

Analysis of Structural Changes in the Labour Market in Romania

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Abstract: The purpose of the study is to reveal the changes in the labour market in Romania, by means of its structure. The opportunities for sustainable employment and efficiency are underlined by analyzing data on employment by activity and sector of national economy, by status in employment and by major occupation groups.

Based on the effects of the dynamics in the employment structure we make to propose some specific recommendations for policy instruments and measures regarding the quality of employment. The amendment of the quality of employment could be achieved by general policies for adjusting the supply and demand, as well as by specific policies for managing labour mobility and for increasing the efficiency of the presence of youth on the labour market.

Keywords: Labour market, Employment, Sectors of national economy

JEL Classification: E24; J21; J23

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1. Introduction

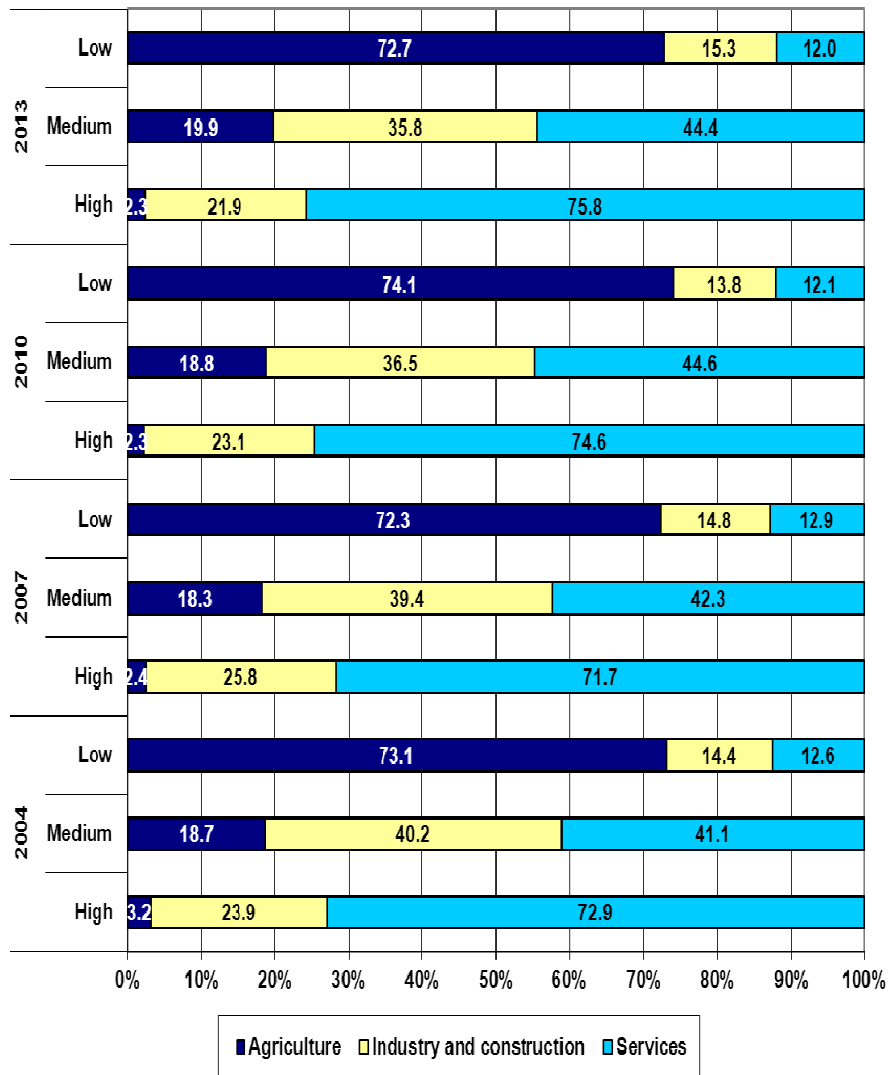
This paper aims to signal the effects of the dynamics in the employment structure in Romania, in the 2004-2013 period. Data on employment by education level and sector of national economy, by gender, by residential area, by activity and sector of national economy, by status in employment and by major occupation group are presented in order to emphasize the dynamics of the labour market at national level. Specific characteristics of the sectors and activities of national economy are underlined.

2. Overview of employment structure in Romania in the 2004-2013 period

The period under review (2004-2013) corresponds to a part of the transition in which the labour market has grown up. This process has been characterized mainly by promotion of the labour mobility and part-time employment.

The education level is one of the important factors for explaining the employment structure by sector of national economy. Sectors of national economy, as defined by NACE Rev. 2, are the following: agriculture (primary sector), industry and construction (secondary sector) and services (tertiary sector). In 2004, 72.9% of the people with high education level were working in the secondary sector, while in industry and construction only 23.9%. The share of employment of high-educated people in services decreased in the year of accession (2007) and just three years later it decreased again to 74.6%. This means that the high-educated people are more likely to be employed in the tertiary sector of the economy. The share of medium-educated persons in the primary sector is continuously increasing between 2004 and 2013. These persons have a balanced proportion in the other two sectors, more precisely about 35.8% in the industry sector and 44.4% in the services sector in 2013. The most balanced proportion was recorded in 2004: 40.2% of medium-educated persons have been employed in the industry sector and 41.1% in the services sector. Low-level educated persons are mainly employed in the agriculture sector, due to low-skills job offered. Less and less low-educated people are working in the tertiary sector, but more and more are working in the secondary one (14.4% in 2004, 14.8% in 2007 and 15.3% in 2013).

Figure 1. Employment by education level and sector of national economy, 2004-2013



Source: National Institute of Statistics, Labour Force Survey.

As the International Labour Organization (ILO) recommended, the population is divided by labour force status into three mutually exclusive categories, defined as follows:

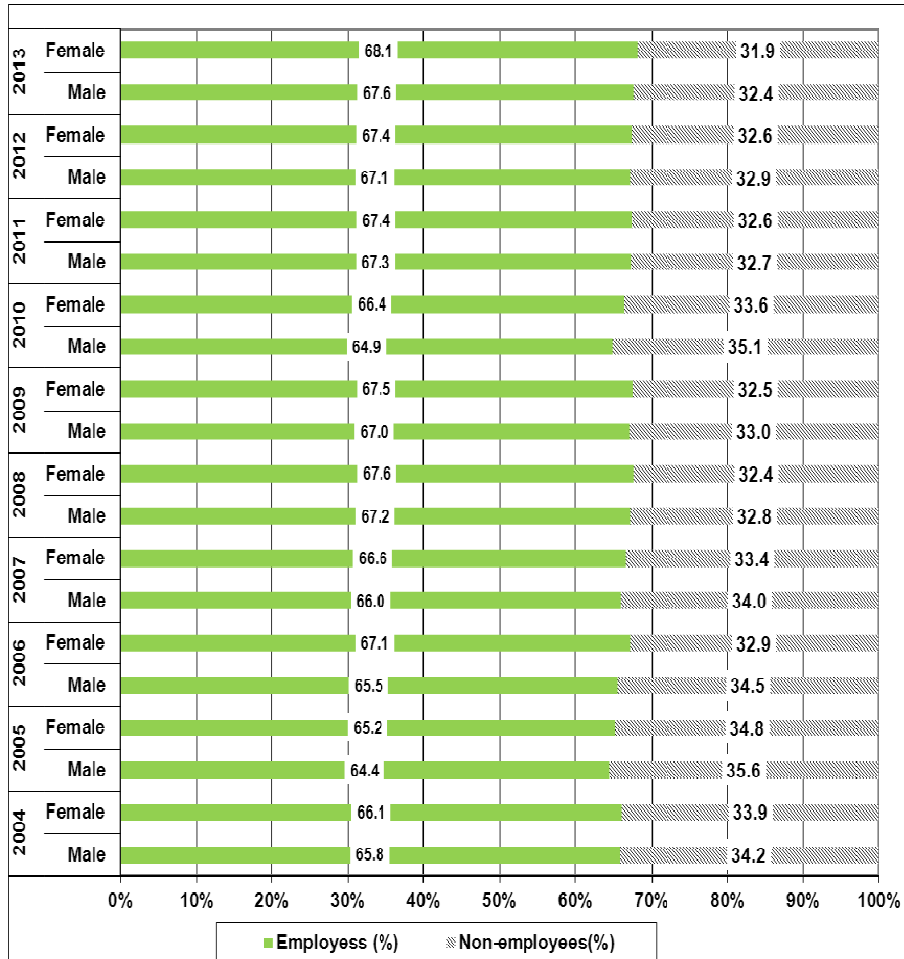
- *Employed* are persons engaged in productive activities, during the reference week for at least one hour or are temporarily absent from the job to which they will return;
- *Unemployed* are persons not employed and available to work and actively seeking a job;
- *Economically inactive* persons are those at working age which are neither employed nor unemployed.

According to official statistics (National Institute of Statistics, 2015, p. 43), status in employment represents the situation of an employed person, depending on the way of achieving income from his activity, namely:

1. *Employee*, a person who carries out his activity based on an employment contract in an economic or social unit - irrespective of its ownership type - or for private persons, for a remuneration as wage, in cash or in kind, as commission a.s.o.;
2. *Employer*, a person who carries out his occupation (business) in his own unit (enterprise, agency, workshop, shop, office, farm a.s.o.) for the activity of which he has one or several employees;
3. *Self-employed*, a person who carries out his activity in his own unit or in an individual business, without hiring any employee, being helped, or not, by contributing family workers;
4. *Contributing family worker*, a person who carries out his activity into a family economic unit, run by a member of the family or a relative, for which he gets no remuneration as wage or payment in kind; peasant (agricultural) household is considered such a unit;
5. *Member of an agricultural holding or a non-agricultural co-operative*, a person who worked either as owner of agricultural land in an agricultural holding set up according to legal provisions or as a member of a craftsmen, consumption or credit co-operative.

In this study we refer to the categories 2-6 as non-employees. Figure 2 shows clearly a higher share of the employees, compared to the non-employees. We can see that less males are employees than women, over all the period. This can be explained by the propensity of men for being employers or self-employed.

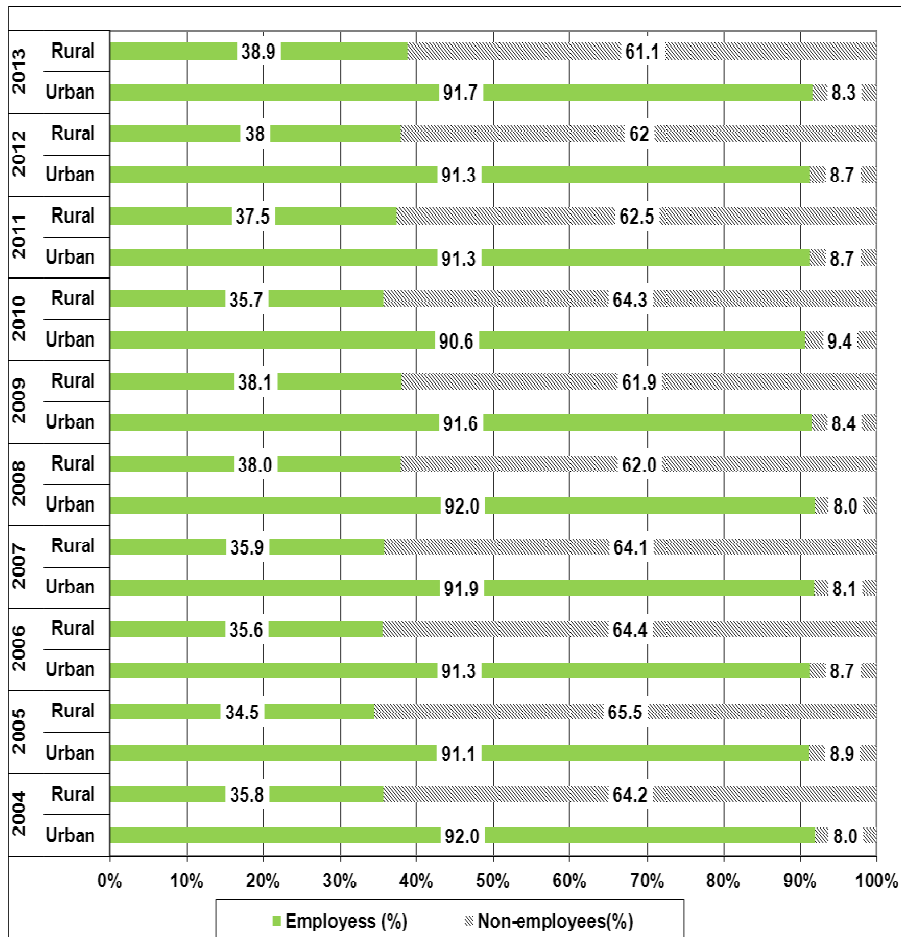
Figure 2. Employment status by gender,
2004-2013



Source: National Institute of Statistics, Labour Force Survey.

If we consider the gaps in the employment status by residential areas, we notice that in the urban area people are more likely to be employees, while in the rural area they are rather non-employees than employees. This situation can be explained by the fact that in the rural areas people are highly involved in agriculture sector, where they are active as self-employed, contributing family workers or members of an agricultural holding.

Figure 3. Employment status by residential area, 2004-2013



Source: National Institute of Statistics, Labour Force Survey.

As the agriculture sector is considered a particular case, in the following will be present the employment structure in this sector by occupation group and residential area. The data show clearly that in 2010, in the urban area, the share of the skilled employees have dramatically declined to 80.8%. This turnover was registered due to the labour mobility of the silled employees in agriculture in the period 2007-2009. In 2013, 98.9% of the skilled employees in the rural area were

working in agriculture sector, meanwhile just 6.4% of the non-skilled employees were working in the agriculture.

Table 1 - Employment structure by occupation groups and residential areas, in agriculture sector, 2004-2013

Year	Residential area	Total, thousands persons			of which, in agriculture sector (%):		
		Skilled employees	Non-skilled employees	Other occupation groups	Skilled employees	Non-skilled employees	Other occupation groups
2004	Urban	119.4	390.4	4396.3	97.1	9.0	1.0
	Rural	2331.0	511.5	1409.0	99.6	57.0	6.0
2007	Urban	104.3	414.0	4554.2	80.8	4.3	0.8
	Rural	2239.2	639.3	1402.2	99.2	51.6	4.8
2010	Urban	112.0	366.3	4553.8	97.4	10.1	0.7
	Rural	2129.9	702.1	1375.3	99.6	59.8	4.6
2013	Urban	84.2	356.3	4617.5	95.0	6.4	0.8
	Rural	2069.7	621.2	1498.4	98.9	60.7	4.6

Source: National Institute of Statistics, Labour Force Survey.

An intermediary overview of the employment structure by activity of the national economy is available for the year 2012 (Appendix 1). The share of services workers, craft and related trades workers, machine operators and non-qualified workers was about 54%. If we consider the structure by activity of the national economy, these categories were more likely found for the manufacturing (77.7%), accommodation and food services activities (76.9%) and administrative and support services activities (74.9%). At the opposite pole we find the following activities of the national economy: financial and insurance activities with just 2.9%, information and communication (11.1%) and education (15.7%).

Data on employment by activity and sector of national economy (Appendix 2) show that in 2004 most of the non-qualified workers (36.2%) were found in the agriculture, forestry and fishing (primary sector). This situation has been retained. In 2013, 40.9% of the non-qualified workers were registered in the agriculture.

The change in the share of the non-qualified workers in total employees in every activity of the national economy is quite clear for some activities. For instance, the share of the non-skilled workers in the other activity group increased constantly in the 2004-2013 period. In 2004, most of the workers in the fishing activity were non-skilled (28.8%), but in 2010 most of them were found in the water supply, sewerage, waste management and remediation activities. Just a small part of the workers in professional, scientific and technical activities are non-skilled (e.g. 1.68% in 2010 and 0.96% in 2013).

This shall be a signal for changing the policies on the education market. Therefore, the quality of the education shall be improved by promoting lifelong learning programmes which would enable people, at any stage of their life, to take part in stimulating learning experiences. This would lead to a direct impact on the labour market, by increasing the quality of the employment.

3. Effects of the dynamics in the employment structure

The effects of the dynamics described in the section above on the labour market could be easily observed in the labour productivity (Appendix 3). The labour productivity is defined as the ratio of gross value added to employment. (National Institute of Statistics, 2015). The labour productivity is 2.5 times higher in 2012 (60.6 thousand lei/person) than in 2004 (23.6 thousand lei/person). The activities of the national economy in which the labour productivity stagnated in this period were agriculture, forestry and fishing and public administration and defence, social insurance of the public sector, education, health. Real estate activities were the most productive activities in the national economy, as their productivity increased 6.7 times between 2004 and 2012. Other activities which had a blasting evolution in labour productivity are shows, culture and recreation activities, repair of household goods and other services, professional, scientific and technical activities; administrative services and of support services and mining and quarrying; manufacturing; electricity, gas, steam and air conditioning.

Furthermore, manufacturing and other low-skill tasks in the services sector were becoming increasingly automated. Therefore, the need for routine cognitive and craft skills was declining, while the demand for information-processing skills and other cognitive skills was growing.

Furthermore, we aim to formulate some specific recommendations for policy instruments and measures regarding the quality of employment. For instance, a significant creation of high-skilled jobs could lead to a risk of labour market polarisation. Also, given the general framework of the labour market in the last decade and moreover in the transition period, the policy makers shall be able to forecast and anticipate the needs in the labour market and shall coordinate the education system towards the accomplishment of the quality of employment. Improving the equity and efficiency of education and training systems at national level is essential to avoid the waste of human and financial resources, increase employability and reduce inequalities. A qualified labour force not only contributes to productivity. The investment in well-designed lifelong learning systems can largely offset the economic cost of skills shortages and gaps. These kind of policies would improve the labour productivity and the national economy as a whole.

Acknowledgements

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Appendix 1

Average number of full-time employees, by activity of the national economy, 2012

Activities of national economy (NACE Rev.2)	Total (persons)	Share of Services workers, Craft and related trades workers, Machine operators and Non-skilled workers (%)
<i>Total</i>	<i>3645061</i>	<i>54.1</i>
Agriculture, Forestry And Fishing	83032	56.1
Mining And Quarrying	58648	69.8
Manufacturing	860883	77.7
Electricity, Gas, Steam And Air Conditioning Supply	63987	52.4
Water Supply; Sewerage, Waste Management And Remediation Activities	84825	70.3
Construction	278357	74.0
Wholesale And Retail Trade; Repair Of Motor Vehicles And Motorcycles	576091	54.5
Transportation And Storage	214109	59.8
Accommodation And Food Service Activities	85429	76.9
Information And Communication	98335	11.1
Financial And Insurance Activities	81087	2.9
Real Estate Activities	13985	52.6
Professional, Scientific And Technical Activities	90361	21.4

Administrative And Support Service Activities	158401	74.9
Public Administration And Defence; Compulsory Social Security	242883	33.1
Education	341306	15.7
Human Health And Social Work Activities	245881	35.8
Arts, Entertainment And Recreation	38736	32.5
Other Service Activities	28725	52.8

Source: National Institute of Statistics, Tempo online, online data code FOM118G.

Appendix 2

**Number of employees by activity of the national economy
and share of non-skilled workers,
2004-2013**

Year	Activities of national economy (NACE Rev.1)	TOTAL	Share of non- skilled workers in total of non- qualified workers (%)	Share of non- skilled workers in total employees (%)
2004	<i>TOTAL</i>	<i>9157618</i>		<i>9.85</i>
	Agriculture, Forestry	2892846	36.25	11.30
	Fishing	3375	0.11	28.80
	Mining And Quarrying	134471	1.04	6.95
	Manufacturing	2051307	19.59	8.61
	Electricity, Gas, Steam And Air Conditioning Supply	191791	1.22	5.73
	Construction	478517	7.61	14.34
	Wholesale And Retail Trade; Repair Of Motor Vehicles And Motorcycles	943394	7.11	6.80
	Accommodation And Food Service Activities	147870	1.29	7.90
	Information And Communication	454088	2.68	5.32
	Financial And Insurance Activities	86192	0.37	3.92
	Real Estate Activities	231539	2.35	9.16
	Administrative And Support Service Activities	538164	5.32	8.92
	Education	402726	5.85	13.09
Human Health And Social Work	361692	2.11	5.27	

Year	Activities of national economy (NACE Rev.1)	TOTAL	Share of non- skilled workers in total of non- qualified workers (%)	Share of non- skilled workers in total employees (%)
	Activities			
	Other Service Activities	239647	7.11	26.75
2007	TOTAL	9353326		11.26
	Agriculture, Forestry	2756688	33.00	12.61
	Fishing	5312	0.10	19.45
	Mining And Quarrying	109230	0.59	5.68
	Manufacturing	1973788	16.64	8.88
	Electricity, Gas, Steam And Air Conditioning Supply	175898	1.12	6.74
	Construction	678560	12.22	18.98
	Wholesale And Retail Trade; Repair Of Motor Vehicles And Motorcycles	1151445	12.01	10.99
	Accommodation And Food Service Activities	136562	0.93	7.19
	Information And Communication	488669	2.45	5.29
	Financial And Insurance Activities	97217	0.37	4.06
	Real Estate Activities	282033	2.73	10.20
	Administrative And Support Service Activities	468399	3.74	8.41
	Education	400159	4.79	12.60
	Human Health And Social Work Activities	375446	1.81	5.06
	Other Service Activities	253920	7.49	31.09
2010	TOTAL	9239390		11.56

Year	Activities of national economy (NACE Rev.1)	TOTAL	Share of non-skilled workers in total of non-qualified workers (%)	Share of non-skilled workers in total employees (%)
	Agriculture, Forestry And Fishing	2779935	42.73	16.42
	Mining And Quarrying	95637	0.59	6.64
	Manufacturing	1646654	13.51	8.76
	Electricity, Gas, Steam And Air Conditioning Supply	125831	0.52	4.40
	Water Supply; Sewerage, Waste Management And Remediation Activities	75538	1.99	28.16
	Construction	704819	10.36	15.71
	Wholesale And Retail Trade; Repair Of Motor Vehicles And Motorcycles	1133841	7.73	7.29
	Transportation And Storage	443781	2.04	4.91
	Accommodation And Food Service Activities	179841	1.19	7.07
	Information And Communication	125859	0.43	3.62
	Financial And Insurance Activities	132044	0.28	2.23
	Real Estate Activities	19239	0.37	20.47
	Professional, Scientific And Technical Activities	159047	0.25	1.68
	Administrative And Support Service Activities	153895	3.83	26.61
	Public Administration And Defence; Compulsory Social Security	471048	3.03	6.88

Year	Activities of national economy (NACE Rev.1)	TOTAL	Share of non-skilled workers in total of non-qualified workers (%)	Share of non-skilled workers in total employees (%)
	Education	385172	3.74	10.36
	Human Health And Social Work Activities	403111	1.81	4.81
	Arts, Entertainment And Recreation	49817	0.53	11.37
	Other Service Activities	154281	5.07	35.12
2013	TOTAL	9247397		10.57
	Agriculture, Forestry And Fishing	2634044	40.91	15.18
	Mining And Quarrying	83011	0.43	5.09
	Manufacturing	1686596	15.35	8.90
	Electricity, Gas, Steam And Air Conditioning Supply	98793	0.40	3.96
	Water Supply; Sewerage, Waste Management And Remediation Activities	88169	3.33	36.94
	Construction	691669	10.87	15.36
	Wholesale And Retail Trade; Repair Of Motor Vehicles And Motorcycles	1208604	6.71	5.43
	Transportation And Storage	460332	1.61	3.42
	Accommodation And Food Service Activities	194233	1.84	9.28
	Information And Communication	152051	0.14	0.91
	Financial And Insurance Activities	127262	0.08	0.64
	Real Estate Activities	18789	0.15	8.06
	Professional, Scientific And Technical	180306	0.18	0.96

Year	Activities of national economy (NACE Rev.1)	TOTAL	Share of non-skilled workers in total of non-qualified workers (%)	Share of non-skilled workers in total employees (%)
	Activities			
	Administrative And Support Service Activities	182280	3.69	19.79
	Public Administration And Defence; Compulsory Social Security	455539	1.62	3.47
	Education	353789	3.42	9.46
	Human Health And Social Work Activities	385673	1.66	4.20
	Arts, Entertainment And Recreation	56807	0.39	6.76
	Other Service Activities	189450	7.19	37.12

Source: National Institute of Statistics, Labour Force Survey, own calculations.

Appendix 3

Labour productivity, by employed person, 2004-2012

- lei/person -

<i>Activity (CANE Rev.2 divisions)</i>	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total	23624.0	27707.1	32861.8	39487.1	49874.8	50095.4	52099.5	54593.8	60611.0
Agriculture, forestry and fishing	10416.5	7985.9	9357.9	7052.4	11078.3	10048.7	10329.3	13351.6	10525.3
Mining and quarrying; manufacturing; electricity, gas, steam and air conditioning production and supply; water supply; sewerage, waste management and decontamination activities	24984.5	31101.1	36761.2	43044.7	53206.8	60204.5	77271.7	82034.4	82178.4
Construction	24606.7	31508.9	40165.5	55592.2	79762.9	72091.3	68351.8	66361.1	79732.1
Wholesale and retail; repair of motor vehicles and motorcycles; transport and storage; hotels and restaurants	26320.1	34064.5	40295.8	48889.1	56456.8	53921.8	42457.8	36865.1	62533.1
Information and communication	76405.3	92356.8	113410.1	158750.8	207284.2	189072.4	187824.1	187508.7	184931.9
Financial intermediation and insurance	56220.4	63509.4	62075.0	78200.9	114584.7	118565.5	137726.7	162586.3	144516.5
Real estate activities	285479.2	382254.5	405071.5	587001.9	612878.0	908071.2	1152738.7	1184408.9	1935012.1
Professional,	27921.5	33757.9	47034.7	57696.5	72032.4	63983.2	82768.2	97647.8	95581.3

<i>Activity (CANE Rev.2 divisions)</i>	2004	2005	2006	2007	2008	2009	2010	2011	2012
scientific and technical activities; activities of administrative services and of support services									
Public administration and defence; social insurance of public sector; education; health and social assistance	29685.9	36180.0	35176.8	39399.4	51634.6	50498.4	50710.5	50054.7	50705.0
Shows, culture and recreation activities; repair of household goods and other services	20877.9	24663.8	31942.8	38999.3	46421.8	48021.2	58890.3	63578.9	80522.7

Source: National Institute of Statistics, Statistical Yearbook 2014.