

Warsaw School of Economics
Enterprise Institute

**Labour market in selected sectors of economy in
Łódzkie voivodship in 2008
and its changes in the years 2005-2007**

Research leader:
Prof. Ph.D. hab. Irena Lichniak

Prepared by: Mgr (M.A/ M.S.) Beata Żelazko

Warsaw, November 2008

Introduction

This report describes the labour market in Łódzkie voivodship in selected economy sectors, i.e.: engineering, automotive, aviation, biotechnology, electronics and business services. Apart from information about sectors' demand for employees with specific qualifications, this report contains a detailed analysis of the local labour market's supply, i.e. the availability of human resources in terms of quantity, quality and costs.

Łódzkie voivodship with its labour resources occupies fifth place in Poland behind Mazowieckie, Śląskie, Wielkopolskie, and Małopolskie. People working in this voivodship constitute ca. 8.1% of all employed in the country's economy. Taking into the account data for enterprises sector, the workers of Łódzkie voivodship constitute a much smaller share of the total number of workers in Poland, namely ca. 4%.

During the analysed period the labour market in Łódzkie underwent a positive change combining a few phenomena. Firstly, there was a 10.4% increase in the number of employees in the enterprises sector from 2005 to 2007. Taking into the account the decrease of the overall number of enterprises one may conclude that the increase resulted from creation of new jobs in existing enterprises, rather than in new ones. Secondly, in the years 2005 - 2007 the employment rate was changing every year, and in 2008 it reached a level 2.2 percentage points higher than the national average. It should also be underlined that Łódzkie region has a quite high employment activity rate (55.7%, based on data as of the end of June 2008) indicating popularity of entrepreneurial attitudes among the population of the region with textile and clothing industry traditions.

Table 1. Basic parameters of the labour market in Łódzkie voivodship 2005 - 2008

Details	2005	2006	2007	2008
employed in the enterprises sector (persons)	282124	294193	311538	327236
Employment rate* (in %)	45.7	48.9	51.7	(.)
Unemployed persons (individuals)	198429	160700	123148	104179
unemployment rate (%)	17.9	14.7	11.5	9.8
Job offers	1377	3947	3879	7703
Number of unemployed persons per 1 work offer (individuals)	144	64	46	18
Average gross salary in the enterprises sector (PLN)	2109.68	2214.38	2405.05	2560.34
<i>*Note: with the exception of the employment rate and the number of unemployed persons per 1 work offer, the presented data are the annual average. Job offers - data as of the end of December, employment rate - data for the 4th quarter in the years 2005 - 2007.</i>				

Source: data from the Voivodship Statistical Office in Łódź.

There were also changes in basic parameters describing the supply on the labour market (Table 1). In 2007 the number of the unemployed in Łódzkie voivodship was 37.9% lower

than in 2005. In the analysed period there was also a significant decline of the unemployment rate - from 17.9% to 11.5%. At the end of the second quarter of 2008 it reached 9.8% placing Łódzkie on the sixth position in the country. The growing number of job offers (remarkable 181% in the years 2005 - 2007) undoubtedly contributed to the positive changes of the unemployment rate. It caused the decrease of unemployment intensity, because the number of the unemployed per one job offer fell from 144 persons in 2005 to 46 in 2007 (i.e. by ca. 68%). At the end of June 2008 the value of this indicator was ca. 61% lower than at the end of the previous year and reached 18 persons.

Basic labour market parameters were also influenced by migrations. Migrations to other regions in Poland and to other countries certainly contributed to the decrease of the number of unemployed people and of the unemployment rate.

In the analysed period, i.e. years 2005 - 2007 the decrease rate of the number of the unemployed was much faster than the increase rate of the number of employees. One may assume that it was caused, on the one hand, by the declining number of the unemployed entering the labour market, and on the other, by the increasing outflow from the market of the unemployed over 50 years of age.

The abovementioned phenomena in the years 2005 - 2007 were accompanied by a 21.3% increase of the average monthly gross wage; wages during this period were much lower than the national average.

1. Employment in selected economy sectors

Enterprise Institute WSE surveyed numbers of enterprises in selected sectors (see Table 2). The most numerous was the business services sector with 260 enterprises. The second place was taken by the engineering industry (121 units). In the years 2005 - 2007 increase in the number of enterprises in business services, engineering and electronics sectors was responsible for the increase of the overall number of enterprises in the selected sectors. The number of enterprises in the automotive sector fell (by 8%), and in the other two sectors: medical biotechnology and aviation no changes were observed. The highest change rate was observed in the electronics sector, which is certainly related with authorities' efforts to attract this type of investments into the region.

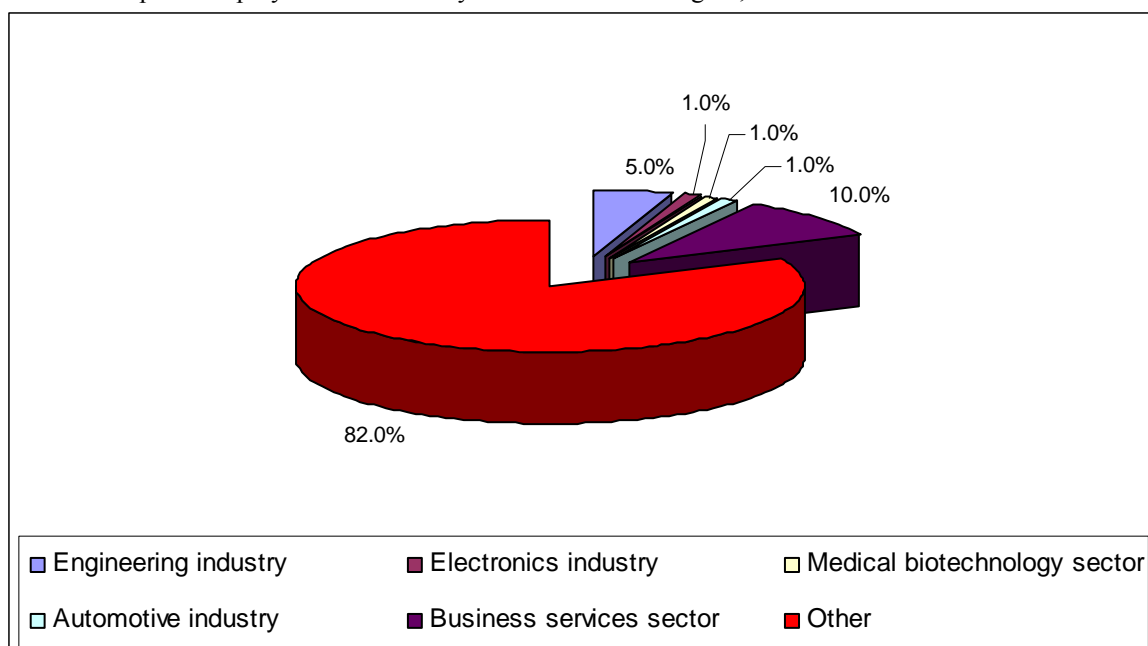
Table 2. Number of enterprises employing more than 9 persons in selected sectors in Łódzkie voivodship in the years 2005 - 2007

Number of enterprises	Business services sector	Engineering sector	Electronics sector	Automotive sector	Medical biotechnology sector	Aviation sector	Abovementioned sectors in the region - total
2005	236	118	31	25	19	1	430
2007	260	121	39	23	19	1	463
Change (2007/2005)	110.2	102.5	125.8	92.0	100.0	100.0	107.7

Source: WSE Enterprise Institute survey.

In the period 2005 - 2007 an increase of the number of employees occurred both in the entire sector of enterprises (8.6%), and in the group comprising the six selected sectors: engineering, electronics, automotive, biotechnology, aviation and business services (14.3%). This significant increase in the number of employees in the selected sectors was caused by changes in automotive industry, where 23% employment growth was observed, as well as in the services sector (ca. 15%) and engineering industry (ca. 10%). The growth rate of employment in the abovementioned sectors was faster than the dynamics of positive changes in the region's entire enterprises sector.

Graph 1. Employment structure by sector in Łódzkie region, as of the end 2007.



Source: WSE Enterprise Institute survey.

As it is illustrated by data in Graph 1, the sectors concerned still do not play a significant role in the region, however their importance is growing. Over the three years the sectors' share in the overall number of employees in the region increased by 1 percentage point. In 2007 employees of these sectors constituted 18.2% of all people working in the

region; the largest share worked in the business services sector (10%). Three sectors, namely: medical biotechnology, electronics and automotive had only a 1% share. The share of the engineering industry was 5%. In 2005 the number of people working in the selected sectors in the voivodship was 48 788, and in 2007 – 56827, i.e. it increased by 16.5%.

Data in Table 2 indicate that in 2008 in Łódzkie voivodship the lowest average employment occurred in the electronics sector (significantly less than 2000 people). The second place was taken by the medical biotechnology sector (2120 persons). On the other hand, the highest number of employees worked in enterprises providing services to business (40 615 persons). Observing changes in average employment one may say that in the period concerned the influence of the selected sectors on the Łódzkie's labour market was significant, because the overall employment dynamics in these sectors was higher from the average of the region's enterprises sector and reached ca. 13%.

Table 2. Average employment in selected economy sectors in Łódzkie voivodship in the years 2005 - 2008

Average employment in the enterprises sector	Business services sector	Engineering sector	Electronics sector	Automotive sector	Medical biotechnology sector	Aviation sector	Enterprises in the region - total
I-XII 2005	30787	8762	937	3876	2043	.	271512
I-XII 2006	31244	9011	818	3977	1993	.	278903
I-XII 2007	35381	9789	1085	4141	2077	.	295510
I-VI 2008	40615	10622	1490	4511	2120	.	312194
Change (2005 - 2007)	114.9	111.7	115.8	106.8	101.7	x	108.8

Sources: own calculations based on data from Voivodship Statistical Office in Łódź.

In the period concerned the fastest changes of employment occurred in the electronics sector (a 15.8% increase) and the business services sector (a 14.9% increase). The smallest increase occurred in biotechnological enterprises (by only 1.7%). The increase in the automotive industry was small as well (6.8%). It is worth pointing out, that in the case of medical biotechnology and automotive sectors the employment increase was lower not only from the average in the selected sectors, but also from the average in the region's enterprises sector. A positive phenomenon in the region was that employment grew in all of the analysed sectors.

2. Students and graduates of post-gymnasium schools: numbers and fields of study*

There are five types of post-gymnasium schools: basic vocational schools, technical schools, specialised lyceums, general education lyceums and post-lyceum schools. From the point of view of selected industries, the secondary vocational training is the most interesting educational sector, therefore this part of the paper will focus on the first three types of schools mentioned above. In Poland there are ca. 7015 educational establishments belonging to this group; they constitute 68% of the total number of post-gymnasium schools; in Łódzkie region there are 408 such facilities, i.e. 5.8% of the country's total number.

Fields of training in specialised lyceums, technical schools and vocational schools are in a different degree adjusted to the needs of high technology sectors. In order to assess their usefulness, professions were divided into three groups:

- economic-administrative (this group includes economic-administrative professions gained in specialised lyceums, such as: administrative technician, occupational hygiene and workplace safety technician, economic technician, trade technician, office technician, accounting technician),

* Structure of Polish Educational System:

- *Primary*: Primary School (Szkoła Podstawowa)
- *Basic Vocational*: Basic Vocational School (Zasadnicza Szkoła Zawodowa)
- *Lower Secondary*: Gymnasium (Gimnazjum)
- *Technical Secondary*: Technical Secondary School (Technikum)
- *Upper Secondary*: General Lyceum (Liceum Ogólnokształcące)
- *Vocational Secondary*: Vocational Secondary School (Liceum Zawodowe) /Specialized Lyceum (Liceum Profilowane)
- *Post- secondary*: Post- secondary Vocational School (Szkoła Policealna)
- *Higher education*:
 - o first level courses (studia pierwszego stopnia); title of Bachelor or Engineer (licencjat/ inżynier);
 - o second level courses (studia drugiego stopnia); title of Master (magister)
 - o uniform 5-year magister level courses (jednolite studia magisterskie)

[translator's annotation on the basis of The European Education Directory
<http://www.euroeducation.net/prof/polaco.htm>. (accessed: 15th December 2008).]

- general technical (this group includes technical professions, such as: IT technician, mechanic, car mechanic),
- specialised technical (this group includes: automotive body repairer, electronics engineer, electrical engineering technician, electro-mechanic, electrician, car electro-mechanic, mechanic production technicians, mechanical machine fitter, industrial automatic devices and precision appliances mechanic, precision mechanic, mechatronics fitter, electronic fitter, mechatronics fitter, machine tools operator, chemical industry devices operator, electronics technician, electroradiologist, logistics technician, aircraft mechanics technician, mechatronics technician, forwarding agent, ITC technician, telecommunications technician).

In Łódzkie voivodship, in accordance with 2008 data, the selected occupation-oriented schools were attended by the following numbers of pupils:

- economic-administrative schools - 13 789 persons;
- general technical schools - 11 341 persons;
- specialised technical schools - 8 614 persons;

Graduates of general education lyciums constitute the largest share (49%) in the overall number of post-gymnasium schools graduates. The following places were taken by: post-lyceum schools graduates - 17%, technical schools graduates - 15%, specialised lyciums graduates - 10% and vocational schools graduates - 9%.

Entrepreneurs representing the selected sectors are attentive not only of numbers of students and graduates of individual school types, but also of their interest in specific profession-related subjects. In accordance with data of SIO from the end of March 2008, Łódzkie was on the sixth place in terms of the number of students in the abovementioned fields. Numbers of students in individual occupations was presented in Table 3.

Table 3. Number of students in selected post-gymnasium schools by occupation

Occupation	Number of students
Panel beater	191
Economic-administrative (specialised lyceum)	1 647
Electronics (specialised lyceum)	43
Electro-technical (specialised lyceum)	64
Electro-mechanic	234
Electrician	198
Car electro-mechanic	390
Mechanical production technician	14
Mechanical machine fitter	597

Industrial automatic devices and precision appliances mechanic	0
Precision mechanic	0
Car mechanic	2 330
Mechatronics (specialised lyceum)	141
Electronic fitter	102
Mechatronic fitter	44
Machine tools operator	51
Chemical industry devices operator	0
Administration technician	3 444
Occupational hygiene and work safety technician	688
Economic technician	5 153
Electronics technician	1 816
Electro-radiology technician	31
Trade technician	1 866
IT technician	4 868
Logistics technician	3 068
Mechanic technician	4 143
Aircraft mechanics technician	0
Mechatronics technician	865
Office technician	337
Accounting technician	654
Forwarding technician	263
ITC technician	357
Telecommunications technician	145
Total	33 744

Source: SIO database - as of 31.03.08

Łódzkie region was standing out in terms of the number of students learning economic-administrative, and specialised technical occupations. It is worth pointing out, that these professional groups' share in the region's educational structure was higher than the national average. Łódzkie voivodship won the very high position due to the number of students learning the following occupations: economic technician, administration technician, mechanics technician, logistics technician, and IT technician.

Łódzkie voivodship occupies high positions in rankings because it has quite a lot of secondary-level schools teaching occupations suitable for the analysed sectors. It is also important that pupils are strongly interested in fields of training allowing them to learn such occupations. The average number of pupils who chose occupations useful to the selected sectors per 1 secondary-level, occupation-oriented school was 82; with this score Łódzkie region was ranked fourth in Poland (the following voivodships achieved a better result:

Podkarpackie, Śląskie, Małopolskie).

Currently, employers pay a lot of attention to knowledge of languages, therefore schools' educational offer has to be looked at from this point of view. The largest number of students in occupation-oriented schools in Łódzkie voivodship (data for 2006/2007) were learning English (45.3% of all pupils). The next most popular language was German with 40.5% of students in post-gymnasium schools (basic vocational, specialised lyceums and technical schools)¹ learning it – table 4.

Table 3. Number of students learning foreign languages in vocational schools in the school year 2006/2007 – by voivodship

Voivodship	English	French	German	Russian	Other	Total
Dolnośląskie	45 043	3 197	50 395	3 877	44	102 556
Kujawsko - Pomorskie	39 194	1 539	31 267	14 552	0	86 552
Lubelskie	42 569	1 753	25 626	19 932	217	90 097
Lubuskie	19 310	2 219	22 276	1 659	0	45 464
Łódzkie	38 503	2 213	34 375	9 839	21	84 951
Małopolskie	67 648	7 821	56 742	9 905	264	142 380
Mazowieckie	76 090	2 989	47 116	32 650	532	159 377
Opolskie	20 342	493	21 135	544	0	42 514
Podkarpackie	52 785	2 872	44 738	8 218	0	108 613
Podlaskie	27 091	670	19 578	10 114	0	57 453
Pomorskie	40 722	1 944	38 001	6 117	430	87 214
Śląskie	94 321	12 295	72 503	12 879	270	192 268
Świętokrzyskie	28 453	803	21 514	7 094	179	58 043
Warmińsko - Mazurskie	30 015	598	25 834	8 151	0	64 598
Wielkopolskie	68 092	4 641	72 300	9 834	57	154 924
Zachodniopomorskie	28 417	1 501	31 179	2 747	0	63 844
Poland	718 595	47 548	614 579	158 112	2 014	1 540 848

Source: Own document based on *Oświata i wychowanie w roku szkolnym 2006/2007 (Education and training in the school year 2006/2007)*, GUS Warszawa 2007.

It should be underlined, that in comparison with other voivodships, Łódzkie region was characterised by a low rate of English teaching.

An important indication of students' knowledge of languages is the choice of the languages as subjects for the secondary school final exam. Numbers of students taking foreign languages exams by voivodship were presented in Annex 2. In Poland in 2008 the following languages were the most popular among students: English, German and Russian. The same were preferences of students in Łódzkie.

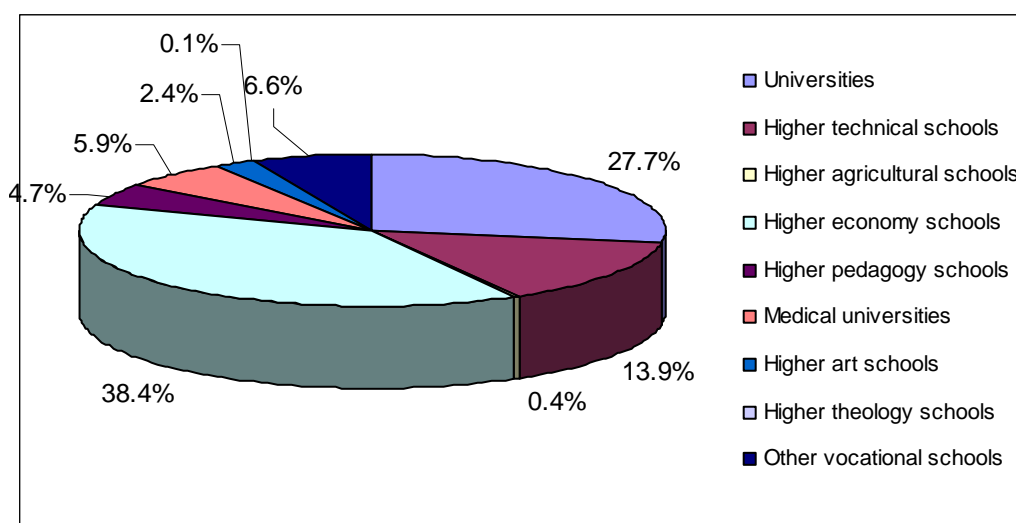
¹ Own calculations based on *Oświata i wychowanie w roku szkolnym 2006/2007 (Education and training in the school year 2006/2007)*, GUS Warszawa 2007.

3. Students and graduates of higher schools: numbers and fields of study

In accordance with the data for the academic year 2007/2008, there were 29 higher schools in Łódzkie voivodship, including one university, one higher technical school, and 9 higher economic schools. In relation to the year 2005/2006 the number of schools increased by 2. Apart from the capital of the region, higher schools operated in, inter alia, Piotrków Trybunalski, Sieradz, Zgierz, Łowicz, Pabianice, Kutno. In 2007 there were 138 930 people studying in these schools. The number of students in the region is increasing; in the academic year 2007/2008 it was 6% higher than in 2005/2006. In the same year, higher schools in Łódzkie were graduated by 28 706 persons, i.e. 19.7% more than three years earlier.

The following two groups of students are the most numerous: economy schools students with 38%, and university students with almost 28% of the overall number of students (Graph 3).

Graph 3. Structure of students in 2007 by school type



Source: *Regional Data Bank*.

Taking into the account the fact that in the region there is only one technical school, its students constitute a relatively very large share of the region's overall number of students. Popularity of certain school types indicates students' interest in obtaining specific education profile. Economy and administration has been for the last few years the region's most popular field of study. 13 990 people studied this subject in the region. Apart from "economy and administration", other subjects important for the selected industries include: information technology, engineering, production and processing and services. In 2007 the total number of 14 966 people studied the abovementioned subjects. Engineering was studied by 6256

persons, information technology - 4760, production and processing - 2694, and services - 1256.

Łódzkie region was standing out in terms of the higher than average number of persons studying information technology and economic and administrative subjects; numbers of students learning other subjects was lower than the national average.

In Łódzkie voivodship there were 160 higher school graduates per 10 000 inhabitants. This indicator placed the region on the fifth position among all voivodships. Number of graduates was increasing in the analysed period. In 2007 there were 23 965 graduates, which meant 19.8% more than in 2005.

Students trained in subjects corresponding with needs of technologically advanced firms constituted the following share of the region's overall number of students: biology - 3%, information technology - 6%, engineering - 6%. In the first case, the share in Łódzkie region was equal to Poland's average, in other cases it was higher.

4. Research fellows (in higher schools and research and development units)

The research and development environment is very important for companies in the analysed sectors. The following factors may be considered a measure of a voivodships potential in this respect:

- number of public and private research and development units;
- number of research fellows in higher schools and R&D units.

Public scientific establishments supporting the analysed sectors in Łódzkie voivodship include:

- Instytut Medycyny Pracy im. Prof. Dr med. Jerzego Nofera (Professor Jerzy Nofer Occupational Medicine Institute),
- Instytut Techniki Ciepłej (Institute of Heat Engineering),
- Instytut Biopolimerów i Włókien Chemicznych (Institute of Biopolymers and Chemical Fibres),
- Instytut Technicznych Wyrobów Włókienniczych (Institute for Technical Textile Products),
- Centrum Badań Molekularnych i Makromolekularnych PAN (Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences).

In accordance with CSO data for 2007, there were 121283 persons employed in the

research and development field in Poland, including 5% in Łódzkie region. The R+D field employees in Łódzkie region constituted 1.3% of the overall number of employees in the national economy. This result placed the voivodship on fourth position in the ranking of all Poland's regions².

In accordance with CSO data, there were 7749 research fellows working in Łódzkie region's higher schools, including 25% of independent researchers (professors and readers), and 55% employed teachers (assistant professors and teaching assistants). Łódzkie region, in comparison to other voivodships, had a fast growing number of researchers; in the years 2004 - 2007 it grew by 16%.

5. Unemployment - shortage / surplus occupations

The number of unemployed people and the unemployment rate in Łódzkie region decreased in the analysed period. The unemployment rate only in 2006 was lower than the national average, in 2005 and 2007 it was higher. In the years 2005 - 2007 the unemployment rate in Poland decreased by 6.2 percentage points, and in the voivodship - by 6.4 percentage points.

Table 4. Information about unemployment in the region in the years 2005 - 2007

Details	2005	2006	2007
Number of unemployed people in Poland	2 773 000	2 309 410	1 746 573
Registered unemployment rate in Poland	17.6	14.8	11.4
The overall number of unemployed people in Łódzkie	198429	160698	123148
Registered unemployment rate in Łódzkie region	17.9	14.7	11.5

Source: *Regional Data Bank*.

In accordance with data of the end of March 2008, the unemployed people of the region constituted 15.5% of the overall number of persons without work in Poland. The age group 25-34 constitutes the largest share in this group (28%). Other age groups constitute a similar share: people below 25 years (23%), and people aged 45 - 54 (22%). Unemployed people aged 35 - 44 constitute 20% of the overall number, and people aged 55 and more - 7%³.

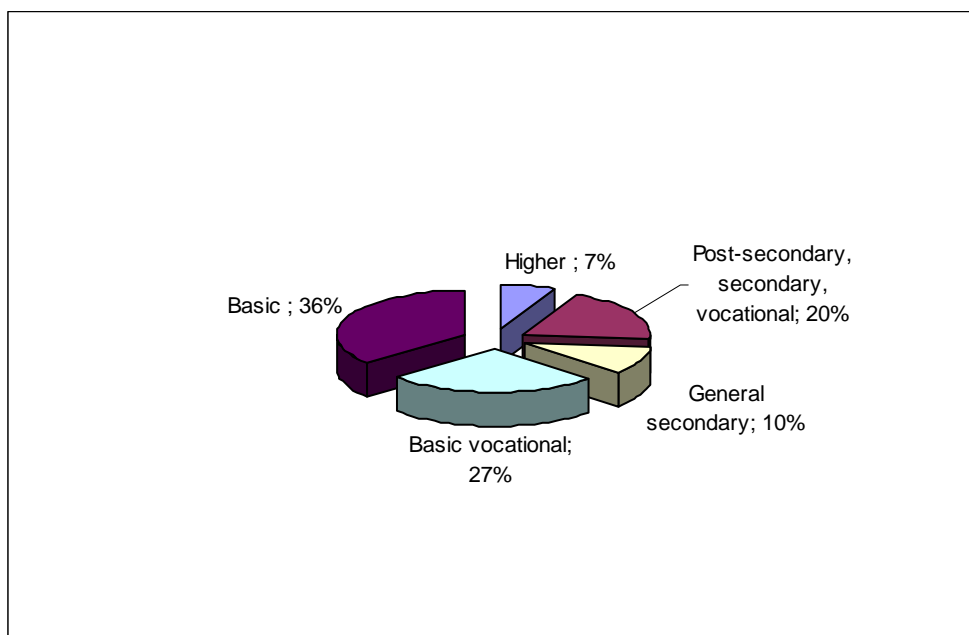
In 2008 the most numerous unemployed group were people with primary-school education, incomplete primary-school education and gymnasium education (36%). Next in the ranking were the people with: basic vocational training (27%), and secondary vocational

² *Regiony Polski (Poland's Regions)*, GUS Warszawa 2008, p. 26.

³ Source: *Portal of the National Employment Services* <http://www.psz.praca.gov.pl/>

training (20%). Persons with higher education constituted 7% of the unemployed in the region. (Graph 4).

Graph 4. Unemployment structure by education background in 2007.



Source: Data from the Voivodship Statistical Office in Łódź.

The largest group among the unemployed are persons without any work experience (35%). There are also quite large groups of people with work experience shorter than 1 year (16%), and between 1 and 5 years (17%). In terms of occupation, there are quite large groups of unemployed technicians, mechanics, machines and devices fitters and operators⁴.

In accordance with the data from the National Employment Services, in Łódzkie region the following occupations were redundant: specialists, including physical, mathematical and technical sciences specialists, biological sciences technicians, technicians and intermediate personnel. In the region there is a shortage of the following occupations: middle office personnel, office agents supporting economic activity and trade agents, office management staff, money flow staff, machines and devices operators (Annex 1).

Comparing data about the demand for employees signalled by the analysed sectors with the occupational structure of unemployment, it is difficult to see possibilities of reducing the disproportion in the region's labour market. The reason for this is that labour resources required by the analysed sectors form the smallest groups among the unemployed people. This is true for such occupations, as, inter alia: mechanics, machines and devices operators, engineers (Table 5).

⁴ Data of the Voivodship Labour Office in Łódź.

Table 5. Vacant positions in the analysed sectors (in 2008)

Sector	Vacancy problem - due to qualifications	Sector	Vacancy problem - due to qualifications
Medical biotechnology sector	Customer acquisition	Business services (including r+d)	Consultant
	Production manager		Technical expert
	Offer specialist		Technical inspector
Electronics industry	Programmer		Constructor
	Electrical fitter		Control systems specialist
	Electro-mechanic		It specialist in a tribology facility
	Production manager		Analyst
			It specialist - programmer
Aviation industry	Production manager		Foil appliers
	Locksmith		Lawyer
Engineering industry	Project account manager		Foreman
	Physical worker		Translator
	Welder		Welder
	Bookkeeper		Information systems implementation specialist
	Locksmith		Trade teaching methodology specialist
			Erp projects implementation specialist
	Diagnostic laboratory manager		
Automotive industry including car parts manufacturing	Project account manager		
	CNC operator		
	Mechanic		
	Lorry driver		
	Bookkeeper		
	Mechanic		

Source: survey conducted by Enterprise Institute "Labour market in Polish regions 2008".

6. Wages vs. expected wages

In the years 2005 - 2008 average monthly wages increased both in the entire enterprises sector and in the analysed sectors (Table 6). Considerably higher than the average was the increase in wages in the business services sector (18.1%), engineering sector (22.8%) and automotive sector (16.9%). The lowest increase, below the average, occurred in the medical biotechnology sector. In companies categorised into the analysed sectors in 2008 the average monthly gross wage was higher than the voivodship's average. It is worth underlining that the medical biotechnology sector had the highest wages.

Table 6. Average monthly gross wages in selected economy sectors in Łódzkie voivodship in the years 2005 - 2008

Average monthly gross wages in enterprises	Business services sector	Engineering sector	Electronics sector	Automotive sector	Medical biotechnology sector	Aviation sector	Enterprises in the region - total
I-XII 2005	4236.38	2145.77	2540.28	2149.66	(.)	.	2109.68

I-XII 2006	4567.72	2380.65	2600.28	2279.27	3211.64	.	2214.38
I-XII 2007	5004.85	2634.29	2763.11	2513.45	3405.15	.	2405.05
I-VI 2008	5338.65	2803.02	2891.51	2638.44	3494.97	.	2560.34
Dynamics of change 2005 - 2007	118,1	122,8	108,8	116,9	106,0	x	114,0
*in the case of medical biotechnology sector, change dynamics in 2006 - 2007							

Source: data from the Voivodship Statistical Office in Łódź.

According to the survey of the Enterprise Institute - average monthly wages of the management ranged ca. 5000 PLN, remuneration for the personnel was in the range 2001 - 3000 PLN. Wages expected by employees in Łódzkie region were in general higher than those offered by employers. Table 7 below illustrates discrepancies between actual and expected wages.

Table 7. Distribution of answers to the question about offered and expected wages; broken down into the management and personnel

Gross wage range in PLN	management		Personnel	
	current actual wages	expected wages	current actual wages	expected wages
0-1999	9%	4%	30%	9%
2000-3000	13%	9%	43%	26%
3001-4000	36%	15%	17%	47%
4001-5000	8%	28%	2%	9%
5001-6000	15%	9%	2%	2%
6000+	19%	34%	6%	6%

Source: Enterprise Institute survey.

Over one half of employers (57%) offers wages up to 4000 PLN while recruiting people to managerial positions; nearly 56% of the managerial staff expects wages below 5000 PLN. Similar discrepancies may be observed in the group of people recruited to worker positions. It turns out that in 73% of cases employers offer wages up to 3000 PLN, while the share of people expecting wages below 3000 is 35%.

Conclusions

On the basis of the analysis, one may conclude that three of the selected sectors in Łódzkie voivodship were developing rapidly. The group comprised: business services sector, engineering sector and electronics sector. It is interesting that the sectors were developing in spite of the region's many shortcomings that make it a difficult place to pursue this kind of activities. The shortcomings included inaccessibility of staff (both physical and economic -

high labour costs).

Due to: small number of persons trained in occupations preferred by the sectors, relatively high and rising gross wages, relatively few graduates of faculties corresponding with the sectors' needs, small share of young people learning English, as well as outflow of staff to other regions, investors may encounter difficulties in course of recruitment.

Annex 1: Surplus and shortage occupations in Łódzkie region

Symbol of the occupational group	Łódzkie voivodship	Average monthly number of job offers notified during a year		Average monthly number of registered unemployed during a year		Average monthly redundancy (shortage) of labour during a year	
		2005	2007	2005	2007	2005	2007
12	Managers in large and medium-sized organisations	8.00	24.42	30.25	34.08	22.25	9.67
121	Directors general, executives, chairmen and their deputies	1.17	5.50	8.00	7.58	6.83	2.08

122	Managers of internal core business units	2.92	10.08	10.92	12.92	8.00	2.83
123	Managers of other internal organisational units	3.92	8.83	11.33	13.58	7.42	4.75
13	Managers in small enterprises	4.83	6.58	40.58	36.83	35.75	30.25
131	Managers in small enterprises	4.83	6.58	40.58	36.83	35.75	30.25
2	Specialists	290.67	302.25	1590.17	1434.33	1299.50	1132.08
21	Specialists in physics, mathematics, and technical sciences	67.75	54.83	310.75	240.92	243.00	186.08
214	Engineers and related professions	43.42	28.58	154.50	124.83	111.08	96.25
221	Specialists in biological sciences	2.67	3.33	34.58	38.25	31.92	34.92
231	Higher education teaching professionals	0.92	0.67	2.67	2.25	1.75	1.58
3	Technicians and intermediate personnel	914.00	740.17	2874.58	2344.08	1960.58	1603.92
311	technicians	147.50	77.92	1197.08	882.17	1049.58	804.25
312	Computer technical service personnel and related professions	14.08	13.25	77.67	61.83	63.58	48.58

313	Optical and electronic equipment operators	3.25	3.92	13.25	10.25	10.00	6.33
314	Seafarers, barge, lighter, boat and air transport operatives	0.25	0.67	1.25	1.08	1.00	0.42
321	biology and agricultural sciences technicians	5.92	4.42	382.58	325.75	376.67	321.33
3211	Medical analytics technicians	1.67	1.08	7.50	6.08	5.83	5.00
341	Finance and trade workers	238.25	151.33	775.75	715.92	537.50	564.58
342	Office agents supporting economic activity and trade agents	7.75	11.92	14.33	11.83	6.58	-0.08
343	Middle office staff	390.75	347.17	189.92	116.42	-200.83	-230.75
344	Tax and customs officials and related professions	1.67	3.75	1.67	1.17	0.00	-2.58
4	Related professions	661.42	1048.42	653.17	501.92	-8.25	-546.50
41	Office management workers	585.58	904.58	577.92	431.92	-7.67	-472.67
42	money flow and customer service workers	75.83	143.83	75.25	70.00	-0.58	-73.83

72	Metal processing workers and machine and device operators	335.25	425.67	1654.83	1313.92	1319.58	888.25
73	Precision workers, ceramics makers, decorative objects makers, printers and related professions	30.58	34.92	61.83	53.42	31.25	18.50
8	Machine and device operators and fitters	317.08	566.08	558.33	505.83	241.25	-60.25

Data of State Employment Services