Journal of Economics and Development Studies September 2014, Vol. 2, No. 3, pp. 157-166 ISSN: 2334-2382 (Print), 2334-2390 (Online) Copyright © The Author(s). 2014. All Rights Reserved. Published by American Research Institute for Policy Development DOI: 10.15640/jeds.v2n3a11

URL: http://dx.doi.org/10.15640/jeds.v2n3a11

Leaders and Outsiders – Management of Regional Development in the Light of Europe 2020 Indicators

Faworyci I "Outsiderzy" – Zarządzanie Rozwojem Regionów W Świetle Wskaźników Strategii Europa 2020

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Abstract

The reflections on the topic of this article are focused on achieving two goals. First of all, they are to diagnose a present situation of Polish regions in the scope of sustainable development so the situation taking into consideration the issues such as employment, innovation, climate change and energy, education, poverty and social exclusion. Accomplishing this goal will allow to indicate leaders and outsiders, thus the regions which currently have the highest and the lowest chances to achieve the main and measureable goals determined in the strategy Europe 2020. Secondly, the aim of this paper is to establish whether the issues brought up in the new EU strategy are reflected in goals, priorities and performance described in particular regional development strategies, especially taking into account leaders and outsiders.

Keywords: strategy Europe 2020, regional development strategies, management of regional development, indicators, Bray-Curtis measure

Streszczenie

Rozważania będące przedmiotem niniejszego opracowania podporządkowane są osiągnięciu dwóch celów. Po pierwsze, zmierzają do zdiagnozowania aktualnej sytuacji polskich regionów w zakresie zrównoważonego rozwoju, a więc sytuacji uwzględniającej kwestie zatrudnienia, innowacji, zmian klimatu i energii, edukacji oraz ubóstwa i wykluczenia społecznego. Osiągnięcie tego celu pozwoli wskazać faworytów i "outsiderów", czyli regiony, które mają obecnie stosunkowo największe i najmniejsze szanse na osiągnięcie nadrzędnych i wymiernych celów UE określonych w strategii Europa 2020. Po drugie, rozważania zmierzają do ustalenia, czy kwestie poruszane w nowej unijnej strategii znajdują odzwierciedlenie w celach, priorytetach i działaniach ujętych w strategiach rozwoju poszczególnych regionów, ze szczególnym uwzględnieniem faworytów i "outsiderów".

Słowa kluczowe: strategia Europa 2020, strategie rozwoju województw, zarządzanie rozwojem regionu, wskaźniki, miara Braya-Curtisa

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Introduction

Pursuant to the provisions of the Act of 5 June 1998 on the voivodeship self-government³ the scope of competencies of the self-government embraces implementation of the region's own public tasks pertaining to the regions, which are not conferred by the provisions of law to government administration bodies⁴. While completing such tasks regional self-governments should not limit their role to administrative tasks, but they should become responsible for pursuing a development policy and therefore, become entities managing their development skillfully. Undoubtedly, one of the fundamental tools of this management is a development strategy of the region, which includes a range of objectives and plans, but also policies of the region taking into account reaction to the surrounding environment.

It is a quality concept of the future, elaborated before taking up any actions and implementing certain activities, to which it applies⁵. The process of regional development management is of special importance nowadays and it can be best proven by the fact that the provisions of the act concerning self-government of the region state clearly that regions are under obligation to prepare a development strategy (art. 11 para. 1). It is also emphasized in the literature that one of the numerous advantages resulting from possessing a development strategy is the ability to manage the region in the long-run independently of political tensions and changes within political system⁶. Nevertheless, it must be stressed that having a correctly prepared strategy does not guarantee the success although it really helps with stimulating the regional development.

The reflections on the topic of this article are focused on achieving two goals. First of all, they are to diagnose a present situation of Polish regions in the scope of sustainable development so taking into consideration the issues such as employment, innovation, climate change and energy, education, poverty and social exclusion. Accomplishing this goal will allow to indicate leaders and outsiders, thus the regions which currently have the highest and the lowest chances to achieve the main and measureable goals determined in the strategy Europe 2020. Secondly, the aim of this paper is to establish whether the issues brought up in the new EU strategy are reflected in goals, priorities and performance described in particular regional development strategies, especially taking into account leaders and outsiders.

1. Strategy Europe 2020 - Origin, Objectives and Initiatives⁷

The first decade of the 21st century was a period of the Lisbon Strategy implementation, aim of which was to create in Europe by 2010, the most dynamic, competitive and knowledge-based economy in the world with the ability to ensure sustainable development and offering more and better places of employment, social and territorial cohesion, as well as environmental protection⁸. Whereas, the second decade of the 21st century will become the time of implementing three priorities described in the strategy Europe 2020 - development of economy based on knowledge and innovation, supporting economy which uses resources efficiently, promoting more environment friendly and more competitive economy and as regards inclusive growth – fostering employment at high level and social and territorial cohesion.

³ Dz. U. z 1998 roku Nr 91, poz. 576, art. 2 ust. 2. (Journal of Laws No. 91 of 1998, item 576, art. 2, para. 2)

⁴ The term 'region' is used in this paper meaning 'voivodeship'. In the tables and figures particular regions/voivodeship have been labelled making use of the following acronyms: DLŚ – dolnośląskie (Dolnośląskie Region or Lower Silesia), K-P – kujawsko-pomorskie (Rujawsko-pomorskie Region or Kuyavia-Pomerania), LBL – lubelskie (Lubelskie Region), LBS – lubuskie (Lubuskie Region), ŁDŹ – lódzkie (Lodzkie Region), MAŁ – malopolskie (Malopolskie Region or Lesser Poland), MAZ – mazowieckie (Mazowieckie Region or Mazovia), OPO – opolskie (Opolskie Region), PKR – podkarpackie (Podkarpackie Region or Subcarpathia), PDL – podlaskie (Podlaskie Region), POM – pomorskie (Pomorskie Region or Pomerania), ŚLŚ – śląskie (Śląskie Region or Silesia), ŚWK – świętokrzyskie (Świętokrzyskie Region), W-M – warmińskomazurskie (Warmińsko-Mazurskie Region or Warmia-Masuria), WLP – wielkopolskie (Wielkopolskie Region or Greater Poland), ZPM – zachodniopomorskie Region or West Pomerania).

⁵ A. Potoczek (2003), p. 104.

⁶ Comp.: A. Potoczek (2001), p. 152.

⁷ See: Europe 2020: A European Strategy for Smart, Sustainable, and Inclusive Growth. (2010), pp. 5-6.

⁸ See in details: Strategia lizbońska – droga do zjednoczonej Europy. (2002).

It must be emphasized here that a direct stimulus to create the Treaty of Lisbon was a need to reduce the distance between European economy and American one⁹, whereas the basis for formulating an European strategy, namely Europe 2020, was the necessity to overcome a financial and economic crisis and returning on the path of development.

In the new EU strategy there are five headline targets as regards employment, innovation, climate change and energy and social inclusion. These targets are interrelated and complementary. Better education will help to decrease unemployment rates and it will have an influence on reducing poverty and putting pressure on R&D and innovations in economy connected with efficient allocation of resources will make EU Member States more competitive, but it also can foster job creation. Investments in green technologies will help to fight with climate change and simultaneously will create opportunities of development for both companies and employees. Progress as regards achieving these targets are (and will be) monitored by the means of eight indices, whose values are published by Eurostat¹⁰. These are the following headline indicators:

- Employment rate of population aged 20-64,
- Gross domestic expenditure on R&D as a percentage of GDP,
- Greenhouse gas emission (compared to year 1990),
- Share of renewable energy in gross final energy consumption,
- Primary energy consumption (in million tonnes of oil equivalent thus in Mtoe),
- Early leavers of education and training as a percentage of population aged 18-24,
- Tertiary educational attainment as a percentage of population aged 30-34,
- People at risk of poverty or social exclusion.

Target values of described above indicators, which EU should try to reach in 2020, have been determined at the following levels (respectively): 75%; 3%; -20%; 20%; 20%; 10%; 40%; 20 mln. It should be underlined that the values of specified indicators are different for particular EU Member States as these countries are diversified as regards levels of development and standards of living and that is why their current situation was taken into account and EU targets were translated into national targets. It was considered to be necessary in order to strengthen the efforts made by EU Member States to achieve targets of the strategy Europe 2020. In case of Poland the values of the indicators are as follows (respectively): 71%; 1,7%; 14%; 15,48%; 14; 4,5%; 45%; 1,5 mln.

2. Data Sources and Methodology of the Research

Achieving the first of the aforementioned aims of this article, namely, analyzing the situation of Polish regions as regards sustainable development is possible thanks to making use of numerous measures proposed by the multidimensional comparative analysis. This elaboration draws upon one of them – the Bray-Curtis measure, which allows to calculate the distance between a leader in the scope of balanced development and other Polish regions.

The starting point of calculating the mentioned above measure was the selection of variables describing the status quo with respect to sustainable development. The ideal solution would be using the headline indicators of Europe 2020 Strategy so the eight variables which are to monitor and measure the progress in achieving the targets.

⁹ In 2000 the average value of GDP *per capita* in the UE reached the level 69% of GDP *per capita* in the USA. Besides, in two biggest European countries, namely, Germany and France, the mentioned above European average was higher by only 4 and 3 percentage points respectively. See: A.P. Balcerzak, D. Górecka, E. Rogalska (2008), p. 78.

¹⁰ See: Eurostat – Statistics – Europe 2020 indicators.

Unfortunately the innovative character of these measures makes it impossible as their values are only known for particular EU Member States. In case of regions (level NTS-2) not all the indicators are accessible. Due to lack of some data for a regional level, in this article some of the headline indicators have been used, and not accessible ones have been replaced with the closest indices. Finally, the following variables (indicators)¹¹ have been chosen:

- Employment rate of population aged 20-64 in % (S),
- Gross domestic expenditure on R&D as a percentage of GDP in % (S),
- Greenhouse gas emission from the burdensome factories in t/year/km2 (D),
- Share of renewable energy in gross final energy consumption in % (S),
- Early leavers of education and training in % (D),
- Tertiary educational attainment as a percentage of population aged 30-34 in % (S),
- People at risk of relative poverty in % (D).

The information with respect to values of particular variables (indicators) in 2012 (in some cases 2011) were obtained from two sources: the Central Statistical Office (Local Data Bank) and the Eurostat database¹².

The next step involved standardizing the selected variables in order to unify their orders of magnitude so the following formula has been applied¹³:

$$z_{ij} = \frac{x_{ij} - \min_{i} \{x_{ij}\}}{\max_{i} \{x_{ij}\} - \min_{i} \{x_{ij}\}}$$
(1)

$$z_{ij} = \frac{\min_{i} \{x_{ij}\} - x_{ij}}{\max_{i} \{x_{ij}\} - \min_{i} \{x_{ij}\}}$$
(2)

where:

 z_{ij} – standardized value of the j-variable in the i-region,

 x_{ij}^{\dagger} – empirical value of the j-variable in the i-region,

 $\max\{x_{ij}\}$ – maximum value of the j-variable,

 $\min_{i \in X_{ij}}$ – minimum value of the j-variable,

i – consecutive number of the region (i = 1, 2, ..., n=16),

j – consecutive number of the variable (j = 1, 2, ..., m=7).

Calculating the Bray-Curtis measure, thus as mentioned before, the distances (the gap) between the leader region with respect to sustainable development and other regions required pointing out this leader.

It was the region for which the sum of all the standardized values of variables was the highest (maximum)¹⁴. Ultimately, the Bray-Curtis dissimilarity index was calculated making use of the following formula¹⁵:

¹¹ Among the variables there are both stimulants (S) which means that higher values translate into a better situation as regards sustainable development and destimulants (D) whose lower values mean better situation in this respect. Comp.: I. Bąk, A. Sompolska-Rzechuła (2007), p. 40.

¹² [Online] Available: http://www.stat.gov.pl, http://epp.eurostat.ec.europa.eu (30.01.2014).

¹³ F. Wysocki (2008), p. 40.

¹⁴ In the analysis the system of assigning the same scales was applied, which means that all the variables were treated as equivalent (of the same importance). This system is often used in practice by professionals working on estimating the level of socioeconomic development of spatial units. See: M. Cierpial-Wolan, E. Wojnar (2001), p. 78.

¹⁵ Comp.: D. Strahl (Ed.) (2006), pp. 69-70.

$$d_{li} = \frac{\sum_{j=1}^{m} |z_{lj} - z_{ij}|}{\sum_{j=1}^{m} z_{lj} + \sum_{j=1}^{m} z_{ij}}$$
(3)

Where:

 z_{ij} – standardized value of the j-variable in the leader region, z_{ij} – standardized value of the j-variable in the i-region.

The obtained values d_{ii} indicated the distance of i-region in relations to the leader region as regards sustainable development. The closer the value of d_{ii} to zero, the higher chances of the regions were to reach the headline and measurable targets indicated in the strategy called Europe 2020. On the other hand, the value close to 1 implied that the region was left behind and did not achieve the objectives guite well.

For the purpose of the further analysis all the regions were put in order on the basis of the distance to the leader region and afterwards assigned to five groups¹⁶ – from A to E, with the use of the following formula:

$$\frac{\max d_{li} - \min d_{li}}{5} \tag{4}$$

In group A appeared the regions which are the most similar to the leader region (similar values of the variables selected to diagnose the sustainable development) and group E consisted of regions which were the furthest from the leader region, thus the regions failing to follow the suit as regards achieving the strategic targets.

Accomplishing the other goal of this elaboration was much less complicated in the methodological sense, contrary to achieving the first aim of this paper. The goal was reached through analyzing the contents of regional development strategies, which allowed to point out whether the issues and targets specified in the new European strategy were translated into strategic and operational objectives included in particular regional development strategies. The documents concerning regional development strategies of different provinces were downloaded from their websites in January 2014.

3. Diagnosis of Regional Situation with Respect to Sustainable Development

The results of calculations allow to state that Mazowieckie Region was in 2012 the leader region with regard to sustainable development as the total value of the standardized variables was the highest. The advantage of this region over the remaining ones was due to the highest values of three out of seven stimulants, which were selected to show an actual situation as regards sustainable development (employment rate of population aged 20-64, gross domestic expenditure on R&D as a percentage of GDP and tertiary educational attainment as a percentage of population aged 30-34). Other regions, closer or further from the leader region, were classified into five groups (table 1).

¹⁶ The number of groups was determined with the use of the following formula: $k \approx 1 + 3{,}322 \log n$. Comp.: J. Zaród (2009), p. 246.

	g											
Group	Value of measure	Mean distance	Number of regions per	Regions								
			group									
Α	0,4338-0,7307	0,5718	5	MAŁ, PDL, WLP, POM, PKR								
В	0,7308-1,0276	0,8942	4	DLŚ, ŚWK, ŁDŹ, K-P								
С	1,0277-1,3244	1,1724	4	OPO, ŚLS, LBL, ZPM ,								
D	1,3245-1,6213	1,5217	1	LBS								
E	1,6214-1,9182	1,9182	1	W-M								

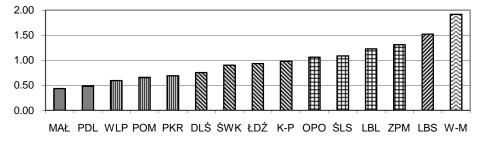
Table 1: The Distances between the Groups of Polish Regions and Mazowieckie Region – the Leader with Regards to Sustainable Development (Bray-Curtis Measure)

Source: own elaboration on the basis of data from the Central Statistical Office and Eurostat.

Regions which have the highest chance to achieve headline and measureable targets described in the European strategy called Europe 2020, are, except for Mazowieckie Region, Malopolskie Region, Podlasie Region, Wielkopolskie Region, Pomorskie Region and Podkarpackie Region.

Nevertheless, it is difficult to call the regions from group A leaders because the average distance from Mazowieckie Region is 0,5718 (clear disparity), thus it would be better to name them the followers¹⁷. Undoubtedly, among such followers can be also regions: Dolnośląskie Region, Świętokrzyskie Region, Lodzkie Region and Kujawsko-Pomorskie Region as they are characterized by relatively high values (in case of stimulants) and low values (in case of destimulants) of the selected variables. A moderate or big distance from the leader is observed in case of four regions constituting group C – Opolskie Region, Śląskie Region, Lubelskie Region and Zachodniopomorskie Region. Regions which probably have the lowest opportunity to achieve targets described in Europe 2020 Strategy are the regions located in the west and north-west of Poland, namely Lubuskie Region and Warmińsko-Mazurskie Region. Taking into account the fact that their distance to Mazowieckie Region is respectively 1,5217 and 1,9182 they can be undoubtedly defined as outsiders.

Fig. 1: The Distances of Particular Regions to Mazowieckie Region - the Leader with Regard to Sustainable Development (Bray-Curtis Measure)



Source: own elaboration on the basis of data from the Central Statistical Office and Eurostat.

In the context of all these reflections the question arises whether the issues brought up in the new European strategy are translated into targets, priorities and operations included in particular regional development strategies, particularly in the strategy of Mazowieckie Region as the leader and the strategies of outsiders, namely Lubuskie Region and Warmińsko-Mazurskie Region. The next paragraph of this paper was committed to finding the answer to this question.

¹⁷ Podlasie and Podkarpackie Regions are of special interest here as they are the regions which in socio-economic development research usually classified at the lowest positions. These regions belong to group A due to low greenhouse gas emission from the burdensome factories and relatively low percentage of early leavers of education and training.

4. Europe 2020 Targets and Objectives of the Regions

The timeframe of all regional strategies, except for Mazowieckie and Warmińsko-Mazurskie Regions, is the year 2020, which is in accordance with the timeframe of the new European strategy Europe 2020¹⁸. The analysis of their contents allows to ascertain that the hierarchy and the number of objectives of regional development are diversified. Nevertheless, in any strategic document of each region four out of five EU headline targets have been incorporated to higher or lower extent, namely objectives concerning employment, innovation, climate change and energy (particularly renewable energy) and social inclusion. On the other hand, issues connected with education, which is one of the principal European strategy target, was treated perfunctorily. Admittedly, in the regional strategies it was emphasized that there is a necessity to provide education in order to meet labour market requirements, but not much attention was paid to the percentage of early school leavers and the percentage of people with university degree. The reasons of such conduct can be explained by the values of the aforementioned indices, the former is very low (5,7%) and the latter at high level (39,1%) comparing to the average of all EU Member States (respectively: 12,7% and 35,7%).

The differences between regional strategies and the strategy Europe 2020 concern mostly the way of defining certain rates used for monitoring the progress of strategy implementation. Since in many cases indices taken into consideration in regional strategies are completely different from eight measures proposed in the European strategy. The discrepancies are in particular visible as regards climate change and energy. In the strategy Europe 2020, as it has been mentioned before, climate change and energy are monitored by three indices: greenhouse gas emission dynamics (compared to year 1990), share of renewable energy in gross final energy consumption and primary energy consumption (in Mtoe). One of the mentioned above rates, namely share of renewable energy is identically formulated in almost all regional strategies. With respect to other two indices they are usually defined in different ways. In most cases the level of greenhouse gas emission and energy efficiency are not taken into account, but respectively the level of air pollution or gas and dust emission and the issues concerning energy network modernization.

¹⁸ Timeframe described in a strategic document for Mazowieckie Region reaches 2030 whereas Warmińsko-Mazurskie Region – 2025.

Table 2: The Relation between Targets of Europe 2020 Strategy and Objectives of Regional Development¹⁹

Region	Strategic document title	Date of enacting	Targets and indicators of the Strategy Europe 2020 ²⁰							
		or updating the strategy	Α	В	С	D	E	F	G	Н
DLŚ	The Development Strategy of Dolnośląskie Region 2020	28.02.2013	++	++	+	++	++	+	+	+
K-P	The Development Strategy of Kujawsko- Pomorskie Region by 2020	21.10.2013	++	+	+	++	+	+	+	++
LBL	The Development Strategy of Lubelskie Region for 2014-2020	24.06.2013	++	++	+	++	+	0	0	++
LBS	The Development Strategy of Lubuskie Region 2020	19.11.2012	++	++	+	++	+	0	0	++
ŁDŹ	The Development Strategy of Lodzkie Region 2020	26.02.2013	++	++	+	++	+	0	+	+
MAŁ	The Development Strategy of Malopolskie Region for 2011-2020	26.09.2011	++	++	+	++	+	0	+	++
MAZ	The Development Strategy of Mazowieckie Region by 2030	28.10.2013	++	+	+	++	+	0	0	++
OPO	The Development Strategy of Opolskie Region by 2020	15.12.2012	++	++	+	+	+	0	+	++
PKR	The Development Strategy of Podkarpackie Region 2020	26.08.2013	++	+	+	++	+	0	0	++
PDL	The Development Strategy of Podlaskie Region by 2020	19.03.2013	++	++	+	++	+	0	0	++
POM	The Development Strategy of Pomorskie Region 2020	24.09.2012	++	++	+	++	+	0	0	+
ŚLS	The Development Strategy of Śląskie Region "Śląskie 2020+"	01.07.2013	++	++	+	++	++	0	+	++
ŚWK	The Development Strategy of Świętokrzyskie Region by 2020	16.07.2013	++	++	+	++	+	0	0	+
W-M	The Socio-Economic Development Strategy of Warmińsko-Mazurskie Region by 2025	25.06.2013	+	++	+	++	+	0	0	+
WLP	The Development Strategy of Wielkopolskie Region by 2020	17.12.2012	++	++	+	++	++	0	+	++
ZPM	The Development Strategy of Zachodniopomorskie Region by 2020	22.06.2010	+	+	+	++	+	0	+	++

Source: own elaboration on the basis of regional development strategies

As far as other matters are concerned such as employment, innovation and social inclusion discrepancies between European and regional indices are definitely smaller. For example, with regards to employment the strategy Europe 2020 makes use of employment rate of people aged 20-64, some regional strategies, by contrast, use the unemployment rate, which is the opposite of the employment rate. With respect to social inclusion EU introduces the rate based on the number of people at risk of poverty or social exclusion whereas the regional strategies use the number of people who get social benefits and gross disposable nominal income.

Summing up the reflections described in this part of the elaboration it can be stated that between the strategy of Mazowieckie Region, the leader with regards to sustainable development, and the strategies of outsiders (Lubuskie Region and Warmińsko-Mazurskie Region) there are not any fundamental differences as concern the way of defining the indices applied in the strategy Europe 2020. On the other hand, while analyzing the strategic documents of all regions and taking into account the similarity to rates used by EU, the convergence is relatively high in case of Dolnośląskie Region and the lowest in Warmińsko-Mazurskie Region.

¹⁹ The symbols put into the table indicate how the issues and targets described in the strategy Europe 2020 were translated into objectives, priorities and operations included in particular regional development strategies. Symbol ++ means reflected directly, + reflected indirectly, whereas 0 reflected marginally or at all.

²⁰ A – employment rate of population aged 20-64; B – gross domestic expenditure on R&D as a percentage of GDP; C – greenhouse gas emission (compared to year 1990); D – share of renewable energy in gross final energy consumption; E – primary energy consumption (in Mtoe); F – early leavers of education and training; G – tertiary educational attainment as a percentage of population aged 30-34; H – people at risk of poverty or social exclusion.

Conclusions

The management of regional development is a range of actions taken in order to achieve the desired results of implemented processes and to influence various phenomena within the regional space. These operations are connected with setting goals and finding the ways to accomplish them. In a dynamically changing environment shaped by tight interdependence and interaction of globalization, competition and innovation, setting these objectives and effective ways of their realization is necessary, but at the same time very difficult for self-governments – particularly in the situations when these authorities have limited competencies and opportunities to affect independent entities operating within the region²¹. In the light of this view and also reflections mentioned in the introduction of this elaboration, it should be explicitly concluded that the management of regional development is virtually impossible without an appropriate development strategy, which is the fundamental tool of management. There is no doubt that a strategy should help to stimulate the regional development and simultaneously the objectives enunciated in them should be in line with development targets of European and national strategic documents.

On the basis of the results of multidimensional comparative analysis it can be pointed out that the best situation with regards to sustainable development takes place in Mazowieckie Region, the leader with highest chances to achieve targets of Europe 2020 Strategy. The regions situated in west and north-west parts of Poland, namely Lubuskie Region and Warmińsko-Mazurskie Region are characterized by relatively the worst situation in the considered period, therefore they were called outsiders. On the other hand, the analysis of the content of particular regional development strategies allows to arrive at the conclusion that the issues mentioned in the new European strategy are, to higher or lower extent, reflected in objectives, priorities and operations of particular regions. There are not any crucial differences between the regions in this respect even between Mazovia and Lubuskie and Warmińsko-Mazurskie Regions.

²¹ Comp.: G. Ślusarz (2006), p. 39.

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