

---

## The Role of Administrative Courts in Shaping the Content of Local Spatial Development Plans in Poland

---

Submitted ....., 1st revision ....., 2nd revision ....., accepted .....

Iwona Forys<sup>1</sup>, Małgorzata Blaszkę<sup>2</sup>

**Abstract:**

**Purpose:** The article's aim was a statistical analysis of rulings of administrative courts concerning local spatial development plans in Poland. Furthermore, statistical methods were proposed to verify regularities concerning the influence of administrative courts on spatial policy tools.

**Design/Methodology/Approach:** The publication uses simple measures of structure differentiation. The analysis focused on the structure of validity judgments in 2010-2019 by 16 voivodeships and Poland in general. For each of the V1, V2, V3, and V measures, the measure of  $\beta$  monotonicity of the structure was determined successively.

**Findings:** The role of the law in the spatial management system, should be remembered that while specific, detailed solutions must be adapted to the specific national system, it can be pointed out that this role cannot be excessive.

**Practical Implications:** Confirmation of the validity of the problems diagnosed in the spatial management system is an essential contribution to discussing the state and directions of changes to the spatial management systems. The legal context of rulings questioning the validity of local spatial development plans is critical from the positive and negative effects of spatial management systems.

**Originality/Value:** The legal context of the judgments seems to be very important and innovative from the perspective of positive and negative consequences related to spatial management systems.

**Keywords:** Spatial management, court decisions, local spatial development plan.

**JEL Codes:** R58, K49.

**Paper type:** Review article.

---

<sup>1</sup>University of Szczecin, Poland, [iwona.forys@usz.edu.pl](mailto:iwona.forys@usz.edu.pl);

<sup>2</sup>West Pomeranian University of Technology in Szczecin, Poland, [mblaszke@zut.edu.pl](mailto:mblaszke@zut.edu.pl);

## 1. Introduction

Spatial management systems include a range of economic, legal as well as geographic conditions. The role of spatial policy tools at the local level is crucial in spatial planning. In different countries, they ensure (in diverse but similar ways) that the designation of a given area and the rules for its development are defined. They determine (from a broader perspective) the actual shape of the space of a given municipality and the scope of protection of environmental or cultural conditions. This is why the criteria determining the content and consequences of local plans are so important. In many spatial planning systems (including Poland), administrative courts play a vital but undefined role. Property owners complain to these courts about local plans, and the courts may dismiss such complaints and declare local plans invalid. This paper aims to statistically analyze the rulings of administrative courts concerning local spatial development plans in Poland and propose statistical methods to verify regularities concerning the influence of administrative courts on spatial policy tools.

In the literature, there is an ongoing discussion both on the optimal classification of spatial management systems and their optimal characteristics. The context related to the legal implications of spatial policy tools also plays an important role. The approach of Newman and Thornley (1996), which is now referred to by most researchers, identifies several dominant features in the spatial policy systems concerned. However, it is clear that a comprehensive classification of the systems of individual countries, despite attempts (Nadin and Stead, 2008), is not entirely possible - there are too many bottom-up differences and social, cultural, or historical conditions (Getimis, Reimer, and Blotevogel, 2014).

Therefore, it is far more appropriate to consider specific system-specific issues. Examples include flexibility in planning (Munoz-Gielen and Tazan-Kok, 2010) and the role of property rights in the planning system (Alterman, 2010; Nowak, Gagakuma, and Blaszkę, 2020). Common trends of different countries can also be identified, as exemplified by Central and Eastern European countries (Altrock *et al.*, 2016). The optimal degree of detail in spatial planning law is also debatable (Moroni, 2007). A vital tool for spatial planning at the local level, local development plans in different countries have different formulations - they can be both legal acts (France, Germany) and general guidelines (United Kingdom).

Poland is an example of this first variant (Cotella, 2014). In this case, local spatial development plans are an optional tool (municipal councils may or may not adopt them for a given area). However, if they are enacted, they determine their intended use and the rules for developing specific buildings in a binding manner. Accordingly, any owner of real property covered by a local plan may file a complaint against such a plan with the administrative courts. The courts may declare the plans invalid or uphold them (either by dismissing the complaint - if they do not agree with the arguments contained in the complaint or by rejecting it - if the complaint is unsuitable for consideration for legal reasons). This is an example where the typically legal perspective strongly influences the

broader socio-economic effects (also shaped by spatial policy). It should be emphasized that in the case of Poland, serious problems have been diagnosed related to the enormous costs generated by spatial chaos (Śleszyński, Kowalewski and Markowski, 2018; Śleszyński *et al.*, 2020). Spatial chaos, a result of uncontrolled development and problems related to the actual definition of public interest in spatial planning (Markowski, 2010; Parysek, 2017; Zybala, 2019), should be limited spatial policy tools, i.e., first, local spatial development plans. In practice, this is not the case. The legal perspective (which is also represented by administrative courts adjudicating on local plans) is not sufficiently sensitive to spatial order protection issues. The rights of property owners are much more favored, combined with the expansion of possibilities for uncontrolled development. The results of the first studies in this field confirm these trends (Nowak, Śleszyński, and Ostrowska, 2020).

This paper analyses how court judgments (provincial administrative courts) concerning local spatial development plans in Poland have evolved in the years 2010-2019. Based on the Central Judicial Database of the Supreme Administrative Court, all judgments issued in the indicated periods concerning challenges to local spatial development plans were extracted, classifying three key groups:

- judgments finding local plans invalid in their entirety;
- judgments partially invalidating the local spatial development plans
- judgments dismissing the appeals.
- 

## **2. Literature Review**

From the perspective of the diagnosis of the spatial management system in Poland, the critical conclusion seems to be that during the period under study, the number of situations in which the courts declared local plans partially or wholly invalid did not decrease. This confirms earlier theses (Śleszyński, Kowalewski, and Markowski, 2018; Parysek, 2017; Markowski, 2010) about the inefficiency of public authorities.

However, this can be viewed from diverse perspectives. From the basic one - it will mean the inefficiency of municipal authorities. Despite subsequent analyses and recommendations, numerous mistakes are still made regarding local plans. Of course, it cannot be assumed (especially from the perspective of the entire spatial management system) that every invalidation is tantamount to a mistake on the part of the borough authorities. Much depends on the approach of the courts. Previous research (Nowak, Śleszyński, and Ostrowska, 2020) shows that, to some extent, courts in the Polish reality attach too much importance to the rights of property owners. For these rights, they can sacrifice the objectives related to implementing spatial policy challenges in the municipality (including the protection of spatial order).

The results in this article are entitled to conclude that the situation has not changed in this respect. Moreover, while most of the invalidations of local plans (both in

whole and in part) can be explained by mistakes made by the municipal authorities, a significant part is related to the specificity of the judicial (or, more broadly, typically legal) approach to the spatial management system in Poland. In this context, the demand made by Moroni (2007) for an optimal simplicity of the spatial planning regulations looks justified. This will make it possible to limit any problems. However, this demand must not result in the possibility to shape the development even more freely than at present (on the contrary). It is still necessary to remember, for example, Cotella's (2014) view that the Polish system is far too liberal and favors particular interests of investors. The results of the conducted research confirm that not much is changing in this respect either.

From the perspective of a broader verification of spatial management systems, the proposed research methodology's contribution seems essential. The possibility of classifying provinces from the perspective of court-administrative rulings is combined with a broader characterization of the conditions of individual provinces. Another research activity may be the analysis of the spatial development status of municipalities in individual provinces and verification of the extent to which a more active or more passive spatial policy (manifested, for example, in the number of local plans enacted, the frequency of their adoption, the designation of local plans) is associated with judicial consequences. Despite the differences, this methodology can be applied more broadly, including to other countries. An additional direction may be the analysis of the dynamics of changes in the analyzed case law using forecasting tools, which will indicate the case law's directions in the perspective of the coming years. Another direction of research may be the search for causal relations of such a line of jurisprudence in the broader context of planning processes.

### 3. Research Methodology

The study had annual series (2010-2019) for seventeen sites (16 voivodeships and Poland in total) and three variables denoted by symbols:

CA – (*Cancelled All*) – annuls the plans in their entirety,

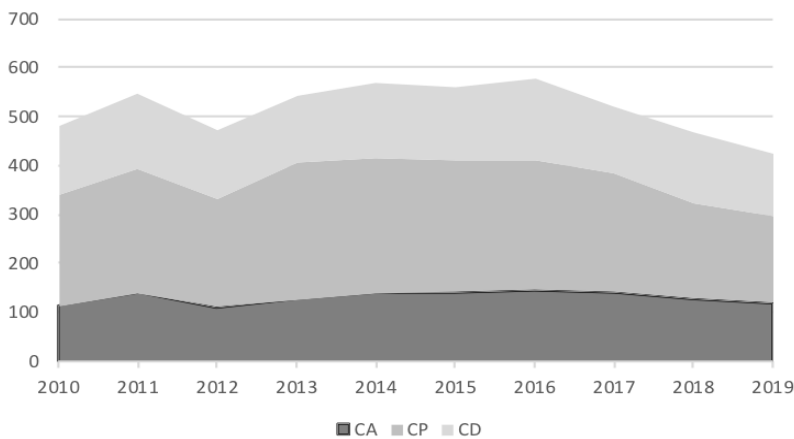
CP – (*Cancelled Part*) – annuls the plans in part,

CD – (*Complaint Dismissed*) – judgments dismissing complaints against the plans.

The number of judgments in these three categories represents 100% of the decisions of voivodship administrative courts in the procedure of questioning the validity of local spatial development plans in Poland in each examined year. The stable structure of decisions invalidating plans (in whole or part) testifies to the repetition of mistakes in the planning process, which proves the imperfection of this procedure and the lack of reasons to change the wrong policy in this respect. On the contrary, the change in the structure in favor of the predominance of judgments dismissing complaints testifies to the increasingly better quality of the planning process, about which there are no grounds for rejecting planning documents.

In Poland, a total of 5152 court cases were recorded between 2010 and 2019, of which 25.4% ended in a judgment dismissing complaints against plans, 46.6% of judgments declared plans partially invalid, and 28% of plans were invalid in their entirety (Figure 1). The highest number of plans rejected in part (CP) and the lowest number rejected in full (CA) were recorded in the years examined. However, while the number of judgments (CP) and (CD) has been declining since 2016, the number of judgments to reject plans in their entirety (CA) has remained at a similar level throughout the period. The exception in all cases was 2012, when the number of judgments declined to 473, which was only reached again in 2018.

**Figure 1.** Structure of court judgements concerning local spatial development plans in Poland in 2010-2019



*Source:* Own study.

Structural diversity has historically been measured differently (Leinster and Cobbold, 2012; Brown and Langer, 2016). Standard inequality measures such as the Gini coefficient were used in early econometric studies (Auvinen and Nafziger, 1999). Later in the literature, one encounters many measures of distance and similarity of structures (Anderberg, 1973; Rao, 1977) using families of different metrics. Biological sciences, ecology, the classical Euclidean distance is often encountered (Champely and Chessel, 2002; Gower and Legendre, 1986). In contrast, Rao (1982) first proposed a diversity index that accounts for differences between objects (species), and quadratic entropy (Q) is defined as the expected dissimilarity between objects. Methods based on measures of entropy and measures of divergence (Ricotta and Marignani, 2007), among others, are used to study structural diversity and structural change.

On the other hand, the simple measures of structural diversity used in this paper are used to assess their changes over time and are based on the relationship of the shares of a given component in the structure in the period and. The values of the measures of diversification of structures are in the range; weak structure differentiation means the indicator's value is close to zero, while strong structure differentiation means the

value of the indicator is close to unity. The measures proposed in the literature differ in their reaction to changes in components with different shares (Kukuła, 1996; Walesiak, 1983). For example, using Minkowski's distance measure, it is possible to propose measures of the diversity of structures responding differently to the structure's component shares:

- a measure that responds evenly to changes in the level of components with different shares

$$V_1 = \frac{\sum_{i=1}^k |\alpha_{it} - \alpha_{i(t+1)}|}{2} \quad (1)$$

- a measure that reacts more strongly to the deviation of components with a low share (Clark divergence coefficient)

$$V_2 = \frac{1}{k} \sum_{i=1}^k \frac{\alpha_{it} - \alpha_{i(t+1)}}{\alpha_{it} + \alpha_{i(t+1)}} \quad (2)$$

- a measure that reacts more strongly to deviations of components with a high share (Walesiak, 1983)

$$V_3 = \left[ \frac{1}{2} \sum_{i=1}^k |\alpha_{it}^2 - \alpha_{i(t+1)}^2| \right]^{\frac{1}{2}} \quad (3)$$

where:

- $\alpha_{it}$  – the share of the  $i$ -th component in the period prior to the survey;
- $\alpha_{i(t+1)}$  – the share of the  $i$ -th component over the period considered;
- $i = 1, 2, \dots, k$  – further components of the structure;
- $t = 0, 1, \dots, m$  – subsequent years in the period considered.

In addition, using the base period as a basis for the study, one can check the monotonicity of changes occurring in a given structure using a measure of monotonicity of the structure of the form (Kukuła, 1996):

$$\beta_m = \frac{\sum_{i=1}^k |\alpha_{im} - \alpha_{i0}|}{\sum_{t=0}^{m-1} \sum_{i=1}^k |\alpha_{it} - \alpha_{i(t+1)}|} \quad (4)$$

where:

- $\alpha_{im}$  – the share of the  $i$ -th component over the period considered;
- $\alpha_{i0}$  – the share of the  $i$ -th component in the base period;
- $t = 0, 1, \dots, m-1$  – subsequent years in the period considered.

The measure  $\overline{\beta}$  takes the values  $\overline{\{0; 1\}}$ , which, over the period considered, can be interpreted as follows:

$$\begin{array}{ll} \overline{\beta} = 1 & \text{the shares of the components form a monotone sequence;} \\ \overline{\beta} = 0 & \text{there has been no change in the examined structure;} \end{array}$$

In addition, the closer the indicator values are to unity, the more certain the results of future structural changes are.

#### 4. Results and Discussion

The structure of validity judgments for plans in 2010-2019 by 16 voivodeships (objects) and Poland, in general, was analyzed. For each of the measures was determined in turn and in addition the Measure monotonicity of the structure. The measure evenly responding to changes in the level of components with different shares in all the objects and years under examination assumed minimum values from the interval 0.01-0.20 and maximum values from the interval 0.06-0.50. This indicates that in some years, there were voivodships with a large diversity of the examined structures, e.g., Świętokrzyskie voivodship, where most often the rejected resolutions constituted a small percentage about resolutions rejected in part or complaints dismissed (Table 1).

**Table 1.** The Measure  $\overline{V}_1$  variations in sentencing structures between 2010 and 2019

| Voivodeship         | 2010/<br>2011 | 2011/<br>2012 | 2012/<br>2013 | 2013/<br>2014 | 2014/<br>2015 | 2015/<br>2016 | 2016/<br>2017 | 2017/<br>2018 | 2018/<br>2019 |
|---------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Kujawsko-Pomorskie  | 0.34          | 0.29          | 0.24          | 0.05          | 0.05          | 0.17          | 0.26          | 0.13          | 0.19          |
| Podlaskie           | 0.09          | 0.19          | 0.33          | 0.19          | 0.31          | 0.22          | 0.07          | 0.04          | 0.08          |
| Pomorskie           | 0.03          | 0.11          | 0.32          | 0.20          | 0.10          | 0.10          | 0.09          | 0.25          | 0.12          |
| Śląskie             | 0.05          | 0.06          | 0.14          | 0.07          | 0.08          | 0.19          | 0.31          | 0.10          | 0.14          |
| Lubuskie            | 0.13          | 0.04          | 0.20          | 0.30          | 0.30          | 0.27          | 0.26          | 0.18          | 0.09          |
| Świętokrzyskie      | <b>0.50</b>   | 0.38          | 0.20          | 0.24          | 0.20          | 0.23          | 0.50          | 0.21          | 0.21          |
| Małopolskie         | 0.02          | 0.04          | 0.03          | 0.03          | 0.07          | 0.10          | 0.09          | 0.04          | 0.09          |
| Lubelskie           | 0.19          | 0.15          | 0.46          | 0.42          | 0.25          | 0.09          | 0.14          | 0.16          | 0.10          |
| Łódzkie             | 0.02          | 0.07          | 0.15          | 0.09          | 0.11          | 0.08          | 0.05          | 0.21          | 0.24          |
| Warmińsko-Mazurskie | 0.13          | 0.04          | 0.04          | 0.04          | 0.11          | 0.13          | 0.13          | 0.14          | 0.14          |
| Opolskie            | 0.23          | 0.25          | 0.26          | 0.35          | 0.12          | 0.24          | 0.35          | 0.25          | 0.21          |
| Wielkopolskie       | 0.07          | 0.12          | 0.10          | 0.18          | 0.03          | 0.03          | 0.18          | 0.19          | 0.13          |
| Podkarpackie        | 0.10          | 0.12          | 0.25          | 0.08          | 0.08          | 0.05          | 0.05          | 0.22          | 0.14          |
| Zachodniopomorskie  | 0.07          | 0.10          | 0.04          | 0.20          | 0.14          | 0.06          | 0.06          | 0.07          | 0.03          |
| Dolnośląskie        | 0.05          | 0.04          | 0.04          | 0.06          | 0.06          | 0.10          | 0.04          | 0.03          | 0.06          |
| Mazowieckie         | 0.21          | 0.06          | 0.07          | 0.03          | 0.09          | 0.11          | 0.18          | 0.33          | 0.05          |
| Polska              | 0.02          | 0.02          | 0.05          | 0.03          | 0.01          | 0.03          | 0.03          | 0.06          | 0.01          |

*Source: Own study.*

**Table 2.** The Measure  $\sqrt{V_2}$  variations in sentencing structures between 2010 and 2019

| Voivodeship        | 2010/       | 2011/       | 2012/       | 2013/       | 2014/       | 2015/       | 2016/       | 2017/ | 2018/ |
|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------|-------|
| Kujawsko-          | 0.35        | 0.30        | 0.23        | 0.07        | 0.06        | 0.18        | 0.28        | 0.16  | 0.24  |
| Podlaskie          | 0.10        | 0.19        | 0.38        | 0.23        | 0.32        | 0.25        | 0.08        | 0.04  | 0.09  |
| Pomorskie          | 0.03        | 0.13        | 0.43        | 0.28        | 0.12        | 0.11        | 0.13        | 0.29  | 0.16  |
| Śląskie            | 0.06        | 0.06        | 0.14        | 0.10        | 0.12        | 0.25        | 0.33        | 0.13  | 0.14  |
| Lubuskie           | 0.13        | 0.04        | 0.23        | 0.34        | 0.34        | 0.37        | 0.34        | 0.24  | 0.12  |
| Świętokrzyskie     | <b>0.84</b> | <b>0.83</b> | 0.19        | <b>0.60</b> | <b>0.60</b> | <b>0.59</b> | <b>0.63</b> | 0.23  | 0.32  |
| Małopolskie        | 0.02        | 0.05        | 0.04        | 0.04        | 0.08        | 0.12        | 0.12        | 0.06  | 0.12  |
| Lubelskie          | 0.19        | 0.24        | <b>0.65</b> | <b>0.66</b> | 0.46        | 0.16        | 0.17        | 0.19  | 0.10  |
| Łódzkie            | 0.02        | 0.12        | 0.20        | 0.12        | 0.13        | 0.07        | 0.08        | 0.22  | 0.26  |
| Warmińsko-         | 0.20        | 0.05        | 0.07        | 0.05        | 0.18        | 0.17        | 0.13        | 0.19  | 0.20  |
| Opolskie           | 0.25        | <b>0.60</b> | <b>0.66</b> | 0.39        | 0.12        | 0.39        | 0.49        | 0.39  | 0.29  |
| Wielkopolskie      | 0.08        | 0.13        | 0.13        | 0.22        | 0.04        | 0.06        | 0.22        | 0.24  | 0.18  |
| Podkarpackie       | 0.12        | 0.20        | 0.32        | 0.11        | 0.12        | 0.07        | 0.05        | 0.34  | 0.58  |
| Zachodniopomorskie | 0.08        | 0.13        | 0.06        | 0.27        | 0.23        | 0.08        | 0.07        | 0.08  | 0.04  |
| Dolnośląskie       | 0.06        | 0.04        | 0.05        | 0.10        | 0.10        | 0.10        | 0.04        | 0.04  | 0.07  |
| Mazowieckie        | <b>0.60</b> | 0.19        | 0.33        | 0.21        | 0.13        | 0.24        | 0.17        | 0.62  | 0.00  |
| Polska             | 0.03        | 0.03        | 0.06        | 0.03        | 0.01        | 0.03        | 0.04        | 0.06  | 0.01  |

Source: Own study.

The Measure  $\sqrt{V_2}$  which reacts more strongly to deviations of the components with a low share, in all the surveyed objects and years adopted minimum values from the range of 0.00-0.19, and maximum values from the range of 0.10-0.84. This indicates that in some years there were voivodships with a strong differentiation of the surveyed structures (again, the Świętokrzyskie voivodship stands out, where the resolutions rejected in their entirety were few (strong differentiation of the structure of the judgments), which indicates the absence of significant controversies in the planning process (Table 2).

The Measure, which reacts more strongly to deviations of high contribution components, in all studied objects and years has minimum values in the range of 0.05-0.32 and maximum values in 0.20-0.61. The lowest values close to zero occurred in Śląskie Voivodship in the entire period under study, which means no differentiation of structures in subsequent years. Additionally, judgments challenging local spatial development plans in whole or in part constituted 67-82% of all challenged plans. The lack of monotonicity in the structure of judgments indicates that the errors in the planning processes there are entrenched, and there is no improvement over time in favor of plans which the courts have no grounds to repeal (Table 3).

**Table 3.** The Measure  $\sqrt{V_3}$  variations in sentencing structures between 2010 and 2019

| Voivodeship    | 2010/       | 2011/       | 2012/       | 2013/       | 2014/       | 2015/       | 2016/       | 2017/       | 2018/       |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Kujawsko-      | 0.50        | 0.45        | 0.42        | 0.18        | 0.18        | 0.35        | 0.43        | 0.31        | 0.36        |
| Podlaskie      | 0.24        | 0.38        | 0.47        | 0.35        | 0.47        | 0.39        | 0.20        | 0.17        | 0.24        |
| Pomorskie      | 0.14        | 0.29        | 0.44        | 0.36        | 0.26        | 0.26        | 0.25        | 0.40        | 0.27        |
| Śląskie        | <b>0.19</b> | <b>0.05</b> | <b>0.12</b> | <b>0.06</b> | <b>0.07</b> | <b>0.16</b> | <b>0.27</b> | <b>0.09</b> | <b>0.12</b> |
| Lubuskie       | 0.32        | 0.18        | 0.37        | 0.45        | 0.45        | 0.47        | 0.47        | 0.35        | 0.24        |
| Świętokrzyskie | 0.68        | 0.59        | 0.41        | 0.42        | 0.31        | 0.44        | 0.65        | 0.38        | 0.36        |
| Małopolskie    | 0.12        | 0.14        | 0.15        | 0.14        | 0.22        | 0.27        | 0.22        | 0.16        | 0.24        |



|                    |      |      |      |      |      |      |      |      |      |
|--------------------|------|------|------|------|------|------|------|------|------|
| Lubelskie          | 0.40 | 0.28 | 0.59 | 0.61 | 0.34 | 0.24 | 0.32 | 0.32 | 0.27 |
| Łódzkie            | 0.13 | 0.20 | 0.30 | 0.26 | 0.26 | 0.24 | 0.16 | 0.39 | 0.42 |
| Warmińsko-         | 0.28 | 0.18 | 0.16 | 0.17 | 0.29 | 0.31 | 0.31 | 0.30 | 0.29 |
| Opolskie           | 0.43 | 0.43 | 0.42 | 0.55 | 0.32 | 0.42 | 0.49 | 0.37 | 0.35 |
| Wielkopolskie      | 0.21 | 0.28 | 0.26 | 0.35 | 0.16 | 0.13 | 0.34 | 0.34 | 0.28 |
| Podkarpackie       | 0.25 | 0.24 | 0.39 | 0.23 | 0.22 | 0.18 | 0.18 | 0.38 | 0.34 |
| Zachodniopomorskie | 0.22 | 0.25 | 0.16 | 0.35 | 0.29 | 0.21 | 0.20 | 0.21 | 0.13 |
| Dolnośląskie       | 0.19 | 0.17 | 0.17 | 0.19 | 0.19 | 0.28 | 0.15 | 0.14 | 0.21 |
| Mazowieckie        | 0.44 | 0.20 | 0.19 | 0.13 | 0.27 | 0.25 | 0.38 | 0.49 | 0.23 |
| Polska             | 0.11 | 0.12 | 0.19 | 0.14 | 0.06 | 0.14 | 0.13 | 0.20 | 0.08 |

*Source:* Own study.

In improving the quality of the planning process, the monotonicity of the changes occurring between 2010 and 2019 was additionally checked, taking 2010 as the base period. For this purpose, the measure for the structure of judgments concerning local spatial development plans was used (Figure 2). The radar charts show the results for individual sites (provinces). Values close to zero in successive years mean no changes occurred in the examined structure, which is visible on the graphs in the form of a large cluster of points near the center of the radar diagram. Changes in the structure of sentences are slight in Pomorskie, Śląskie, Łódzkie and Podkarpackie Voivodships. The most extraordinary fluctuations of the monotonicity measure are visible in the voivodships. The graph is very irregular (e.g., Małopolskie, Wielkopolskie), and the highest monotonicity in those where the areas inside the figures are the largest, at the same scale.

The summary of the determined measures for each year under study can be summarised by basic descriptive statistics Table 4 below collects the mean and the interval (max-min) of the determined measures from 2010 to 2019.

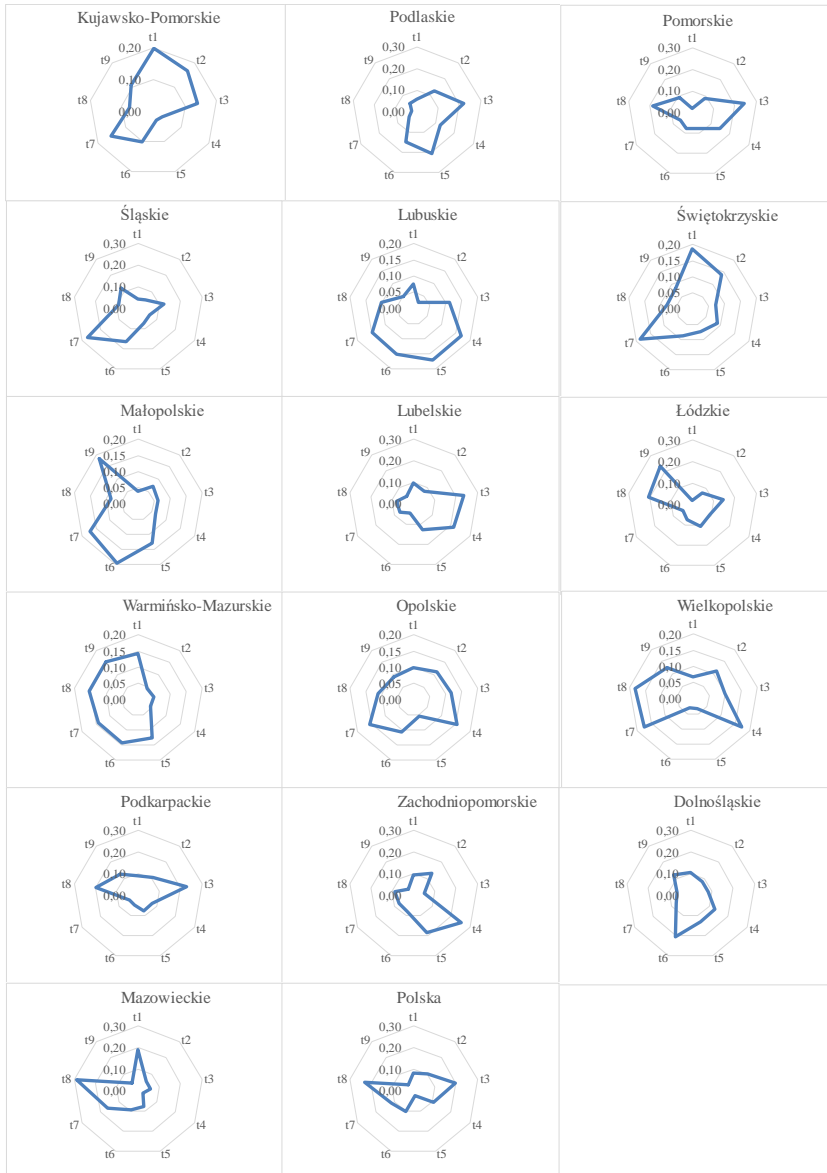
**Table 4.** *Statistics of measures of structure variation for the studied objects*

| Voivodeship         | $V_1$ |         | $V_2$ |         | $V_3$ |         | $\beta$ |         |
|---------------------|-------|---------|-------|---------|-------|---------|---------|---------|
|                     | Mean  | Max-Min | Mean  | Max-Min | Mean  | Max-Min | Mean    | Max-Min |
| Kujawsko-Pomorskie  | 0.19  | 0.29    | 0.20  | 0.29    | 0.36  | 0.32    | 0.11    | 0.17    |
| Podlaskie           | 0.17  | 0.29    | 0.16  | 0.34    | 0.32  | 0.30    | 0.12    | 0.19    |
| Pomorskie           | 0.15  | 0.29    | 0.18  | 0.40    | 0.30  | 0.30    | 0.09    | 0.22    |
| Śląskie             | 0.13  | 0.26    | 0.16  | 0.28    | 0.13  | 0.22    | 0.09    | 0.23    |
| Lubuskie            | 0.20  | 0.26    | 0.18  | 0.32    | 0.37  | 0.30    | 0.11    | 0.15    |
| Świętokrzyskie      | 0.30  | 0.30    | 0.28  | 0.65    | 0.47  | 0.37    | 0.09    | 0.11    |
| Małopolskie         | 0.06  | 0.08    | 0.06  | 0.10    | 0.19  | 0.15    | 0.09    | 0.16    |
| Lubelskie           | 0.22  | 0.37    | 0.22  | 0.57    | 0.38  | 0.38    | 0.08    | 0.19    |
| Łódzkie             | 0.11  | 0.21    | 0.16  | 0.24    | 0.26  | 0.30    | 0.09    | 0.21    |
| Warmińsko-Mazurskie | 0.10  | 0.10    | 0.11  | 0.16    | 0.26  | 0.15    | 0.14    | 0.11    |
| Opolskie            | 0.25  | 0.23    | 0.24  | 0.54    | 0.42  | 0.23    | 0.11    | 0.10    |
| Wielkopolskie       | 0.11  | 0.16    | 0.13  | 0.20    | 0.26  | 0.22    | 0.11    | 0.15    |
| Podkarpackie        | 0.12  | 0.20    | 0.15  | 0.53    | 0.27  | 0.21    | 0.09    | 0.18    |
| Zachodniopomorskie  | 0.09  | 0.17    | 0.09  | 0.23    | 0.22  | 0.23    | 0.09    | 0.22    |

|              |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|
| Dolnośląskie | 0.05 | 0.07 | 0.06 | 0.07 | 0.19 | 0.13 | 0.10 | 0.15 |
| Mazowieckie  | 0.13 | 0.30 | 0.18 | 0.62 | 0.28 | 0.36 | 0.08 | 0.26 |
| Poland total | 0.03 | 0.05 | 0.03 | 0.06 | 0.13 | 0.14 | 0.10 | 0.20 |

Source: Own study.

Figure 2. Monotonicity measure of the  $\sqrt{\beta}$  structure of local plan judgments for the study sites between 2010 and 2019



Source: Own study.

Noteworthy is the slight discrepancy between the mean value of the measure of monotonicity of the structure and the value for Poland as a whole of 0.10, which means that there were no significant changes in the examined structure of judgments concerning local spatial development plans in the surveyed years in the Polish planning system. Additionally, the fact that in the last nine years in Poland (in total) there was a 69-75% prevalence of plans which were rejected in whole or in part in judgments does not reflect well on the quality of the local spatial development plans, which were passed, and is not a good indicator of changes in this respect.

## **5. Conclusion**

Confirmation of the validity of the problems diagnosed in the spatial management system is an essential contribution to the discussion on the state and directions of changes in spatial management systems. The presented results should be seen in this context. Long discussions on the state of spatial planning in Poland (with the participation of various governments) do not bring significant results. An important problem here is the context of legal-spatial relations. When discussing the role of the law in the spatial management system, it should be remembered that while specific, detailed solutions must be adapted to the specific national system, it can be pointed out that this role cannot be excessive. Its excess leads to replacing spatial dilemmas with formal dilemmas, often detached from the essence of the matter. The number of court cases in Poland concerning local spatial development plans confirms an excess of legal regulations and legal perspective in the spatial management system.

The above conclusions lead to the conclusion that further analysis of this issue is necessary. The legal context of the judgments seems to be very important from the perspective of positive and negative consequences related to spatial management systems.

## **References:**

- Alterman, R. 2010. Takings international: a comparative perspective on land use regulations and compensation rights. American Bar Association, Chicago. ISBN 978-1-60442-550-5.
- Altrock, U., Guntner, S., Huning, S., Peters, D. 2016. Spatial planning and urban development in the new EU member states – between adjustment and reinvention. In: Altrock, U., Guntner, S., Huning, S., Peters, D. (Eds) Spatial planning and urban development in the new EU member states. From adjustment to reinvention. Routledge, London-New York, 1-18.
- Anderberg, M.R. 1973. Cluster Analysis for Application, Academic Prccs. New York. San Francisco. London.
- Auvinen, J., Nafziger, E.W. 1999. The sources of humanitarian emergencies. *Journal of Conflict Resolution*, 43, 267-90.
- Brown, G.K., Langer, A. 2016. A General Class of Social Distance Measures. *Political Analysis*, 242, 211-225.

- Champely, S., Chessel, D. 2002. Measuring biological diversity using Euclidean metrics. *Environmental and Ecological Statistics*, 9, 167-177.
- Cotella, G. 2014. Spatial planning in Poland between European influence and dominant market forces. In: Reimer, M., Getimis, P., Blotevogel, H. (Eds.). *Spatial planning systems and practices in Europe. A comparative perspective on continuity and changes*, Routledge.
- Getimis, P., Reimer, M., Blotevogel, H. 2014. Conclusion: multiple trends of continuity and change. In: Reimer, M., Getimis, P., Blotevogel, H. (Eds.). *Spatial planning systems and practices in Europe*. Routledge, London, 278-305.
- Gower, J.C., Legendre, P. 1986. Metric and Euclidean properties of dissimilarity coefficients. *Journal of Classification*, 3, 5-48.
- Kukuła, K. 1996. *Statystyczne metody analizy struktur ekonomicznych [Statistical Methods of Analyzing Economic Structures]*. Wydawnictwo Edukacyjne [Education Publishing], Kraków.
- Leinster, T., Cobbold, C.A. 2012. Measuring diversity: the importance of species similarity. *Ecology*, 93(3), 477- 489.
- Markowski, T. 2010. Planowanie przestrzenne i instrumenty jego realizacji w świetle teorii ułomnych rynków [Spatial planning and instruments of its implementation in the light of the theory of defective markets]. In: Lorens, P., Martyniuk-Pęczek, J. (Eds.) *Zarządzanie rozwojem przestrzennym miast*, Politechnika Gdańska, Gdańsk.
- Moroni, S. 2007. Planning, liberty and the rule of law. *Planning Theory* 6(2), 146-163. DOI: 10.1177/1473095207077586.
- Muñoz-Gielen, D., Tasan-Kok, T. 2010. Flexibility in planning and the consequences for public value capturing in UK, Spain and the Netherlands. *European Planning Studies*, 187, 1097-1131. DOI: 10.1080/09654311003744191.
- Nadin, V., Stead, D. 2008. European spatial planning systems, social, models and learning. *The Planning Review*, 44(172), 35-47. DOI: 10.1080/02513625.2008.10557001.
- Newman, P., Thornley, A. 1996. *Urban planning in Europe. International competition, national systems and planning projects*. Routledge, London-New York. ISBN: 9780415111799.
- Nowak, M., Gagakuma, D., Blaszkę, M. 2020. Spatial Management Systems in Ghana and Poland - Comparison of Solutions and Selected Problems, *World of Real Estate Journal. Świat Nieruchomości*, 1(111), 59-77. DOI: 10.14659/WOREJ.2020.111.04.
- Nowak, M., Śleszyński, P., Ostrowska, A. 2020. Orzeczenia sądów administracyjnych w systemie gospodarki przestrzennej – perspektywa funkcjonalna i realizacyjna. *Studium przypadku województwa mazowieckiego, Samorząd Terytorialny*, 7-8, 109-128. Retrieved from: <http://bazekon.icm.edu.pl/bazekon/element/bwmeta1.element.ekon-element-000171601587>.
- Parysek, J. 2017. Lokalna gospodarka przestrzenna w Polsce - prawo a rzeczywistość [Local spatial management in Poland - law and reality]. In: Ratajczak, W., Szewczyk, M., Weltrowska, J. (Eds.). *Teoretyczne i praktyczne aspekty prawa gospodarki przestrzennej [Theoretical and practical aspects of spatial development law]*, Wydawnictwo Naukowe Bogucki, Poznań.
- Rao, C.R. 1977. *Cluster Analysis Applied to a Study a Race Mixture in Human Populations*. In: van Ryzin, J. (Ed.). *Classification and cluslcring*. Academic Press. Now York. San Francisco. London.

- Rao, C.R. 1982. Diversity and dissimilarity coefficients: a unified approach. *Theoretical Population Biology*, 2, 24-43.
- Ricotta, C., Marignani, M. 2007. Computing  $\beta$ -Diversity with Rao's Quadratic Entropy: A Change of Perspective. *Diversity and Distributions*, 132, 237- 24.
- Śleszyński, P., Kowalewski, A., Markowski, T., Legutko-Kobus, P., Nowak, M. 2020. The Contemporary Economic Costs of Spatial Chaos: Evidence from Poland, *Land*, 97, 214.
- Śleszyński, P., Kowalewski, A., Markowski, T. 2018. Studia nad chaosem przestrzennym [Studies on spatial chaos]. Uwarunkowania, skutki i propozycje naprawy chaosu przestrzennego [Synthesis. Conditions, effects and suggestions for repairing spatial chaos]. *Studia KPZK PAN, Warszawa*, 182, 3.
- Walesiak, M. 1983. Propozycje miar odległości struktur udziałowych [A Suggested Set of Distance Measures for Share Structures]. *The Polish Statistician Wiadomości Statystyczne*, 10, 23-24.
- Zybała, A. 2019. Polityka przestrzenna i jej rezultaty w warunkach rosnącej złożoności jej problemów [Spatial policy and its results in the conditions of the increasing complexity of its problems]. *Studia z Polityki Publicznej, Szkoła Główna Handlowa, Warszawa*, 62(22).