# EDUCATIONAL STRUCTURE OF THE POPULATION IN THE REGION (NORTH-EASTERN EUROPE PART OF RUSSIA): FEATURES AND DYNAMICS

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**Abstract**
*This article has analyzed the modern condition of the educational population structure in the northern region. The article has showed the overall picture of skill mix workforce in the northern region. It was found educational problems of the labor potential in conditions of modernization professional education in the northern region.*

**Key words:** *labour potential, dynamics, northern region, professional education*

At the moment in the global economy trends observed reorientation of the economy on the raw materials to the human potential. The experience of countries shows that in the most favorable economic situation are those countries that have long implemented policies aimed at saving, active development and use of human potential. Russia, seeking to successful economic development, is also interested to have a population that can successfully meet the economic, social and other problems.

Experts assess existing Russian resources on the effectiveness of their implementation in the national economy as follows: natural – 25%, human – 15%, financing – 10%, intellectual – 3.3%. Resource potential of the country, the level of its development – 18%. When compared to other countries, then, for example, in the U.S., it is 76 %, in the EU – 78 %, in Japan – 88 % (Yakunin, 2008).

Therefore, in order to overcome this lag Russia, it is necessary to develop the qualitative characteristics of the population. One of the most important quality characteristics of the population is the level of education.

Analysis of the relationship of the working population in the Komi Republic with a profession indicates that many workers with high education have to work not received profession. Estimated population surveys on employment for 2012 (table 1), to employees holding jobs that do not match their professions, in the region include 55% of managers at all levels, 34% high-level specialists, 44% of middle- skill level (Main Results ... , 2013)

As a result, a significant part of labor potential underutilized. This suggests that abnormal interaction between the training of workers and the labor market.

We consider what the situation in the Komi Republic in the level of education of the population as a whole. Statistics show that the process of self-staffing in the region in the quantitative aspect is growing. Thus, the number of private institutions of higher education in the last 10 years has increased, and the number of students has doubled. Also increased the number of part-time students, of whom the greater part - it is the students who are studying full reimbursement for training. Over the 1990-2011. number of part-time students increased by 5 times, including 2000-2011 – 1,6 times.

Census data for 2010 also show that in the economy and keep flowing workers with higher formal training (Table 1), most of whom are persons who have received part-time higher professional education.

**Table 1. The level of education in the Komi Republic, persons**

| Years | Per 1000 people aged 10 years and over, indicating the level of education | | | |
|---|---|---|---|---|
| | Professional | | | |
| | Postgraduate | High | Incomplete higher | Secondary |
| 1959 | … | 20 | 9 | 66 |
| 1970 | … | 31 | 8 | 88 |
| 1979 | … | 56 | 10 | 145 |
| 1989 | … | 80 | 11 | 193 |
| 2002 | 2 | 113 | 22 | 288 |
| 2010 | 5 | 170 | 33 | 327 |

Source: Komi Republic. Results of 2012, 2013 , p. 27-32

Data from table 2 shows that over the past 50 years, the level of education in the Komi Republic has grown significantly. Thus, the maximum growth rate higher (81%) and secondary vocational education (65%) were observed in 1970-1979. Minimum growth rate for higher professional education (41%, which is twice less than the maximum rate) were in the region in 1989 - 2002. Perhaps this is due to large-scale outflow of specialists with higher education in other regions in the 1989-2002. By secondary vocational education minimum growth rate observed in the last 2002-2010 (13% - less than the maximum growth rate of 5 times). The reason for this trend is covered either in folding of secondary vocational education, or transition to continuing education, when graduating from college, people prefer to get higher education, not go to work on the business.

In the educational structure of the population in the last decade there have been significant shifts (table 2). Among the population aged 15 years and older increased number of people with higher education (from 24% to 34%) and almost halved the proportion of people with basic vocational education (from 32.5% in 2002 to 16% in 2010). That is demand for higher education in the Komi Republic continues to grow and the demand for initial vocational, conversely, decreases (the official site National Population Census 2010).

**Table 2. Population of the Komi Republic in the level of professional education in 2002-2010, % of the population aged 15 years and older**

| Education level | All population | | Males | | Females | |
|---|---|---|---|---|---|---|
| | 2002 | 2010 | 2002 | 2010 | 2002 | 2010 |
| Urban and rural population | | | | | | |
| Postgraduate | 0,3 | 0,9 | 0,2 | 0,4 | 0,1 | 0,5 |
| High | 23,9 | 34,3 | 10,6 | 14,6 | 13,3 | 19,8 |
| Incomplete higher | 4,6 | 6,8 | 2,2 | 3,3 | 2,4 | 3,5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Secondary | 62,5 | 66,3 | 28,6 | 31,2 | 33,9 | 35,1 |
| Primary | 32,6 | 16,2 | 19,9 | 10,0 | 12,7 | 6,2 |
| Urban population | | | | | | |
| Postgraduate | 0,4 | 0,1 | 0,2 | 0,5 | 0,2 | 0,6 |
| High | 27,8 | 39,2 | 12,7 | 17,2 | 15,1 | 22,0 |
| Incomplete higher | 5,5 | 7,9 | 2,7 | 3,9 | 2,8 | 4,0 |
| Secondary | 67,6 | 68,6 | 31,9 | 33,2 | 35,7 | 35,4 |
| Primary | 29,0 | 14,0 | 17,3 | 8,5 | 11,7 | 5,5 |
| Rural population | | | | | | |
| Postgraduate | 0,1 | 0,3 | 0,0 | 0,1 | 0,1 | 0,2 |
| High | 11,9 | 17,9 | 4,4 | 6,4 | 7,5 | 11,5 |
| Incomplete higher | 2,1 | 3,0 | 0,9 | 1,2 | 1,2 | 1,8 |
| Secondary | 46,8 | 59,2 | 19,0 | 25,0 | 27,8 | 34,2 |
| Primary | 43,1 | 23,5 | 27,2 | 14,6 | 15,9 | 8,9 |

Source: Official site of the National Population Census 2010

Among women, the process of improving the educational structure in 2002-2010, was much more active than men. So if women in 2002 ahead of the men on the proportion of persons with higher education by 2,7% (13,3 compared with 10,6%), then by 2010 the gender gap increased to 5,2%. It is the consequence; the level of education among women has traditionally been higher than men. It is often women, who receive a high level of education, do not use it to the fullest in their career.

The educational structure of the population, of course, depends on the type of settlement. In 2010, the proportion of urban population with higher education is 2,2 times, and secondary vocational education – 1,2 times higher than in rural areas. In contrast, the population with low professional education (primary) is concentrated in rural areas. It can strengthen rural transition processes long-term unemployment in the stage of economic inactivity (Popova, Terentyeva, 2012) as among those with lower education unemployment is higher

No less significantly the educational structure of the republic varies depending on different age cohorts (table 3). As at the 20-29, as well as in those aged 30-64, the proportion of persons with secondary education prevails.

**Table 3.** P**opulation in the Republic of Komi by level of education in 2010, in %**

| Groups according to age ( years) | Professional education | | | | |
|---|---|---|---|---|---|
| | Postgraduate | High | Incomplete higher | Secondary | Primary |
| 20-29 | 0,9 | 24,6 | 8,9 | 33,2 | 10,2 |

| | | | | | |
|---|---|---|---|---|---|
| 30-39 | 1,0 | 29,2 | 3,7 | 37,2 | 8,1 |
| 40-49 | 0,5 | 22,1 | 1,6 | 47,7 | 9,8 |
| 50-59 | 0,5 | 22,8 | 1,0 | 45,9 | 8,0 |
| 60-64 | 0,7 | 29,2 | 1,0 | 42,5 | 4,9 |
| 65-72 | 1,1 | 34,1 | 1,3 | 33,7 | 3,0 |

Source: Marital status, education. Results of the National Population Census 2010. Komi Republic, Syktyvkar, 2012

In the group aged 30-39 years, the proportion with postgraduate, higher and incomplete higher education is 33,9%, with an average professional – 37,2%. To 39 years there is a concentration of people with higher training.

At the age of 40-59 years with a postgraduate , higher and incomplete higher education – 24,2-24,3%, with an average professional – 45,9-47,7% and 40-59 years, the concentration of persons with secondary education.

In the group of 60-64 years, the proportion of persons with higher education increased to 31,9% in 65-72 years this percentage becomes higher proportion of people with secondary education: 36,5% versus 33,7%.

Thus, there is a concentration of highly educated persons to 39 years, which can be explained by buildup in the 2000s formal training specialists with higher education. In the group aged 40-59 years, reducing the concentration of highly connected primarily with the fact that the educational setting who was born in 1950-1960 were not aimed at obtaining higher education. Excess of highly educated people aged 65-72 years can be explained by the fact that the life expectancy of the population with higher education is higher than those who have not.

Employed population has the improvement rate of the educational structure which is the same as the population as a whole (table 4).

**Table 4. Employed population by the level of professional education,%**

| Year | Postgraduate | High | Incomplete higher | Secondary | Primary |
|---|---|---|---|---|---|
| 2002 | 0,3 | 17,2 | 2,5 | 40,1 | 18,1 |
| 2010 | 0,7 | 24,8 | 3,8 | 40,5 | 8,9 |

Source: Official site of the National Population Census 2010

According to the census of 2002 and 2010, in 2010 65,3% of workers have high and vocational education (among urban workers almost 68,5%, among the rural workers about 52,5%). At the same time on the labor market workers with basic vocational education begin to disappear: twice decrease in the share for 2002-2010. As a result, there is a possibility that in the future region face a shortage of skilled workers, which may result a intensive migration of skilled workers from other regions.

Estimates to characterize the educational structure of employment in various economic activities are presented in table 5.

**Table 5. Employed population by economic activity and the level of education in 2004-2011,%**

| Economic activities | Professional education | | | | | |
|---|---|---|---|---|---|---|
| | High, postgraduate | | Secondary | | Primary | |
| | 2004 | 2011 | 2004 | 2011 | 2004 | 2011 |
| Total | 19 | 24 | 30 | 22 | 22 | 33 |
| Agriculture, hunting and forestry | 8 | 11 | 26 | 12 | 18 | 37 |
| Mining and quarrying | 20 | 25 | 20 | 17 | 25 | 43 |
| Manufacturing | 10 | 19 | 33 | 19 | 22 | 41 |
| Production and distribution of electricity, gas and water | 9 | 16 | 36 | 21 | 24 | 42 |
| Constructing | 22 | 22 | 19 | 14 | 28 | 41 |
| Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods for personal use | 7 | 15 | 42 | 26 | 21 | 33 |
| Hotels and restaurants | … | 15 | 45 | 16 | 38 | 41 |
| Transport and communications | 17 | 19 | 27 | 18 | 27 | 42 |
| Financing activities | 79 | 64 | … | 23 | 6 | 9 |
| Operations with real property, renting and business activities | 34 | 32 | 26 | 17 | 20 | 34 |
| Public administration and defense, social insurance | 20 | 40 | 30 | 18 | 19 | 28 |
| Education | 38 | 36 | 36 | 27 | 13 | 22 |
| Health and social services | 11 | 18 | 41 | 44 | 24 | 21 |
| Other community, social and other services | 15 | 20 | 40 | 29 | 9 | 26 |

Source: Survey on Employment for 2004 / Statistical Bulletin , Syktyvkar, 2005; Survey on Employment for 2011 / Statistical Bulletin , Syktyvkar, 2012.

They imply that in 2011 industries with high educational workers in the region are finance, public administration, education, services related with the real estate and renting. In the same 2011 the opposite side is represented agriculture and forestry, where higher education is only at 11% of the employed. Maximum share of employment in 2011 with secondary vocational education has health, primary professional - mining, manufacturing and distribution of electricity, gas and water supply, transport and communications, construction, hotels and restaurants.

Analysis of growth rates employed by the level of professional education showed that among

employees with higher education the highest growth rates observed in the wholesale and retail trade (table 6). The next is the public administration and defense, social management - 100% and manufacturing - 90%. A significant increase in persons with higher education observed in the production and distribution of electricity, gas and water (77%). It is noteworthy that there is a noticeable influx in health and social services (63%), due to the rapid medicine development in the modernization of health care. Negative growth rates observed in such economic activities as education (-5), real estate, renting and business services (-6%) and financial activities (-19). Growth rates employed with secondary vocational education for 2004-2011 show that the positive rates were only in health and social services. In other kinds of economic activity in the Komi Republic of reported negative growth rates. The most significant decline in the share of workers with secondary education occurred in the service sector of hotels and restaurants (64%).

**Table 6. Growth rate of the employed share in the economy by economic activities and the education level in 2004-2011,%**

| Economic activities | Professional education | | |
|---|---|---|---|
| | Higher and postgraduated | Secondary | Primary |
| Total | 26 | -26 | 50 |
| Agriculture, hunting and forestry | 37 | -53 | 105 |
| Mining and quarrying | 25 | -15 | 72 |
| Manufacturing | 90 | -42 | 86 |
| Production and distribution of electricity, gas and water | 77 | -41 | 75 |
| Constructing | 0 | -26 | 46 |
| Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods for personal use | 114 | -38 | 57 |
| Hotels and restaurants | … | -64 | 7 |
| Transport and communications | 11 | -33 | 55 |
| Financing activities | -19 | … | 50 |
| Operations with real property, renting and business activities | -5 | -34 | 70 |
| Public administration and defense, social insurance | 100 | -40 | 47 |
| Education | -5 | -25 | 69 |
| Health and social services | 63 | 7 | -12 |
| Other community, social and other services | 33 | -27 | 188 |

Source: own work

In agriculture, forestry and hunting share of employment growth rate with secondary vocational education are also negative (-53%), but at the same time the share of notable influx of persons with basic vocational education is precisely in this industry (105%). In addition, the growth of the labor force with basic vocational education observed in other community, social and personal services (188%), as well as in the manufacturing sector (86%).

The educational structure of the population of the Komi Republic is characterized by the following features:

- In the economy and keep flowing workers with higher formal educational training;
- Labor potential is unevenly distributed on the various socio-demographic groups: the level of vocational training men lose women, rural dwellers - urban;
- Many workers with high educational training have to work not received profession, resulting in most cases those workers labor competence, which were obtained in the course of professional education, become irrelevant, respectively, labor potential workers are not fully realized;
- Industries with the most educated workers in Russia as a whole and in the Komi Republic are finance, government, education and science, and services related with the real estate and renting. The opposite side is represented by agriculture, forestry and hunting
- A significant portion of labor potential underutilized, suggesting that abnormal interaction between the training and the labor market, and, therefore, the educational system of the Republic aimed at self-shots, is still non-interacting;
- As a result of the inflexibility of the system of vocational education can be the reason for the lag in the development of regional socio-economic system as a whole, which is already reflected in imbalances of supply and demand in the labor market

Thus, the analysis of statistical data showed that the process of self- staffing in the quantitative aspect in the region is growing. However, as it has been defined within our research, in the 2000s in the Komi Republic, as well as in the whole country, the level of professional education of the employed population is lower than the Northwestern Federal District of Russia, and the average in Russia. And in 2010, the level of professional education of the employed population in the Komi below not only the Russian level, but the average for the region of North-Western Federal District, which includes the Komi Republic, and the average across the northern territories of Russia, which refers region. The reason, as we see in the transition of the republic still in the 1990s, to «self- qualified personnel», the aging of the previously prepared in metropolitan universities of professional staff, they reach retirement age and the phasing out of work, as well as with significant scale-migration of young people, who was educated in the region.

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