

An analysis of the present situation
of Lublin according to key elements





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Diagnosis of the socio-economic situation of the city

① The statistical yearbook of provinces, http://www.stat.gov.pl/gus/5840_2176_PLK_HTML.htm

② Demographic yearbook, http://www.stat.gov.pl/gus/5840_rocznik_demograficzny_PLK_HTML.htm

General information on the city of Lublin and the Lubelskie Province

Key observations concerning the city and the province

- Lublin is the biggest Polish city at the right side of the Vistula River (more than 348 thousand of citizens; the number of citizens of the Province exceeds 2 m.)
- The number of citizens of the Lublin Metropolitan Area is more than twofold bigger than the number of Lublin citizens (c. 713 thousand citizens).
- Lublin is located at the course of two transit routes connecting EU countries with the Eastern Europe.
- Lublin is characterized by a favorable distance to the eastern border with the Ukraine and Belorussia (the distance between Lublin and Lviv is slightly farther than 200 km).
- The Lubelskie Province is characterized mainly by agricultural areas. Climate and soil conditions create favorable conditions for agricultural areas.

The Lubelskie Province covers the area of c. 25 thousand km², which constitutes 8% of the country's territory (3rd among provinces in terms of the area). Its territory comprises 20 districts (including 4 district cities) and 213 communes. The rural communes (171) dominate in the Province, while the rural-urban communes and urban communes remain in the minority (22 and 20 respectively). The biggest cities of the Province include:

- Lublin
- Chełm
- Zamość
- Biała Podlaska

Lublin is the biggest city of the Province and at the same time the biggest one at the right side of the Vistula River. In 2010, the Lubelskie Province was populated by more than 2 m.¹ Lublin – the capital city of the Lubelskie Province comprising 147 km² – is populated by more than 348 thousand people.² The population density of the city amounts to 2 363 persons per km². The Lublin Metropolitan Area (LOM) covers the following districts: lubelski, lubartowski, łęczyński, świdnicki and Lublin. The area

covers c. 4221 km², the population number of LOM amounts to 713 thousand persons³. The population density of the LOM is almost twofold bigger than the density of the Province.

The Lubelskie Province neighbors on the Mazowieckie, Świętokrzyskie, Podkarpackie and Podlaskie Provinces. In the east, the province borders on Belorussia and the Ukraine. The eastern border of the Province is also the eastern border of the European Union.

More than 70% of land at the area of the Lubelskie Province is used as arable land (the result exceeds the country's average by 10 percentage points), 3.6% is covered with developed and urbanized area (the country's ratio is higher and amounts to 5%). The Lubelskie Province is characterized by high quality soil and favorable conditions (including climate ones) conducive to agricultural production.

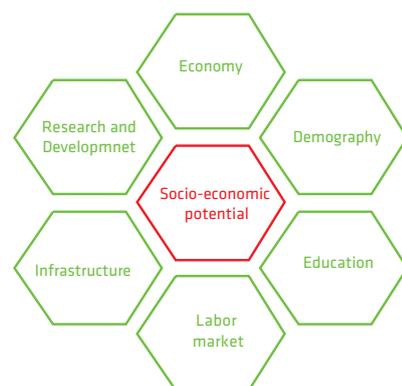
The conducted desk research analysis (secondary sources) concerning the socio-economic situation of the city and the region proved that the presented in literature approaches to the assessment of investment attractiveness of the regions are different. The differences result mainly from the number and component indicators describing the tendency to invest in a given region, as well as from the adopted assessment methods and interpretation of obtained results.

Diagnosis within the scope of the economic and the socio-demographic situation of Lublin

Based on the data provided by the Client, strategic studies related to the region, own study of Deloitte and other sources, the socio-economic potential of the Lubelskie Province and the city of Lublin was presented. The analysis was carried out in the division into specified areas, presented in the figure below, determining the total assessment of the economic and socio-demographic situation of Lublin.

③ http://www.stat.gov.pl/vademecum/vademecum_lubelskie/portret_obszaru_metropolitalnego/lubelski_obszar_metropolitalny.pdf

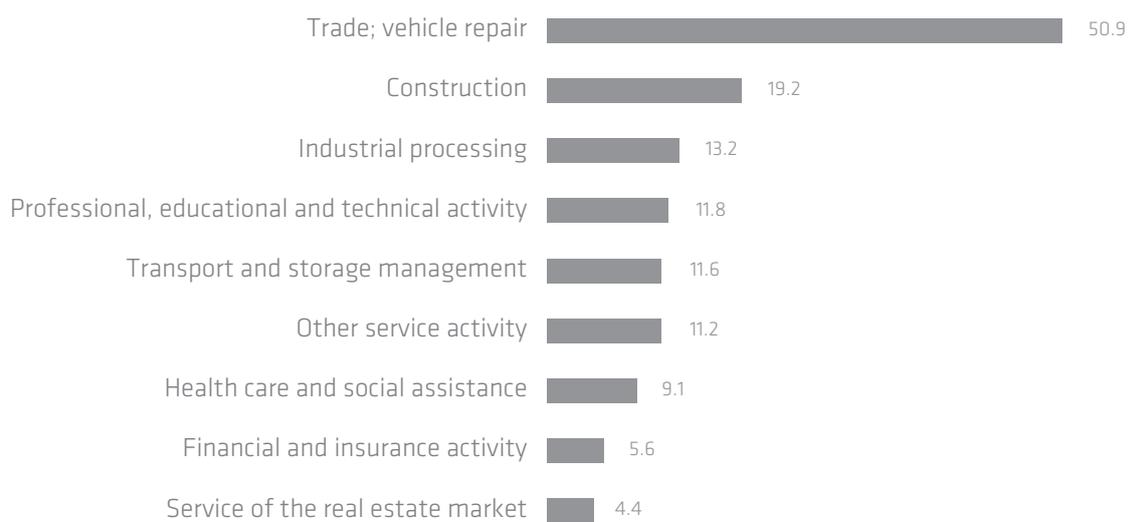
Diagram 1. Areas covered by a description of the socio-economic situation



Source: Own study of Deloitte

④ GUS (The Central Statistical Office), www.stat.gov.pl

Figure 1. Number of entities of the national economy registered in REGON according to selected GDP sections in 2010 in the Lubelskie Province (in thousands)



Source: Data of GUS (The Central Statistical Office), *Vademecum Samorządowca (Vade mecum of the member of the local government), the Lubelskie Province*

Economy

Key observations concerning the city and the province

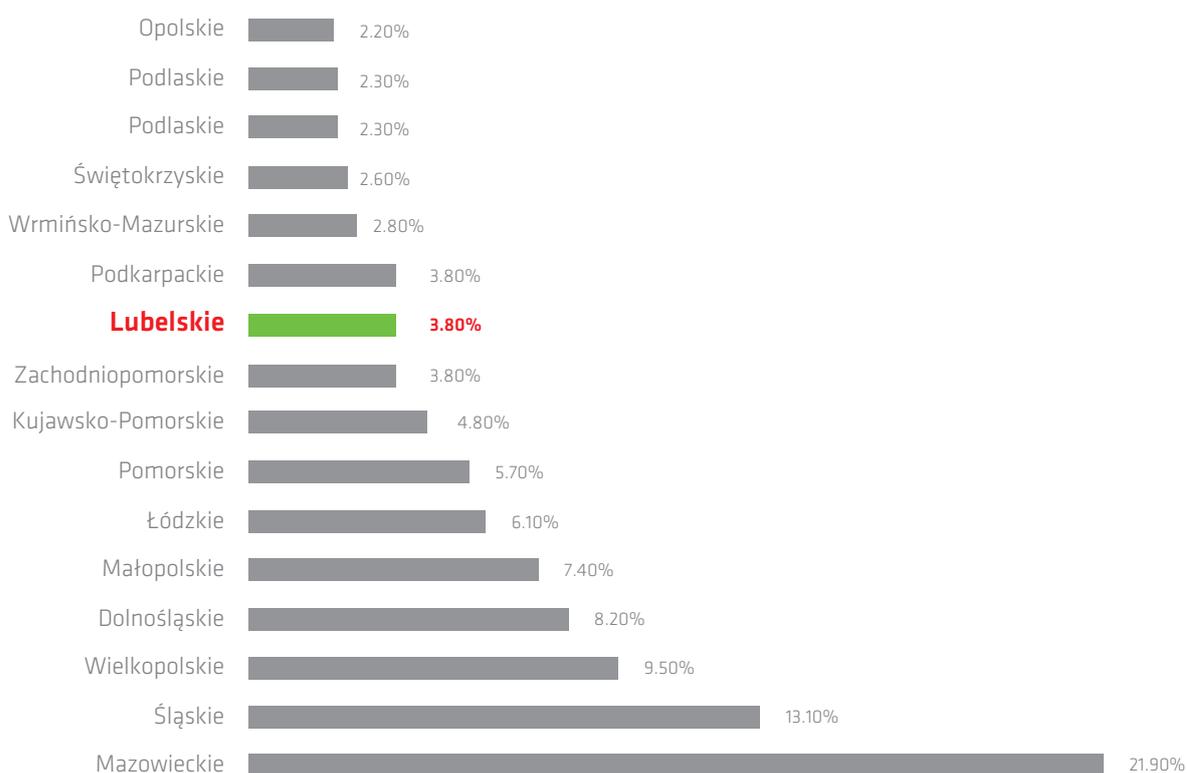
- Data of the Polish Central Statistical Office show that the Lubelskie Province has the lowest GDP value per capita among the provinces in the country.
- The Lubelskie Province has a relatively low share in the generation of the GDP.
- The largest percentage of economic entities registered in the Register of Businesses (REGON) is represented by trade and construction.

At the end of 2010, in the national official register of economic entities of the national economy (REGON) of the Lubelskie Province, more than 162 thousand economic entities were registered (excluding individual farmers). The entities of the Lubelskie Province constitute c. 4% of all entities registered in the country.⁴ The biggest share of economic entities registered in REGON is represented by trade (more than 37%) and building (c. 14 %), as well as industrial processing (c. 9%).

The biggest enterprises in Lublin include:

- Emperia Holding S.A. (distribution of groceries and FMCG)
- Tabal Sp.J. (metallurgy)
- Faelbud S.A. (concrete prefabricated elements)
- Spółdzielnia Pszczelarska APIS (mead)
- PERŁA – Browary Lubelskie S.A. (brewing industry)
- Herbapol Lublin S.A. (herbal and food products)
- SIPMA S.A. (machines and agricultural devices)
- Pol-Skone Sp. z o.o. (door and window frames)
- Zakłady Chemiczne Permedia S.A. (non-organic pigments).

At the end of 2009, the Lubelski Province generated GDP of PLN 51 082 m. The product generated in the Lubelskie Province, placed it tenth among provinces. The generated product value of the Lubelskie Province constituted 3.8% of GDP.⁵ The diagram below presents a ranking of provinces according to their share in the GDP generated in the country in 2009.



© GUS (Central Statistical Office),
Statistical yearbook of provinces 2011,
p. 90

Diagram 2. Ranking of provinces according to the share in the GDP generated in the country, 2009

Source: Data of the Central Statistical Office (GUS)

⑤ Ibidem, s. 91

⑦ Ministry of the Regional Development, „Poland 2011” Report

In 2009, GDP per one capita in the province amounted to PLN 23 651. Analyzing the GDP value per capita, the Lubelskie Province was placed last in terms of the value of the indicator (position 16). In 2010, the value of the GDP per capita generated in the Lubelskie Province constituted c. 67% of the country's average.⁶

An aspect significant for the economy is constituted by direct foreign investments, which allow for faster development of regions. In the years of 2007-2010, one could observe a systematic drop of the stream of foreign investments in the whole country, which was connected with aversion towards risk following the global financial crisis.

In the period between 2007-2010, the Lubelskie Province placed ninth among the beneficiaries (provinces) of direct foreign investments in the scale of the whole country, generating annual average revenue at the level of EUR 250 m⁷.

Demography

Key observations related to the city and the province

- The Lubelskie Province is characterized by a majority of people inhabiting rural areas over the population inhabiting urban areas.
- Both the Lubelskie Province and Lublin are characterized by a population drop caused by a decrease in births and adverse migration balance.
- The main directions of migration (emigration) for a permanent stay in 2010 were the Mazowieckie, Podkarpackie and Małopolskie Provinces. Among the foreign directions, the dominating continents are the European and the American ones. Among the European countries, the Lublin region emigrants most frequently choose Germany, Great Britain and Italy.
- Among emigrants, there dominate people possessing secondary and higher education.

At the end of 2010, the Lubelskie Province was inhabited by more than 2 m. persons, which constituted almost 6% of the population of Poland. In terms of the population number, the Lubelskie Province places eight among provinces. As for the analysis of the share of population residing rural areas, the Lubelskie Province places itself among the top three Provinces. The population of rural areas of the Lubelskie Province outnumbers the population number of urban areas. The Lublin city was populated by 348 450 people, and the population density amounted to 2 363/km².

In the Lubelskie Province, a gradual drop in the population is observed. The main factors affecting changes in the number and structure of the population is the negative migration balance (in 2010 it amounted to 4805 persons) and a negative birth rate (in 2010 it amounted to 402 persons). The population of Lublin has been constantly decreasing since 2000. Opposite to the results of the province, the birth rate in Lublin is positive, the migration balance, however, is unfavorable for the city.

The labor force resources are determined, among other, by the age structure of the people (pre-productive, productive and post-productive age). In the whole country, as a result of demographic changes, there is a drop in the share of the number of people in the pre-productive age, while the percent of the people in productive years is still increasing. The following table presents the share of the population of the province in separate age groups. In

Population age	The Lubelskie Province	Tendency since 2000	Poland	Tendency since 2000
0-19	22.1%	↓	21.4%	↓
20-44	36.7%	↑	37.4%	↑
45-64	26.7%	↑	27.6%	↑
65 and more	14.5%	↑	13.6%	↑

2010 in the Lubelskie Province, the population in various groups (age groups of 0-19, 20-44, 45-64, 65 and more) constituted respectively 22.1%, 36.7%, 26.7% and 14.5% of

Table 1. Share of the population of the Lubelskie Province in individual age groups in 2010.

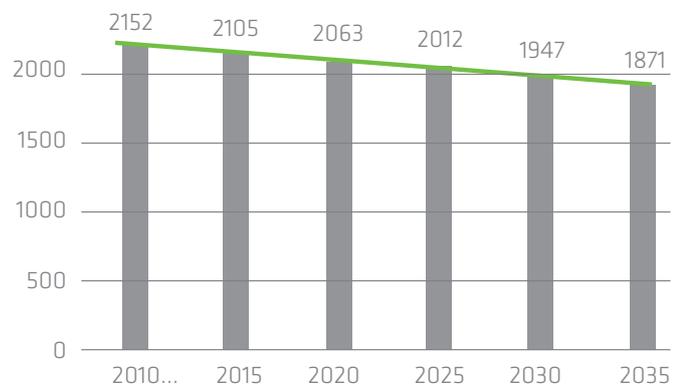
Source: Data of GUS (Central Statistical Office)

© The Statistical Office in Lublin,
Statystyczne Wademecum
Samorządowca 2011 [Statistical Vade-
mecum of a Member of Local
Government]

Diagram 3. Forecasts of the popu-
lation number of the Lubelskie
Province in separate years (in
thousands of inhabitants)

Source: Own study of Deloitte based on GUS
(Central Statistical Office) data

the total population. The tendency indicates an increase (since 2000) in the share of people of productive and post-productive age, with a simultaneous drop in the share of people of pre-productive age (17 years and under). Further, according to the forecasts of GUS (Central Statistical Office), the tendency of decreasing the number of population of the province will continue, which is presented in the following diagram.



The forecasts indicate that a drop in the number of inhabitants of the province in 2035 compared with the year 2015 will amount to c. 11%, compared with c. 5% of the population drop in the country in the analogous period. The population number drop in the Province is caused not only by the nationwide (and also European) trend of decreasing number of children, but also a negative migration balance.

The inhabitants of the region migrate mainly to other provinces in the country. The main migration destination for permanent stay purposes in 2010 were the Mazowieckie, Podkarpackie and Małopolskie provinces.⁸ The following table presents the balance of internal and external migrations in Poland's provinces.

Province	Internal migrations			External migrations			Total migration balance
	Immigration	Emigration	Balance	Immigration	Emigration	Balance	
Poland	422621	422621	n/d	15246	17360	-2114	-2114
Dolnośląskie	35848	34269	1579	1813	2007	-194	1385
Kujawsko-pomorskie	22929	24372	-1443	526	766	-240	-1683
Lubelskie	20650	25517	-4867	421	459	-38	-4905
Lubuskie	12781	13255	-474	557	557	-	-474
Łódzkie	22572	24329	-1757	533	556	-23	-1780
Małopolskie	31841	28168	3673	1966	1231	735	4408
Mazowieckie	69615	56928	12687	1282	592	690	13377
Opolskie	10428	11099	-671	726	1848	-1122	-1793
Podkarpackie	18579	20552	-1973	907	863	44	-1929
Podlaskie	11731	13347	-1616	521	421	100	-1516
Pomorskie	30661	27912	2749	1296	1396	-100	2649
Śląskie	44185	47379	-3194	2214	3958	-1744	-4938
Świętokrzyskie	11044	13611	-2567	329	307	22	-2545
Warmińsko-mazurskie	16772	19493	-2721	755	740	15	-2706
Wielkopolskie	42363	40657	1706	661	1094	-433	1273
Zachodniopomorskie	20622	21733	-1111	739	565	174	-937

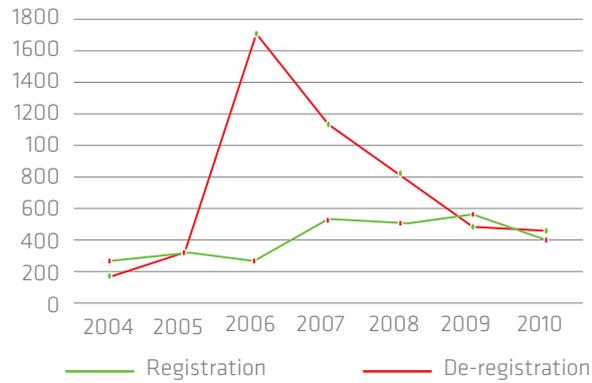
The following diagram presents foreign migrations in the Lubelskie Province during the years of 2004-2010.⁹ The biggest emigration in the Lubelskie Province to other countries took place in 2006. It was connected with the Poland's integration process with the EU. In 2009, the emigration of people from the Lubelskie Province was significantly withheld.

Table 2: Internal and external migration balance in the country's provinces in 2010.

Source: GUS (Central Statistical Office), Demographic yearbook 2011

⑨ Registration for the purpose of permanent stay from abroad (immigration, de-registration from a permanent stay abroad (emigration), calculated on the basis of comparison of the number of persons registered (immigration) for permanent stay compared with the number of persons de-registered (emigration) from a permanent address.

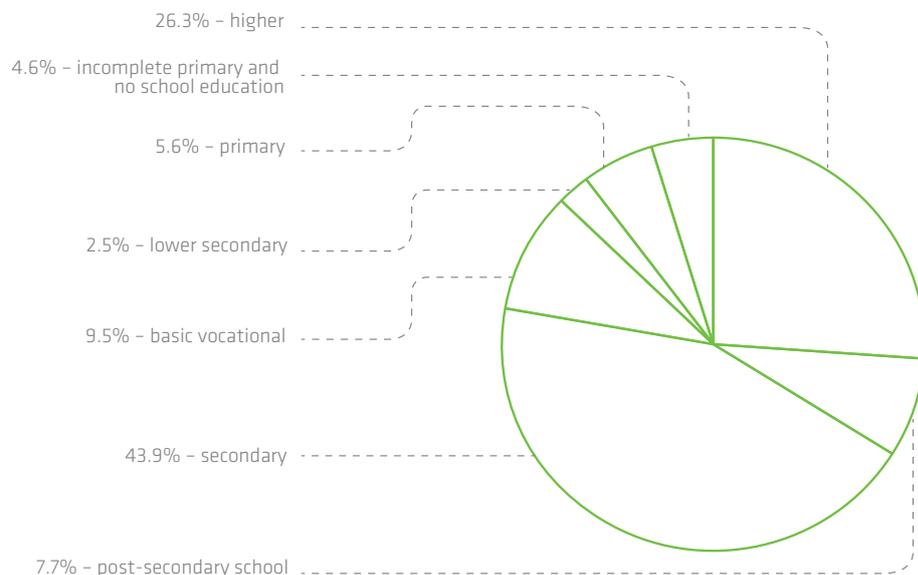
Diagram 4. Foreign migrations for the purpose of permanent stay (number of registration and de-registration in the years of 2004-2010)



Source: Data of GUS (Central Statistical office), BDL (Local Data Bank)

The emigration of people necessitates an analysis of the reasons of inhabitants' decisions related to the change of the place of address. In most cases, migrations are caused by economic aspects (employment search). The analysis of migration of inhabitants also comprises estimates concerning the structure of emigrants in terms of gender, and their education and professional qualifications. In the first years (since 2004), within the group of people de-registered from a permanent address (emigrants), these were men who were dominating; only within the last two years, among the de-registered people women outnumbered men. While among the registered people (immigrants), these are men who dominate. The following diagram presents a percentage of de-registered people for the purpose of permanent address abroad according to the level of education.

Diagram 5. The structure of education of migrants – foreign migrations for purposes of permanent stay (according to the number of de-registration)



Source: Own study of Deloitte based on GUS (Central Statistical Office), and BDL (Local Data Bank) data

The majority of people who de-registered for the purpose of permanent stay abroad are people with secondary level of education. The second largest group was constituted by people with higher education.¹⁰ The first group (with the secondary education) includes simultaneously adults, who completed their education at a secondary level and youth leaving the country for studying and earning purposes. In the case of adults, the reason for migration may be connected with the lack of attractive earning opportunities, while the migration of youth for studying purposes may result from an insufficient level of education at the higher level. The current situation on the labor market, especially unfavorable for young people (with higher education), may cause an increase in the population number of young emigrants. From the perspective of the city, its authorities and potential investors, this is not a favorable situation. The reduction of the group of educated persons within the province community decreases the city's attractiveness within the scope of the human resources assessment.

The most popular destinations of permanent stay among the emigrants of the Lubelskie Province are the European continent (more than $\frac{3}{4}$ of emigrants) and the American one (The North America). Among the European countries, the emigrants in question most often choose Germany, the United Kingdom and Italy, which offer numerous employment opportunities for women.¹¹

Education

Key observations related to the city and the province

- Lublin is a significant academic center in the country. Its main institutions of higher education include, among others: The Maria Curie-Skłodowska University, Lublin Medical University, Lublin University of Environmental and Life Sciences as well as the University of Technology in Lublin.
- The Lubelskie Province occupies a high position among the country's provinces in terms of the relations between the number of students and the population number (The Lubelskie Province places sixth following the Małopol-

¹⁰ The statistics do not include people of unidentified education (data for 2005).

¹¹ According to GUS (Central Statistical Office) statistics, the Poles most frequently choose western countries of the EU. The most popular destinations of migration for earning purposes are Germany, the United Kingdom, the Netherlands, Italy, as well as France, Spain and Ireland.

skie, Mazowieckie, Dolnośląskie, Wielkopolskie, and Pomeranian Provinces).

- Considering the structure of the fields of study, the region of Lublin is mainly classified into the regions of liberal sciences. The Lubelskie Province is characterized by a relatively small share of graduates of technical fields of study and the sciences in the total number of graduates.

In the Lubelskie Province, there operate 18 (14 in Lublin) institutions of higher education. The biggest include, among others, the Maria Curie-Skłodowska University, Lublin Medical University, Lublin University of Environmental and Life Sciences, and the University of Technology in Lublin. The biggest academic center of the Province is its capital city. Lublin is an important academic center of the region and the country.

In the 2009/2010 academic year, within all institutions of higher education in the Province, there were more than 100 thousand students, 60% of which was constituted by women. In 2010, more than 29.5 thousand graduates of all higher education institutions of the province were reported. The majority of women is also visible in the number of graduates of institutions of higher education, still, such trend is observed on the nation-wide scale. Analyzing the share of women in the number of graduates of selected fields of study, women outnumber men in social, economic, medical, and mathematical and statistical sciences. Men-graduates outnumber women-graduates in engineering, technical and IT profiles of the field of study.

Within the period of 2007-2010, a continuous increase in the number of graduates is observed; mainly from universities, and tertiary - level agricultural and medical schools. The only drop in the number of graduates in that period referred to students completing tertiary - level schools of economics. During the same period, the number of students both within the country and the Lubelskie Province was significantly reduced. The following diagram presents changes in the number of students depending on the types of institutions of higher education.

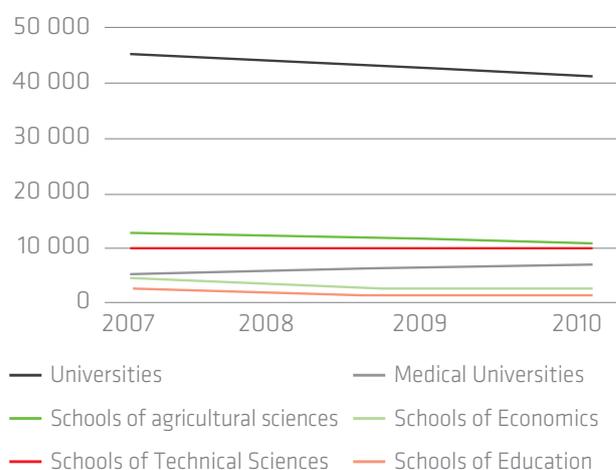


Diagram 6. The tendency of changes in the number of students at selected types of institutions of higher education in the Lubelskie Province within 2007-2010.

Source: Data of GUS (Central Statistical Office), BDL (Local Data Bank)

A visible decrease is observed in the number of students of university, economic and agricultural profile, while an increase is reported in the number of students of medical schools, and slightly in the number of students of schools of technical sciences. The rising tendency within the scope of interest in technical fields of study and the sciences should be assessed positively. Despite the favorable tendency in that respect, however, the number of graduates of technical fields of study and the sciences is relatively low compared with other provinces. Their promotion is especially important as they significantly create innovative potential, and their graduates are urgently sought after on the labor market.¹²

Labor market

Key observations related to the city and the province

- Lublin possesses a huge potential related to human resources, both within the scope of the number of citizens and their professional qualifications.
- According to the data for 2010, the Lubelskie Province reported the 13.1% unemployment rate (in that period the rate for the country amounted to 12,4%).
- The employment structure of the Lubelskie Province residents indicates that c. 46% of the working population is employed in agriculture.
- The Lubelskie Province is characterized by competitive labor costs compared with other provinces. The share of

⑫ Gazeta Wyborcza, Nadal kształcimy za mało inżynierów [Still too few engineers are trained], 29 September 2009

Table 3. The unemployment rate (%) within 2007-2010 in different types of communes.

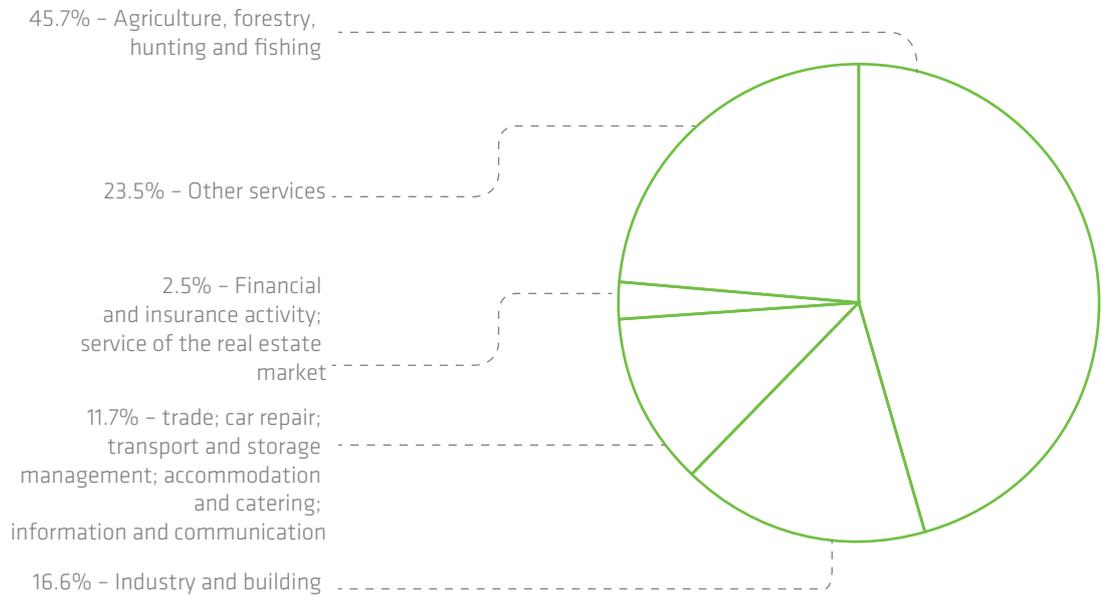
Communes	2007		2008		2009		2010	
	Lubelskie	Poland	Lubelskie	Poland	Lubelskie	Poland	Lubelskie	Poland
Urban	7.6	5.8	6.7	4.8	8	6.5	8.3	6.8
Urban-rural	9.5	8.3	8.1	7.3	9.1	9.1	9.3	9.2
Rural	9.6	8.5	8	7.1	9	8.7	9.1	8.9

Source: Data of GUS (Central Statistical Office),
 Demographic yearbook 2011

an average gross pay in the Lubelskie Province within the country's average gross pay amounts to c. 90%.

At the end of 2010, 1.36 m. people in a productive age were reported, which constituted 63.2% of the total population number in the Lubelskie Province (the then share of the people in productive age in the population of Poland amounted to 64%). The rate of professional attractiveness of the Lubelskie Province in 2010 amounted to 56.3% of the total population (Poland 55.8%). According to the data for 2010, the Lubelskie Province reported 13.1% unemployment rate (the country's rate in that period amounted to 12.4%). Among the unemployed, women remained in the majority. In the district labor offices, 119.7 thousand of the unemployed were registered (i.e. more than in the previous year). The Włodawski, Hrubieszowski, Świdnicki, Chełmski, and Opolski Provinces are characterized by the biggest unemployment rate (23%; 18.3%; 18.1%; 17.7%; 16.3% respectively)¹³. The biggest unemployment rate is reported in rural and urban communes. The following diagram presents the unemployment rate in the 2007-2010 period in the Lubelskie Province in comparison with the country.

When analyzing the employment structure of the population working in the Lubelskie Province, it might be observed that the dominant majority is employed in agriculture (almost 46% of the working population). A large number of people are employed in services, while more than 1/6 is employed in industry and building. A detailed employment structure is presented in the form of the following diagram.



From the perspective of labor costs, the Lubelskie Province is relatively attractive for an investor. The following diagram presents the amount of an average gross remuneration in the Lubelskie Province compared with the country's average.

Diagram 7. Employment structure of people working in the Lubelskie Province (%)

Source: Data of GUS (Central Statistical Office), BDL (Local Data Bank)

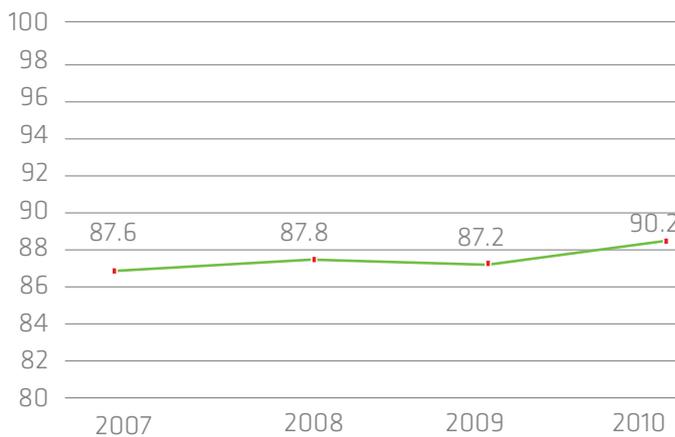


Diagram 8. The share of an average gross remuneration in the Lubelskie Province in the country's average gross remuneration in 2007-2010 (%)

Source: Data of GUS (Central Statistical Office), BDL (Local Data Bank)

An average gross remuneration in the Lubelskie Province in 2010 amounted to PLN 2891, which constituted c. 90% of the average gross remuneration in the country. The remuneration growth rate in the Lubelskie Province is higher than the remuneration increase in the country.

¹⁴ Statistical Office in Lublin, Statistical Vademecum of a Member of Local Government, The Lubelskie Province.

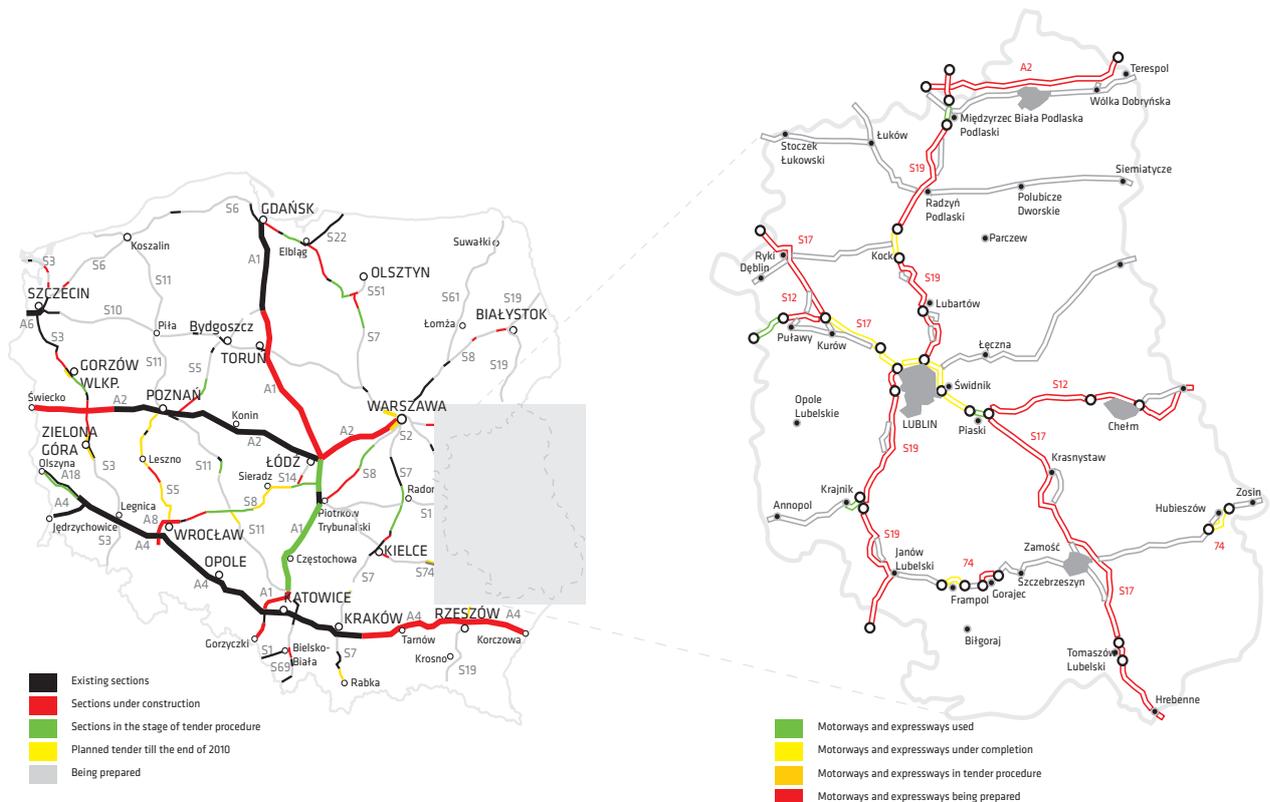
Infrastructure

Key observations related to the city and the province

- Despite the prospective location, the Lubelskie Province is characterized by a relatively poorly developed infrastructure on the national scale. The density of hard-surface roads in the Lubelskie Province in 2010 amounted to 80.5 km/100km² (an average for Poland – 87.6 km/100 km²). The density of railway lines (normal and narrow-gauge) in 2010 amounted to 4.1 km/100km² (an average for the country – 6.5 km/100 km²).
- The communications limitation in the province is, in particular, the lack of beltways, small number of expressways and lack of an airport (under construction).

Lublin is located at the course of transit routes connecting the EU with the Eastern Europe. Despite the prospective location, the Lubelskie Province is characterized by a relatively poorly developed infrastructure in the country. The key roads in the region include the national roads no. 12, 17 and 19, being expressways. The first one connects Łęknica, Kalisz, Radom, Lublin, and Dorohusk. The second one connects Warsaw, Lublin and Hrebenne. The third one connects Kuźnica Białostocka, Białystok, Lublin and Rzeszów.

The aspect limiting the communication in the Province is the lack of beltways, small number of expressways and bad condition of many roads. There is, however, a positive tendency observed in increasing the density of hard surface roads (in 2010 it increased annually by 2.5km/100 km²)¹⁴. The dominant majority (more than 80%) of public hard surface roads is constituted by district and commune roads. The following diagram presents the situation of the road investment completion in the Lubelskie Province.



Analyzing the railway network, lines of the total length exceeding 1000km run through the Province. The density of railway lines amounts to more than 4 km per 100 km² (compared with the following provinces: podlaskie 3.8 km, mazowieckie 4.7 km, warmińsko-mazurskie 5 km, podkarpackie 5.8 km, małopolskie 7.4 km).

The Lubelskie Province, as one of the few regions in Poland, still does not possess an airport. Currently, an airport in Świdnik is under construction, which is planned to be put into use in the second half of 2012. The lack of national and international air connections significantly limits the transport availability of the region and, undoubtedly, constitutes a barrier for its development.

Diagram 2: The investment completion in the area of expressways and motorways within the National Road Construction Program for the years 2008-2012 and the map of the situation of road construction in the Lubelskie Province¹⁶

Source: Own study based on GDDKiA (General Directorate of National Roads and Motorways)

¹⁶ Ministry of Infrastructure, „National road construction program for 2011-2015”, situation as of 15 November 2010

¹⁶ GDDKiA (General Directorate of National Roads and Motorways), www.gddkia.gov.pl

⑰ GUS (Central Statistical Office),
BDL (Local Data Bank)

⑱ GUS (Central Statistical Office),
The 2011 statistical yearbook
of provinces

Research and Development

Key observations related to the city and the province

- Outlays of the enterprise sector on the research and development activity per capita in the Lubelskie Province are relatively high compared with other provinces, still they are increasing.
- In the higher education sector, there are relatively high outlays on the research and development (double the amount in the enterprise sector).
- Well developed (in terms of the number of registered clusters) cluster activity of the Lubelskie Province. Though, there is no spectacular promotion of the region caused by the activity.

The innovation and its growth in a given region are influenced by a number of factors. Human resources (proper education) are particularly, proper infrastructure and investment capital necessary for the development in this area).

Analyzing the percentage of people employed in the research and development compared with the number of professionally active people, the Lubelskie Province, with the result of 0.62 % placed sixth among the 14 analyzed provinces (lack of data from two provinces)¹⁷.

The amount of outlays on the research and development activity per capita places the Lubelskie Province on the ninth position.¹⁸ The outlays on this activity in the enterprise sector in the Lubelskie Province throughout the last years have been systematically increasing, which should be assessed positively. Compared with other Provinces of the Eastern Poland, a visible rising tendency of investments is also observed in the Świętokrzyskie and Podkarpackie Provinces. It might be assumed that the said increase is a result of the 'improvement' process of years' long backwardness in that scope. The following diagram presents the amount of outlays on the research and development activity in the enterprise sector (in PLN/millions) in the Provinces of the Eastern Poland and for comparative purposes in the Wielkopolskie Province.

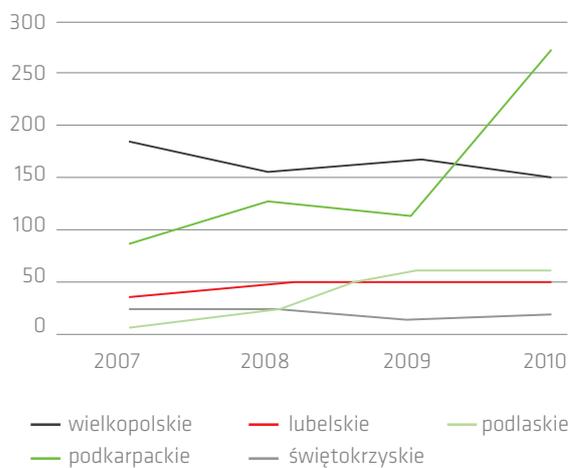


Diagram 9. The amount of outlays on the developmental activity in selected provinces (in million/PLN).

Source: Data of GUS (Central Statistical Office), BDL (Local Data Bank)

The data of the Central Statistical Office also indicate a rising tendency of outlays on the research and development activity in the sector of higher education. The value of the outlays in the Lubelskie Province considerably exceeds the outlays of the enterprise sector (more than twofold).

The statistics show that in 2010 almost 12% of enterprises within the service sector are viewed as innovative. The percentage of innovative enterprises is bigger in the case of enterprises within the industrial sector, which amounted to 17% this year. The results place the Lubelskie Province tenth and seventh respectively among the 16 provinces.

In 2010 there were 1767 research and development units operating in the country. In the same year, in the Lubelskie Province – 67 units conducting research and development activity were operating, 45 out of which belonged to the enterprise sector. With reference to the number of entities, the Province placed ninth in the country. The following diagram presents a ranking of provinces with reference to the number of research and development units.

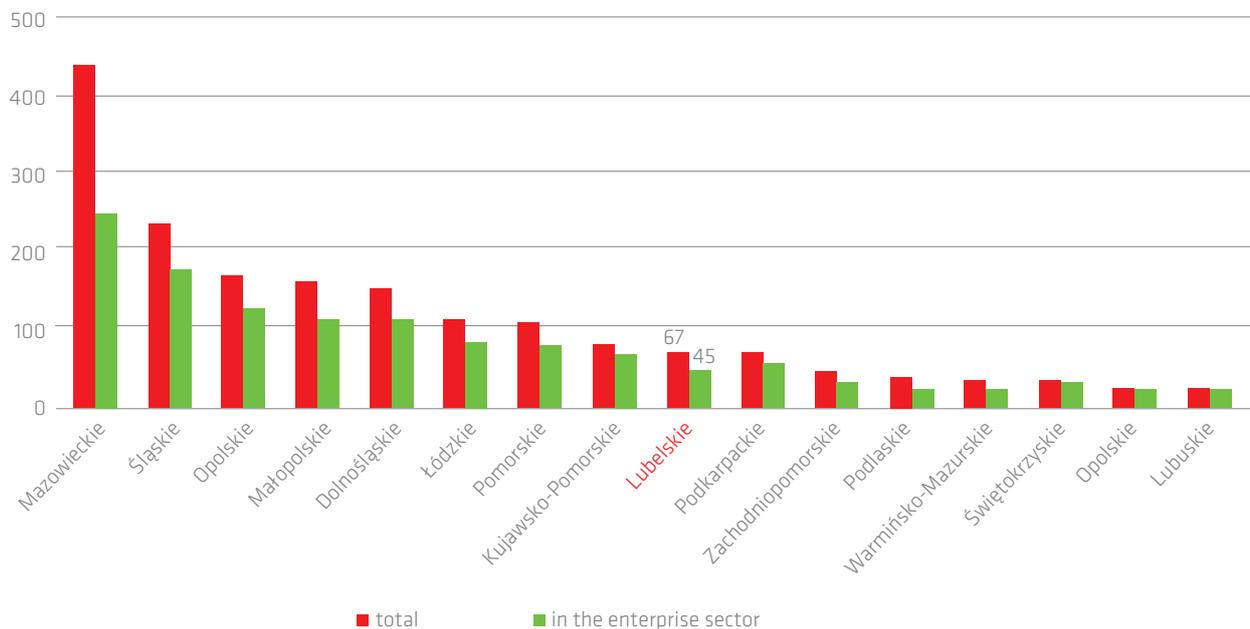


Diagram 10. Ranking of the number of research and development units in particular provinces in 2010.

Source: Data of GUS (Central Statistical Office), BDL (Local Data Bank)

The dynamics of the increase in the number of research and development units in the Lubelskie Province in the years 2007-2010 was relatively high and amounted in that period to 13% (compared with the country's average of 6%). The results referring to the growth rate of the number of research and development units places the Lubelskie Province among the first eight provinces in the country.

The economic development of Lublin and its surroundings is supported, among others, by the Lublin Science and Technology Park, The Center of Innovation and Technology Transfer of the Lublin Science and Technology Park as well as by the cluster activity (23- the biggest number of clusters in the country). So far, none of the clusters in the Lubelskie Province and the whole country was so successful as the Dolina Lotnicza cluster. The dominating area of interest of the clusters in the region is the healthy and regional food, tourism, energy and power and automotive industry.

The internationalization potential of Lublin

An analysis of selected indicators concerning the internationalization potential of the city

In order to compete effectively for gaining investors within the scope of the global economy, Polish cities must effectively develop and use their international potential. For the purpose of supporting the process, it is necessary to create proper conditions and instruments allowing, on the one hand, for gaining foreign investors, and, on the other hand, for providing conditions for the foreign expansion of local and native entrepreneurs.

The assessment of the city's internationalization potential is affected by many factors, including among others:

- Economic factors (ability to absorb FDI, size, dynamics and the stream directions of export of local enterprises).
- Factors determining the city's availability to, among others, potential investors, foreign tourists (e.g. availability/travelling time to the nearest airport, road border crossing, availability of night accommodation).
- Social factors (e.g. the availability of services for foreigners, which translates into the number of foreign and the number of international students).

The following table presents selected statistical (number) data allowing for a simplified assessment of the internationalization potential of Lublin with reference to the previously defined 'peer group' of Polish cities, i.e. Olsztyn, Białystok and Poznań.

	Lublin	Olsztyn	Białystok	Poznań	
Economy	Value of the FDI flowing into the Province (annual average in 2007-2010)	EUR 133 m.	EUR 104 m.	EUR 106 m.	EUR 912 m.
	Value of the FDI flowing into the Province (annual average in 2007-2010) per capita	EUR 61 The last place in the country	EUR 73	EUR 89	EUR 268
	Export value of the Province (2007)	EUR 1.6 bn	EUR 2.0 bn	EUR 0.9 bn	EUR 11.1 bn
	Export value per capita for the Province (2007)	745 EUR	EUR 1411	EUR 774	EUR 3290
	Increase in the export value during 2000-2007	200%	220%	210%	310%
Availability	Travelling time by car: - to the nearest airport	Lublin Airport in Świdnik - 10 km (under construction) Warsaw Frédéric Chopin Airport - 173 km (2.5-3h)	Gdańsk Rębiechowo - 183 km (3h)	Warsaw Frédéric Chopin Airport - 205 km (>3h)	Poznań Ławica - 5.7 km (0.6h)
	- to the border with Germany (the nearest border crossing)	Frankfurt nad Odrą 627 km - 8.5h	Lubieszyn 472 km - 7.3h	Frankfurt nad Odrą 686 km - 8.6h	Frankfurt nad Odrą 186 km - 2.5h
	- to the border with the Czech Republic (the nearest border crossing)	Cieszyn 422 km - 6.25h	Cieszyn 561 km - 8.3h	Cieszyn 574 km - 8.5h	Głuszycza Górna 268 km - 4.3h
	- to the border with Slovakia (the nearest border crossing)	Barwinek 256 km - 4h	Piwniczna-Zdrój 588 km - 9.3h	Barwinek 507 km - 7.75h	Zwardoń 478 km - 6.5h
	- to the border with the Ukraine (the nearest border crossing)	Dorohusk 95 km - 1.5h	Dorohusk 470 km - 7.3h	Dorohusk 282 km - 5h	Dorohusk 551 km - 7.6h
	Number of provided night accommodation in tourist accommodation centers (I quarter of 2012, in thousands, for the Province)	264.1	294.3	147.8	520.9
	Night accommodation provided to foreign tourists in accommodation facilities (I quarter of 2012, in thousands, for the Province)	30.3	39.1	30.7	82.6

Table 4. Statistical data concerning the assessment of the internationalization potential

Source: Own study of Deloitte based on data provided by: The Ministry of Regional Development, The Municipal Office in Lublin, The Municipal Office in Olsztyn, The Office of the Marshal of the Wielkopolskie Province, The Office of the Marshal of the Podlaskie Province, Google Maps, Deutsches Studentenwerk.

The above comparison as well as the analysis of additional qualitative data allow for indicating the following observations:

- With reference to the total number of foreign investment, the Lubelskie Province places slightly above the analyzed provinces of a similar potential (+28% vs. the Warmińsko-Mazurskie Province with the capital city of Olsztyn, +25% vs. The Podlaskie Province with the capital city of Białystok) and significantly below the „leader” (The Wielkopolskie Province with the capital city of Poznań).
- Calculating the FDI value per capita, the Lubelskie Province, with the value of c. EUR 60, occupies the last place in the country.

- The export value of the Lubelskie Province (data for 2007), calculated per capita, was comparable with the Podlaskie Province, while almost twofold lower than in the Warmińsko-Mazurskie Province and more than four times lower than in the Wielkopolskie Province.
- The increase in the export value of the Lubelskie Province in 2000-2007 was comparable with the increase in the Podlaskie and Warmińsko-Mazurskie Provinces. The Wielkopolskie Province used its potential of export development in the analogous period to a much more significant extent.
- The biggest exporters in the Lubelskie Province include Zakłady Azotowe Puławy, Grupa Black Red White and Fabryka Łożysk Tocznych in Kraśnik. Nonetheless, all of the three above mentioned enterprises are located outside Lublin (in Puławy, Biłgoraj and Kraśnik respectively).
- With reference to the communication with other countries, the situation in Lublin is as follows:
 - Planned opening of an airport for Lublin in Świdnik should significantly affect the increase in Lublin competitiveness (in terms of communication) with reference to other Polish cities. At the same time, it is crucial for the airport authorities to gain air lines ensuring the inclusion of the city into the international 'network of flight connections'.
 - The geographical situation and the existing road infrastructure render Lublin, compared with the 'peer group', a city well communicated with the Ukraine and Slovakia.
 - The travelling time (by car) from Lublin to Germany is comparable with Olsztyn and Białystok. The geographical situation of Poznań and the existing A2 highway make the travelling time from that city to Germany much shorter.
- With reference to the use of accommodation facilities, the Lubelskie Province places itself at the level comparable with the Warmińsko-Mazurskie Province, above the Podlaskie Province, but below the Wielkopolskie Province. Taking into consideration the accommodation provided for foreign tourists, the Lubelskie Province was placed last in the analyzed group.

¹⁹ Data for 2012., Institute of Tourism, www.intur.com.pl

²⁰ YG – Young Germany, www.young-germany.de; Lyon Tourist Office, www.en.lyon-france.com

²¹ According to the data placed on the Municipal Office website www.lublin.eu the network of Lublin partner cities comprises: Alcalá de Henares, Brześć, Debreczyn, Delmenhorst, Erie, Iwano-Frankiwnsk, Lancaster, Lviv, Łuck, Ługańsk, Münster, Nancy, Nyköping-Falster, Pernik, Poniewież, Rishon Le Zion, Starobielsk, Sumy, Tilburg, Viseu, Windsor.

- The biggest number of tourists visiting Poland is constituted by inhabitants of the neighboring countries, including (data for 2011): Germans (25.7 m. arrivals), the Czechs (10.8 m.), the Ukrainians (5.8 m.), Slovaks (5.6 m.), Belarusians (3.4 m.) and Lithuanians (2.4 m.)¹⁹
- Lublin, compared with other Polish cities, possesses a relatively high percentage of foreign students (c. 1.7% – as a comparison, the percentage of foreign students in Poznań amounts to 1.5%). Those values, however, are not significantly lower than in many other academic EU centers (e.g. the percentage of foreign students in Munich amounts to 16% and in Lyon – 12%).²⁰
- Lublin possesses a widely developed network of partner cities²¹. Nonetheless, the cooperation with many partner cities is conducted in a limited scope.

The estimates of the FDI impact on the labor market (with the application of the regression model)

While analyzing the conclusions concerning the relatively low FDI value per capita in the Lubelskie Province, it would be useful to consider the FDI impact on the labor market. For that purpose, an estimate was made of the number of vacancies that could be generated by foreign investments. For the purpose of the analysis, elements of forecast model were used, based on regression. The dependent variable of the prepared regression model, was the number of vacancies generated as a result of foreign investment.

The input data of the analysis included:

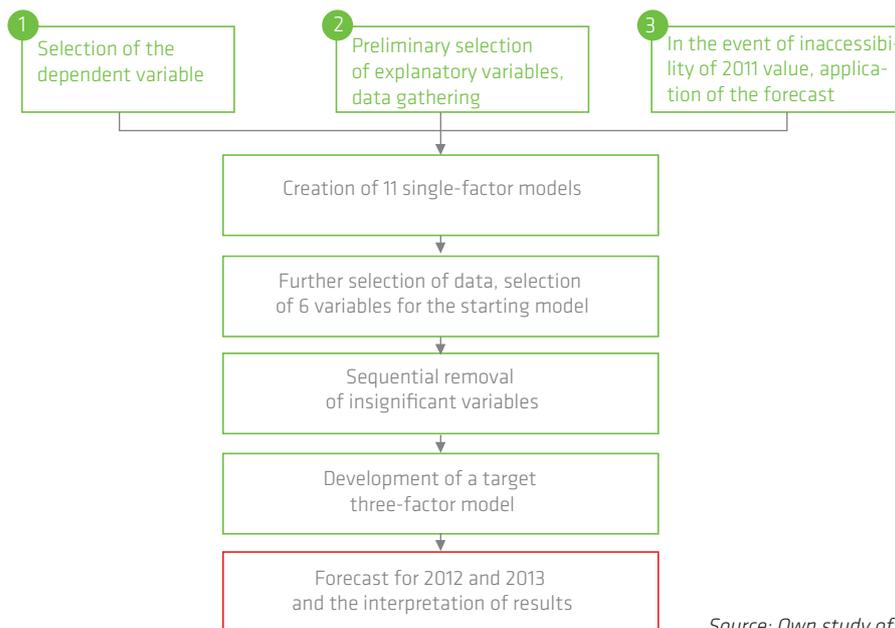
- Former values related to the number of newly established vacancies, being the result of foreign investments completed by 1389 enterprises in the years of 2004-2011 in the Lubelskie Province. The data were obtained by Deloitte as a result of numerous advisory/research projects conducted during the last years.
- The explanatory variables (historical data and forecasts) constituting a group of selected socio-economic indica-

tors for the years of 2002-2011 (Central Statistical Office). The selection of indicators was based on their potential impact on the shape of the value of the explanatory variable. In the case of variables, whose values related to 2011 were not accessible, the forecast values assigned on the basis of tendency analyses were applied²².

The works were performed in accordance with the following diagram:

⊗ Discrepancies in the adopted time periods for dependent variable and explanatory variables result from the fact that investments are usually planned two years ahead. Therefore, explanatory variables were introduced to the model as variables delayed for 2 years.

Diagram 3. Stages of work related to the analysis of regression



Source: Own study of Deloitte

The estimated number of vacancies in the Lubelskie Province indicated in the model was 3896 in 2012, and 4930 in 2013. It should be taken into consideration that the numbers are theoretical and may significantly deviate from real values.

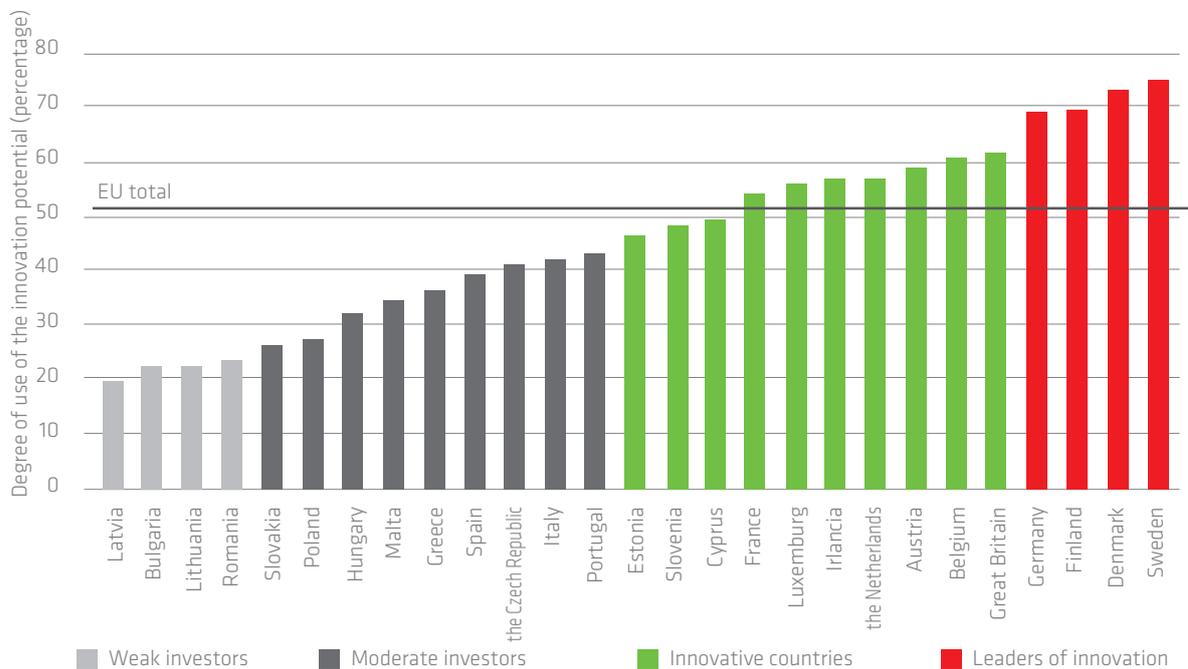
© The innovation indicator which constituted the basis for the ranking of EU countries consists of 25 sub-indicators of the innovation potential. The analysis of innovation indicators covers 8 dimensions: human resources, research infrastructure, finance and support, investments in the private sector, entrepreneurship and cooperation, intangible assets (including intellectual property), percentage of innovative enterprises, economic results.

The analysis of the city's innovation potential

The prosperity of modern economies (national/regional/global) is more and more often a reflection of their innovation. Therefore, both the creation of innovation and their implementation in the economic activity gain more significance. The innovation activity constitutes a significant determinant of the development of the knowledge - based economy. Academic centers/universities as well as enterprises play a significant role in its development, as they work on innovations (both in the research and development sphere and the innovation activity) or acquire innovation for the purpose of increasing their efficiency.

Innovations are not perceived solely and exclusively as inventions. The meaning is much broader - comprising new and improved products for enterprises which implement them and for the market, as well as organizational and process changes. The innovation potential may, however, be understood as the ability to develop new and improved solutions as well as the possibility of their acceptance by the market, i.e. the ability of their absorption (use). An issue significant from the perspective of increasing the innovation potential and entrepreneurship is both the institutional and legal environment, system of innovation support, efficient educational system and infrastructure (including information one).

According to the methodology developed by the European Commission, Poland belongs to the group of 'moderate innovators', its result demonstrating the use of innovation potential is placed much lower than the Union's average.²³ The following diagram presents the use of the innovation potential among the EU countries, i.e. the ratio assessment of the innovation level of such countries.



The degree of use of the innovation potential is varied also on a national scale. An analysis of countries and regions in this respect may cause many difficulties due to a number of reasons (e.g. the fact that the process of building innovation potential is continuous and difficult to be observed, which complicates its measurement; results of comparative analyses depend, to a large extent, on the adopted definition of innovation).

Taking into consideration the issue of the innovation potential of countries and cities in their development and creation of competitive advantages – actions were taken to assess the innovation level of the Lubelskie Province within the area of competing for new investments. The study provides added value only in comparison with other provinces, which from the perspective of the Lubelskie Province, constitute potential rivals in the race for new capital and vacancies.

In order to assess the innovation potential of the Lubelskie Province, a ratio analysis was conducted. Literature provides many indicators of innovation. Further, access to

Diagram 4. The degree of use of the innovation potential of European countries in 2011.

Source: Innovation Union Scoreboard 2011, European Commission

④ “Taxonomy” is a discipline of science dealing with the classification of set elements into subsets, classes or groups, in: J. Pocięcha, *Rozwój metod taksonomicznych i ich zastosowań w badaniach społeczno-ekonomicznych*.

⑤ Outlays on research and development are calculated in current prices for the years 2004, 2007, 2009. The calculation in current (not permanent) prices does not disturb the analysis and comparisons, as the data are compared within the scope of the same year.

⑥ Data of annual reports of the Patent Office for the years 2004, 2007, and 2010.

⑦ Due to lack of data in the research periods (2004, 2007, 2010) the data used for calculating the indicator are from 2006, 2008 and 2010. For the Łódzkie and Podlaskie Provinces, data related to the amount of outlays in 2009 were used (lack of data for 2010).

⑧ Due to lack of data for 2004, the data used for calculating the indicators were from the year 2005.

⑨ Due to lack of data in the research periods (2004, 2007) the data used for calculating the indicator were from the years of 2006, 2008, 2010.

statistical data allows for individual construction of new indicators. For the purposes of analysis of the innovation potential of the Lubelskie Province, 9 indicators were developed, divided into 3 groups, i.e.

- Within the group of general indicators,
- Indicators related to enterprises and
- Within the group of indicators of broadly understood area of science.

The analysis applied a taxonomical method, allowing for grouping (classifying) set elements – provinces in the analysis – into subsets of provinces of varied innovation potential²⁴. Then, a graphic visualization of the obtained results was presented.

For the purpose of conducting the analysis, quantification was made of the 9 indicators listed below during 3 periods: 2004 – base year (point of reference), 2007 and 2010. Each of the indicators was supplemented with a short description together with justification of its selection and possible limitations, which should be considered during the concluding process. The analysis of the innovation potential of the provinces applied indicators developed mainly on the basis of GUS (Central Statistical Office) data. The data selection was based on a quality method, i.e. the brainstorming of the project team. In this way, a set of 9 indicators was obtained, which cover areas important from the perspective of the innovation potential.

- 1 Outlays on Research and Development / GDP per capita²⁵
- 2 Share of households with the Internet access (as a % of total number of households)
- 3 Number of awarded patents/ population number²⁶
- 4 Outlays on the innovation-related activity in industrial and service enterprises/ total number of enterprises²⁷
- 5 Innovative industrial enterprises/total of industrial enterprises²⁸
- 6 Innovative service enterprises/ total of service enterprises²⁹

- 7 Number of professionally active people with higher education completed³⁰
- 8 Numbers of students of higher education institutions/ number of people in the productive age
- 9 Number of graduates of the sciences and technical fields of study/ Total number of graduates.

A description of selected indicators for the analysis of innovation potential are presented below.

⊗ The indicator does not cover people with higher education who are not professionally active.

General indicators

Outlays on research and development/ GDP per capita

The indicators determine the relations between the value of outlays on research and development (in PLN/ million) and the GDP value per capita (denominated in current prices). The outlays on research and development comprise total financial means allocated to this type of activity by enterprises, the higher education sector and the government sector.

Justification of selection

- Outlays on research and development reflect the awareness of the need to create competitive knowledge-based economy, denominated in monetary values.
- GDP per capita reflects the wealth of the region, combining information related to the generative capabilities of the region with the number of inhabitants.

Limitations

- The indicators combining the objectives of the research and development activity of the enterprise sector and the sector of education; this hinders interpretation due to their discrepancies (Usually, enterprises conduct research, the result of which is assumed to be more practical, the sector of education, in turn, often conducts research targeted at the development of science).

Outlays on the research and development do not comprise total outlays on the innovation activity. (Enterprises may apply innovative solutions, without the necessity to conduct their own research activity).

Percentage of households with the Internet access

The indicator determines the relation between the number of households equipped with the possibility to use the Internet and the total number of households. Thus, it indicates the percentage of the total number of households with the Internet access in the Province.

Justification of selection

- Lack of possibility of the Internet use constitutes an important barrier to the access to knowledge; that is why, the measurement of the Internet availability and the dynamics of its growth is a valuable measure of the degree level of the development of information society and the level of access to information.

Limitations

- The indicator, whose low value means a serious barrier for the region, while its high values are insufficient to recognize the region as highly innovative.

Number of awarded patents/ population number

The indicator presents a relation between the number of granted patents and the total population number (in millions). The number of awarded patents should not be confused with the number of patent applications. Therefore, the above indicators determine the average number of patents per capita in the province.

Justification of selection

- Literature provides examples of research of innovation level of regions/higher education institutions through the number of patent applications as well as patents awarded by the Patent Office. The number of awarded patents seems to be a more reliable indicator of 'innovation of an idea' than the number of applications (in practice, only a part of applications are granted patent rights).

Limitations

- The number of awarded patents indicates, to some extent, the 'innovativeness' or potential to create new solutions; though, it possesses some limitations. This is not necessarily a reflection of a practical nature of a new solution.

Indicators related to the enterprise sector

Outlays on innovation activity in industrial and service enterprises/ total number of enterprises

The indicator presents a relation between outlays (denominate in PLN/ thousands) on innovation activity and the total number of enterprises (presented as a number of entities of the national economy, registered in REGON (National Register of Businesses)). Consequently, the above mentioned indicator presents the average value of outlays on innovation activity, made by one enterprise in the province.

Justification of selection

- The indicator presents outlays on the innovation activity, which also comprises the research and development area. A broader perspective of the innovation activity (opposite to the indicators based mainly on the research and development activity) results from the fact that an essential measure of the innovation potential is not the mere process of conducting research but the result of the said research measured by implementations.
- From the perspective of entrepreneurship, often a purchase of technology rather than own technology-related work is more optimal.

Limitations

- The value of the above mentioned indicators may be, to some extent, distorted by the denominator's value, which comprises a wider set than the number of enterprises.
- As in the case of many indicators relating to outlays, it is difficult to clearly determine the translation of the outlays made into the efficiency increase.

Share of innovative industrial enterprises in the total number of industrial enterprises

The indicator presents a percentage of innovative industrial enterprises in the total number of industrial enterprises. The indicators presents the percentage of industrial enterprises grouped as innovative enterprises, which have introduced innovations understood as:

- Product innovation – is an introduction into the market of a product or service, which are new or significantly improved within the scope of their features or application (an example of a product innovation – margarine reducing cholesterol level, environment-friendly plastic).
- Process innovation – is an application of new or significantly improved methods of manufacturing, distribution and support of activity within the scope of goods and services.

Justification of selection

- Statistics show that, in general, industrial enterprises are more prone to the creation of innovation compared with service enterprises.

Limitations

- The measure does not include the measurement of efficiency resulting from the implementation of innovation.
- The indicator does not take into consideration the structure of the enterprise size – bigger enterprises generally possess greater financial means.

Share of innovative service enterprises in the total number of service enterprises

The indicator presents a percentage of innovative service enterprises in the total number of service enterprises. The indicators presents the percentage of industrial enterprises grouped as innovative enterprises, which have introduced innovations understood as:

- Product innovation – is an introduction into the market of a product or service, which are new or significantly improved within the scope of their features or application (an example of a product innovation – margarine reducing cholesterol level, environment-friendly plastic).
- Process innovation – is an application of new or significantly improved methods of manufacturing, distribution and support of activity within the scope of goods and services.

Justification of selection

- Despite the fact that industrial enterprises possess a greater potential of creating innovation, especially product ones (based on statistics), the analysis should not omit the innovative possibilities of service enterprises.
- Creation of innovation by service enterprises relies mainly on innovations/improvements of process and related to organizational solutions, which could be applied in enterprises of a different profile (production, production and service).

Limitations

- The measure does not include the measurement of efficiency resulting from the implementation of innovation.
- The indicator does not take into consideration the structure of the enterprise size- bigger enterprises generally possess greater financial means.

The indicators related to science/education

Number of professionally active people with higher education completed

The indicator presents the number of people with higher education among the professionally active population (in millions of persons). The group of the professionally active includes both people who work and the unemployed ones.

Justification of selection

- It might be assumed that the people possessing higher education are usually more creative and open to new solutions and innovations.
- The indicators related to the educational level of the society are measures commonly used in EU statistics or OECD countries.

Limitations

- The measure does not include the quality of education represented by higher education institutions in the region, the 'quantity does not always translate into quality'.

Number of students in institutions of higher education/ the population number in the productive age

The indicator presents a relation between the number of students of higher education institutions and the number of people in a productive age. The number of students includes students of public and private institutions as well as full-time and part-time students. The group of people in the productive age comprises people who work and the unemployed ones.

Justification of selection

- The indicator informs about possible future tendencies of the labor market and the potential of educational level among people in a productive age. A large number of students compared with the total population in a productive age constitutes a favorable phenomenon. People who completed higher education are usually more creative and open to new solutions and innovations.

Limitations

- The limitation of the measure is the fact that it does not include the educational level and possible lack of adjustment of educational requirements to the labor market. Further, the indicator does not take into consideration the migration of students and graduates.

Number of graduates of the sciences and technical field of study/ Total number of graduates

The indicator presents a relation between the number of graduates of the sciences and technical fields of study and the total number of graduates in separate provinces. The number of graduates also refers to the graduates of public and non-public institutions as well as full-time and part-time students.

Justification of selection

- Numerous publications and studies show that the participation of students among young people in the country is increasing; what is disturbing, however, is the small percentage of students and graduates of the sciences and technical fields of study.
- The indicator included the number of graduates (not students) due to its greater reliability for the purposes of the analysis. Technical institutions are characterized by a specific type of student selection – relatively small percentage completes the undertaken studies.

Limitations

- The limitation of this indicator is the fact that the number of graduates does not determine that those graduates will be professionally connected with the completed field of study and that they will stay in the city of their education.

It is advisable to pay attention to the manner of the interpretation of measures of the following table, i.e. the higher the indicator, the higher the grade of the innovation potential of a given province.

The following table presents indicators in the analyzed three periods, for each province.



Indicator	Outlays on research and development / GDP per capita			Share of households with the Internet access			Number of awarded patents/ Population number			Outlays on the innovation activity in industrial and service enterprises/ Total number of enterprises			Innovative industrial enterprises/Total industrial enterprises			
	2004	2007	2010	2004	2007	2010	2004	2007	2010	2004	2007	2010	2004	2007	2010	
Rok / Województwo																
Łódzkie	0.013	0.013	0.015	0.144	0.325	0.523	23.573	41.864	37.090	2.552	11.312	9.314	0.352	0.316	0.134	
Mazowieckie	0.061	0.056	0.062	0.202	0.405	0.642	46.833	75.359	62.179	16.279	20.030	21.292	0.496	0.457	0.173	
Małopolskie	0.031	0.030	0.031	0.200	0.418	0.636	21.471	46.965	49.545	5.439	5.104	4.094	0.391	0.388	0.163	
Śląskie	0.015	0.018	0.025	0.183	0.422	0.641	25.528	50.708	50.260	10.014	10.975	10.251	0.512	0.425	0.203	
Lubelskie	0.010	0.012	0.013	0.146	0.281	0.506	17.390	36.469	25.559	3.671	5.997	3.613	0.452	0.400	0.171	
Podkarpackie	0.006	0.007	0.008	0.158	0.309	0.595	7.626	20.979	15.213	7.210	7.527	6.641	0.462	0.423	0.207	
Podlaskie	0.003	0.002	0.003	0.174	0.339	0.526	4.990	11.738	9.257	5.485	5.074	3.275	0.472	0.328	0.170	
Świętokrzyskie	0.001	0.001	0.005	0.110	0.222	0.522	6.984	17.247	19.747	3.238	4.307	3.398	0.446	0.371	0.165	
Lubuskie	0.001	0.001	0.001	0.131	0.347	0.605	2.973	11.899	6.924	2.451	4.186	2.744	0.309	0.282	0.159	
Wielkopolskie	0.014	0.017	0.023	0.141	0.365	0.594	12.778	27.164	27.782	5.242	6.013	4.508	0.379	0.331	0.162	
Zachodniopomorskie	0.003	0.004	0.004	0.162	0.356	0.574	12.390	21.864	20.672	1.783	2.188	2.696	0.297	0.314	0.155	
Dolnośląskie	0.012	0.012	0.015	0.171	0.362	0.593	21.431	76.084	50.732	4.516	6.435	6.745	0.392	0.380	0.166	
Opolskie	0.001	0.001	0.002	0.131	0.343	0.573	14.265	40.498	27.222	3.574	3.600	2.906	0.424	0.402	0.193	
Kujawsko-Pomorskie	0.006	0.004	0.012	0.149	0.336	0.586	14.021	20.328	16.912	4.887	10.551	6.073	0.366	0.327	0.179	
Pomorskie	0.010	0.011	0.012	0.218	0.470	0.642	18.687	28.043	36.156	5.796	10.845	9.096	0.423	0.307	0.153	
Warmińsko-Mazurskie	0.003	0.004	0.004	0.139	0.287	0.558	2.100	15.426	12.612	3.114	2.882	2.958	0.439	0.437	0.186	
Poland	0.213	0.216	0.58	0.169	0.366	0.596	20.380	41.322	36.257	7.015	9.409	8.836	0.420	0.374	0.171	

Tabel 5. Selected indicators of innovation for provinces

Source: Own study of Deloitte based on GUS (Central Statistical Office), BDL (Local data Bank) data

② It should be emphasized that the inclusion of different data might have affected the results.

Following the calculation of indicators for each province, an aggregate measure was achieved, being a weighted average of indicators. On its basis, the provinces were ordered in a ranking according to the innovation level.³¹

The ranking of provinces was compiled for the data of the base year (2004) and the year 2010. The difference between the ranking positions of a given province was reflected in the matrix. A change in the ranking position indicates the direction of change (lower or higher ranking position) as well as the dynamics accompanying the change (number of places in the ranking).

Putting the provinces in order also allowed for distinguishing classes (groups) of provinces possessing similar features. The features refer not only to the present innovation level of the province, but also the dynamics of its changes.

Innovative service enterprises / Total service enterprises			Number of professionally active people with higher education			Number of students of higher education institutions / Number of people in productive age			Number of graduates of the sciences and technical fields of study/ Total number of graduates		
2004	2007	2010	2004	2007	2010	2004	2007	2010	2004	2007	2010
0.148	0.090	0.103	0.228	0.290	0.342	0.078	0.085	0.071	0.172	0.166	0.136
0.252	0.220	0.156	0.529	0.751	0.925	0.107	0.105	0.097	0.101	0.132	0.127
0.191	0.140	0.128	0.250	0.310	0.365	0.094	0.100	0.101	0.198	0.217	0.190
0.238	0.173	0.124	0.354	0.404	0.553	0.068	0.065	0.060	0.155	0.203	0.201
0.287	0.128	0.120	0.184	0.212	0.277	0.079	0.078	0.075	0.100	0.122	0.123
0.194	0.170	0.138	0.129	0.165	0.230	0.061	0.056	0.054	0.150	0.134	0.119
0.227	0.093	0.083	0.082	0.107	0.138	0.072	0.070	0.070	0.161	0.174	0.147
0.264	0.126	0.114	0.105	0.123	0.172	0.073	0.064	0.057	0.091	0.152	0.125
0.127	0.171	0.109	0.081	0.087	0.109	0.063	0.052	0.040	0.154	0.139	0.170
0.168	0.132	0.124	0.232	0.262	0.359	0.075	0.080	0.074	0.131	0.148	0.147
0.175	0.078	0.111	0.127	0.148	0.169	0.082	0.071	0.065	0.183	0.232	0.193
0.238	0.205	0.133	0.227	0.287	0.337	0.088	0.091	0.089	0.167	0.215	0.172
0.175	0.096	0.137	0.058	0.072	0.088	0.057	0.056	0.059	0.118	0.180	0.131
0.135	0.146	0.094	0.142	0.124	0.184	0.066	0.064	0.063	0.114	0.140	0.122
0.239	0.167	0.134	0.153	0.181	0.241	0.070	0.072	0.074	0.147	0.148	0.149
0.200	0.108	0.087	0.090	0.108	0.153	0.068	0.063	0.054	0.178	0.139	0.132
0.212	0.161	0.128	2.970	3.631	4.643	0.079	0.078	0.074	0.142	0.166	0.152

The matrix presented below shows the classification of provinces according to the innovation potential based on the position they occupied in the 2004 ranking (horizontal dimension of the matrix) as well as the change of the position compared with the year 2010 (vertical dimension of the matrix). The matrix divides provinces into 4 main groups depending on the position a given province occupied:

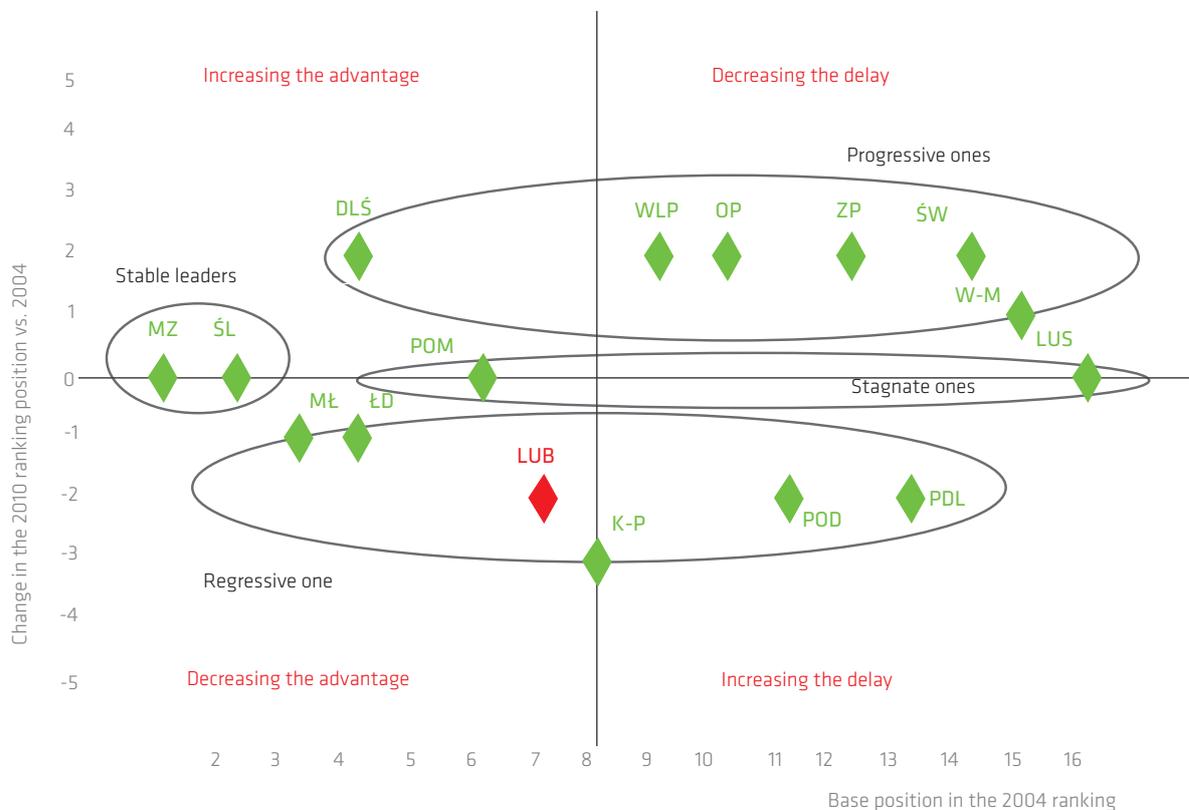
- „Increasing the advantage” – these are provinces which during the base year were placed among the first 8 provinces in the country (occupying 1-8 positions on the axis („Base position in the ranking in 2004) and which in 2010 improved their position in the ranking in relation to 2004.
- „Decreasing the advantage” – these are provinces which during the base year were placed among the first 8 provinces in the country (occupying positions from 1 to 8 on the axis „Base position in the 2004 ranking’) and

which in 2010 lowered their position in the ranking in relation to 2004.

- „Decreasing the delay” – these are provinces which during the base year were placed in the second eighth of provinces in the country (occupying positions from 9 to 16 on the axis „Base position in the 2004 ranking”) and which improved their position in the ranking in comparison with the year 2004.
- „Increasing the delay” – these are provinces which during the base year were placed in the second eighth of provinces in the country (occupying positions from 9 to 16 on the axis „Base position in the 2004 ranking”) and which lowered their position in the ranking in comparison with the year 2004.

Additionally, including the results obtained by provinces in a given area, they were grouped according to the positions compared with others, including also the dynamics and directions of changes:

- „Stable leaders” – these are provinces which during the base year occupied high positions in the ranking and which in 2010 maintained the high position.
- „Progressive ones” – these are provinces which improved their position in the ranking in 2010 compared with the base year (i.e. those which are placed above the zero value on the axis „Change in 2010 compared with the year 2004”).
- „Regressive one” – these are provinces which improved their position in the ranking in 2010 compared with the base year (i.e. those which are placed below the zero value on the axis „Change in 2010 compared with the year 2004”).
- „Stagnate ones” – these are provinces which did not change their position in the 2010 ranking compared with the base year.



DLŚ – Dolnośląskie

K-P – Kujawsko-Pomorskie

LUB – Lubelskie

LUS – Lubuskie

ŁD – Łódzkie

MŁ – Małopolskie

MZ – Mazowieckie

OP – Opolskie

POD – Podkarpackie

PDL – Podlaskie

POM – Pomorskie

ŚL – Śląskie

Ś., – Świętokrzyskie

WLP – Wielkopolskie

W-M – Warmińsko-Mazurskie

ZP – Zachodniopomorskie

The Lubelskie Province was placed among the regressive provinces (which is caused by the drop in the ranking position compared with the base year 2004). The Lubelskie Province placed seventh in terms of the innovation potential; therefore it was placed among the first eight provinces in the country. Currently, the Lubelskie Province places ninth in the country.

When analyzing the values of indicators in subsequent years for the Lubelskie Province, in most cases there is an increase in value, which indicates a gradual development of the region in the area of innovation. Therefore, a drop in the ranking position compared with the base year does not have to mean a decrease in the develop-

Diagram 5. Matrix of the innovation potential³²

Source: Own study of Deloitte

Ⓢ The position of a given province on the matrix of the innovation potential corresponds with the assessment made by Deloitte resulting from the performed ratio analysis. The source data for determining the indicators for provinces were, in particular, GUS (Central statistical Office) and BDL (Local Data Bank) data.

ment of the province or decreased growth dynamics of the innovation potential compared with the previous years. The lowering of the ranking position indicates, however, that the development rate of other provinces ('progressive ones') exceeded the development rate of the Lubelskie Province.

The regressive group is a group of provinces, which in relation to the dynamics of the development of innovation potential of other provinces 'allowed for being overtaken' in the ranking. The group of progressive provinces includes, among others, those which in 2004 were placed lower than the Lubelskie Province, but at present they are placed a few positions higher in the ranking. Other provinces of the Eastern Poland are placed below the assessment of the Lubelskie Province. The analysis of changes in the ranking positions of provinces indicates that the biggest rivals of the Lubelskie Province are provinces of the Western Poland. It should be mentioned that the 'competition' between provinces and cities for a higher position in the ranking of the innovation level, often coincides with the competition for new investments. It is particularly significant in the case of sectors whose activity is not strictly connected with the location. An example of this type of sector is BPO, which is characterized by focusing on human resources, their qualifications, availability and the costs of labor. Considering favorable conditions for the development of this business in Lublin, locating the enterprises of the BPO sector in other parts of the country may be connected with insufficient promotion of the city in this area.

During the analysis of the reasons for the position obtained by the Lubelskie Province, particular attention was drawn to indicators which lower their innovation potential. Despite the very high growth dynamics in the share of households with the Internet access in the total number of households during 2004-2010, the Lubelskie Province is currently placed at the last position among the provinces (only half of the households possess Internet connection).

Further, the Lubelskie Province is characterized by a relatively small indicator of outlays on the innovation-related activity in the group of enterprises. The value of the said indicator visibly dropped during 2007-2010. A visible drop of the value of investments on this activity might have been partially caused by the financial crisis as the drop of such values was also reported by other provinces. The force of the change (drop) was not, however, so severe as in the case of the Lubelskie Province. It can, thus, be concluded that during the recession, enterprises introduce some saving policy, reducing first development expenses, i.e. on innovations.

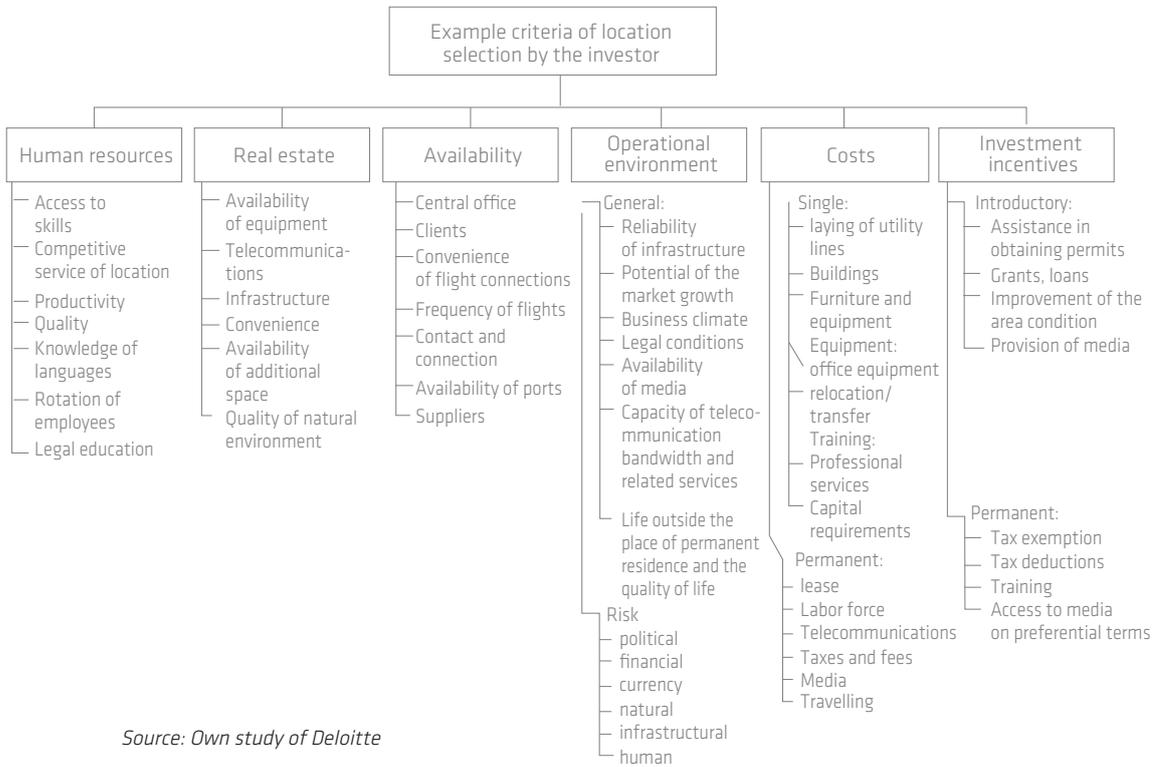
Outlays on the innovation-related activity and their budgetary share reflect the priorities of enterprises and the operational/business environment of the region. The budget structure of the enterprises present on the local market presents areas that companies want to develop and are important from the perspective of company owners and the management.

Another indicator which affects the lowering of the ranking position of the Lubelskie Province is a relatively small number of graduates of the sciences and the technical fields of study. Despite the fact that Lublin is the biggest academic center in the region and significant center on the national scale, the majority of graduates is constituted by graduates of the humanities, and the nationwide labor market is already saturated in this respect. That is why, the promotional activity of the city and the region is important within the area of making young people aware of the direction of study they should take in order to effectively respond to the market needs.

The analysis of the local conditions of investing in Lublin

It should be presumed that each investor, before making a final investment-related decision, conducts a detailed analysis of investment attractiveness of potential destinations. The overall attractiveness of a given location is affected by a number of factors, the significance of which depends on the type of the investor's activity. The example criteria of the location selection by investors are presented below.

Diagram 6. Criteria of location selection by an investor



Source: Own study of Deloitte

Real estate

One of the factors affecting the investment decision of companies is the real estate market – is its area, quality and price. Recently, it has become necessary to equip a building with the state-of-the-art infrastructure (e.g. the state-of-the-art IT and security systems, regulated air-conditioning, proper number of parking lots, conference rooms etc.).

An additional aspect is the building surroundings, i.e. the quality of the environment affecting the quality of labor. This mainly refers to the quality of service and recreation

areas located in the building surroundings where investors locate their business activity. These are often tidy areas, with a lot of greenery, whose offer must also remain attractive for demanding space users. Currently, highly qualified employees expect perfect quality of their work environment. A huge percentage of protected areas constitutes one of the indicators of a good environmental condition, which should be considered as favorable to the investment attractiveness of the service and advanced technology sectors.³³

Summary of the assessment of Lublin in the area of real estate

Key observations and findings of desk research analysis concerning the situation on the Lublin real estate market (housing market and office space market) are as follows:

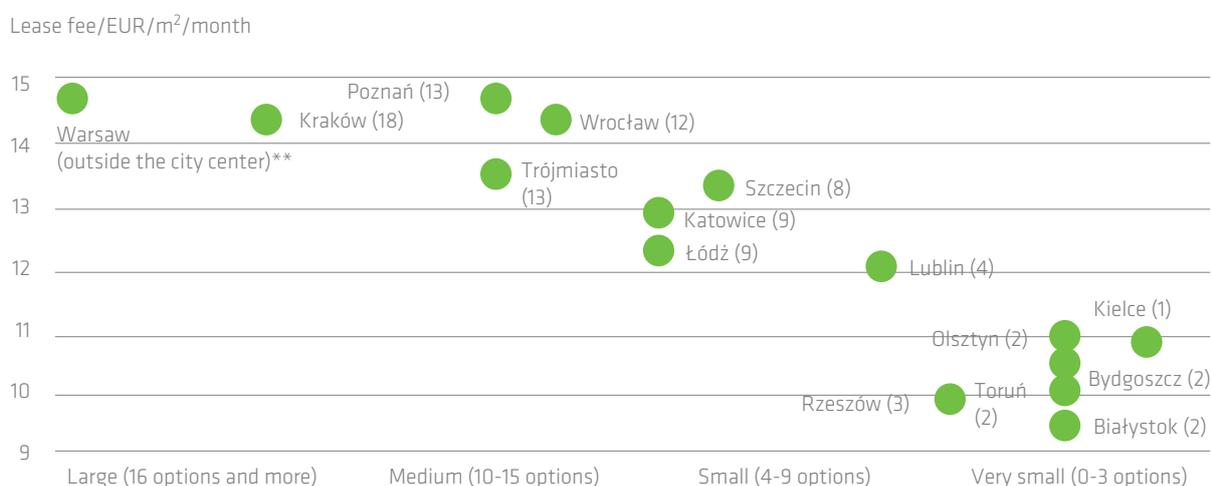
Housing market:

- Supply on the Lublin (primary) housing market is shaped mainly by offers of local developers and housing cooperatives and investments completed by the said entities.
- Currently, (situation in June 2012) the offer of the Lublin primary housing market, represented by 20 main developers (including TBV, MNS Chrzanowscy, Orion, Zana, Graden, Jankowski Pulchny, Mak Dom, Wikana, JMZ, Willowa 2, 3d Developer, Żagiel, Nap Invest, Interbud, SM Felin, SM Rudnik, Wlasczyk Więckowski Nieruchomości, LUK Jacek Wysokiński, Budom) comprised c. 1500 free residential premises.
- The previous year brought a decrease in prices on the Lublin housing market. The average price for 1 square meter of a residential space in Lublin in the first half of 2012 amounted to c. PLN 5000 - 5200 (i.e. only c. PLN 500/m² less than in Poznań, despite more significant discrepancies in the average remuneration between both cities)³⁴. As a comparison, average prices for 1 square meter of residential space in Łódź in the analogous period amounted to c. PLN 4000-4200.
- The present situation on the Polish credit market, which translates into the purchase force and purchasing tendency, has a significant impact on the price of residential

⊕ „Investment attractiveness of provinces and sub regions of Poland 2006”, IBnGR, 2006

⊕ According to the data of Money.pl concerning the prices of residential premises in Poland

Diagram 7. Availability* of the modern office space in selected cities in Poland (till the end of 2012)



* the perspective of a single lessee was taken into account; each option means a building of space availability of 1.000 m²

** the number of options in Warsaw is much bigger than in regional cities (68)

Source: Jones Lang LaSalle, April 2012

premises. The said mechanisms, however, are analogous for the whole Poland and, thus, they do not place Lublin in a more or less privileged position compared with other Polish cities.

Office market:

- Lublin is characterized by a relatively low availability of office space in relation to the size of the City.

- Lublin is characterized by relatively adverse relations between the lease fee and the availability of options available to the lessee. Compared with the cities of the Eastern Poland (i.e. Olsztyn, Kielce), the lease fees in Lublin are less attractive for lessees. However, in terms of the availability of office premises, Lublin is no match for cities of Western Poland (e.g. Szczecin).
- From the perspective of the attractiveness of office space market for enterprises, the nature of development of a given city is also important. Lublin is characterized by a relatively high share of the historical development, which affects, among others, the costs of the building revitalization and their adjustment to the needs of investors (e.g. difficulties in the construction of parking lots).

- Lease fees of commercial premises in Lublin are varied and depend on, among others, the standard and location of individual office premises. The lease fees of premises in recently transferred buildings amount to c. PLN 30 and 80/m² (office block at ul. Jana Pawła II 17 is planned to be put into use in the IVQ 2012).
- According to the situation as of April 2012, in the 10 main Lublin office blocks offering free office space, the size of the available space amounted in total to c. 7 thousand m². This value appears to be relatively low compared with the size of the City and its potential. It should also be noted that Lublin is characterized by small number of offers of larger office space (above 1000 m²), often sought after by significant lessees – e.g. for locating BPO/SSC activity.

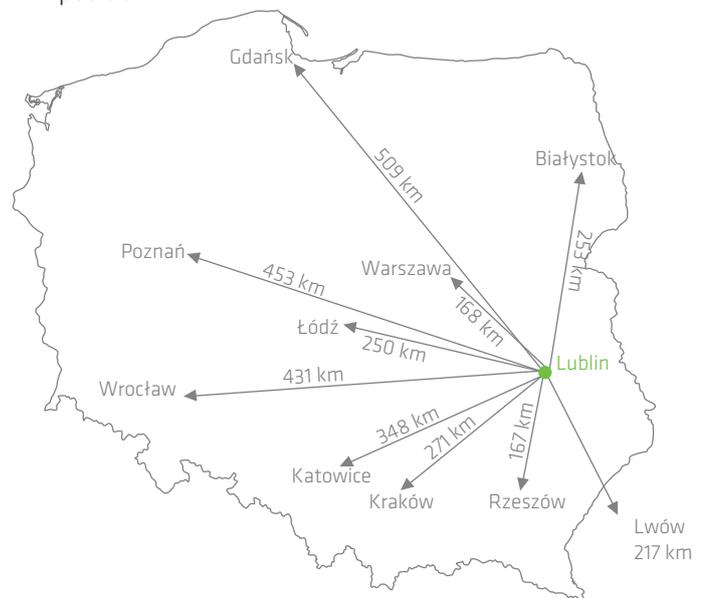
Availability of transport

Another factor affecting the investment attractiveness of a given area is the availability of transport. Its level depends mostly on the geographical situation of the region and the equipment with elements of transport infrastructure. As what counts from the perspective of a potential investor are the practical advantages of the network deciding about the time and costs of transport of goods and persons – apart from the quantity aspect, the quality of road and air infrastructure is equally important. Irrespective of the type of the undertaking, an element that is significant is the time and special distance from the main agglomerations providing qualified employees, and sometimes constituting a significant market. Future investments streamlining the quality parameters of transport infrastructure have a considerable impact on the decision concerning the location of undertakings. It is especially visible within the scope of road transport with regard to industrial activity, while for the sector of service and high technology, the development of air network (availability of airports, frequency and availability of flights and the number of flight connections) is becoming more and more significant.

Ⓔ Investment attractiveness of provinces and sub regions of Poland in 2006", IBnGR, 2006

Ⓔ <http://polskawschodnia.eu/fakty-i-liczby/polozenie-geograficzne/województwo-lubelskie/>

Diagram 8. Distance between Lublin and some cities in Poland and abroad



Source: Own study of Deloitte

Summary of the assessment of Lublin in the area of transport availability

In the report compiled by the Institute of Market Economy Research entitled 'Investment attractiveness of Provinces and Sub regions 2010', the Lubelskie Province was placed fifteenth in the country in terms of the availability of transport³⁵. The authors of the report used the criterion of, among others, the distance to the western border and the location in relation to large sea ports, which from the very start puts Lublin in a more difficult position.

Unambiguous assessment of the location attractiveness of Lublin is not possible, as it mainly depends on the preferences of an individual investor. What is beneficial is, among others, the distance to the eastern border with the Ukraine; the distance between Lublin and Lviv is a bit more than 200 km. There are also many border crossings in the Lubelskie Province (6 road and 4 railway).³⁶

A significant criterion for the assessment of the transport availability is the location of a given city/region in relation to airports (with particular emphasis on international ports). The completion of the construction of an international airport will result in higher mark in the investment availability ranking.

Operational development

Another factor crucial for potential investors is the operational environment of considered locations. While planning the capital engagement, foreign entrepreneurs analyze basic economic values. Also significant is the business climate, i.e. the degree of openness of local authorities to the environment of entrepreneurs, which is reflected in the turnovers, income from the domestic sale and export, and the level of investment.³⁷ Additionally, the activity of enterprises is affected by the resources of both technical and economic infrastructure. The criterion of the location selection that is very significant is the availability and the capacity of basic media, such as water, energy, sewage, gas, heat and more advanced technologies as telecommunications, IT wireless and wired network. Resources of economic infrastructure greatly determine location-related decisions made by investors. The broadly developed business-related services allow for outsourcing some activities, which increases the investment effectiveness as well as allows for using specialist services outside the scope of competences of a given enterprise. The economic infrastructure is created, among others, by enterprises conducting financial, insurance, and real estate and company management activity. Another important element of economic infrastructure are fairs and exhibition events, which allow for gaining new clients and cooperatives, strengthening contacts with clients, demonstration and promotion of products, sale of products, and creation of the company's image. The quality of life in the investment region is also very important. The high level of social infrastructure, that is mainly education, health care, institutions of culture, tourism, entertainment and leisure, largely determines good living conditions. The immigration of people contributes to positive changes in the scope of human resources, which is particularly important for the service and technologically advanced sector.

③ „Business climate study in Polish regions within EUROCHAMBRES European Economic Survey 2007”, Polish Chamber of Commerce, 2007

⑨ Analysis for the purposes of this area assessment included the assessment of the amount of investment outlays of enterprises per capita, the entrepreneurship level (measured by the number of units registered in REGON (National Register of Businesses per 100 thousand people) and a broadly understood quality of life. Investors, while taking decisions concerning the location of investments, often pay a lot of attention to other aspects of the city/region than the purely economic ones. The assessment of the quality of life 'after work' for the development of a family (education, health care, and entertainment) often constitutes a significant aspect in the overall assessment of the place designated for investment.

⑨ Among the present residents of the Lublin Science and Technology Park, the dominant position is occupied by university units and other institutions. The share of enterprises in the total number of residents is relatively small.

Summary of the assessment of Lublin in the area of the operational environment

- In terms of conditions for conducting business activity, the Lubelskie Province presents itself below the country's average.³⁸
- The relatively low grade in that scope is affected by (among others): limited forms of organized support for entrepreneurs (among others: low cluster efficiency, relatively low number of companies using the support of the Science and Technology Park,³⁹ low level of entrepreneurship in the Lubelskie Province).
- The favorable assessment of the Lubelskie Province, in that respect, refers mainly to the quality of life, especially in the scope of health care, cultural offer and the quality (purity) of the natural environment.
- In Lublin, within the structure of the Office of the Marshal of the Lubelskie Province, there operates a Regional Center of Investor and Exporter Service – being the PAIIZ partner. The actions of the Center focus on providing complex investor service at the level of the province. The observations carried out by Deloitte showed that the cooperation potential of the Center of Investor and Exporter Service with the Department of Strategy and Investor Service of the Municipal Office in Lublin is not fully used. Therefore, there exists a need for undertaking actions aimed at determining/ putting in order the cooperation principles between both units for the purpose of obtaining synergy effects, possible in this scope.

Costs

Investment outlays and operating expenses of a business activity are one of the most important criteria used by investors during the decision-taking process concerning location. The outlays that are particularly important are those that should be included during the area development for investment purposes, which might differ significantly in individual locations. The labor costs (average pay, additional employee's costs) are also an important location factor due to the fact that the significantly de-

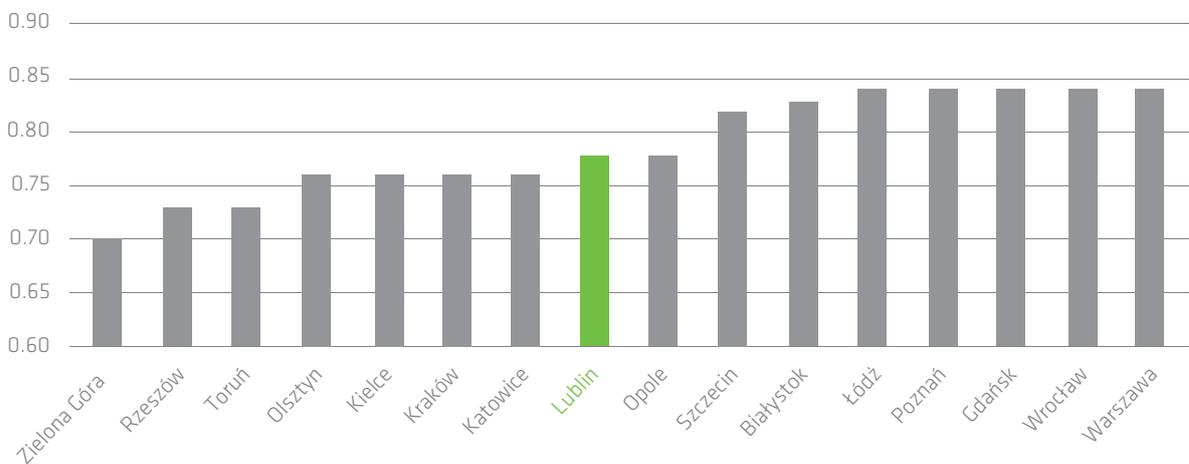
termine the enterprise's profitability. Another very significant aspect taken into consideration by investors are the costs of lease and media as well as taxes and fees that may differ greatly, depending on the location, suppliers and the attitude of local authorities towards investors.

Summary of the assessment of Lublin in the cost area

- In terms of costs of conducting the business activity, the Lubelskie Province is placed high compared with other provinces (i.e. it is characterized by a general low level of costs).
- From the perspective of a potential investor, the labor costs and the level of local taxes are attractive.

The following diagram presents the rates of land taxes in Lublin compared with other countries in the city.

Diagram 11. Rates of land taxes (land connected with conducting business activity) / 1m² of the area (in PLN).



Lublin presents itself particularly attractive compared with other cities in the country in terms of real estate taxes connected with conducting business activity, which is presented in the diagram below.

Source: Own study of Deloitte based on Resolutions of individual City Councils concerning real estate taxes for 2012

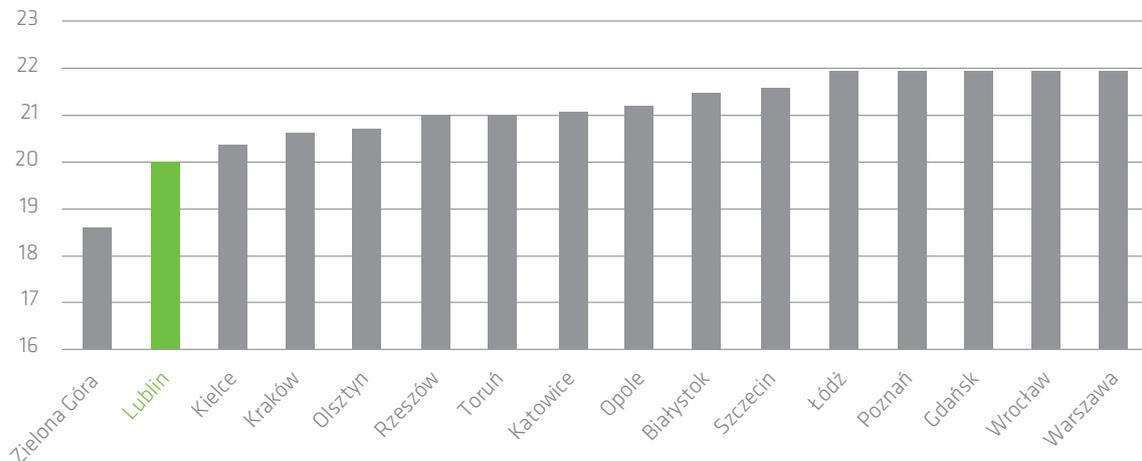


Diagram 12. Rates of the real estate taxes of buildings or their parts connected with conducting business activity / 1m² of the usable area (in PLN).

Source: Own study of Deloitte based on Resolutions of individual City Councils concerning rates of real estate taxes for 2012

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- Lublin is assessed a bit lower in terms of the purchase and/or lease costs of real estate. For example, the costs of lease of an office space do not differ much from the costs in Poznań, and they are much higher than in Łódź. Concluding, the amount of costs is the strongest advantage of Lublin in the assessment of the region/town.

Human resources

The main factor deciding about the attractiveness of the local human resources for a potential investor is their number and quality. In the case of the location of an industrial activity, the availability of graduates of basic vocational and secondary technical schools is an important factor. From the perspective of conducting a modern service and advanced technology activity, the best human resources, both in terms of size and quality, are offered by big cities – strong academic centers.

Following the estimates of market analysts, based on declarations of employers, the list of the top 10 most desired professions in 2009 is as follows⁴⁰:

Poland:

- 1 Qualified blue collar workers
- 2 Project managers
- 3 Commercial representatives
- 4 Engineers
- 5 Drivers
- 6 Unqualified blue collar workers

- 7 Employees of the reception desk, assistant managers, administrative assistants
- 8 Cooks/ Chefs
- 9 Production workers
- 10 Employees of the section of Client Service and Support

Europe:

- 1 Qualified blue collar workers
- 2 Commercial representatives
- 3 Technicians
- 4 Engineers
- 5 Drivers
- 6 Members of the management/ executives
- 7 Unqualified blue collar workers
- 8 Employees of the sector of accounting and finances
- 9 IT employees
- 10 Mechanics

World:

- 1 Qualified blue collar workers
- 2 Commercial representatives
- 3 Technicians (production, process of production and maintenance)
- 4 Engineers
- 5 Members of the management/ executives
- 6 Employees of the sector of accounting and finances
- 7 Unqualified blue collar workers
- 8 Production employees
- 9 Employees of the reception desk, assistant managers, administrative assistants
- 10 Drivers

Unfortunately, the labor market did not benefit from the changes in the national system of education. The limitation of access to basic vocational schools and the focus on higher education (not always of good quality) caused a gap in, among others, the number of qualified blue collar workers. Further, lack of complex approach of the central and local authorities to the development of the

market supply targeted at the expectations of employers is also visible.

Apart from the skills connected with the possessed qualifications, education, knowledge of languages, the quality of labor resources is indirectly determined by the level of economic and social activity of the population of a given area. High level of economic activity increases the likelihood of gaining most valuable employees. Such people often possess specific knowledge and contacts inaccessible for external investors. Besides, high level of entrepreneurship reflects the proneness to take risk, decision-making and significant independence. High level of unemployment is, to a limited extent, a factor of investment attractiveness, as for the majority of entrepreneurs, people remaining without work for a long time, being poorly educated, are not attractive employees. The level of unemployment is more significant in the case of industrial activity, lower in the case of service activity. The number of the unemployed, however, is practically of no significance in the process of location of a technologically advanced activity.

Summary of the assessment of Lublin in the area of human resources

- The overall assessment of human resources in Lublin is moderately positive. The assessment is influenced by conclusions of the ratio analysis (share of young people in population, rate of demographic load with elderly people and migration balance), the level of education of the local community (percentage of people with higher education among the professionally active people compared with the population number and the number of students in the total population number).
- A strong advantage of the City is, among others, high percentage of students, abundance of the available fields of study, annually significant number of graduates of Lublin institutions of higher education, lower pay expectations compared with the cities of the central and western Poland.

- The weak point of Lublin is, among others, a relatively low percentage of graduates of the sciences/ the technical fields of study, migration of young educated graduates to other Polish cities – e.g. Warsaw, Cracow.

Investment incentives

An important aspect affecting the investment attractiveness of a given location is constituted by numerous incentives and reliefs that might be offered to potential investors by local government authorities and other public and non-public institutions. This is mainly any form of assistance during the commencement of investment and activity in a given location, especially: assistance in obtaining all and any permits for the investment completion, improvement of the land quality (including infrastructural investments, media supply), assistance in obtaining loans and grants. However, following the commencement of the activity, the following aspects become important: clarity and simplicity of the tax system, taxes (CIT rate, PIT rate and pay fund charge), exemptions and other forms of tax relief. The attractiveness of a given location is also affected by various investment incentives, such as: free of charge or subsidized trainings, advisory services, media access on preferential terms.

Summary of the assessment of Lublin in the area of investment incentive

At the territory of the Lubelskie Province, there operate 3 special economic zones.

- Tarnobrzaska (at the territory of the Lubelskie Province EURO-PARK WISŁOSAN comprises the cities/towns of: Łukowów, Janów Lubelski, Ryki, Kraśnik, Tomaszów Lubelski, Horodło)
- Starachowicka (Puławy Subzone – industrial investment land)
- Mielecka (SSE EURO-PARK MIELEC comprises areas located in Lublin, Zamość, Lubartów and Radzyń Podlaski – industrial land)

④ More information on reliefs and privileges available at:
<http://www.tsse.pl/pl/4/>,
http://www.europark.com.pl/pl/dlaczego_sse_europark_mielec/atuty_szybki_zwrot_inwestycji/,
http://www.sse.com.pl/c/ulgi_i_preferencje

④ The Ministry of the Economy, "The Idea of the Development of Special Economic Zones", Warszawa, 2009.

Special economic zones offer public assistance for investors in the form of income tax exemption. The amount of exemption depends on the invested amount. The public assistance provided in the zone may refer to the regional support on account of costs of new investment or the generation of vacancies⁴¹. Investment areas available in the zones are equipped with technical infrastructure; the web sites of the zones also stress the information concerning the separation of a real estate according to the investor's needs.

The research findings of the Ministry of the Economy related to the creation and functioning of special economic zones indicate that they constitute a factor significantly increasing the investment attractiveness of a given region.⁴² Nonetheless, there exists a risk that the functioning period of special economic zones will be limited only to 2020 (i.e. till the end of the next financial perspective of the EU). This may cause that in the next years, the perception of the attractiveness of the economic zones by potential investors will be systematically decreasing.

From the perspective of an investor, a significant incentive for locating business in a given city is an active operation of business-related institutions. In the Lubelskie Province there are 3 science and technology parks:

- The Lublin Science and Technology Park
- The Puławy Industrial Park
- The Świdnik Regional Industrial Park

The Lublin Science and Technology Park has a key significance in the development of the city. Nonetheless, according to selected Lublin entrepreneurs, the actions of the Lublin Science and Technology Park do not correspond with the expectations towards the park. The factors indicated included, among others, high share of public entities (e.g. academic units of higher education institutions) in the structure of the Park residents, which adversely affects the possibilities of development of a larger number of start-ups/ companies in the Park.

The analysis of international and Polish examples of regional development stimulation

The objective of this section is an indication of the types of actions that might be taken by city's governing bodies in order to stimulate the local and regional development. Through an analysis of selected 'good practice' examples, possible ways of stimulation of the city's potential, its development and, thus, investment attractiveness, were indicated.

The 'Good practice' analysis comprised 5 cities, 3 of them are from Western Europe and the other 2 are Polish cities:

- Berlin, Germany
- Lyon, France
- Birmingham, Great Britain
- Gdynia, Poland
- Wrocław, Poland

The description of each example of good practice is concluded in the „lessons-learned” section, indicating key success factors of a given city in gaining and service of investors.

Example of 'good practice'

Town, Country: Berlin, Germany

Good practice: Cooperation of the private and public sector within the scope of Berlin Partner GmbH, established in the form of public and private partnership (PPP)

City's description

- Berlin is the capital city and the seat of the government and many public institutions in Germany.
- Berlin is the third largest city (following London and Paris) in the EU – 3.5 m. citizens.
- Berlin is located in the eastern part of Germany, by the Spree and Havel Rivers.
- Berlin is viewed as the so called global metropolis⁴³; it is an important communications hub of Germany and Europe, an academic center (among others: Humboldt-Universität, Freie Universität, Technische Universität – TU Berlin, Hertie School of Governance) and cultural center (among others: Bodemuseum, Pergamonmuseum, Neues Museum, Alte Nationalgalerie, Altes Museum, which, as a complex of Museum Island in Berlin - Museumsinsel were entered into the UNESCO list of cultural heritage).
- Berlin is the seat of the main German business associations and organizations. Berlin is also one of the main FDI recipients as well as preferred locations for the development of business activity (according to the Deloitte study, 2/3 of decision-makers of the main international corporations indicated Berlin as one of the examples of cities of above-average image and perfect quality of new infrastructure).
- In the ranking of city's innovation, Berlin was placed eleventh in 2010.⁴⁴

④ According to the classification Globalization and World Cities (GaWC) Research Network

④ According to the ranking Innovation Cities™ Top 100 Index, 2thinknow, <http://www.innovation-cities.com/top-100-city-rankings-for-the-innovation-economy/1130>

'Good practice' description

- Tasks within the scope of business promotion of the city, gaining investors and support for entrepreneurs/ originators within the scope of commencing a business activity in Berlin are completed by an entity established especially for that purpose - Berlin Partner GmbH.
- Berlin Partner GmbH closely cooperates with the Brandenburg Council of Economic Development (ZAB)⁴⁵ for the purpose of promoting the economic growth of the city and the whole region of the German capital.
- Berlin Partner GmbH operates as a company formed within the public and private partnership (PPP), whose partners comprise more than 170 enterprises (the number is constantly increasing) and c. 30 institutions, public organizations and charities⁴⁶.
- Berlin Partner GmbH also offers, apart from promotion activities, specific forms of support for new investors (both start-up, microenterprises, small and medium enterprises as well as large enterprises and international corporations), starting their activity in Berlin. The interested entrepreneurs may use one of the 5 support packages offered by Berlin Partner GmbH:
 - 1 Berlin Business Welcome Package – support during the first 3 months of activity in Berlin through access to office infrastructure, fully equipped apartment for an entrepreneur, voucher for municipal transport and a package of advisory services related to starting a business activity in Berlin (2 h of general legal counseling, 2 h of tax counseling and business management 2 h of PR-related counseling and communication; further, additional counseling related to the insurance of the conducted business activity). The cost of package amounts to EUR 2 400 Euro net.
 - 2 Berlin Business Financing Package – support in the form of subsidies covering up to 35% of funds invested in Berlin, support in the form of access to developed financing possibilities in the form of, among others, consortium credits⁴⁷, state guarantees and warranties, contributions to capital investments.
 - 3 Berlin Business Locating Package – as a part of the above mentioned package, two forms of support are offered to companies:
 - a) access to the portal related to the real estate market, currently updated with information on the available public offers and private real estate owners in Berlin and Brandenburg. The portal allows for making a preliminary selection of real estate on the basis of the presented criteria and requirements. Each real estate is connected via a link with the so called Berlin Economic Atlas – a portal enabling obtaining detailed data related to a given location in Berlin (including, among others, real photos, information on the infrastructure condition, available transport connections).
 - b) Individual search of optimal real estate ordered by a client, presentation of selected proposals in the office of Berlin Partner GmbH and during direct meetings with owners/managers of selected real estate.
 - 4 Berlin Business Recruiting Package – support for an investor during the investment project completion in the search of specialists, increasing qualifications of the recruited staff through training packages, support in obtaining permits of stay and work, consulting within the scope of local labor market.

⁴⁵ Zukunfts Agentur Brandenburg
- ZAB, www.zab-brandenburg.de

⁴⁶ In 1994, at the time of commencing the activity by Berlin Partners Capital City Marketing, the predecessor of Berlin Partner GmbH, the enterprise had 17 shareholders.

⁴⁷ Loans granted by a group of banks (at least two) to one borrower.

- 5 Call Center Recruiting Package – support of an investor in the complex completion of the Staff recruitment process in cooperation with the Federal Employment Agency (in German - Bundesagentur für Arbeit – BA). The support comprises:
 - a) free of charge placement of recruitment announcements in the recruitment announcements database JOBBÖRSE of the BA Agency and on the agency-linked recruitment portals; identification and gaining of candidates using the Agency database.
 - b) The organization of the first contact between the investor and potential candidates for work
 - c) Support in the process of candidate assessment (verification of application documents, telephone interviews, assessment center).
 - d) Completion of the recruitment process (identification of the best candidates, additional administrative and legal actions connected with the employment of new employees).
- The above mentioned support packages offered by Berlin Partner GmbH are addressed to companies outside Berlin, which plan to invest in Berlin for the first time or want to invest in Berlin again, particularly in the following city-supported businesses: services, biology/pharmacy, ICT, media and entertainment, mobility (transport and logistics), clean technologies.

Results

- During the period of 2001 and 2011, more than 1220 enterprises located their business activity in Berlin. Since 2001 in Berlin, the following enterprises have been located (among others):
 - 1 Industry, mobility (transport and logistics), clean technologies: MTU Aero Engines | Coca-Cola GmbH | Vattenfall Europe Generation | Corning Cable Systems GmbH & Co. KG | TNT Logistics Deutschland GmbH | Mahle Nockenwellen GmbH | ASKANIA Uhren AG | Rollei GmbH | Inventux Technologies AG | Global Solar Energy Deutschland GmbH | TAKATA-PETRI AG
 - 2 Services: core connection GmbH & Co. KG | BASF Shared Services Europe GmbH | norisbank GmbH | Sitel GmbH | Skandia Versicherungen | DMS GmbH | Grupo Intercom Berlin GmbH | PHORMS Berlin gGmbH | Miami Ad School Europe GmbH | MICE AG | arvato services | Mercedes-Benz Bank
 - 3 ICT, media and entertainment: Anschutz Entertainment Group | Jamba | Universal Music Group | MTV Networks Germany | Four Music Productions GmbH | BREAD & butter GmbH | SAP Deutschland AG & Co. KG | Hitachi Software Engineering Europe AG | Axel Springer Verlag AG | Bild Redaktion (Axel Springer Verlag) | arvato AG | IMAX Corporation | Sykes Enterprises
 - 4 Biology and pharmacy: Scienion AG | Capsulation Pharma AG | Pfizer Pharma GmbH | LS Shire Deutschland | Wyeth⁴⁸

Key success factors of the city – „lessons learned”

- Coordination of promotional activities targeted at winning over investors and support for companies investing in the city within one entity – created in the form of a public and private partnership of public and private entities.
- Concrete support packages offered to enterprises locating their business activity in the city in areas critical from the perspective of the investor (i.e.
 - a) logistic, administrative and legal support especially during the first three years of functioning in the city;
 - b) support in the scope of financing;
 - c) support in the scope of searching proper location/office for conducting business activity in the city;
 - d) support in the scope of gaining and improving the qualifications of human resources;

- e) complex completion of the recruitment process ordered by and investor.
- Payment principle – partial financial participation of the investor in the costs of support services (the principle allows for self-financing of a company rendering support services for investors).
- Availability of attractive support packages solely for investors from the list of businesses key for the city's development.

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