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ORIGINAL PAPER

ECONOMIC AND LOGISTIC CONDITIONS OF THE WAREHOUSE MARKET IN POLAND

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ABSTRACT. **Background:** The publications can be found in the literature, which show the volumes of commercial warehouse areas in Poland. These data are used for evaluations of logistics attractiveness of voivodships. These evaluations influence decisions of local authorities, which create planning of territorial development and investment climate as well as decisions of investors, and as a consequence, they influence the economic regional development and local labor market. But the publications from various sources related to the subject of commercial areas of warehouses in various voivodships in Poland vary from each other and therefore they do not allow the evaluation of their real value.
The aim of this paper was the identification of economic and infrastructure factors and their influence on the size and dynamics of the increase of commercial warehouse areas in Poland together with the market evaluation.
Methods: The analysis of existing data covering available information about the characteristic features of the market of commercial warehouse areas in Poland was conducted. The following source documents were taken into account: reports prepared by research bodies and real estate agencies, materials and trade information published by owners of warehouse properties, professional press and opinion of market analysts. Additionally, the analysis of key success factors determining functioning of the market of warehouse areas was used as a tool of the strategic analysis.
Results: Based on the conducted researches the areas of commercial warehouses in Poland and in each voivodship were calculated. The key indicators stimulating the development of this area were presented. The most important types of investors were defined and their shares in total investigated area were estimated. The supply and the demand were estimated and the values of rental rates and indicators of unused areas were given. The group of tenants was described as well as the structure of signed agreements and their share in total rental market. The author used also some of his own researches published in reports on the condition of the logistics in Poland.
Conclusions: There is a relationship between the range and the dynamics of increase of commercial warehouse areas and the economic conditions (described by key macro-economic indicators) and the development of transport infrastructure as well as local economic and social conditions.
Obtained results can be used by local authorities in territorial development and as a support for economic decisions, as well as by investors interested in construction of warehouses and their renting. The variability in time of presented values and their dependences on various factors shows the purposefulness of further researches in this area.

Key words: logistics, warehousing, rent, warehouse area.

INTRODUCTION

The concept of a modern warehouse area describes the warehouse objects having such parameters like: minimum storage height 9 m, at least one gate for each 1000 m^2 of total warehouse area, minimum 5% of total buildings area assigned for offices, dust-free floor of minimum construction strength 5 t/m^2, fire protection system including sprinklers and smoke flaps [Fechner, Szyszka 2010]. The warehouse with such parameters is called as warehouse of A class. Such objects are usually grouped in warehouse centers [Kisperska-Moroń, Krzyżaniak 2009] or logistics centers, still not very popular in Poland [Fechner, Krzyżaniak 2013]. Due to the fact, that some

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warehouse objects do not comply with those requirements but show other features, confirming their modernity, e.g. BTS objects ("built to suit" – an object built according to special needs of future users of the object) designed specially according to individual requirements [Kolińska 2015], the concept of "modern warehouse area" in this paper was replaced by the concept "commercial area", which described better the object of this research. The information about commercial warehouse areas in Poland is published mainly by real estate agencies and developers in a form of market information, reports and rent offers. The published data are used for the evaluation of logistics attractiveness of individual voivodships. These evaluations influence decisions of local authorities in the area of territorial development and the climate for investments as well as decisions of investors which finally results in the economic development of regions and local labor markets. Due to the fact that information about warehouse areas in Poland originated from various sources is different from each other, they do not allow estimating their real values. The aim of this paper is their verification and creating the evaluation of commercial warehouse areas in Poland together with directions of their development.

Poland is seen as the biggest market of commercial warehouse areas in Central and Eastern Europe. The biggest world industrial developers are active here and the whole area of warehouses built for rent purposes are estimated to be between 9 and 10 M m^2. The accessibility of modern warehouse area is one of key parameters influencing the localization decision process of production, trade and service companies.

TOTAL LONG-TERM COMMERCIAL WAREHOUSE AREA IN POLAND

The process of economic transformations in Poland, started in 1989, resulted in appearance of foreign production, trade and service companies on Polish market, which are responsible for new quality in the area of logistics. They also created the demand for modern warehouse objects, not present before 1989, when the needs for warehouses were covered by domestic companies by themselves. Additionally the local warehouse objects did not comply with requirements of participants of logistics market. The response to lack of modern warehouses for rent was the appearance of industrial developers mainly of foreign origin, which started the construction of warehouses of new generation [Droździecki 2012, Cieliczko, Jędrak 2014, Becker, Fronia, Nyhuis 2015, Hertog et. al 2014]. As a consequence of starting the process of building the large area warehouse objects (area of which is from few to few dozen thousands m^2), the tenants of A class could cover their warehouse's demands.

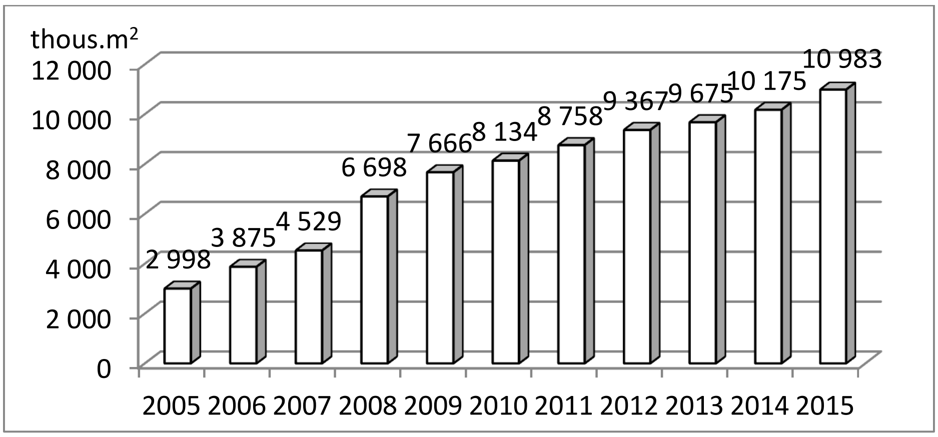

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Fig. 1. Commercial warehouse areas in Poland in 2005-2015
Rys. 1. Komercyjna powierzchnia magazynowa w Polsce 2005-2015

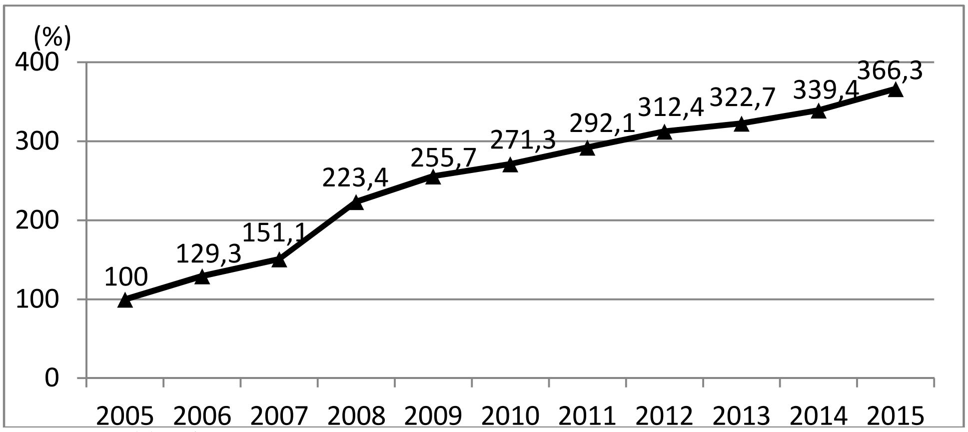

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Fig. 2. Dynamics of growth of commercial warehouse areas in Poland in years 2005-2015 (year 2005 = 100)
Rys. 2. Dynamika wzrostu wielkości komercyjnej powierzchni magazynowej w Polsce 2005-2015 (rok 2005 = 100)

Years 2005-2015 are characteristic for constant growing of the area of commercial warehouse areas, put in operation every year (Fig. 1). Poland became a leader in this area in Central and East Europe during above mentioned period. The yearly growth of warehouse area showed various dynamics (Fig. 2), the highest one could be observed in years 2007-2008, which due to good economic situation resulted in many new warehouse investments, only in approx. 50% secured by preliminary rent agreements (so called speculative areas) [Fechner, Szyszka 2010]. During the subsequent years developers resigned totally from building speculative areas due to world financial crisis and economic stagnation [Fechner, Szyszka 2012].

The optimism returned on the investment market in years 2013-2015 and the biggest increase of new warehouse areas was observed in 2015 (taking into account the period since 2008) as well as the started investments in 2015 contributed to good results in the following year [Fechner, Szyszka 2016].

The surface of new warehouse areas delivered on the market depends mainly on economic conditions and the localization of new warehouse objects depends mainly on local conditions such as: the quality of transport infrastructure, labor market, economic activity and many other conditions of minor importance [Kolińska K. 2014, Skerlic 2013, Bakhtizin 2016, Leeuw, Wiers 2015].

The table 1 presents the dynamics of changes in the commercial warehouse areas in relation to selected economic indicators. There is a correlation between the area of warehouses delivered to the market and those economic indicators. Due to the length of realization of warehouse investments (usually covering the period of 6 to 10 months) the changes of the indicator of warehouse area is postponed one year in comparison to other indicators mentioned in the presented table. The year 2008 was a special year, the world financial crisis started in this year which decreased economic indicators for the following years, especially visible for indicators of the dynamics of import and export of goods and for transport and warehouse management. The objects, the construction of which was started before the beginning of the crisis, were quickly forwarded to the utilization by developers, who were afraid of possible growing credit costs and lack of renters. The following years presented in the table were the period of overcoming the results of the crisis, accompanying with the uncertainty of the stability and trends of changes observed in the economy [Lindsey et.al. 2014, Rivera 2014].

The high indicator of the dynamics of the increase of warehouse area in 2008 is the consequence of this shift. Many investments started in 2008 were the results of optimism from previous years. The confirmation of this was the fact, that more than 50% of all these investments were not confirmed by preliminary rent agreements.

Table 1. Dynamics of changes of surface of commercial warehouse areas in relation with some economic indicators y/y (5)
Tabela 1. Dynamika zmian wielkości komercyjnej powierzchni magazynowej w odniesieniu do wybranych wskaźników gospodarczych r/r (%)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Gross domestic product	103,6	106,2	106,8	103,9	102,6	103,7	105,0	101,6	101,3	103,3
Global production	103,9	108,4	109,0	104,7	99,2	104,4	104,9	100,3	101,1	102,9
Import of goods and services	104,7	117,3	113,7	109,4	87,6	114,0	105,8	99,7	101,7	110,0
Export of goods and services	108	114,6	109,1	107,0	93,7	112,9	107,9	104,6	106,1	106,4
Total consumption y/y	104,7	108,9	112,2	109,3	102,4	106,7	108,4	102,4	99,3	104,5
Production – transport and warehouse management	104,4	109,5	108,0	102,3	95,5	101,4	106,0	105,0	103,5	104,6
Dynamics of changes of warehouse areas	110,9	129,3	116,9	147,9	114,5	106,1	107,7	107,0	103,3	105,2

Source: own elaboration based on Polish Statistical Annual 2005-2015

Table 2. Infrustructure of rail and road transport in year 2005-2015
Tabela 2. Infrastruktura transportu kolejowego i drogowego w latach 2005-2015

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Railway lines used (km)	19 843	19 763	20 107	19 797	20 007	20 171	20 089	20 113	19 979	19 240	19 231
Railway lines used y/y (%, 2005=100)	100,0	99,6	101,3	99,8	100,8	101,7	101,2	101,4	100,7	97,0	96,9
Public roads harded (km)	253 781	255 543	258 910	261 233	268 372	273 760	280 401	280 719	283 561	287 650	290 654
Public roads harded y/y (%, 2005 = 100)	100,0	100,7	102,0	102,9	105,7	107,9	110,5	110,6	111,7	113,3	114,5
Highways and express roads (km)	810	960	993	1 217	1 371	1 532	1 808	2 418	2 726	3 004	3 051
Highways and express roads y/y (%, 2005 = 100)	100,0	118,5	122,6	150,2	169,3	189,1	223,2	298,5	336,5	370,9	376,7

Source: own elaboration based on Polish Statistical Annual. Transport report 2004-2016 (data for roads in 2015 – estimated)

The indicator of the increase of warehouse areas in following years was in correlation with other indicators shown in the table 1. In 2014 its value was grown and the following year confirmed that it was not a one year tendency. According to author's calculations the indicator of increase of commercial warehouse area in 2015 was equal to 107,9. It was not included in the table 1 due to fact there was no official statistic data for year 2015 (published by Central Statistical Office).

The accessibility and the quality of the transport infrastructure was another important factor, taking into account by investors and as the consequence also by developers during choosing the warehouse localization due to the fact, that it is correlated with the speed and reliability of logistics service and its costs. The data about the infrastructure of railway and road transport in Poland in year 2005-2015 are presented in the table 2 [Dobrosze, Szychta 2015].

The users of warehouse area being the object of this research usually do not use railway transport because it does not fulfill their high expectations regarding speed and punctuality of transport services. There are only sparse warehouse centers which have the infrastructure suitable for railway transport. Therefore most of commercial warehouse areas are located near road crossing of highways and express roads with local roads. Another factor, which is taken into account during localization decision, is the local labor market, especially the access of employees, their qualifications and labor costs. The influence of this factor was especially visible in year 2014 and 2015, where the depletion of human resources in previous localizations of warehouses was observed but also the improvement of transport infrastructure causes the inflow of warehouse investments to voivodships, which until that moment were out of interest of investors.

COMMERCIAL WAREHOUSE AREA IN YEARS 2011-2015

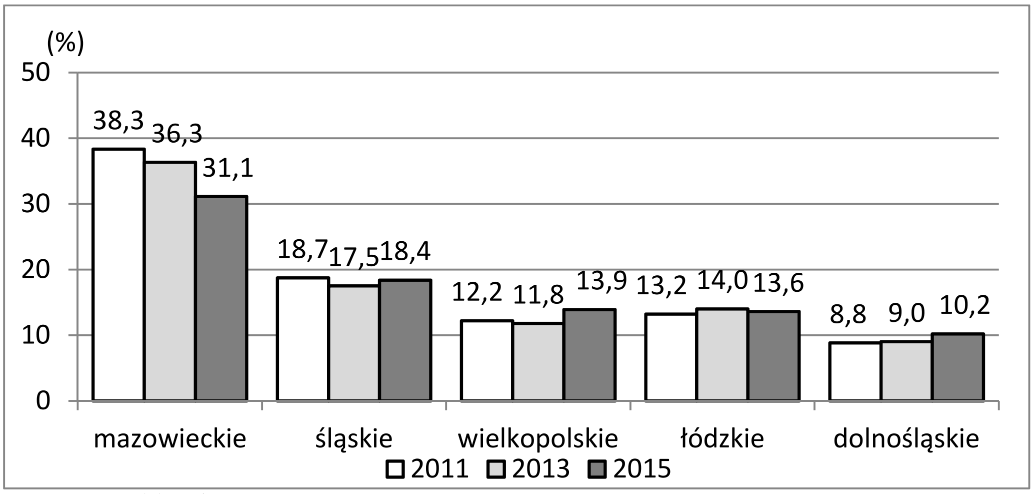
The further increase of commercial warehouse areas was observed in years 2011-2015 (Fig. 1 and Fig. 2). The quantity of unused warehouse area was reduced by a half and developers came back to the practice to build new objects not covered with preliminary rent agreements. There were no such investments in 2011 year because there were free warehouse areas on the market built in previous years. In 2013 year, 5% of all new warehouse areas were of speculative character, i.e. not secured with rent agreements and in 2015 year this indicator was equal to 25%. The results within the investigated period were very diverse. The weakest one was 2013 year, the only approx. 300 thousand m^2 were delivered to the market and the best one was 2015 year when more than 800 thousand m^2 were built. The commercial warehouse areas in 2015 shares in relation to voivodships are presented in the table 3.

Table 3. Commercial warehouse area in 2015
Tabela 3. Komercyjna powierzchnia magazynowa w 2015 r.

Voivodship	Area (thousand m^2)
dolnośląskie	1118
kujawsko-pomorskie	194
lubelskie	48
lubuskie	38
łódzkie	1490
małopolskie	322
mazowieckie	3450
opolskie	117
podkarpackie	150
podlaskie	0
pomorskie	307
śląskie	2024
świętokrzyskie	15
warmińsko-mazurskie	2
wielkopolskie	1529
zachodniopomorskie	179
Total	10983

Source: own elaboration

The voivodships of largest commercial warehouse areas are as follows: mazowieckie, śląskie, wielkopolskie, łódzkie and dolnośląskie. Their shares in total area are presented at the figure 3.



Source: own elaboration

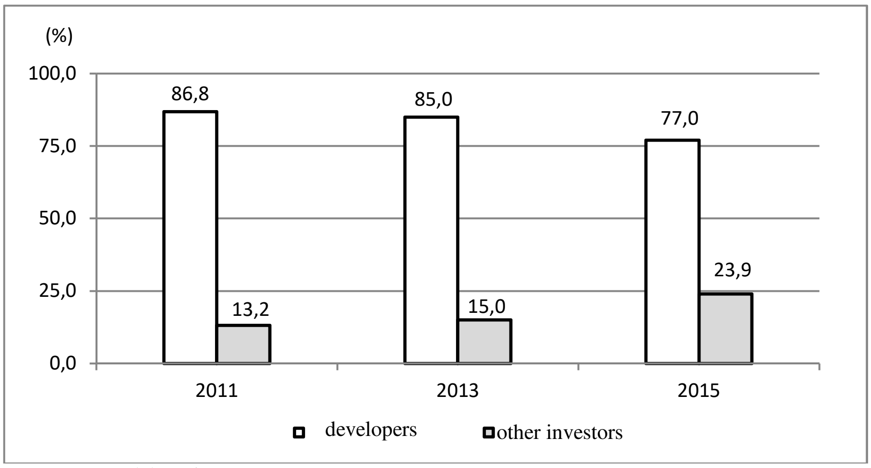
Fig. 3. Voivodships, which share in total commercial warehouse area in years 2011-2015 was bigger than 5%.
Rys. 3. Województwa, których udział w całkowitej komercyjnej powierzchni magazynowej w latach 2011-2015 r. był większy od 5%

The biggest dynamics of the increase in years 2013-2015 was observed in Wielkopolska voivodship, where the increase of the share in total area was 13,9% (equal to 388 thousands m^2) and in Slask voivodship, where the increase of share in total area of 18,4% was equal to the growth of warehouse area by 328 thousands m^2. There were various reasons for such growth. In case of Wielkopolska voivodship, investors were very careful in previous years and therefore the lowest indicator of unoccupied area. On the other hand, in case of Slask voivodship, besides the economic potential of the region, the main growth factor was the development of the transport infrastructure and it was received as the possibility to provide services to clients located also outside the south border of Poland. Since 2014 year, the growing interest of investors and tenants can be observed regarding such voivodships as kujawsko-pomorskie, lubelskie and podkarpackie (table 4), which origins from the improvement of transport infrastructure and effects of public local authorities to promote these regions among new business partners.

Table 4. Commercial warehouse area in selected voivodships in 2012-2015 (in k m^2)
Tabela 4. Komercyjna powierzchnia magazynowa w wybranych województwach 2012-2015 (tys.m^2)

Voivodship	2012	2013	2014	2015
Kujawsko-pomorskie	102	132	150	194
lubelskie	3	3	43	48
podkarpackie	83	83	143	150

Source: own elaboration



Source: own elaboration

Fig. 4. The share of industrial developers in investments related to commercial warehouse areas
Rys. 4. Udział deweloperów przemysłowych w inwestycjach dotyczących komercyjnej powierzchni magazynowej

The decreasing domination of mazowieckie voivodship is caused mainly by high prices of estates, their decreasing accessibility and high labor costs.

During the investigated period, most of investors were industrial developers, but for the first time, their share in the real estate market started to decrease (Fig. 4). After returning of the prosperity, the new group of investors such as international investment funds appeared on the market. At the end of 2015 year they had already app. 11% of total commercial warehouse areas i.e. app. 1,2 M m^2. The previously mentioned developers are also among these investment funds, who gave a charge over their shares together with the management of them, releasing in this way their own funds for new investments. There were also some rotations of warehouse centers and individual objects among developers by using the sale purchase contracts. The high activity in this area was shown by P3 (purchase of 340 k m^2) and SEGRO (purchase of 128 k m^2).

SUPPLY AND DEMAND

2,8 M m^2 of new commercial warehouse area was provided to the market in years 2011-2015. At the same period there were significant changes in the structure of owners of warehouse objects for rent. Previously, two developers, i.e. Prologis, Inc. and Panattoni Europe had a dominant position, during the investigated period, their market share was reduced in favor for other investors (table 5), mainly new investors on the developers' market. Their share in total warehouse estates in 2015 was app. 22%. The totally new group of investors was foreign investment funds, which usually did not built new warehouse objects but took over the existing ones by purchasing them and limited their activities only to management of them. Their share in total commercial warehouse area in 2015 was more than 11%. Only small part of them started development activity.

Table 5. Investors' shares in total commercial warehouse area in years 2011-2015 (%)
Tabela 5. Udziały inwestorów w wielkości komercyjnej powierzchni magazynowej ogółem w latach 2011–2015 (%)

Investor	2011	2013	2015
Prologis, Inc.	41	28	21
Panattoni Europe	21	19	12
Segro	7	7	8
Goodman	6	6	4
MLP Group	3	6	4
Point Park Properties	2	3	2
CLIP Group	2	1	1
Others	19	30	48
Total	100	100	100

Source: own elaboration

Another significant trend was the increase of investments uncovered by preliminary rent agreements. Their share in total new warehouse areas, provided to the market in 2015, was more than 25%. Such investments were rarely conducted in years 2011-2014, during the period just after the world financial crisis and economic stagnation. There were also changes within the group of tenants in that period. In 2011, the biggest group consisted of trade companies, when in 2015 the biggest group was created by logistics companies (table 6). The interesting group of tenants consisted of companies described by real estate agencies as light production companies (production of small paper goods, simply assembly, etc). The increase of companies occupying with paper documents archiving services could be also observed.

Table 6. Tenants of commercial warehouse area in 2011-2015 (%)
Tabela 6. Najemcy komercyjnej powierzchni magazynowej 2011–2015 (%)

Tenants	2011	2012	2013
Logistics	32	38	43
Distribution/trade	46	45	38
Light production	5	7	10
Others	17	10	9

Source: own elaboration

The development of e-commerce caused the appearance of new requirements of tenants. It concerns mainly the quantity of loading gates in relation to total warehouse area, larger office and social areas, larger parking areas for delivery trucks as well as for personal cars of employees, the number of which in case of e-commerce is higher comparing to warehouse of a traditional trade.

In years 2011-2015 the changes in economic situation were connected to the area of unused objects (table 7). At the beginning of this period the owners of warehouse objects had problems with finding new tenants as well as with keeping the hitherto ones.

Table 7. Area of unused objects in years 2011-2015 (%)
Tabela 7. Wielkość pustostanów w latach 2011-2015 (%)

Voivodship	2011	2013	2015
dolnośląskie	9,1	9,0	6,3
kujawsko-pomorskie	*	*	1,9
łódzkie	9,2	13,0	3,3
małopolskie	8,7	10,0	2,7
mazowieckie	16,2	15,0	8,2
podkarpackie	*	*	5,1
pomorskie	10,9	9,0	6,5
śląskie	7,7	6,0	5,6
wielkopolskie	3,9	5,0	2,8
zachodniopomorskie	*	9,0	6,3

* data not available
Source: own elaboration

The areas of unused objects in various regions of the country are much diversified. In years 2011-2013, the highest values of unused areas' indicator were recorded in mazowickie and lodzkie voivodships, which had the largest commercial warehouse area. In case of pomorskie voivodship, the value of this indicator was a consequence of small total warehouse area in comparison to not rented ones. The first signs of growth on the market of warehouse estates were noticed in years 2014-2015. Developers provided 400 th. m^2 of new warehouse areas more than in two previous years and despite of that the indicator of unused areas decreased 30-50% and in pomorskie and lodzkie voivodships even by 70%.

The interesting situation occurred in wielkopolskie voivodship. Despite the fact, that in 2015 the biggest part of new provided warehouse areas (equal to 390 k m^2) was recorded in wielkopolska voivodships, the unused area indicator in this voivodship was reduced to 2,9%, which was the lowest one in the whole country. The market of industrial real estates in this region has features of next investment boom. New warehouse objects are built mainly in surroundings of Poznan city in such locations like: Gądki, Jaryszki, Robakowo and Komorniki and in the vicinity of the road junction of A2 highway near Buk.

Rental rates in investigated period covered wide range. The difficult for warehouses' owners period lasted till 2013 year, when the rental rates were the lowest ones (table 8). In 2015 year the rental rates increased despite the fact, that more than 800 k m^2 of new warehouse areas were provided to the market in this year – the higher volume for investigated period of 5 years.

Table 8. Monthly rental rates for commercial warehouse areas in years 2011-2015 EUR/m^2
Tabela 8. Miesięczny czynsz za najem komercyjnej powierzchni magazynowej w latach 2011-2015 EUR/m^2

Voivodship	2011		2013		2015	
dolnośląskie	Nominal	Effective	Nominal	Effective	Nominal	Effective
kujawsko-pomorskie	3,00-3,90	2,50-3,30	2,30-3,00	2,00-2,60	3,0-3,6	2,6-3,1
lubelskie	*	*	2,90-3,30	2,50-2,90	2,5-3,3	2,1-2,8
małopolskie	*	*	*	*	2,9-3,6	2,5-3,1
mazowieckie	3,00-3,90	2,50-3,30	2,50-4,00	2,20-3,5	2,6-4,2	2,2-3,6
podkarpackie	3,00-4,00	2,50-3,30	3,70-4,50	3,20-3,9	3,6-4,5	3,1-3,8
pomorskie	2,80-3,60	2,30-3,00	2,70-4,00	2,30-3,50	4,1-5,5	3,5-4,7
śląskie	*	*	*	*	3,0-3,6	2,6-3,1
wielkopolskie	3,30-4,00	2,80-3,30	2,70-3,20	2,30-2,80	3,0-3,5	2,6-3,0
zachodniopomorskie	3,00-3,60	2,50-3,00	2,40-3,40	2,10-3,00	2,8-3,6	2,4-3,1

* data not available
Source: own elaboration

The tenants had big possibilities for negotiations of rental rates. The effective rates were lower than nominal one and varied from 15 to 30% depended on the region. The highest ones were in Warszawa and mazowieckie voivodship as well in other voivodships, where there was smaller area of free warehouse objects available. The rental rates of objects designed for smaller tenants (for areas up to few hundred m^2 only) the rental rates were higher by app. 15%.

CONCLUSIONS

The domestic market of commercial warehouse areas in years 2011-2015 was in the phase of the growth. At the end of 2015 year, the total warehouse area in Poland was almost 11 M m^2, which was the biggest one in Central and Eastern Europe. During the whole investigated period, app. 2,8 M m^2 of new warehouse areas appeared on the market. 2015 year was the best one, when more than 800 k m^2 of new areas were given to tenants.

The rate of the growth of commercial warehouse areas depends on the economic conditions, which was confirmed by the correlation of the growth of this value with the values of economic indicators presented in this paper.

The area of newly constructed warehouse objects depends mainly on economic conditions but the localization of new warehouse objects depends mainly on the accessibility of transport infrastructure and its quality, as well as the availability of employees on local labor markets and business climate created by local authorities.

New warehouse objects are located in the surroundings of road junctions of highway and express roads, having good connections with local roads. The railway infrastructure was not of big interest for tenants in contrary to prices of real estate as well as the building conditions.

The dominant group among investors constructed warehouses for a rent, is a group of industrial developers, their share in total warehouses market in 2015 was equal to 77%, but at the same time, its share decreased in the investigated period. Within this group it could be observed the decreasing domination of two biggest developers Prologis, Inc. and Panattoni Europe due to the fact, that the investment attractiveness of the industrial estates market attracts new investors.

During the investigated period, a new group of investors appeared on the market. They consisted of investment funds, which were interested mainly in purchasing of already built warehouse objects and their management, but which started the development activities only in the limited range.

The development of e-commerce caused the appearance of new requirements of tenants regarding the warehouse buildings and their surroundings. Tenants expect higher quantity of loading gates, increased social areas (due to increased number of employees), increased office areas and parking areas for delivery trucks as well as for personal cars of employees. It requires the construction of new warehouse objects and accelerated getting out-of-date of already existing objects.

The problems to recruit employees and the increase of labor costs, connected with such situation, in localization regarded previously for attractive ones, causes the change of investors' interest to regions, where such labor situation does not exist.

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UWARUNKOWANIA GOSPODARCZE I LOGISTYCZNE RYNKU POWIERZCHNI MAGAZYNOWYCH W POLSCE

STRESZCZENIE. **Wstęp:** W literaturze publikowane są dane dotyczące wielkości komercyjnej powierzchni magazynowej w Polsce, które są wykorzystywane do oceny atrakcyjności logistycznej poszczególnych województw. Oceny mają wpływ na decyzje organów samorządowych kształtujących politykę przestrzenną i klimat inwestycyjny oraz na decyzje inwestorów, a poprzez nie na rozwój gospodarczy regionów i lokalne rynki pracy. Jednak publikowane w różnych źródłach dane dotyczące wielkości komercyjnej powierzchni magazynowej w poszczególnych województwach w Polsce są zróżnicowane i nie pozwalają ocenić ich rzeczywistych wartości.
Celem pracy jest identyfikacja czynników ekonomicznych i infrastrukturalnych oraz ich wpływu na wielkość i dynamikę wzrostu komercyjnej powierzchni magazynowej w Polsce wraz z oceną rynku.
Metody: Analiza danych zastanych obejmująca przegląd dostępnych danych i informacji pozwalających na charakterystykę rynku komercyjnej powierzchni magazynowej w Polsce. Analizie zostały poddane raporty instytucji badawczych i agencji nieruchomości przemysłowych, materiały i informacje handlowe publikowanie przez właścicieli nieruchomości magazynowych, prasa branżowa oraz opinie analityków rynku. Ponadto zostało wykorzystane narzędzie analizy strategicznej w postaci analizy kluczowych czynników sukcesu determinujących funkcjonowanie rynku powierzchni magazynowych.
Wyniki: Na podstawie przeprowadzonych badań obliczono wielkość komercyjnej powierzchni magazynowej w Polsce i w poszczególnych województwach w badanym okresie, oraz kluczowe czynniki warunkujące jej rozwój. Wskazano najważniejsze rodzaje inwestorów i określono ich udziały w wielkości badanej powierzchni. Oceniono podaż i popyt, a dla poszczególnych województw dysponujących tego rodzaju powierzchnią magazynową podano wartości stawek czynszu oraz wskaźniki powierzchni niewynajętej. Wskazano także branże występujące w grupie najemców oraz rodzaje zawieranych umów najmu i ich udział w wielkości najmu ogółem. Autor wykorzystał również w niniejszym artykule część wyników badań własnych opublikowanych w raportach dotyczących stanu logistyki w Polsce.

Wnioski: Istnieje zależność pomiędzy wielkością i dynamiką wzrostu komercyjnej powierzchni magazynowych, a stanem gospodarki wyrażonym za pomocą kluczowych wskaźników makroekonomicznych oraz rozwojem infrastruktury transportu, a także lokalnych uwarunkowań gospodarczych i społecznych.
Wyniki mogą być wykorzystane przez jednostki samorządu terytorialnego w pracach planistycznych i decyzjach dotyczących gospodarki przestrzennej oraz kierunków rozwoju gospodarczego, a także przez inwestorów zainteresowanych zarówno budową obiektów magazynowych jak i wynajmem powierzchni magazynowej. Zmienność w czasie wartości przedstawionych danych liczbowych i ich zależność od różnych czynników wskazuje na celowość kontynuacji badań w zakresie i przedziale czasu podanym przez autora.

Słowa kluczowe: logistyka, magazynowanie, wynajem, powierzchnia magazynowa.

WIRTSCHAFTLICHE UND LOGISTISCHE BESCHAFFENHEIT DES MARKTES FÜR LAGERFLÄCHEN IN POLEN

ZUSAMMENFASSUNG. Einleitung: In der Fachliteratur werden Daten bezüglich der kommerziellen Größe von Lagerflächen in Polen, die für die Beurteilung der logistischen Attraktivität der einzelnen Woiwodschaften in Anspruch genommen werden, veröffentlicht. Die betreffende Benotung beeinflusst die Entscheidungen seitens der Selbstverwaltungsorgane, die die Raumpolitik und das Investitionsklima gestalten sowie die Entscheidungen seitens der Investoren, und dadurch auch die damit verbundene, wirtschaftliche Entwicklung der Regionen und lokaler Arbeitsmärkte determinieren. Die in unterschiedlichen Quellen publizierten Daten, die die kommerzielle Größe der Lagerflächen in den einzelnen Woiwodschaften in Polen anbetreffen, sind allerdings differenziert und erlauben daher nicht, die tatsächlichen Werte deren festzulegen. Das Ziel der Arbeit ist es, die wirtschaftlichen und infrastrukturellen Faktoren zu ermitteln und deren Einfluss auf die Größe und die Dynamik des Wachstums der kommerziellen Lagerflächen in Polen samt der Beurteilung des Lagerflächen-Marktes zu identifizieren.
Methoden: Es wurde eine Analyse von vorhandenen Daten, die eine Übersicht über die greifbaren, den Markt von Lagerflächen in Polen beschreibenden Daten und Informationen umfasst, vorgenommen. Man betrachtete dabei Berichte von Forschungseinrichtungen und Kommerzimmobilien-Agenturen, die von Inhabern von Lager-Immobilien veröffentlichten Materialien und Handelsinformationen, ferner die Fachpresse und die Meinungen von Marktanalytikern. Darüber hinaus verwendete man ein Tool für die strategische Analyse in Form der Analyse von schlüsselhaften Erfolgsfaktoren, die das Wesen des Lagerimmobilien-Marktes determinieren.
Ergebnisse: Anhand der durchgeführten Forschungen wurden die Größe der kommerziellen Lagerflächen in Polen und in den einzelnen Woiwodschaften im betreffenden Zeitraum ermittelt sowie die deren Entwicklung determinierenden Erfolgsfaktoren festgelegt. Es wurde auf die wichtigsten Arten der Investoren hingewiesen und deren Anteile an der Größe der betrachteten Lagerflächen erfasst. Ferner bewertete man das Angebot und die Nachfrage und für die einzelnen, über solche Lagerflächen verfügenden Woiwodschaften veröffentlichte man die Mietpreise vor Ort und die Kennziffern von nicht vermieteten Lagerflächen. Es wurde auch auf die in der Gruppe von Mietern auftretenden Branchen, deren Anteil an der Gesamtmietzahlen und auf die Arten von geschlossenen Mietverträgen hingewiesen. Der Autor nahm bei der Verfassung des vorliegenden Artikels auch Elemente seiner eigenen Forschungen, die in den den Logistikstand in Polen anbetreffenden Berichten veröffentlicht wurden, in Anspruch.
Fazit: Es besteht ein Zusammenhang zwischen der Größe und der Dynamik des Zuwachses der kommerziellen Lagerflächen und der Wirtschaftslage, die mithilfe von schlüsselhaften, makroökonomischen Kennziffern ausgedrückt und durch die Entwicklung von Transport-Infrastruktur, sowie die lokalen, wirtschaftlichen und sozialen Bedingungen determiniert wird. Die Ergebnisse können ebenfalls von den daran interessierten Einrichtungen der Selbstverwaltung bei der Durchführung von Planungsarbeiten, von den die Raumwirtschaft anbetreffenden Entscheidungen und bei der Ausrichtung der wirtschaftlichen Entwicklung, sowie von den an Bau und Vermietung von Lagerflächen interessierten Investoren wahrgenommen werden. Die zeitbedingte Variabilität der Zahlenwerte und deren Abhängigkeit von unterschiedlichen Faktoren weisen auf die Zweckmäßigkeit der Fortsetzung der betreffenden Forschungen innerhalb des vom Verfasser des Artikels angegebenen Zeitraums hin.

Codewörter: Logistik, Lagerung, Vermieten, Lagerfläche.

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