union has significantly contributed to the changes introduced in the cadastre as well. The procedure for creating a computer database of the records was accelerated, which was an essential element for the IACS (Integrated Administration and Control System), managed by the Agency for Restructuring and Modernization of Agriculture. At first, it seemed that carrying out the vectorization process of

the spatial part of the cadastre will result in a product which meets the required criteria. Unfortunately, in many cases, the boundaries of the plots did not define the scope of property rights, but only the scope of their possession, and therefore they could not be considered to be legal boundaries (Hycner, 2004). Moreover, there were significant differences between the descriptive and spatial parts of the cadastre, concerning primarily the areas of the plots (Hanus, 2006), representing the resulting attribute from their boundaries. These factors formed the basis for taking action to improve the quality of the entered cadastral data. As a result, depending on the available financial resources, more or less systematically, the procedure began with carrying out the tasks laid down in the regulations governing the functioning and running of the cadastre, including those in the Regulation of the Minister of Regional Development and Construction of 29 March 2001 on the register of land and buildings (Regulation, 29.03.2001). Pursuant to §55 of this implementing act, whose last amendment entered into force on 11 January 2016, the modernization of the cadastre includes a set of technical, organizational and administrative actions, undertaken by the district governor in order to:

- complete the cadastral database and create a full range of registration data sets pursuant to the requirements of the Regulation,
- modify the existing cadastral data to meet the requirements of the Regulation.

It is worth noting that, in the current legal system, the modernization of the cadastre is not considered to be administrative proceedings until objections concerning the data entered into the record of survey and property description have been lodged. This record is defined as *a registration database, created using the results of surveying works performed in the modernization process (...)* (Law, 1989). It should be noted that, in the case of lodging objections, the procedure is usually individual. Pursuant to the current wording of the Geodetic and Cartographic Law (Law, 1989), the process of the modernization of the cadastre is as follows:

1. The district governor orders the modernization of the cadastre in individual cadastral units.
2. The district governor makes the information on the commencement of surveying works public, and informs about the procedures associated with the modernization of the cadastre.
3. Such information is placed on the notice board at the seat of the district office for the period of 14 days.
4. The draft record of survey and property description is made available for review to natural and legal persons as well as organizational units without legal personality, at the seat of the district office for a period of 15 working days.
5. The district governor informs about the time and place of making the draft record of survey and property description available for review, by

- displaying the information on the notice board at the seat of the district office and of the competent municipal authority, at least 14 days prior to making it available, and by announcing it in the national press.
6. Any person whose legal interest is associated with the data contained in the draft record of survey and property description may, within the period of making this draft available for review, submit remarks to the data.
  7. Within 15 working days after the expiry of the term of making the record of survey and property description available for review, an authorized employee of the district office, holding second range professional qualifications in the field of geodesy and cartography, with the participation of a representative of a contractor performing surveying works related to the modernization of the cadastre, decides on the acceptance or rejection of the remarks to this draft, and then informs the person who has submitted the remarks of the manner of their consideration, and also draws up a reference to the content of the submitted remarks and of the manner of their consideration in the protocol.
  8. After the expiry of the term referred to in the previous section, the data subject to the modernization, contained in the draft record of survey and property description, become the cadastral data and are subject to being entered in the cadastral database. This information is announced by the district governor in the official journal of the province and in the Public Information Bulletin on the subject page of the district.
  9. Any person, whose legal interest is associated with the data contained in the cadastre which were included in the record of survey and property description, may submit objections to the data within 30 days as of the date of the publication of the information about their inclusion in the cadastral database in the official journal of the province.
  10. The district governor resolves about the acceptance or rejection of the objections by decision.
  11. Until the final closure of the proceedings in relation to land, buildings or premises which the objections refer to, the data contained in the record of survey and property description are not binding.
  12. The objections submitted after the term of 30 days from the date of the publication of the information on entering the data contained in the draft record of survey and property description into the cadastral database in the official journal of the province, are treated as a motion for changing the data in the cadastre.

The presented procedure is only a general scheme for the most important steps in the modernization of the cadastre. A more detailed description of the procedure itself and the precise scope of work are defined in the technical conditions issued by the competent district authorities. It is worth noting that,

regardless of the introduced amendments to the regulations, the main objective of the modernization of the cadastre remains basically the same – improvement of the quality of the data entered into the real estate cadastre in terms of their accuracy, reliability and being updated (Siejka, Ślusarski, Mika, Leń, 2016). This requirement has been systematically implemented for many years. This results in very serious consequences, especially in relation to the leading object in the cadastre – the record parcel.

As a consequence of the modernization, some changes in the surface areas of parcels may occur, resulting from the coordinates of boundary points being defined using technology which makes it possible to determine their position with higher accuracy. If the information kept in the National Cartographic Documentation Center is not sufficient, the data on the course of plot boundaries are captured from direct field measurements or photogrammetric measurements, preceded by determining the boundaries in the field, in the presence of the owners. The equally important consequences of the modernization are changes in land use which may affect their extent, group, type and quality classes. These factors influence directly the real estate tax base assessment.

## **REAL ESTATE TAX, AGRICULTURAL TAX AND FORESTRY TAX**

The title of the article mentions the influence of the modernization of the cadastre on the real estate tax base assessment, while the title of this chapter suggests that agricultural and forestry taxes will be analysed as well. It is interesting to note at this point the definition of real properties according to the Civil Code (Code, 1964): *“Real properties are part of the earth’s surface, forming a separate object of ownership (...)”*. Neither land use nor zoning have been mentioned here. Therefore, the author decided that it will be sufficient to include the term “real estate tax” in the title of the article which, according to the cited meaning of the word “real property”, should apply to all three of these taxes. At the same time, attention was turned to the fact that the wording “real estate tax”, contained in the Act of 12 January 1991 on taxes and local fees (Law, 1991) is not entirely proper, since it does not include agricultural land or forest land. Therefore, it would be more correct to introduce a term “tax on other real properties” or “tax on real properties other than those used for agricultural or forestry purposes”. Later in the article, in order to ensure compliance with the applicable legislation, the following terms were used: real estate tax, agricultural tax, forestry tax, in accordance with their legal meaning.

The issues related to the above-mentioned taxes are governed by three laws:

- The Act of 12 January 1991 on taxes and local fees (Official Journal 2014, No. 0 item 849 – consolidated text, as amended),
- The Act of 15 November 1984 on agricultural tax (Official Journal

2013, No. 0 item 1381 – consolidated text, as amended),

- The Act of 30 October 2002 on forestry tax (Official Journal 2013, No. 0 item 465 – consolidated text, as amended).

Payers of real estate tax, agricultural tax and forestry tax are natural and legal persons, organizational units, including companies without legal personality, who are (with reference to the land):

- landowners,
- perpetual users of the land,
- autonomous possessors of the land,
- holders of the land owned by the State Treasury or local government unit.

The tax authority competent in the matters of the real estate tax, agricultural tax and forestry tax, is the mayor (district governor or city president). They assess the base for the aforementioned taxes by decision, for the specific tax year, for natural persons. On the other hand, legal persons, organizational units, including companies without legal personality, organizational units of the Agricultural Property Agency, as well as the organizational units of the State Forests, are obliged to submit a relevant declaration for a given tax year, prepared in the prescribed form to the competent tax authority. The proceeds from all these taxes constitute the total income of the municipalities (Dawid, 2012), and therefore these taxes are referred to as local government taxes.

Which of these taxes will be imposed on the land is determined primarily by the data contained in the cadastre. The tax on agricultural land shall apply to the land classified in the cadastre as agricultural land, except for the land used for economic activity other than agricultural activity. On the other hand, tax on forestry land shall apply to the forest land classified as forests in the cadastre, except for the land used for other economic activities than forestry. This means that all the remaining land will be subject to real estate tax. It should be noted, however, that the legislator provided exemption from the real estate tax, e.g. in the case of wasteland, ecological land, wooded land and land covered with bushes (with the exception of those used for business activity), land under the internal sea waters or land under surface flowing waters (with the exception of the land under the lakes or artificial water bodies).

The base of the real estate tax, agricultural tax and forestry tax, is the surface area entered into the cadastre. In the case of the real estate tax, it will be surface area expressed in square meters, while in the case of forestry tax – the area expressed in hectares. The base for the agricultural tax includes:

- for farmland – the number of conversion hectares, determined basing on the surface area, types and classes of agricultural land resulting from the cadastre, and classifying to the revenue district,
- for other land – the number of hectares resulting from the cadastre.

Four revenue districts were established, which include municipalities and cities depending on the economic, production and climatic conditions. This is-

sue is regulated by the Regulation of the Minister of Finance of 10 December 2001 on classifying municipalities and cities to one of the four revenue districts (Regulation, 10.12.2001). Depending on the type of farmland, quality class and the appropriate revenue district, the physical hectares are converted into the so-called conversion hectares, which for farmland are the basis for the taxation with agricultural tax. Appropriate conversion rates have been provided in the Act on agricultural tax (Law, 1984). In terms of agricultural tax, a very important issue is to determine whether given land will be classified as farmland or not. The necessary condition to be met is the so-called area standard, which is one physical hectare or one conversion hectare of agricultural land, owned or possessed by a single entity. According to the legal definition (Law, 1984), the land constituting a part of the farmland does not need to be an organized whole. It should therefore be concluded that if the surface area of the land belonging to the taxpayer, classified in the cadastre as agricultural land (which is not used for business activities other than agricultural activity), exceeds one physical or conversion hectare, then they are farmland, even if they are located in various provinces. Other wording of the definition of a farmland is provided for in the Civil Code (Code, 1964): *“Agricultural land, including forest land, buildings or their parts, equipment and stock are considered to be the farmland, if they are, or could be, an organized economic whole, and the rights associated with running a farmland”*. This definition, however, cannot be used for the purpose of assessing the base for agricultural tax. This is confirmed by the judgment of the Supreme Administrative Court of 18 May 1994 (III SA 1438/93): *“In a situation where tax legislation contains its own normative definition of the farmland, there are no grounds to consider – for tax purposes – whether specific real property may be considered to be farmland – within the meaning of article 55 section 3 of the Civil Code. In no event would the conclusions drawn from such considerations influence the revocation of using a specific provision set out in the tax law – it would be breaking the law”*. As stated in (Etel, Presnarowicz, Dudar, 2008), a major disadvantage of the statutory definition (Law, 1984) of the farmland is also the fact that it does not contain any requirement as to the use of the farm for the purposes related to agricultural activities or agricultural production.

The real estate tax rates for the tax year are determined by the municipal council by resolution. They cannot, however, exceed the maximum rates determined annually, which are announced by the minister responsible for public finances (Law, 1991). The agricultural tax for the tax year amounts to:

- monetary equivalent of 2.5 q of rye, which is calculated from one conversion hectare of land (which meet the statutory definition of a farmland),
- monetary equivalent to 5.0 q of rye, which is calculated from one physical hectare of land (which does not meet the statutory definition of a farmland).

The monetary equivalent of one q of rye is calculated on the basis of the average purchase price of rye for the 11 quarters preceding the quarter of the preceding tax year. It is determined subject to the announcement of the President of the Central Statistical Office no later than on 20 October of the year preceding the tax year (Law, 1984). On the other hand, the forestry tax on 1 ha of land for the tax year corresponds to the monetary equivalent of 0.220 m<sup>3</sup> of wood, which is calculated according to the average selling price of wood acquired by the forest inspectorates in the first three quarters of the year preceding the tax year (for the forests included in nature reserves and national parks, the forestry tax rate is reduced by 50%). The average selling price of wood is determined based on the announcement of the President of the Central Statistical Office, announced within 20 days after the end of the third quarter (Law, 2002). Municipal councils are entitled to a reduction in the average purchase price of rye and the average selling price of wood, which are adopted as the basis for calculating the appropriate agricultural tax and forestry tax in the area of a given municipality.

### **EVALUATING THE INFLUENCE OF THE CADASTRE MODERNIZATION ON THE ASSESSMENT OF THE REAL ESTATE, AGRICULTURAL AND FORESTRY TAX BASES**

Subject to the conducted considerations, we can conclude that the implementation of the process of the modernization of the cadastre results in significant consequences in terms of the assessment of the real estate, agricultural and forestry tax bases. They are the consequence of:

- changes in the surface areas of parcels,
- changes in the groups and types of land use, as well as the quality classes.

It is worth noting that in the event of changes in the surface areas of parcels, the base for the real estate tax, agricultural tax, or forest tax, will always change. However, when during the modernization of the cadastre, the type of land use changes, the situation is not so obvious. The land classified as agricultural land in the cadastre will be reclassified in such a way that the real property tax, or the forestry tax, will be imposed on it. Then, not the base for the tax assessment really changes, but the tax itself. The change in the quality class involves a change in the conversion rate used to determine the number of conversion hectares of agricultural land. This may be important in the aspect of the area standard of the farmland. Therefore, it is clear that the extent and scope of the changes in the real estate tax, agricultural tax and forestry tax, resulting from the modernization of the cadastre, may be significantly different. In order to perform the appropriate analysis, materials from three geodetic and cartographic documentation centers were collected, primarily covering changes in the cadastral data, which were

prepared in the course of the process of the modernization of the cadastre in the following cadastral units:

- district: Częstochowa; municipality: Olsztyn; cadastral unit: Turów (only changes in land use) – 2009 yr,
- district: Krakow; municipality: Michałowice; cadastral unit: Raciborowice (changes in the surface areas of parcels resulting from the increased accuracy of the records, and changes in land use) – 2012 yr,
- district: Piotrków Trybunalski; municipality: Sulejów; cadastral unit: Barkowice (only changes in the surface areas of parcels, resulting from the capture of the coordinates of the boundary points by a direct method) – 2005 yr.

This choice was not accidental. In order to ensure the widest possible range of analyses for the problem in question, there was an attempt to collect the data describing the effects of the modernization of the cadastre in various provinces, which were carried out on the basis of different technical conditions.

Basing on the collected data, calculations were made regarding the assessment of the real estate, agricultural and forestry tax bases for selected cadastral parcels according to the state before and after the modernization of the cadastre. It was necessary to assume that the analysed parcel is an independent land property. The maximum rates of the analysed taxes which were announced in 2015 were used for the calculations (in the case of the real estate tax, the rate appropriate for other land was adopted). Thanks to this action, the study results were not influenced by the different individual rates of the real estate tax, agricultural tax or forestry tax, determined by the competent local municipal councils. Part of the obtained calculation results have been summarized in the following table:

**Table 1.** Computation of the base of taxation according to the state before (n) and after (n') cadastre modernization

No.	Surface area of parcel [ha]	Real estate tax	Forestry tax	Agricultural tax			Overall assessment of the tax base [zł]	Change in land use
		Assessment of the tax base [zł]	Assessment of the tax base [zł]	Conversion hectares	Farmland	Assessment of the tax base [zł]		
district: Częstochowa; municipality: Olsztyn; cadastral unit: Turów								
1	0.8372	-	-	0.1941	NO	18.41	<b>18.41</b>	Br for B
1'	0.8372	488.80	-	0.1590	NO	15.37	<b>504.17</b>	
2	0.2170	-	-	0.0651	NO	0.00	<b>0.00</b>	Br for B
2'	0.2170	690.90	-	0.0210	NO	0.00	<b>690.90</b>	

No.	Surface area of parcel [ha]	Real estate tax	Forestry tax	Agricultural tax			Overall as- sessment of the tax base [zł]	Change in land use
		Assessment of the tax base [zł]	Assessment of the tax base [zł]	Conversion hectares	Farmland	Assessment of the tax base [zł]		
district: Częstochowa; municipality: Olsztyn; cadastral unit: Turów								
3	0.1431	-	-	0.0429	NO	0.00	<b>0.00</b>	Br for R
3'	0.1431	-	-	0.0429	NO	0.00	<b>0.00</b>	
4	0.1594	-	-	0.0239	NO	0.00	<b>0.00</b>	Br for B
4'	0.1594	749.18	-	-	-	-	<b>749.18</b>	
5	0.9650	-	-	1.0468	YES	160.60	<b>160.60</b>	Br for B
5'	0.9650	328.06	-	0.9944	NO	274.69	<b>602.75</b>	
6	0.7717	-	-	0.2315	NO	0.00	<b>0.00</b>	Br for B
6'	0.7717	1017.55	-	0.1666	NO	0.00	<b>1017.55</b>	
district: Krakow; municipality: Michałowice; cadastral unit: Raciborowice								
7	0.10	-	-	0.1650	NO	30.69	<b>30.69</b>	-
7'	0.1057	-	-	0.1744	NO	32.43	<b>32.43</b>	
8	0.56	-	-	0.9240	NO	171.84	<b>171.84</b>	-
8'	0.5565	-	-	0.9182	NO	170.76	<b>170.76</b>	
9	0.08	-	-	0.1320	NO	24.55	<b>24.55</b>	R for B
9'	0.0785	368.95	-	-	-	-	<b>368.95</b>	
10	0.09	-	-	0.1350	NO	27.62	<b>27.62</b>	S for B
10'	0.0945	444.15	-	-	-	-	<b>444.15</b>	
11	0.56	-	-	1.0080	YES	154.66	<b>154.66</b>	Br for B
11'	0.5624	988.88	-	0.6336	NO	108.01	<b>1096.89</b>	
12	0.17	-	-	0.2805	NO	52.16	<b>52.16</b>	R, Br for B
12'	0.1670	784.90	-	-	-	-	<b>784.90</b>	
district: Piotrków Trybunalski; municipality: Sulejów; cadastral unit: Barkowice								
13	1.1600	-	-	1.6831	YES	258.23	<b>258.23</b>	-
13'	1.1885	-	-	1.7222	YES	264.24	<b>264.24</b>	
14	0.0700	-	-	0.1050	NO	21.48	<b>21.48</b>	-
14'	0.0478	-	-	0.0717	NO	14.67	<b>14.67</b>	
15	0.3300	-	-	0.4056	NO	101.26	<b>101.26</b>	-
15'	0.4942	-	-	0.5903	NO	151.65	<b>151.65</b>	
16	0.5600	-	-	0.6526	NO	171.84	<b>171.84</b>	-
16'	0.3780	-	-	0.4478	NO	115.99	<b>115.99</b>	

No.	Surface area of parcel [ha]	Real estate tax	Forestry tax	Agricultural tax			Overall assessment of the tax base [zł]	Change in land use
		Assessment of the tax base [zł]	Assessment of the tax base [zł]	Conversion hectares	Farmland	Assessment of the tax base [zł]		
district: Piotrków Trybunalski; municipality: Sulejów; cadastral unit: Barkowice								
17	0.1174	551.78	-	-	-	-	<b>551.78</b>	-
17'	0.1124	528.28	-	-	-	-	<b>528.28</b>	
18	0.4300	-	17.87	-	-	-	<b>17.87</b>	-
18'	0.3810	-	15.83	-	-	-	<b>15.83</b>	

Source: Own study

Basing on the performed research studies, it was found that the modernization of the cadastre significantly affects the overall assessment of the tax base for land property, understood as the sum of the obligations arising from the taxation of land property with the real estate tax, agricultural tax or forestry tax. It should be noted, however, that the decisive factor are the changes in land use, which result in the reclassification of agricultural land into developed and urban areas (similar situation in the case of forest land is rare). Then, a change in taxation occurs – the agricultural tax is replaced by the real estate tax, with the unit rate appropriate for “the other land” being significantly higher. On the other hand, if the change in land use occurs within a given group (e.g. the reclassification of arable land into permanent meadows), the effect of the modernization of the cadastre on the assessment of the agricultural tax base is negligible (farmland), or does not exist at all (land which does not meet the requirements of the definition of the farmland). It is worth noting that Table 1 depicts some cases where the total tax base calculated for land properties is equal to 0 (no. 2, 3, 3', 4, 6). This is due to the statutory exemption of the agricultural land of the classes V, VI and VIz, as well as wooded land and land covered with bushes on agricultural land, from agricultural tax (Law, 1984).

Changes in the surface areas of cadastral parcels have little effect on the agricultural and forestry tax base assessment, although in extreme cases, with very large changes in the area, a more significant effect of this factor may be noticeable (no. 15-15', 16-16'). It should be noted at this point that the modernization of the cadastre may also result in a situation when given land will cease (or will start) to meet the statutory definition of the farmland (Law, 1984) (no. 5-5', 11-11'). The reason may lie in a change in the surface area of the parcel, as well as in the updated land use and quality classes. The consequences are significant, not only due to the agricultural tax base assessment, which will be charged at the higher (or lower) rates. Major changes in the tax base assessment for land properties, resulting from the changes in the surface areas of the parcels which

occurred after the modernization of the cadastre, can be observed in the case of the real estate tax, which is due to the significantly higher unit rate of this tax comparing to the rates of the agricultural or forestry taxes.

It should be emphasized once again that changes in the land use are by far the most important in the aspect of determining the overall tax base for land properties, as far as the reclassification of land will require to impose a different tax. Unfortunately, the updating of the quality classes of agricultural land was not noted in any of the analysed cadastral units. This process is currently very rarely associated with the modernization of the cadastre (Konieczna, 2012).

Finally, Table 2 illustrates the total tax base assessment, calculated for twenty randomly selected parcels in each of the analysed cadastral units. It is evident that the modernization of the cadastre, which caused changes in land use, also contributed to a significant increase in the proceeds to the budget of respective municipalities, which collect real estate tax, agricultural tax and forestry tax.

**Table 2.** Overall assessment of the tax base according to the state before and after cadastre modernization

Cadastral unit	Overall assessment of the tax base			
	Before modernization	After modernization	Difference	Growth
Turów	344 zł	8107 zł	7762 zł	2254%
Raciborowice	1100 zł	5143 zł	4043 zł	368%
Barkowice	1920 zł	1960 zł	40 zł	2%
<b>In total</b>	<b>3364 zł</b>	<b>15210 zł</b>	<b>11846 zł</b>	<b>352%</b>

Source: Own study

It is worth mentioning that in case of ‘ad valorem’ tax implementing, which base constitutes value of real estate, the issue of changes in the scope of land use will lose a significance. Simultaneously, the problem of the taxation of agricultural lands classified in town and country plans as building areas, may also be able to fix (Dawid, 2012).

## SUMMARY AND CONCLUSIONS

- The modernization of the cadastre is a complex process which, depending on the needs and the available financial resources, may involve various activities.

- Thus, the scope of the changes in the cadastral data, which are the basis for the assessment of tax base and benefits, may vary depending on the case.
- Changes in the surface areas of parcels, which are a frequent consequence of the modernization of the cadastre, affect the assessment of the real estate, agricultural, and forestry tax bases. This interaction will be more significant in the case of the real estate tax, whose unit rate for land properties is many times higher than in the case of the agricultural tax or forestry tax.
- The greater the change in the surface area of the parcel, the greater the change in the tax base for land properties (unless land use is updated, which is relevant in this respect).
- Changes in the cadastral data resulting from the modernization of the cadastre may significantly affect the so-called area standard, which is an essential condition to meet the statutory definition of the farmland. This issue is significant for the agricultural tax rate.
- Changes in land use are the most important factor in the analysed problem. Most frequently, it is reclassification of agricultural land into developed and urbanized areas, and thus imposing real estate tax on this land property.
- Changes in the total tax base assessment for land properties which occurred after the modernization of the cadastre are very beneficial for the budget of respective municipalities. No significant changes in favour of the taxpayer have been noted.
- The studied problem is still fully valid.

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