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**CENTRAL AND EASTERN EUROPE IN THE LIGHT OF THE SPATIAL  
DISTRIBUTION OF LUXURY STORES – SOME PROBLEMS**

*This study analyses the characteristics and structure of luxury goods stores in Central and Eastern Europe (CEE). Studies dealing with the spatial distribution of services created for the super-rich people are relatively few. The authors of this article show luxury goods stores in CEE countries with respect to their locations (urban/rural), location factors, numbers, structure, and the differences between countries and regions. They also consider whether Central and Eastern Europe has space for luxury store networks to expand. The status and structure of luxury goods stores in CEE countries are analysed and evaluated based on secondary data on the authorised retailers of luxury goods. Using the k-mean method as one of its tools, the study shows that luxury goods are mainly offered in large cities (populated by more than 200,000 people). Moscow has been found to have the most extensive network of luxury stores, which gives her a special position among CEE cities. Sankt Petersburg, Prague, Kiev and other European cities with significantly smaller numbers of luxury stores rank lower.*

**Keywords:** Central and Eastern Europe, luxury goods stores, city.

**Стефанія Срода-Муравська, Данієла Шиманська. ЦЕНТРАЛЬНО-СХІДНА ЄВРОПА У СВІТЛІ ПРОСТОРОВОГО ПОШИРЕННЯ МАГАЗИНІВ ПРЕДМЕТІВ РОЗКОШУ – ДЕЯКІ ПРОБЛЕМИ.** Дослідження аналізує особливості та структуру магазинів предметів розкошу в Центральній-Східній Європі. Досліджень, присвячених просторовому поширенню послуг, створених для дуже багатих людей, відносно мало. Автори статті відображають магазини предметів розкошу в країнах Центрально-Східної Європи по відношенню до їх розміщення (міські/сільські), фактори розміщення, кількість, структуру та різницю між країнами і регіонами. Вони також розглядають питання, чи існує простір в Центральній-Східній Європі для розширення мережі магазинів предметів розкошу. Аналізуються статус та структура магазинів предметів розкошу в країнах Центрально-Східної Європи та оцінюються на основі вторинних даних авторизованих продавців предметів розкошу. Використовуючи метод k-середніх як один з інструментів, дослідження показує, що предмети розкошу переважно пропонуються у великих містах (з населенням понад 200 000 осіб). Виявлено, що Москва має найбільш розширену мережу магазинів предметів розкошу, яка дає їй особливе положення серед міст Центрально-Східної Європи. Санкт-Петербург, Прага, Київ та інші європейські міста із значно меншою кількістю магазинів предметів розкошу мають ранг нижче.

**Ключові слова:** Центральна-Східна Європа, магазини предметів розкошу, місто.

**Стефанія Срода-Муравська, Данієла Шиманська. ЦЕНТРАЛЬНО-ВОСТОЧНАЯ ЕВРОПА В СВЕТЕ ПРОСТРАНСТВЕННОГО РАСПРОСТРАНЕНИЯ МАГАЗИНОВ ПРЕДМЕТОВ РОСКОШИ – НЕКОТОРЫЕ ПРОБЛЕМЫ.** Исследование анализирует особенности и структуру магазинов предметов роскоши в Центрально-Восточной Европе. Исследований, посвященных пространственному распространению услуг, созданных для очень богатых людей, относительно мало. Авторы статьи отображают магазины предметов роскоши в странах Центральной и Восточной Европы по отношению к их расположению (городские/сельские), факторы размещения, количество, структуру и различия между странами и регионами. Они рассматривают также вопрос, существует ли пространство в Центрально-Восточной Европе для расширения сети магазинов предметов роскоши. Анализируется статус и структура магазинов предметов роскоши в странах Центрально-Восточной Европы и оцениваются на основании вторичных данных авторизованных продавцов предметов роскоши. Используя метод k-средних как один из инструментов, исследование показывает, что предметы роскоши предлагаются преимущественно в крупных городах (с населением более 200 000 человек). Выведено, что Москва имеет наиболее широкую сеть магазинов предметов роскоши, которая дает ей особое положение среди городов Центрально-Восточной Европы. Санкт-Петербург, Прага, Киев и другие города Европы со значительно меньшим количеством магазинов предметов роскоши имеют рейтинг ниже.

**Ключевые слова:** Центральная-Восточная Европа, магазины предметов роскоши, город.

## **INTRODUCTION**

This study analyses and evaluates the characteristics and structure of luxury goods stores in Central and East European countries. For the purpose of this research, their group will include Belarus, Bulgaria, the Czech Republic, Moldavia, Poland, Russia, Romania, Slovakia, Ukraine, Hungary, Estonia, Lithuania and Latvia. The countries were chosen taking account of various concepts defining Central and Eastern Europe [e.g. 14, 38, 59].

In fulfilling the purpose of the study, the authors analyse the locations of luxury goods stores in Central and Eastern Europe (by urban/rural area), their numbers, structure, the inter-country and interregional differences, as well as the determinants of their location. With the research results it can be established if Central and Eastern Europe still has space for the luxury store

network to expand, and in which CEE country the network is the most extensive and diversified.

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## **RETAIL AND LUXURY**

This article is one of studies exploring the area of retail trade. The special character of this distribution channel of physical goods and intangible services makes it an interesting object of analysis for the representatives of many scientific disciplines. The range of subjects covered by retail studies includes chain stores [see 12, 2, 28], shopping centres [see 15, 7, 27], and retail networks in general [see 5, 22, 47, 41], in cities, countries and globally.

The literature shows that the interest in the retail sale of luxury goods started to increase significantly in early 1990s, with the rapid expansion of the market [49].

Studies on the retail sale of luxury goods mainly focus on sale management [see 32, 33, 35, 8], consumer behavior and reason [see 13, 57, 56], and the role of the flagship store [see 34, 9, 29, 36]. Relatively few studies [e.g. 11, 10] deal with the locations of luxury goods stores.

Until recently, luxury goods stores were mainly located in prestigious places and cities [37]. Manlow and Nobbs [29] have observed, though, that in the early 1990s they started to be established also in secondary cities. One reason for this trend was that shareholders in the luxury industry sought greater returns. According to Chevalier and Gutsatz [3], between 2000 and 2009/2010 some producers of luxury goods even doubled the numbers of their new stores. All these developments justify studying which locations of luxury goods stores are the most desired by their producers, and what status CEE countries have in the delivery of luxury goods to a growing number of potential buyers, considering that after WWII the countries were practically blanks on the map of luxury stores.

This study analyses luxury goods stores and their locations in post-socialist countries in Europe, where the class of rich people has been observed to form for some time now. It therefore follows the line of research into the spatial distribution of luxury services created for the super rich recommended by Beaverstock, Hubbard, and Rennie Short [1].

Analysing the spatial distribution of luxury goods stores one has to be aware that a luxury good or a luxury brand does not have an unambiguous definition. The word *luxury* itself derives from Latin *luxus*, which stands for magnificence, sumptuousness and grandeur [40]. The meaning of the word changed many times over the centuries and its present definitions available in the literature are very subjective [24, 13]. There are several different concepts of luxury, which arise from different paradigms and schools of thought. Wiedmann, Heninngs and Siebels [57; as quoted in 6] argue therefore that “luxury is particularly slippery to define”. The literature prompts, however, that a luxury good is every product (or service) that involves fine craftsmanship, adequately high price [52, 51] and globally recognisable luxury brand, and purchased to make its owner feel special, unique and prestigious rather than to be simply owned (or use the service) [55, 4, 57, 8, 20].

The development of information and other technologies brings forth new luxury goods; at the same time, new groups of customers emerge to be targeted (e.g. show-business stars, politicians, actors, senior staff in the high-tech sector). With advancing globalisation luxury goods are increasingly divided into those intended for the mass consumer market (democratisation of luxury) and inaccessible luxury goods (for the super rich) [50].

#### **LUXURY GOODS MARKETS IN CENTRAL AND EASTERN EUROPE**

Global Industry Analysts, Inc., a company publishing the most accurate financial forecasts on more than 180 major industries, estimates in its report “*Luxury Goods: A Global Strategic Business Report*” that by 2015 the world market for luxury goods will amount to US\$ 307.3 billion. For the sake of comparison, the world

market for electrical household appliances is estimated by the same firm at US\$ 242 billion [18].

Most luxury goods are produced by several huge concerns holding many luxury brands in their portfolios. These are, for instance, LVMH (Louis Vuitton Moët Hennessy – over 60 brands, including Tag Heuer, Christian Dior Watches, Bulgari, Louis Vuitton, Fendi, Donna Karan, Berluti, Givenchy, Marc Jacobs, Kenzo), PPR (Pinault-Printemps-Redoute – Gucci, Stella McCartney, Yves Saint Laurent, Balenciaga, etc.), Richemont (Jaeger-LeCoultre, Lange & Söhne, Cartier, Piaget, Van Cleef & Arpels, etc.), and Hermes.

The majority of the goods are still purchased in Europe that accounts for 30-40% of the receipts of concerns such as LVMH and Hermes, and the main buyers are Italians, the French, the British and Russians [23]. The authors of the “*Luxury Goods: A Global Strategic Business Report*” predict, however, that in the future the largest markets for luxury goods will be developing Asian countries, such as China and India [18].

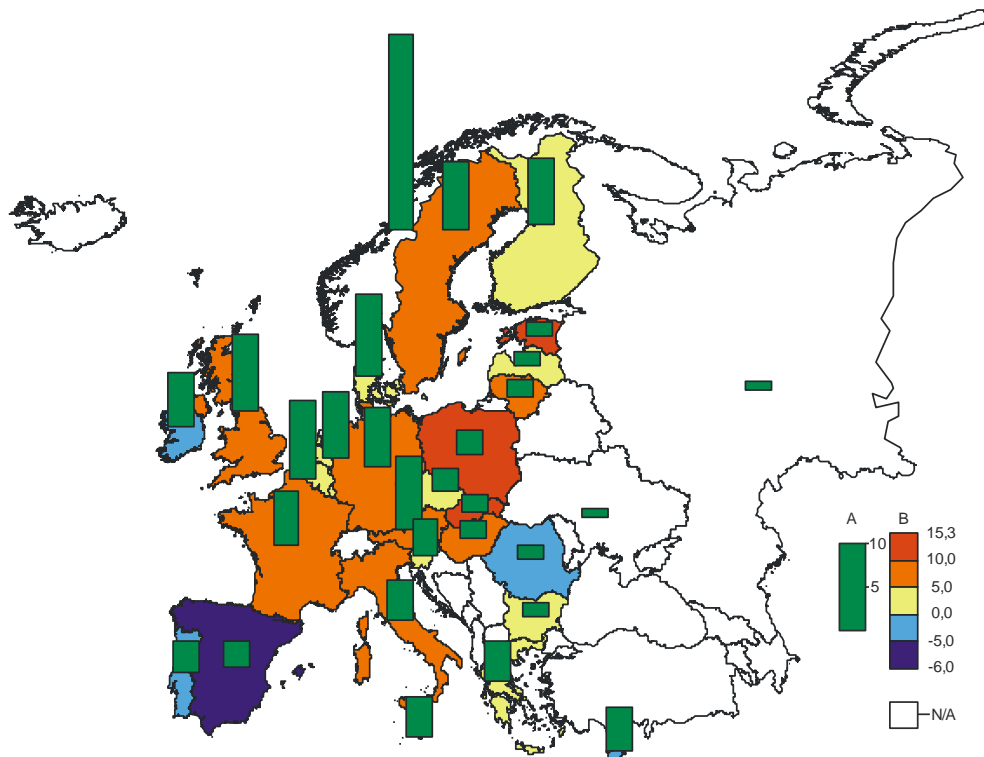
The implosion of the Eastern Bloc (in the early 1990s) followed by transition processes in its members induced a range of socio-economic changes, one result of which is the emergence of the middle class in addition to the upper class. With the post-socialist societies becoming increasingly wealthy, the desire for luxury items has come to this part of Europe too. While before 1990 such items were scarcely available to consumers in the CEE domestic markets, in the recent years global luxury brands have been more and more present in the luxury stores and streets of Central-East European cities. The numbers of the stores and of luxury brands on offer are growing every year, because renowned firms come to the increasingly open CEE countries (a turning point was their accession to the EU [39]) to boost their receipts, and because of the rising financial status of some social groups in those countries. According to various reports, for instance the “*World Wealth Report 2008*”, between 2006 and 2007 the numbers of the super-rich were expanding the most dynamically in CEE (by 115.6%), the Middle East (1143%) and Latin America (112.2%). As regards the CEE countries alone, the group of the super-rich citizens increased between 2009 and 2010 (see “*European High Net Worth 2008*” and “*European High Net Worth 2010*”) by 5.9% (only Romania noted a decline in their number). In Western Europe the rate was somewhat smaller, amounting to 3.6% on average; in some countries the numbers of the most affluent persons even decreased, for instance in Spain, Ireland and Portugal (Fig. 1).

It is worth noting that a clear-cut financial criterion for identifying the richest people in the world has not been developed yet. In the PricewaterhouseCoopers Report [42], HNWI (High Net Worth Individuals) are people with disposable assets amounting to at least \$1m. Their group has been subdivided into VHNWIs (Very High Net Worth Individuals) with disposable assets estimated at \$5-50m and UHNWIs (Ultra-High Net Worth Individuals) controlling disposable assets in excess of \$50m.

It has been estimated that in 2010 Western Europe had slightly more than 7 HNWIs per 1,000

population on average (an exception was Luxemburg where the ratio is very high, as many as 113.5 HNWI per 1,000 people), which contrasts with an average of 1.7 HNWI in CEE (11 CEE countries without Belarus and Moldavia on which the data were not available). In two

countries, the Czech Republic and Poland, the ratios were 2.5 and 2.4, respectively, while the Ukrainian ratio was only 0.9 (the lowest across CEE; Fig. 1).



**Figure 1. Changing numbers of the super-rich (HNWI) in European countries, 2009-2010**

Explanations: A – HNWI per 1,000 population; Luxemburg – 113.5 HNWI/1000; Russia, Ukraine, Norway data from 2008; B – increase in the number of HNWI between 2009 and 2010 (%); N/A – data not available.  
Source: developed by the authors based on [30, 31, 53].

In Western Europe the lowest-ranking country was Spain (3 NHWIs).

#### DATA AND METHODS

This analysis and evaluation of luxury goods markets in Central and Eastern Europe is based on the authorised vendors of luxury goods. The non-authorised vendors, online sale and other channels of distribution, such as makeshift vendors (this pathology has been highlighted by [58] and [48], as well as by other authors), have been omitted. The research data have been obtained from the official websites of luxury goods producers, where the store locators are divided into flagship stores, boutiques, and multi-brand salons. A flagship store is special in that it is run by the manufacturer, it has same-brand items on offer, and the main reason for it to exist is to enhance the brand image (business considerations are secondary to making potential customers aware of the brand – authors’ comment) [25]. A boutique is a small store carrying short lines of fashion clothing and a multibrand store has a variety of original brands on offer.

Because of the great number of luxury brands available in international markets today, this analysis concentrates on 145 most recognisable luxury brands [compiled from 26, 43] divided into three categories: cars (I), clothing (II), and watches and jewellery (III) –

table 1.

The category ‘cars’ contains 16 luxury makes (e.g. Aston Martin, Bentley, Bugatti, Maserati, Maybach, Porsche), ‘luxury clothing’ consists of 82 brands (Ana Locking, Balenciaga, Faconnable, Gucci, Missoni, Versace, Valentino, etc.), and ‘watches and jewellery’ includes 47 brands (Audemars Piguet, Bulova, Garrard&Co., Mikimoto, Nooka, etc., - table 1).

#### RESEARCH RESULTS

It follows from the collected data that in CEE luxury goods stores locate in cities and towns (in 222 cities and towns compared with 5 villages that have been omitted from further analysis because their number is insignificant). At the end of 2010 3088 of the stores carried high-end items representing 118 brands (out of 145 covered by this analysis), mostly luxury clothing (59) and watches and jewellery (44); the remaining 15 brands were luxury cars (out of 16 analysed – a Lincoln dealer was not found). Stores for luxury brands such as Lincoln, Bottega Venetta, Victoria’s Secret or Red or Dead have not been established so far.

Regarding luxury car makes available in CEE cities, as many as 14 out of 16 analysed had their dealers in Russia and 12 were represented in both Poland and the Czech Republic (Fig. 2). Moldavia and Belarus had the

lowest the numbers of luxury car makes offered through authorised dealers (3 and 2, respectively).

Russia boasts most brands of luxury jewellery and watches (41 out of 47 analysed), more than half of luxury jewellery brands are available in Bulgaria, the Czech Republic, Poland, Romania and Ukraine, but only

six are sold in Moldavia, which ranks last in this category.

Table 1

The categories of luxury brands by product

Luxury good category		
I	II	III
Aston Martin, Bentley, BMW, Bugatti, Cadillac, Corvette, Ferrari, Infinity, Jaguar cars, Lexus, Lincoln, Maserati, Maybach, Mercedes-Benz, Porsche, Rolls-Royce	Aleksander McQueen, Ana Locking, Andrew Marc, Antropologie, Armani, Balenciaga, Bontoni, Bottega Veneta, Brioni, Burberry, Calvin Klein, Carlo Palazzi, Cesare Paciotti, Chanel, Charvet, Chloe, Christian Dior, Christian Louboutin, Corneliani, Dolce&Gabbana, Donna Karan, Dunhill, Eley Kishimoto, Ermenegildo Zegna, Escada, Faconnable, Fendi, Francesco Biasia, Givenchy, Gravati, Gucci, Hackett, Hamilton Shirts, Henry Poole&Co., Hermes International, Hidesing, Hield Brothers, Hogan, Hugo Boss, J. Barbour&Sons, Jean Paul Gaultier, Jimmy Choo, John Lobb, Joop, Judith Leiber, Karl Kani, Karl Lagerfeld, Kenzo, La Maison Goayrd, Lacoste, Linea Pelle, Loewe, Longchamp, Louis Vuitton, Mandarin Duck, Manolo Blahnik, Marc Jacobs, Marina Rinaldi, Marithe Francois Girbaud, MaxMara, Missoni, Mulberry, Pal Zileri, Pehaligon`s, Perry Ellis, Polo Ralph Lauren, Prada, Red or Dead, Roberto Cavalli. Salvatore Ferragamo, Santoni, Sean John Clothing, Sergio Rossi, Shanghai Tang, T.M. Lewin, Tommy Hilfiger, Trands, Turnbull&Asser, Valentino, Versace, Victoria`s Secret, Yves Saint Laurent	A.Lange&Söhne, Audemars Piguet, Blancpain, Boucheron, Breguet, Breitling, Bvlgari, Bulova, Cartier, Chopard, David Yurman, Dyrberg&Kern, Folli Follie, Buccelatti, Frey Wille, Garrard&Co., Girard-Perregaux, Greubel Forsey, Gucci, Harry Winston, IWC, Jaeger-LeCoultre, Jean Lassale, Maitres du Temps, Maurice Lacroix, MB&F, Mikimoto, Montblanc International, Nooka, Officine Panerai, Patek Philippe &Co., Piaget, Preciosa, Rado, Raymond Weil, Roberto Coin, Rolex, Swarovski, TAG Heuer, TechnoMarine, Tiffany&Co., Ulysee Nardin, Urwerk, Vacheron Constantin, Van Cleef&Arpels, Zenith, Tiffany&Co.

Explanations: I- cars, II - clothing, III – watches and jewellery.

Source: developed by the authors based on [26] and the data obtained from the official websites of luxury goods producers.

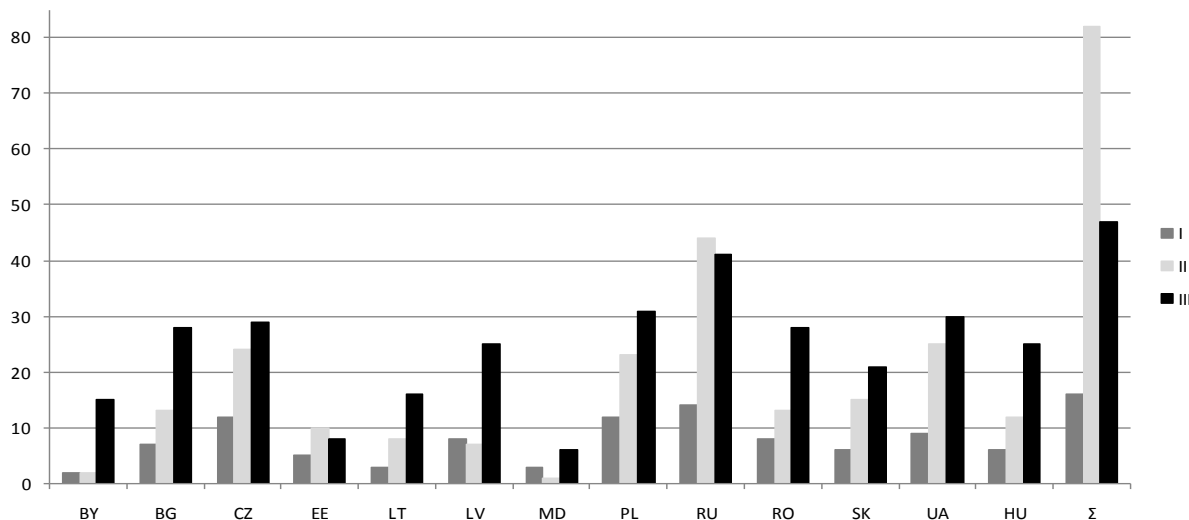


Figure 2. The numbers of luxury brands available in CEE countries by category

Explanations: BY – Belarus, BG – Bulgaria, CZ – Czech Republic, EE – Estonia, LT – Lithuania, LV – Latvia, MD – Moldova, PL – Poland, RU – Russian Federation, RO – Romania, SK – Slovakia, UA – Ukraine, HU – Hungary, Σ – all luxury brands; I – cars, II – clothing, III – watches and jewellery.

Source: developed by the authors based on the data obtained from the official websites of luxury goods producers.

Besides, Russia has the greatest number of luxury brands of clothing (44 out of 82 analysed), while only slightly more than 20 can be purchased in the Czech Republic, Poland and Ukraine (Fig. 2).

As far as the per-country numbers of luxury goods stores are concerned, Russia having more than half of them (1585; 51.3%) ranks first again. The remaining 1503 can be found in Poland (307; 9.9%),

Ukraine (285; 9.2%), the Czech Republic (282; 9.1%), Romania (125; 4.1%), Hungary (114; 37%), Bulgaria (102; 3.3%), Slovakia (89; 2.9%), Lithuania (61; 2.0%), Latvia (56; 1.8%), Estonia (42; 1.4%), Belarus (30; 1.0%), Moldavia (10; 0.3%). The highest numbers of the stores per 100,000 population aged 15 years and older were noted for the Czech Republic, Estonia and Latvia (respectively 3.1; 3.7 and 2.9), while Belarus and Moldavia accounted for less than 0.4 – table 2.

Estonia ranks first for the number of luxury goods stores per HNWI (21), followed by the Czech Republic,

Russia and Latvia (each having slightly more than 10). Poland and Romania with less than 3.8 luxury stores per one HNWI are the last in the ranking (table 2).

An interesting question to be answered in analysing the number and structure of luxury goods stores in Central and Eastern Europe is whether their spatial distribution is related to the number of HNWIs, the number of the population aged 15 years and older (assuming that most luxury goods are purchased by adults), and GDP per capita.

Table 2

*Luxury goods stores by CEE country*

	BY	BG	CZ	EE	LT	LV	MD	PL	RU	RO	SK	UA	HU	Σ
1	30	102	282	42	61	56	10	307	1585	125	89	285	114	3089
2	0.4	1.6	3.1	3.7	2.2	2.9	0.3	0.9	1.3	0.7	1.9	0.7	1.3	1.2
3	N/A	8.3	10.7	21.0	9.8	16.0	N/A	3.3	10.8	3.8	8.8	6.5	5.9	7.8
4	0.005	0.016	0.015	0.003	0.006	0.005	0.006	0.025	1.518	0.017	0.006	0.095	0.009	0.005

Explanations: BY- Belarus, BG- Bulgaria, CZ- Czech Republic, EE- Estonia, LT- Lithuania, LV- Latvia, MD- Moldova, PL- Poland, RU- Russian Federation, RO- Romania, SK- Slovakia, UA- Ukraine, HU- Hungary, Σ- all countries, 1- number of luxury goods stores, 2- number of luxury goods stores per 100 000 population aged 15 years and more, 3- number of luxury goods stores per 1000 HNWI, 4- number of luxury goods stores per GDP per capita, N/A – data not available.

Source: developed by the authors based on the data obtained from the official websites of luxury goods producers and [19].

The number of luxury goods stores has been found to be strongly and positively correlated with the number of the population aged 15+ ( $r=0.97$ ) and with the number of HNWIs ( $r=0.90$ ; Belarus and Moldavia were omitted for lack of data), but negatively with per capita GDP ( $r= -0.39$ ). This relatively low correlation may be attributed to the use of national GDPs instead of their local amounts (for the Moscow District, the capital city of Prague; Mazowieckie voivodeship in Poland, etc.).

When the numbers and structure of luxury goods stores are analysed by location (urban/rural) two questions need to be answered: 1) are they only available in cities/towns of a particular size?; and 2) is there is a size threshold that makes a city or a town attractive as a location of particular categories of luxury goods stores?

The answer to the first question is in the affirmative. It has been found that luxury goods stores are mostly established in cities and towns that represented 222 localities in the sample of 227.

This finding is also confirmed by the correlation

between the number of luxury goods stores and the size of a city/town ( $r=0.95$ ).

As regards the second question, the answer is not explicit. Cities populated by more than 1,000,000 people had stores carrying all categories of luxury goods. Luxury watches and jewellery could be purchased in 86-95% of cities populated by 200,000 -1,000,000 people, but luxury car makes were available only in 60-75% of cities in that size category. Luxury clothing was sold in 70.3% of cities with populations between 500,000 and 1,000,000 people, but only in 40% of those whose populations ranged between 200,000 and 500,000. Generally, the availability of luxury clothing decreases with the declining size of a city or a town (only 5-11% cities with populations below 200,000 people had stores carrying such items) and the probability that a town populated by fewer than 50,000 inhabitants will have a luxury cars dealer is low (such dealers were found in every fifth town of that size) – table 3.

Table 3

*Cities/towns in Central and Eastern Europe by size and the category of available luxury goods*

c	I		II		III		Σ	
	a	b	a	b	a	b	a	c
1	7	20.6	3	8.8	25	73.6	34	15.3
2	16	57.1	3	10.7	20	71.4	28	12.6
3	21	56.8	2	5.6	28	77.8	37	16.7
4	39	60.0	26	40.0	56	86.2	65	29.3
5	27	75.0	26	70.3	35	94.6	36	16.2
6	19	100.0	19	100.0	19	100.0	19	8.5
7	2	100.0	2	100.0	2	100.0	2	0.9
8	1	100.0	1	100.0	1	100.0	1	0.5
Σ	-	-	-	-	-	-	222	100

Explanations: c – the size categories of cities and towns: 1 - <50, 000, 2- 50,000-100,000, 3- 100,000-200,000, 4- 200,000-500,000, 5- 500,000-1,000,000, 6- 1,000,000-2,000,000, 7- 2,000,000-10,000,000, 8- > 10,000,000, I- cars, II - clothing, III –

watches and jewellery, a- number of cities, b- towns and cities as percentage of a given size category, c- towns and cities as percentage of the total number.

Source: developed by the authors based on the data obtained from the official websites of luxury goods Producers and [16, 17, 53, 54].

The data show that the sampled cities and towns differ considerably both in the numbers of luxury goods stores and in the ranges of luxury goods available in particular categories. To analyse the differences, the cities and towns were classified using the k-mean method, which is a non-hierarchical method of cluster analysis seeking homogeneous subsets in a heterogeneous set of objects.

The variables used as diagnostic properties (differentiating the selected cities and towns), i.e.  $X_1$  – the number of the population;  $X_2$  – the number of luxury goods stores per 10,000 population;  $X_3$  – the number of luxury goods stores per luxury brand;  $X_4$  – luxury car dealers as a percentage of the total number of luxury

goods stores;  $X_5$  – luxury clothing stores as a percentage of the total number of luxury goods stores; and  $X_6$  – luxury watch and jewellery stores as a percentage of the total number of luxury goods stores, yielded a 6 (diagnostic properties)  $\times$  222 (cities and towns) matrix. A coefficient of variation (CV) was then calculated for each property, whose value shows the range of variation of the property. It is widely assumed that a CV greater than 0.2 makes a property suitable for analysis. Because all properties had CV values greater than 0.2 ( $X_1$ - 2.1;  $X_2$ - 1.6;  $X_3$ - 0.4;  $X_4$ - 1.4;  $X_5$ - 1.8;  $X_6$ - 0.5), they were standardised and the IBM SPSS software was instructed to create seven clusters (table 4).

Table 4

*The differentiation of CEE cities and towns by the spatial distribution and structure of luxury goods stores*

	c	Cities and towns
I	1	Velké Bílovice (CZ)
	2	Karlovy Vary (CZ)
II	1	Wisla (PL); Dubi, Hodonin, Kamenický Šenov, Luhačovice, Mnichovo Hradiště, Roudnice nad Labem, Říčany, Strážnice, Sušice, Trhové Sviny (CZ), Abrud (HU)
	2	Teplice, Zlín (CZ)
III	1	Nowe Skalmierzyce, Sopot (PL); Ovidiu, Sibiu (RO); Dunajská Streda (SK); Budaörs (HU)
	2	České Budějovice (CZ); Lubin (PL); Mineralnyje Vody (RU); Hunedoara (RO); Poprad, Prešov (SK); Kaposvár (HU)
	3	Pleven (BG); Liberec (CZ), Plock, Rzeszow, Zabrze (PL); Târgu Mures (RO); Kecskemét, Pécs, Székesfehérvár (HU);
	4	Szczecin, Torun (PL); Kursk, Stary Oskol (RU); Oradea, Galați (RO); Kremenchuk (UA)
	5	Naberezhnye Chelny (RU)
IV	1	Palanga (LT), Konstancin-Jeziorna (PL), Salekhard (RU)
	2	Hradec Králové (CZ)
	3	Kislovodsk (RU)
	4	Bryansk, Taganrog, Yakutsk (RU)
	5	Astrakhan (RU)
V	4	Brno (CZ), TALLINN (EE), Białystok, Bydgoszcz, Gdansk, Gdynia, Katowice, Lublin (PL); Kaliningrad, Surgut (RU); Constanta (RO); BRATISLAVA (SK), Cherkassy, Kherson, Simferopol (UA); Debrecen (HU)
	5	VILNIUS (LT); RIGA (LV); Krakow, Lodz, Poznan, Wroclaw (PL); Barnaul, Khabarovsk, Krasnodar, Krasnoyarsk, Makhachkala, Perm, Saratov, Tula, Voronezh (RU); Donetsk (UA)
	6	MINSK (BY), SOFIA (BG), PRAGUE (CZ), WARSAW (PL), Chelyabinsk, Kazan, Nizhny Novgorod, Novosibirsk, Omsk, Samara, Rostov-on-Don, Ufa, Volgograd Yekaterinburg (RU); BUCHAREST (RO); Dnepropetrovsk, Kharkov, Odessa (UA); BUDAPEST (HU)
	7	Sankt Petersburg (RU), KIEV (UA),
VI	8	MOSKVA (RU)
VII	1	Sandanski (BG), Blansko, Cheb, Jablonec nad Nisou, Klatovy, Tábor (CZ); Cieszyn, Piaseczno (PL); Galanta, Piešťany, Šaľa, Topoľčany (SK);
	2	Veliko Tarnovo (BG), Chomutov, Děčín, Havířov, Pardubice, Ústí nad Labem (CZ); Narva (EE); Jürmala (LV), Siedlce (PL), Banská Bystrica, Nitra, Trenčín, Trnava, Žilina (SK); Yalta (UA); Békéscsaba, Veszprém (HU)
	3	Burgas, Ruse (BG); Olomouc, Plzeň (CZ); Tartu (EE); Klaipėda, Panevėžys, Šiauliai (LT); Bielsko-Biala, Koszalin, Olsztyn, Opole, Zielona Gora (PL); Kolomna, Mytishchi, Norilsk, Noyabrsk, Petropavlovsk-Kamchatsky Pyatigorsk (RU); Arad, Piatra Neamt, Pitești (RO); Uzhhorod (UA), Győr, Miskolc, Nyíregyháza, Szeged (HU)

4	Brest (BY), Plovdiv, Varna (BG); Ostrava (CZ); Kaunas (LT), Czestochowa, Kielce, Radom, Sosnowiec (PL); Arkhangelsk, Blagoveshchensk, Cheboksary, Ivanovo, Kaluga, Kirov, Kostroma, Lugansk, Magnitogorsk, Murmansk, Nizhnekamsk, Nizhnevartovsk, Nizhny Tagil, Novorossiysk, Sochi, Stavropol, Syktyvkar, Tver, Vladikavkaz, Vologda (RU); Braşov, Cluj-Napoca, Iaşi, Ploieşti, Timişoara (RO); Košice (SK), Mariupol, Poltava, Sevastopol, Vinnytsia (UA);
5	CHIŞINĂU (MD); Irkutsk, Izhevsk, Kemerovo, Lipetsk, Nikolaev, Novokuznetsk, Orenburg, Penza, Ryazan, Tolyatti, Tomsk, Tyumen, Yaroslavl, Vladivostok, (RU); Kryvyi Rih, Lviv, Zaporozhye (UA)

Explanations: I, II...VII- cluster, c – the size categories of cities and towns: 1 - <50, 000, 2- 50,000-100,000, 3- 100,000-200,000, 4- 200,000- 500,000, 5- 500,000-1,000,000, 6- 1,000,000-2,000,000, 7- 2,000,000-10,000,000, 8- > 10,000,000, BY- Belarus, BG- Bulgaria, CZ- Czech Republic, EE- Estonia, LT- Lithuania, LV- Latvia, MD- Moldova, PL- Poland, RU- Russian Federation, RO- Romania, SK- Slovakia, UA- Ukraine, HU- Hungary.

Source: developed by the authors based on the data obtained from the official websites of luxury goods producers and [16, 17, 53, 54].

Cluster I is made of two Czech towns (Velké Bílovice and the health resort Karlovy Vary in the south-eastern part of the country). Cluster II consists of fourteen towns in the Czech Republic (12), Poland (1) and Hungary (1), all with populations below 100,000. Cluster III has 30 cities/towns populated by less than 500,000 inhabitants (an exception is Naberezhnye Chelny). Cluster V consists of 53 cities and towns (including 11 capital cities – Bratislava, Budapest, Bucharest, Kiev, Minsk, Prague, Riga, Sofia, Tallinn, Vilnius and Warsaw). A separate, one-element Cluster VI is Moscow, the capital city of Russia. The largest

Cluster VII encompasses 113 cities and towns.

To examine the structure of each cluster and find out which property contributed to its formation, a structure indicator ( $W_s = x_i/x$ ) was constructed by first calculating the arithmetic means of all diagnostic properties in the matrix ( $x_1 = 432,931.33$ ;  $x_2 = 0.37$ ;  $x_3 = 1.15$ ;  $x_4 = 23.87$ ;  $x_5 = 10.91$ ;  $x_6 = 65.21$  – table 5). Then the arithmetic means of particular properties were calculated for each cluster ( $x_i$ ). A structure indicator ( $W_s$ ) greater than 1.0 would show that the property plays a dominant role in the cluster.

Table 5

Cluster similarity with respect to a diagnostic property

		$x_1$	$x_2$	$x_3$	$x_4$	$x_5$	$x_6$
$x$		432,931.33	0.37	1.15	23.87	10.91	65.21
$x_i$	I	27,496.50	5.02	1.07	2.00	4.00	94.00
	II	17,404.14	1.30	1.10	0.89	1.79	97.32
	III	145,291.90	0.23	1.02	98.67	0.00	1.33
	IV	195,925.67	0.22	1.06	5.56	87.96	6.48
	V	936,054.36	0.36	1.33	17.71	25.53	56.76
	VI	11,514,330.00	0.60	6.83	9.13	27.25	63.62
	VII	252,785.88	0.22	1.06	11.73	1.93	86.34
$W_s = x_i/x$	I	0.06	13.71	0.93	0.08	0.37	1.44
	II	0.04	3.55	0.96	0.04	0.16	1.49
	III	0.34	0.63	0.89	4.13	0.00	0.02
	IV	0.45	0.60	0.92	0.23	8.06	0.10
	V	2.16	0.99	1.16	0.74	2.34	0.87
	VI	26.60	1.64	5.96	0.38	2.50	0.98
	VII	0.58	0.59	0.92	0.49	0.18	1.32

Explanations: I, II...VII- cluster,  $x_1$  – the number of the population;  $x_2$  – the number of luxury goods stores per 10,000 population;  $x_3$  – the number of luxury goods stores per luxury brand;  $x_4$  – luxury car dealers as a percentage of the total number of luxury goods stores;  $x_5$  – luxury clothing stores as a percentage of the total number of luxury goods stores; and  $x_6$  – luxury watch and jewellery stores as a percentage of the total number of luxury goods stores,  $x$ - the arithmetic mean of particular diagnostic properties;  $x_i$  – the arithmetic mean of successive clusters.

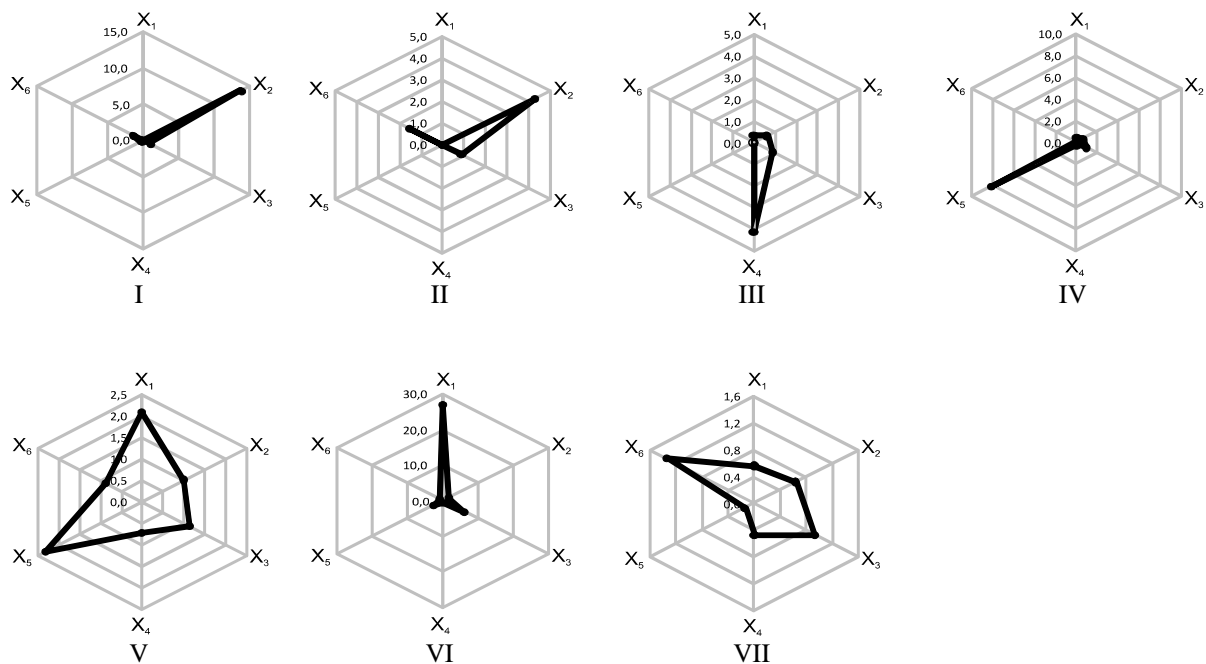
Source: developed by the authors based on the data obtained from the official websites of luxury goods producers and [16, 17, 53, 54].

The research findings revealed that particular clusters are dominated by the following properties: Cluster I – variables  $x_2$  and  $x_6$  (the number of luxury goods stores per 10,000 population (5.02) and the percentage of luxury jewellery stores (94 %)); Cluster II – variables  $x_2$  and  $x_6$  (the number of luxury goods stores per 10,000 population (1.56) and the percentage of luxury jewellery stores (97.3 %)), as well as the smallest average size of a city/town in the sample – 17404.1; Cluster III – variable  $x_4$  (luxury cars dealers as a

percentage of the total number of luxury goods stores (98.7 %)); Cluster IV – variable  $x_5$  (luxury clothing stores as a percentage of the total number of luxury goods stores (88 %)); Cluster V – variables  $x_1$ ,  $x_3$ , and  $x_5$  (the number of the population (above 900,000), the number of luxury goods stores per luxury brand (1.33), and luxury clothing stores as a percentage of the total number of luxury goods stores (25.5)); Cluster VII – variable  $x_6$  (the percentage of luxury jewellery stores (86.3%)).

Cluster VI missing from the above list is Moscow. It essentially owes its existence to diagnostic variables  $x_1$  (the number of the population (11.5m)) and  $x_3$  (the number of luxury goods stores per luxury brand (6.83)) and, although to a lesser degree, to variables  $x_2$

and  $x_5$  (the number of luxury goods stores per 10,000 population (0.6) and luxury clothing stores as a percentage of the total number of luxury goods stores (27.3%).



**Figure 3. Radial diagrams presenting the structure indicators of diagnostic properties describing the spatial distribution and structure of luxury goods stores in CEE cities and towns**

Explanations: as in table 5.

Source: developed by the authors based on the data obtained from the official websites of luxury goods producers and [16, 17, 53, 54].

## CONCLUSION

The study has revealed a fairly irregular distribution of luxury goods stores across Central and Eastern Europe, as well as clearly different positions of particular CEE countries in that respect. More than half of the stores, 51.3%, have been established in Russia, 9.9% in Poland, 9.2% in Ukraine, and 9.1% in the Czech Republic (Fig. 2).

Following the example of the super-rich individuals in the world, the financial aristocracy in this part of Europe frequently manifests its wealth not only through luxury cars, yachts, jewellery, but also by choosing to live in exclusive neighbourhoods and suburban areas, such as Rublowka in Russia [44].

As far as the spatial distribution of the stores is concerned, the special position of Moscow among CEE cities and towns must be stressed, where their network is particularly extensive. Sankt Petersburg, Prague and Kiev rank immediately behind it, while other cities and towns have considerably lower numbers of luxury stores. This means that the cities and towns in Central and Eastern Europe have growth potential for the producers of luxury goods and that most of them have room for services (sale of luxury items) addressed mainly to the most affluent class.

That luxury goods stores choose large cities for their locations is related to the cities' position in their global network incorporating also state capitals, rather than to their demographic potential [45]. A case in point

is Moscow where all major firms and luxury brands are represented. This means that the presence of luxury goods stores may be another attribute in determining global metropolises [21, 46].

The analysis of the number and structure of luxury goods stores in terms of location has disclosed their urban-centric character. They gravitate mainly to large cities, while other localities are somewhat less attractive locations for them. When affluent persons living in smaller towns and villages want to purchase luxury items they have to seek them in large cities.

The research has shown that Central and Eastern Europe is slowly reducing the distance to countries in Western Europe and North America regarding the production, distribution and use of consumer goods. The socio-economic transformations in CEE countries have markedly increased the openness of their economies, encouraging also the producers of luxury goods to become more active in those markets (in November 2011 Wolf Brack opened a luxurious shopping arcade in Warsaw, with YSL, Gucci, Bottega Veneta, and Giorgio Armani boutiques opened for the first time in Poland).

Finally, it is important to note that the luxury goods sector in Central and Eastern Europe has been rarely explored so far. This scarcity of studies is due to two factors. One is the problems with obtaining reliable data from producers of such goods, who decline to provide statistical institutions with information for commercial secrecy reasons. The other one is the limited



knowledge of the development and spatial distribution of services addressed to the super-rich.

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#### **Summary**

**Stefania Środa-Murawska; Daniela Szymańska. CENTRAL AND EASTERN EUROPE IN THE LIGHT OF THE SPATIAL DISTRIBUTION OF LUXURY STORES – SOME PROBLEMS.**

This study analyses the characteristics and structure of luxury goods stores in Central and Eastern Europe (CEE). Studies dealing with the spatial distribution of services created for the super-rich people are relatively few. The authors of this article show luxury goods stores in CEE countries with respect to their locations (urban/rural), location factors, numbers, structure, and the differences between countries and regions. They also consider whether Central and Eastern Europe has space for luxury store networks to expand. The status and structure of luxury goods stores in CEE countries are analysed and evaluated based on secondary data on the authorised retailers of luxury goods. Using the k-mean method as one of its tools, the study shows that luxury goods are mainly offered in large cities (populated by more than 200,000 people). Moscow has been found to have the most extensive network of luxury stores, which gives her a special position among CEE cities. Sankt Petersburg, Prague, Kiev and other European cities with significantly smaller numbers of luxury stores rank lower.

**Keywords:** Central and Eastern Europe, luxury goods stores, city.