

# Service industry to provide employment in rural Russia and provide sustainability – Republic of Karelia case study

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**Abstract.** The objective of the paper is to analyse the development of the service industry in Russian Federation to understand whether the country crossed the threshold of the postindustrial economy. We see that the development of service industry in Russia not stable and shows decline. At the same time, service industry gives new options to rural people and rural territory to broaden economic diversity and make it less damaged by mining activities. The service sector provides new opportunities for rural people in search of a job. The authors revise the average month wages in different economic sectors in the Republic of Karelia. The first objective is to find out the sectors with the highest wages. But the second and the most important objective was to find average wages in services sectors and whether they can attract people to village. Authors revise main problem preventing the development of service sector, notably, info communicational services and proposes some solutions.

## 1 Introduction

Unemployment in the countryside is the great problem, notably, for Russian Federation due to its large territories. People leave their native places and migrate to big cities of Russia in search of job. On the other hand, we see that the 21th century is the century of the postindustrial economy when services make major share of countries' economics. Unfortunately, we cannot tell that about the countryside due to the fact that service industry is almost absent there. It also should be mentioned that info communications and info communicational services also influence on the development of service industry. So digital literacy and Internet coverage makes the core role for individuals to find a job or to sell their services. That is why we also can say that the Internet coverage of a territory makes one of the most important roles for territorial development today.

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## 2 Literature review

Russian Federation possess large territories needed to be populated and managed by individuals properly to save the environment from degradation caused by inappropriate use. At the same time, taking in mind “linear relation between environmental degradation and income” in developing countries, found by T. A. Masron and Y. Subramaniam [1] makes the problem more actual due to the fact that, notably, in the countryside there are people without or very low wages. L. Christiaensen and al. [2] determined agriculture works as a solution for poverty eradication. But it does not work to great extent in Russia. We argue that in the era of postindustrial economy and digital economy, not only agricultural products, but non-importables also, mentioned by Van der Ploeg et al. [3], Ray C. [4] are able to preserve the environment and cultural authenticity. J. R. Anderson [5] reminds about the literacy, entrepreneurial, digital and some other professional skills for rural people, that should be improved to get profit from the investment into Internet deployment.

According to the statistics data about the reasons of unemployment in Russia the greatest share, 31.6 % of men and 26.6 % of women left their previous job at will. The share for other different reasons is 23.6 % for men and 27.5 % for woman. Moreover, the share of 21.9 % of men and 27.2 of woman % named the lack of work experience as the reason of not having a job in 2019 [6]. Talking about employment and new job opportunities in the countryside we also see that rural people are illiterate about possibilities working in the Internet, looking for a job with the help of different services, moreover, they do not know how they can sell and promote their services using info communicational services.

The research of Bondarenko L.V. shows that the share of 54.5 % of rural people are not ready to start their own business in case they lose their job. Only 31.7 % of people are ready to become an entrepreneur. At the same time, 31.7 % of rural people guesses that at the current year they can lose their job. Among the reasons not to start their own business people usually name that they are not businessmen naturally, 52.4 %, and lack of the first capital, 49.7 %, lack of knowledge - 32.3 % [7] In the researches of Fedorova M. Yu. and Aleksandrov I.N. [8] we see that rural people need additional income but they do not possess appropriate knowledge.

As to the Internet coverage and its influence on the growth or development of job opportunities, Kolko J. [9] tells that such kind of job as IT executives are in strong need of Internet. Boland M. and Ivus O. [10] also talk about the positive influence on the service industry from the deployment of broadband Internet. Cecchini S, Scott C, [11], Grimes S. [12], Townsend L. et al. [13], [14], Salemnik K. et al. [15], Michael J. Stern and al. [16] Internet coverage of a territory gives new opportunities to a territory, but individuals and the whole economic system is need of some kind of efficiency to get profit from such a resource. Talking about efficiency we get in mind not the digital and entrepreneurial literacy but also the process of the communication and interrelation in the countryside, mentioned by Stern M. and Adams A. [17]. Our previous research on the subject of the use of social media as a tool for networking and communicating among rural community showed the importance and good results in the process of finding finances for different projects [18].

## 3 Methodology

The objective of the research is to estimate possibilities jobs in services sector for rural people. As an example, the Republic of Karelia, the subject of the Russian Federation, was taken as the case study. Firstly, we regarded the development of the gross value added of the service industry. The objective was to understand whether the service industry of Russia

makes the major part of Russian economy and whether Russia crossed the threshold of the postindustrial economy.

The second part was to revise the share of the service industry in Russia dividing in different sectors to understand what type of services develops more stable.

The analysis of the average monthly wages in services industry was executed according to the following principles. We divided all sector of the Russian economy into four parts to make the comparison more illustrative and convenient. The first part includes agriculture, forestry, hunting, fishing and fish farming, mining, manufacturing industries and construction. Those sectors are not the part of service industry, that is why they are united in one table, Table 2. The second part is made of provision of electricity, gas, and steam; air conditioning; water supply; wastewater disposal, waste collection and disposal, pollution elimination services; public administration and military security; social security; health and social services. Those services, as a rule, are vital for people and essential. People use them permanently and cannot refuse. We can discuss about health service, but in Russian Federation the health services are free for people so major population use state hospitals. It should be mentioned also that there are no options, except state health services in the countryside. The same situation is about provision of electricity, gas and steam; air conditioning; water supply; wastewater disposal, waste collection and disposal, pollution elimination services. Rural population does not have any choice and, as a rule, there is only one company providing the services in the countryside. The third part is mostly made of services which are optional for people and it depends on them to pay and use the services or not. The third part includes wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; hotels and catering; information and communication services; financial and insurance services; real estate services; provision of other types of services. The fourth part is mostly cultural and educational and made of scientific services; education; culture, sports, organization of leisure and entertainment. Those services are vital for the development in perspective, but they are not financed to great extent. Moreover, the best scientific centers, the best schools and universities, as far as the best and popular cultural centers are situated in big cities or regional centers.

## **4 Research**

The structure of gross value added by the service industry for the period 2002 – 2020 is not stable. The periods from 2002 to 2005, 2009 to 2011, 2014 – 2015 and 2016 – 2018 are the periods of fall for the gross value added of service industry (Figure 1).

At the same time looking at the Table 1 Structure of gross value added by the service industry for the period in service industries for the period 2014 – 2020, we see that the gross value has been falling gradually, and almost the 2020th year was the year of growth for service industry.



**Fig. 1.** Structure of gross value added by the service industry for the period 2002 – 2020, %. Source: generated by the authors with the help <https://rosstat.gov.ru/>.

**Table 1.** Structure of gross value added by the service industry for the period in service industries for the period 2014 – 2020 (at current basic prices; in % to the total). Source: generated by the authors with the help <https://rosstat.gov.ru/>.

year	2014	2015	2016	2017	2018	2019	2020
<b>total</b>	<b>67.1</b>	<b>65.8</b>	<b>66.75</b>	<b>65.5</b>	<b>62.8</b>	<b>63.2</b>	<b>65.6</b>
provision of electricity. gas and steam; air conditioning	2.7	2.8	2.93	2.9	2.6	2.6	2.6
water supply; wastewater disposal. waste collection and disposal. pollution elimination activities	0.5	0.5	0.49	0.5	0.5	0.5	0.5
wholesale and retail trade; repair of motor vehicles and motorcycles	16.3	15.8	14.66	14.1	13.5	13.0	13.1
transportation and storage	6.2	6.7	7.30	7.0	6.6	6.8	6.5
activities of hotels and catering establishments	0.9	0.9	0.91	0.9	0.9	0.9	0.7
information and communication services	2.5	2.5	2.53	2.6	2.5	2.6	2.8
financial and insurance activities	4.5	3.6	4.41	4.4	4.3	4.3	4.9
real estate services	10.6	10.1	10.18	10.0	9.5	9.8	10.5
scientific services	4.4	4.5	4.45	4.5	4.1	4.3	4.5

public administration and military security; social security	10.0	10.1	10.39	10.2	9.6	9.6	10.3
education	3.2	3.1	3.17	3.2	3.2	3.2	3.4
health and social services	3.4	3.2	3.18	3.1	3.3	3.5	3.9
culture, sports, organization of leisure and entertainment	0.8	0.9	0.89	0.9	1.0	1.0	0.9
provision of other types of services	0.5	0.5	0.59	0.6	0.6	0.6	0.6
undifferentiated services of private households for the production of goods and services for their own consumption	0.6	0.6	0.66	0.6	0.6	0.5	0.4

**Table 2.** First part. Average monthly wages by type of economic activity for the period 2017 – 2020, RUB. Source: generated by the authors with the help <https://gks.ru/>.

year	agriculture, forestry, hunting, fishing and fish farming	mining	manufacturing industries	construction
2017	33 562.1	49 383.2	35 271.9	29 088.4
2018	46 478.6	55 982.9	37 504.6	36 366.5
2019	49 936.6	64 602.2	40 020.7	38 725.9
2020	53 357.9	71 048.3	41 331.4	38 315.0

**Table 3.** Second part. Average monthly wages by type of economic activity for the period 2017 – 2020, RUB. Source: generated by the authors with the help <https://gks.ru/>.

year	provision of electricity, gas and steam; air conditioning	water supply; wastewater disposal, waste collection and disposal, pollution elimination services	public administration and military security; social security	health and social services
2017	44 214.9	26 666.1	50 807.7	29 953.4
2018	46 069.1	31 381.6	56 132.0	38 297.9
2019	48 282.6	31 157.7	61 099.8	41 533.1
2020	49 505.3	32 894.4	64 210.7	50 787.0

**Table 4.** Third part. Average monthly wages by type of economic activity for the period 2017 – 2020, RUB. Source: generated by the authors with the help <https://gks.ru/>.

year	wholesale and retail trade; repair of motor vehicles and motorcycles	transportation and storage	hotels and catering	information and communication services	financial and insurance services	real estate services	provision of other types of services
2017	24 873.3	42 742.5	19 180.1	35 871.3	57 963.8	23 294.8	22 925.1
2018	27 519.0	46 131.0	20 092.9	40 959.5	60 264.6	24 647.7	26 656.4
2019	29 380.8	50 784.4	22 594.4	44 262.9	66 870.0	29 229.5	31 317.6
2020	31 594.4	52 511.2	22 526.5	46 929.1	70 716.2	30 955.0	29 671.5

**Table 5.** Fourth part. Average monthly wages by type of economic activity for the period 2017 – 2020, RUB. Source: generated by the authors with the help <https://gks.ru/>.

year	scientific services	education	culture, sports, organization of leisure and entertainment
2017	30 437.9	25 181.9	27 667.6
2018	37 693.5	31 265.7	34 371.4
2019	45 087.5	34 642.8	37 492.8
2020	54 425.3	37 793.1	39 713.8

## 5 Discussion

Analyzing the services, we see that insurance and financial services, real estate services, health and social services and information and communication services showed more growth than other services. As to the communication services their development is the most stable for the period.

The economic sector which is not included in service industry, mining sector, provides the highest wage. But this sector is developed not everywhere. We also have to get in mind that natural resources are limited and all mining activities damage nature. Talking about agriculture and forestry where wages are higher than average wage in Russia (40 000 RUB approximately), their development is limited by old-fashioned technologies. One of the main problems of Russian countryside is that they were created on the base of great agricultural enterprises which became unprofitable with the time.

We also can tell that if services of the second part exist in the countryside, the majority of the third part services are in lack. Surely, the quality of the second part services can be low and the assortment of them is not numerous, even too small. In such a case a great part of jobs opportunities is lost. Development of tourism and could boost the emergence of the services included into the third part. Enhancing entrepreneurial and digital literacy is also important to develop service sector and try to slow down the process of migration from village to city.

The fourth part of service sectors can be provided from the countryside to big cities remotely. But it also requires some activities, and infrastructure, surely, to attract people with knowledge, creative people to the countryside. To our mind, it could make great influence on the development of the countryside in the long term.

## 6 Conclusion

We see that there are types of services which could be proposed remotely. The wages at different types of services are lower than they are in manufacturing and mining. But as far as the level of unemployment in the countryside is high and in search of new solutions to stop the migration from village to cities we are to develop service sector. The assortment of different services where individuals do not need big financial investment to start their own business is huge. The average wages in the services sector is not too high and in some sectors it is lower than average in the Russian Federation. That problem should be revised in future. But the good point is that this average wage is better than living without wages. Rural individuals need improve their knowledge in entrepreneurship and digital literacy as a starting point.

## References

1. T. A. Masron, Y. Subramaniam, *Journal of Poverty* **1-24** (2018) DOI: 10.1080/10875549.2018.1500969
2. L. Christiaensen, L. Demery, J. Kuh, *The Role of Agriculture in Poverty Reduction - An Empirical Perspective* (RePEc, 2006) DOI: 10.1596/1813-9450-4013
3. J.D. Van Der Ploeg, H. Renting, G. Brunori et al., *Sociologia Ruralis* **40(4)**, 391-408 (2000) DOI: 10.1111/1467-9523.00156
4. C. Ray, *Culture Economies: a perspective on local rural development in Europe*, Centre for Rural Economy, Dept. of Agricultural Economies and Food Marketing (2001)
5. J. R. Anderson, *Environmental Issues and Farming in Developing Countries* (RePEc, 2002)
6. *Federal Statistics Service of Russian Federation. Russian in Data – 2020. Distribution of the number of unemployed by past work experience and circumstances* [https://gks.ru/bgd/regl/b20\\_11/Main.htm](https://gks.ru/bgd/regl/b20_11/Main.htm)
7. L. V. Bondarenko, *Rural Development and Social Policy Bulletin* **16**, 40 (2017)
8. M. Yu. Fedorova, I. Aleksandrov, *E3S Web of Conferences* **110** (2019)
9. J. Kolko, *Journal of Urban Economics* **71(1)**, 100-113 (2011) DOI: 10.1016/j.jue.2011.07.004
10. M. Boland, O. Ivus, *Canadian Journal of Economics* **48(5)**, 1803-30 (2015)
11. Cecchini S, Scott C, *Inf. Tech. Dev.* **2(10)**, 73-84 (2003) DOI: 10.1002/itdj.1590100203
12. Grimes S, *Prog. in Hum. Geog.* **2(27)**, 174-93 (2003) <https://doi.org/10.1191/0309132503ph4210a>
13. Townsend L, Wallace C, Fairhurst G and Anderson A, *J. of Rur. St.* **54**, 451-8 (2017) <https://doi.org/10.1016/j.jrurstud.2016.09.001>
14. Townsend L, Wallace C and Fairhurst G, *Scot. Geo. J.* **3-4(131)**, 171-80 (2015) <https://doi.org/10.1080/14702541.2014.978807>
15. Salemink K Strijker D and Bosworth G, *Soc. Rur.* **57(S1)**, 555-75 (2017) DOI: 10.1111/soru.12150
16. Stern M.J., Adams A.E. and Boase J., *Agr. & Res. Ec. Rev.* **40(2)**, 158-71 (2011) DOI: 10.1017/S106828050000798X
17. Stern M. and Adams A., *Am. Beh. Sc.* **53(9)**, 1389–422 (2010) DOI: 10.1177/0002764210361692
18. Aleksandrov I., Fedorova M., Cornelis E., Evseeva S., *IOP Conf. Series: Materials Science and Engineering* **012094**, 940 (2020) DOI: 10.1088/1757-899X/940/1/012094