

Informal employment in Russia of the XXI century: new trends of development

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Abstract

The article explores new trends in the development of informal employment in the Russian economy at the beginning of the XXI century. If the European countries in recent years, although there is a slow, but the reduction of the shadow economy in Russia, unfortunately, this trend is not observed. However, the differences are not only quantitative but also qualitative.

At the beginning of the XXI century, a qualitative change in the structure of informal employment are observed in Russia: the proportion of the youngest category and reduced the share of seniors; the proportion of women in the informal compared to women sector is slowly but steadily growing; it is becoming increasingly occupation not only of men but also of women; It is based increasingly are persons with secondary special education; reduced the proportion of the sphere of circulation and increases the share of production; informal employment begins to experience cyclical fluctuations.

The paper attempts to identify the factors that influence the spread of informal employment in the subjects of the federation in the short and long term. The dependencies between the indicators of the level of development of the subject of federation and the value of informal employment in each subject of the federation.

The analysis showed that the relationship between the end points obtained in the short-term, often not only not confirmed in the long term, but are directly opposite. This was the subject of study in the second section of the article. It was found that in terms of economic growth, informal employment is in addition and complementary to a kind of boon to employment in the formal (legal) economy. Why is this happening in the modern Russian authors and tried to find out in this article.

In the "Strategy 2020: New Growth Model - a new social policy" the tendency of increasing of shadow employment in the Russian Federation was marked (see Fig. 1) and a broad program to overcome it was outlined. Less than 1,000 days left prior to implementation of the "Strategy 2020 ...". Let's see whether it was possible to solve these problems or not, and if not, then why. The purpose of this article is to identify new trends of development in the sphere of informal employment in Russia in XXI century. Before consider the national peculiarities we try to briefly describe the global trends in this area.

The size of the shadow employment in Russia is greater than in many European countries (see. Fig. 2). While the average level of the shadow economy for the 31 European countries is about 18%, in Russia it is much higher. Even in the post-socialist countries such as Hungary, Slovenia, Poland, Latvia, Lithuania, Estonia, Croatia, Romania, Bulgaria, the level of the shadow economy significantly higher than the European average level. The high percentage of shadow economy still remains a common problem for all post-socialist space.

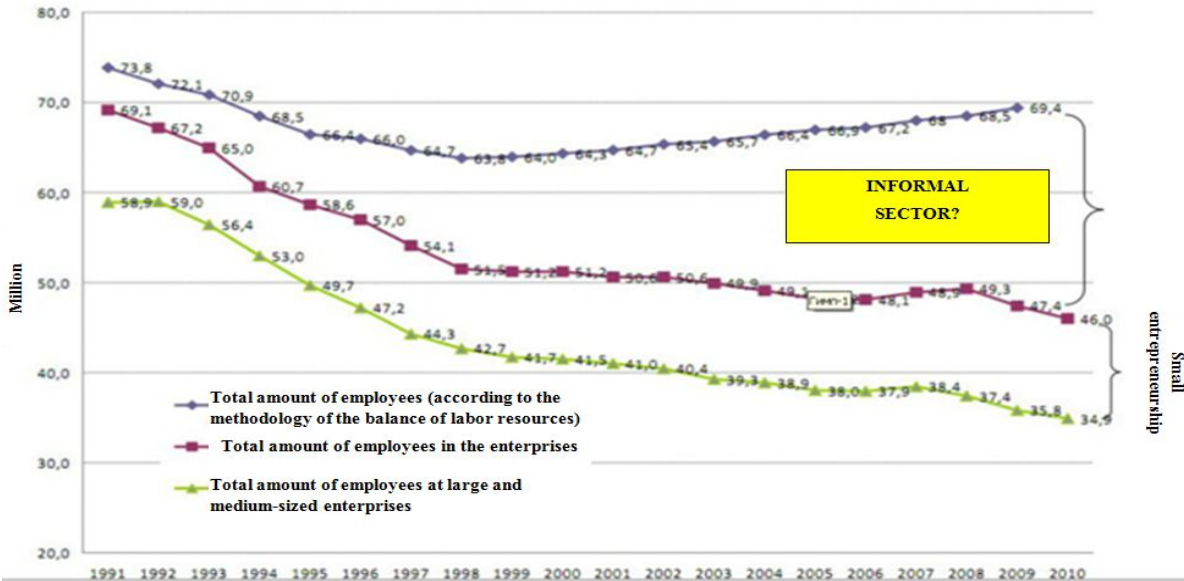


Fig. 1 - The dynamics of employment in Russia 1991-2010 (mil.)

Source: "Strategy-2020: new model of growth - a new social policy":

http://www.hse.ru/data/2013/10/30/1283358410/%D0%A1%D1%82%D1%80%D0%B0%D1%82%D0%B5%D0%B3%D0%B8%D1%8F-2020_%D0%9A%D0%BD%D0%B8%D0%B3%D0%B0%202.pdf, c. 217.

However, studies of F. Schneider show that the shadow economy in these countries tends to decrease slightly. So, it declined in European countries on average from 22.6 to 18.3% (see. Annex 1) from 2003 to 2015 that is by 0.3% per year on average. If this trend continues, pending the total elimination of the shadow economy will require just a little more than 55 years! But it is unlikely this trend will be linear and unidirectional. Another picture is observed in Russia, where share of shadow economy according to Schneider's calculations is an average of 43.8% at the beginning of XXI century (from 1999 to 2007)¹.

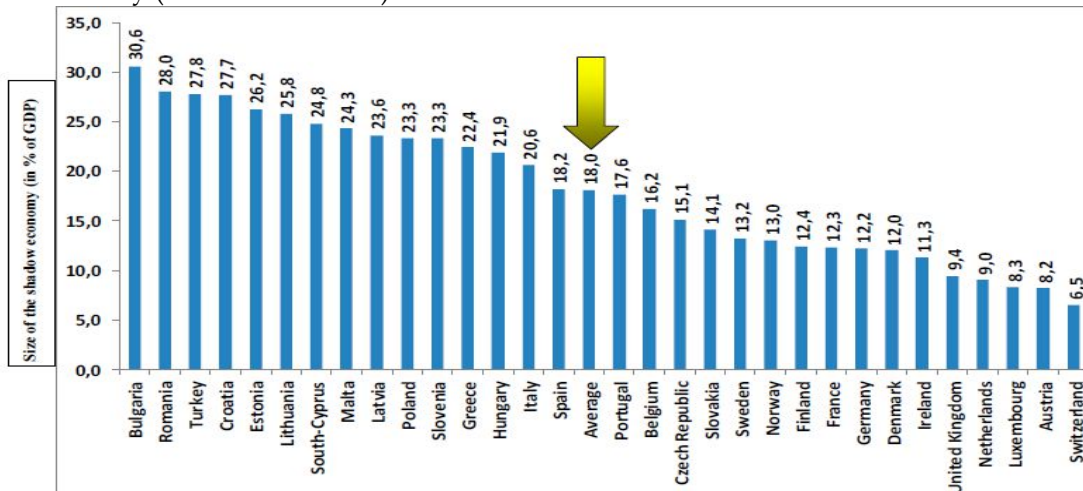


Fig. 2 - Size of the shadow economy in 31 European countries in 2015 (% of GDP)

Source: Schneider F. Size and Development of the Shadow Economy of 31 European and 5 other OECD Countries from 2003 to 2015: Different Developments. January 20, 2015, ShadEcEurope31_January2015.doc., p. 4.

¹ Schneider F., Buehn A., Montenegro C. New estimates for the shadow economies all over the world / International Economic Journal / 2010, 24:4, p 456.

We have identified occur in modern Russia the qualitative and quantitative changes in the structure of the industry, gender characteristics, educational level of workers belonging to the modern informal sector (see Table 1).

Table 1. Dynamics of informal employment in Russia, 2003-2015.

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Amount, mln.	10,5	11,3	12,5	12,6	12,9	13,8	13,4	11,5	12,9	13,6	14,1	14	15
% of the total number	15,8	16,8	18,3	18,2	18,3	19,5	19,3	16,4	18,2	19	19,7	20	21

Composed by: Economic activity of Russia's population (based on sample surveys). 2012: Stat.collection / Rosstat. M., 2013., Economic activity of Russia's population (based on sample surveys). 2014: Stat.collection / Rosstat. M., 2014., Labour force, employment and unemployment in Russia (according to the labor force sample surveys). 2016: Stat.collection / Rosstat. M., 2016.

The growth of the informal sector both in absolute and in relative scale occurred in modern Russia during the period under consideration (see Table 1, for more details see Williams C.C., Round J., Rodgers P., 2014). However, this growth was subject to cyclical fluctuations. There was a slight decline in employment in the informal sector in 2009, followed by a significant decrease to almost 2 million in 2010, which amounted 2.9%. However, the level of employment in the informal sector has not fallen below the minimum value of 10.5 million, fixed at 2003 year, despite this decline. In subsequent years, the re-growth of the informal sector was observed. In 2015, the scale of the informal sector exceeded that of 2008, both in absolute (14.8 million against 13.8 million), and in relative (20.5% vs. 19.5%) terms. The total number of people employed in the informal sector from 2003 to 2015 increased by 4.3 million, accounting for just over a third.

Table 2. Employment strategy in the informal sector of Russia, 2003-2015.

Year	Total, thousands	Only in informal sector	%	Both in the formal and in the informal sector	%
2003	10469	8648	82,6%	1802	17,2%
2004	11343	9455	83,4%	1873	16,5%
2005	12518	10465	83,6%	2038	16,3%
2006	12601	10792	85,6%	1791	14,2%
2007	12931	11163	86,3%	1752	13,5%
2008	13837	12027	86,9%	1786	12,9%
2009	13382	11737	87,7%	1625	12,1%
2010	11482	10195	88,8%	1270	11,1%
2011	12922	11563	89,5%	1342	10,4%
2012	13600	12296	90,4%	1288	9,5%
2013	14096	12864	91,3%	1214	8,7%
2014	14387	13092	91%	1295	9%
2015	14827	13545	91,3%	1282	8,7%

Composed by: Economic activity of Russia's population (based on sample surveys). 2012: Stat.collection / Rosstat. M., 2013., Economic activity of Russia's population (based on sample surveys). 2014: Stat.collection / Rosstat. M., 2014., Labour force, employment and unemployment in Russia (according to the labor force sample surveys). 2016: Stat.collection / Rosstat. M., 2016.

Most workers have the basic and the only work in the informal economy. It should be noted that the proportion of such workers within the observed period increased annually. An overall increase during the period is 8.7% (from 82.6% to 91.3%), or in absolute terms 4.2 million. While the share of workers using a combined employment strategy declined each year, from 17.2% in 2003 to 8.7% in 2015 (see Table 2).

The country's population prefers employment in the informal sector of the economy in all types of economic activity except agriculture. The participants of the informal sector see it as a principal place of business in view of the objective (the inability to move into the formal sector), or subjective reasons.

While men predominate in the informal sector both on the basic and on the second work, in both cases their numerical preponderance is not too significant.

In addition, there is a tendency of changing the structural composition of employment in the informal economy. This trend is shown in Figure 3. Since 2003, the share of employees in the informal sector increased by 14.6% (from 44% to 58.6%). Accordingly, the share of self-employed in the informal sector declined by the same amount (from 56% to 41.4%). Perhaps this is due to the fact that employment seems to be more reliable compared with self-employment.

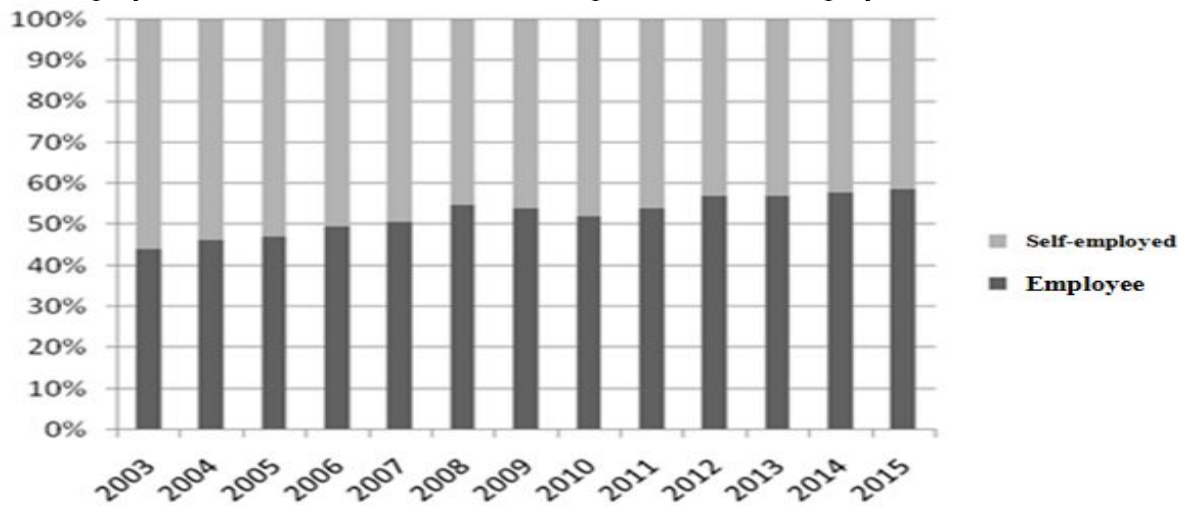


Figure 3 - The ratio of employed in the informal sector by employment status

Source: compiled by the author based on the data *Economic activity of Russia's population (based on sample surveys)*. 2012: Stat.collection / Rosstat. M., 2013., *Labour force, employment and unemployment in Russia (according to the labor force sample surveys)*. 2016: Stat.collection / Rosstat. M., 2016.

Although the number of employees in the informal sector exceeds the number of self-employed but the ratio for certain types of economic activity are significantly different. Thus, in 2015, among all major economic activities (economic activities in which employed more than 5% of the total number) only in agriculture and in the provision of public, social and personal services the share of self-employed is much higher than the share of employees (80, 9% and 19.1%, 60.4% and 39.6% respectively). In the others (manufacturing, construction, wholesale and retail trade), the share of employees in the informal sector is more than twice that the share of self-employed. The only exception is "Transport and communications", but even here the number of employees is significantly higher than number of self-employed (63.8% vs. 36.2% respectively). Thus, most of informally employed workers outside of agriculture are focused on the employee's status, which is less risky.

The age structure of those employed in the informal sector is different from that of the formal sector of the economy by the presence of a higher proportion of persons of extreme age groups. It may be connected with the absence of the strict limits on age in the informal sector and lower requirements to quality of "human capital." Furthermore, during 2000-2010 a shift in the age

structure of employment takes place: in the youngest age group (15-19 years), the proportion of participants in the informal sector is increasing, and in the oldest age group (60-72 years) - is reducing (see Fig. 4).

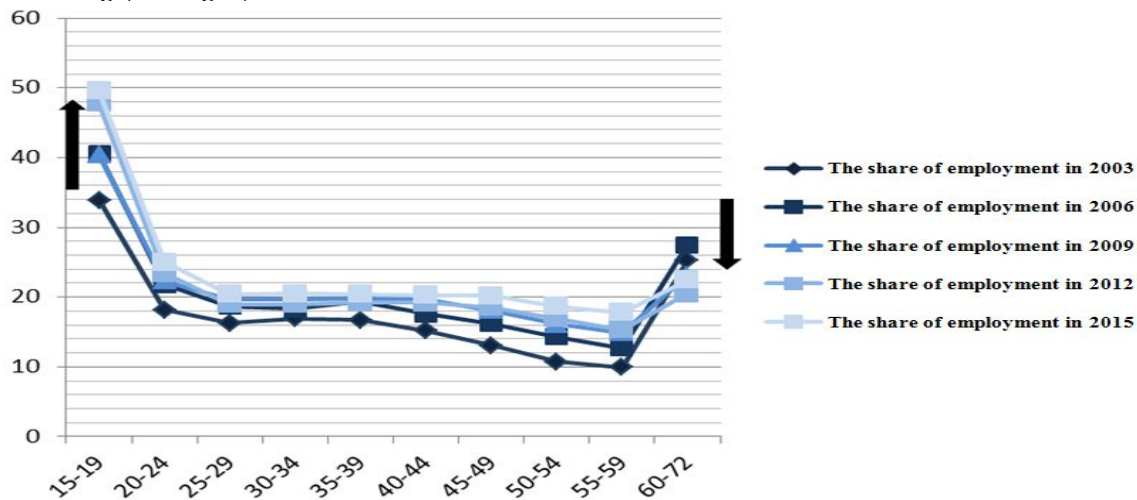


Fig. 4 The share of employed in the informal sector in the total population employed in the economy by age groups (in percent)

Composed by: *Economic activity of Russia's population (based on sample surveys)*. 2012: Stat.collection / Rosstat. M., 2013., *Economic activity of Russia's population (based on sample surveys)*. 2014: Stat.collection / Rosstat. M., 2014., *Labour force, employment and unemployment in Russia (according to the labor force sample surveys)*. 2016: Stat.collection / Rosstat. M., 2016.

In the public mind it confirmed the view that the real economy does not have enough workers and specialists with secondary vocational education. At the same time employees with secondary vocational education in the informal sector of the economy is also continuing to be the backbone (see Table 3). Why is this happening? Referring to such indicators as the average salary. To have received vocational education, it was only 2-4% higher than the average salary of an employee with the school. The average salary of employees with higher education in 1.67 times the average wage of workers without professional education². Thus, the output of a worker with secondary special education in the labor market becomes completely uneconomic. At the same time, employers, reciting a shortage of specialists with specialized secondary education, they are in no hurry to raise wages. Moreover, they prefer to hire on the job, which is quite enough skills of workers with secondary special education, college graduates and pay them much higher wages. Therefore, workers with special secondary education have no choice but to seek his fortune in the informal sector of the economy and / or improve their skills. Thus, about 35% of the graduates of technical schools and secondary vocational education received in recent years, the universities immediately after the release, even without going to the formal labor market, but also about 35% did so within 5 years after graduation³.

The structure of employment in the informal sector is fairly stable (see. Table. 4). So, the place of the informal sector in the sectoral division of labor is largely determined by two types of economic activity - "Agriculture, hunting and forestry" and "Wholesale and retail trade; repair of motor vehicles, motorcycles, appliances and articles of personal use "(constitute the first tier).

² Russia's economy in 2015. Trends and Prospects. (Vol. 37) / [V. Mau et all; ed. Sinelnikov-Murylev S.G. (Ch. ed.), Radigina A.D.]; Institute of Economic Policy. E.T. Gaidar. - M.: Publishing House of the Institute of Gaidar, 2016. – P. 339.

³ Ibid.

Table 3. Structure of employed in the informal sector of Russia by level of education, years 2003-2015. (in percentages)

	The Higher Education	The Secondary Vocational Education	General Secondary Education	Basic Education	Do Not Have Basic General Education
2004	13,3	41	30	12,7	3
2004	13	41,9	30,8	12,2	2,1
2005	12,8	41,3	31,2	12,5	2,1
2006	13,3	42	31	11,7	1,9
2007	13,8	41,9	31,9	10,8	1,6
2008	14,7	44,4	30,9	8,6	1,5
2009	14,5	44,2	31,4	8,9	1,1
2010	14,5	44,4	31,5	8,4	1,1
2011	14,7	45,1	31,1	8,1	1
2012	14,9	44,6	32,2	7,6	0,7
2013	15,8	43,9	32,2	7,4	0,7
2014	16,7	44,9	30,5	7,2	0,6
2015	17,1	45,4	30,1	6,9	0,6

Source: compiled by authors on the basis of the Federal State Statistics Service data site <http://www.gks.ru/>

As of 2015 they focus respectively 23.1% and 31.8% among the informally employed workers, that is, a total of more than 50%. This is due to the fact that for the data sectors do not require high investment and special skills.

Table 4. Distribution of employment by economic activity in the informal sector, Russia, 2007-2015.

Year Type of economic activity	2007	2009	2011	2013	2015	2015 to 2007
Agriculture, hunting and forestry	32,2	28,5	28,2	24,4	23,1	-9,1
Fisheries	0,4	0,3	0,3	0,3	0,3	-0,1
Mining	0,3	0,1	0,1	0,1	0,1	-0,2
Manufacturing	7,9	8,6	8,2	9,1	8,8	0,9
Production and distribution of electricity, gas and water	0,2	0,2	0,2	0,3	0,3	0,1
Building	9	9,4	9,9	11,1	11,7	2,7
Wholesale and retail trade; repair of motor vehicles, motorcycles, goods and personal use items	34,1	33,7	33,5	33,1	31,8	-2,3
Hotels and restaurants	1,9	2,2	2,2	2,8	3,2	1,3
Transport and communications	6,6	8	8,1	8,8	9,2	2,6
Financial activities	0,2	0,2	0,2	0,2	0,2	0
Real estate, renting and business activities	2,6	3	3,2	3,7	4,1	1,5
Education	0,5	0,7	0,6	0,6	0,8	0,3
Health care and social services	0,8	0,9	0,8	0,9	1	0,2
Other community, social and personal services	3,3	4,1	4,3	4,6	5,4	2,1

Source: compiled by authors on the basis of the Federal State Statistics Service data site <http://www.gks.ru/>

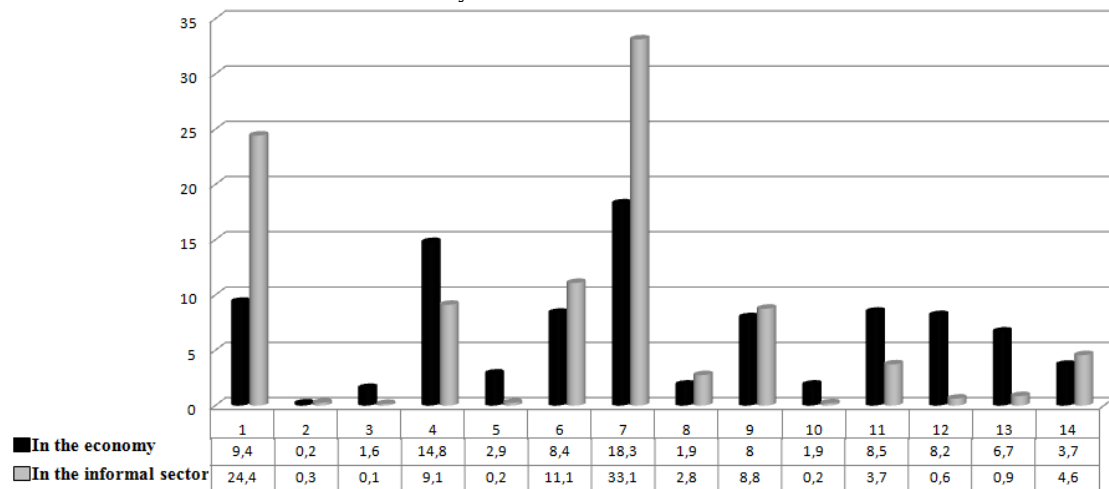
A significant, but smaller part of informally employed workers are concentrated in the "Building" (11.7%), "manufacturing industries" (a little less than 9%) and "Transport and communications" (9.2%) (constitute the second tier).

Such economic activities as "Other community, social and personal services", "Real estate, renting and business activities", "Hotels and restaurants" make up 5.4%, 4.1% and 3.2% of non-formal sector (constitute the third tier).

In other types of economic activities involved no more than 1% of the informal sector workers.

In addition, the proportion of people employed in activities such as "production and distribution of gas, electricity and water", "Financial activities", "Mining", during the study period did not exceed 0.3%. This reflects the presence of high barriers to entry non-formals, and the degree of complexity of the registration of the work in these areas, which are closely monitored by the state monitoring.

Some changes occur in the structure of the informal sector. During the observed period of distribution of informal sector workers by industry has changed, there have been fluctuations, both upward and downward. From trends can be distinguished a permanent decrease in the share of branches of the 1st tier in favor of the sectors of the 2nd and 3rd levels. Thus, the "Agriculture, hunting and forestry" and "Wholesale and retail trade; repair of motor vehicles, motorcycles, appliances and articles of personal use" reduced its stake to 9.1% and 2.3% respectively. At the same time the share of such economic activities as the "Construction", "Transport and Communications", "Other community, social and personal services", "Real estate, renting and business activities" and "Hotels and restaurants" increased by 1.3% to 2.7%.



- 1 - Agriculture, hunting and forestry
- 2 - Fisheries
- 3 - Extraction of minerals
- 4 - Manufacturing
- 5 - Production and distribution of electricity, gas and water
- 6 - Construction
- 7 - Wholesale and retail trade; repair of motor vehicles, motorcycles, goods and personal use items
- 8 - Hotels and restaurants
- 9 - Transport and communications
- 10 - Financial activities
- 11 - Real estate, renting and business activities
- 12 - Education
- 13 - Health and social services

14 - Other community, social and personal services.

Figure 5. The ratio of people employed in the informal sector by economic activity and status in 2013 (percent)

Source: compiled by the author based on the data Economic activity of Russia's population (based on sample surveys). 2012: Stat.collection / Rosstat. M., 2013., Labour force, employment and unemployment in Russia (according to the labor force sample surveys). 2016: Stat.collection / Rosstat. M., 2016.

There are some differences between the structure of employment in the informal sector and the structure of employment in the economy as a whole, reflected in Figure 5. They are particularly noticeable in agriculture, construction and wholesale and retail trade, where the share of the informal sector significantly exceeds the share of people employed in the formal economy. Conversely, in the manufacturing industry, in the areas of education and health care share of employment in the informal sector of the economy is much smaller than in formal.

In the course of our studies it was concretized influence of some factors on the development of informal employment in the short and long term.

The dependencies in the short period between the size of informal employment in each subject of the federation and the following indicators:

- ✓ unemployment,
- ✓ level of gross regional product per capita,
- ✓ level of investment per capita in the subject of the federation,
- ✓ level of development of small business,
- ✓ level of the average monthly wage.

The results are shown in Table 5.

Table 5. Relationship of informal employment with the test performance.

Level of:	Simple Linear Regression Equation	Correlation coefficient (r_{yx})	Coefficient of determination (R^2)	Coefficient of elasticity
Unemployment	$y_x = 8,62 + 1,61 * x$	0,86	0,73	0,61
Gross regional product per capita	$y_x = 36,86 - 0,032 * x$	0,9	0,81	-0,68
Investment per capita in the subject of the federation	$y_x = 35,93 - 0,0001 * x$	0,88	0,77	-0,64
Development of small business	$y_x = 47,37 - 0,02 * x$	0,92	0,85	-1,16
Average monthly wage	$y_x = 50,32 - 0,001 * x$	0,88	0,78	-1,29

Source: compiled by the authors.

Produced analysis showed that between the level of informal employment and unemployment in the subjects of the Federation established a direct correlation between the level of informal employment and by indicators such as the value of the gross regional product, the level of investments, development of small business, the value of wages, - an inverse relationship. This not only confirms the idea of Hernando de Soto on the forced nature of informal employment, but also allows you to make a practical conclusion that with the increase of investments, development of small business and, ultimately, with higher wages and the value of the gross regional product of informal employment in Russia will be reduced.

However, if we consider the relationship of the parameters studied in Russia in the long term, it can be unexpected findings. Thus, the increase in unemployment would have to mean a decline in employment opportunities in the legal field. Consequently, opportunities for informal employment should increase. Reverse is also true: the lower the unemployment rate, the more job opportunities in the legal field, which leads to a decrease in informal employment. However, based on nationwide data for 2001-2013 years can be traced to the inverse relationship between informal employment and unemployment (see Fig. 6).

Moreover, informal employment found a link to the economic cycle. Thus, from 2008 to 2009 recorded an increase in unemployment from 6.2% to 8.3% (2%). Informal employment also fell under the influence of the crisis from 19.3% to 16.4% (3%) in 2009-2010. It should highlight the following facts: first, informal employment is reacted with a specific (one year) delay and, secondly, to demonstrate their connection with employment in general. There was a situation when employment growth, accompanied by an increase of the earned funds used to meet their needs in the informal economy. Thus, at the beginning of the XXI century with the growth of incomes, Russians are increasingly resorted to the informal sphere of services due to insufficient development of the legal system of the relevant services.

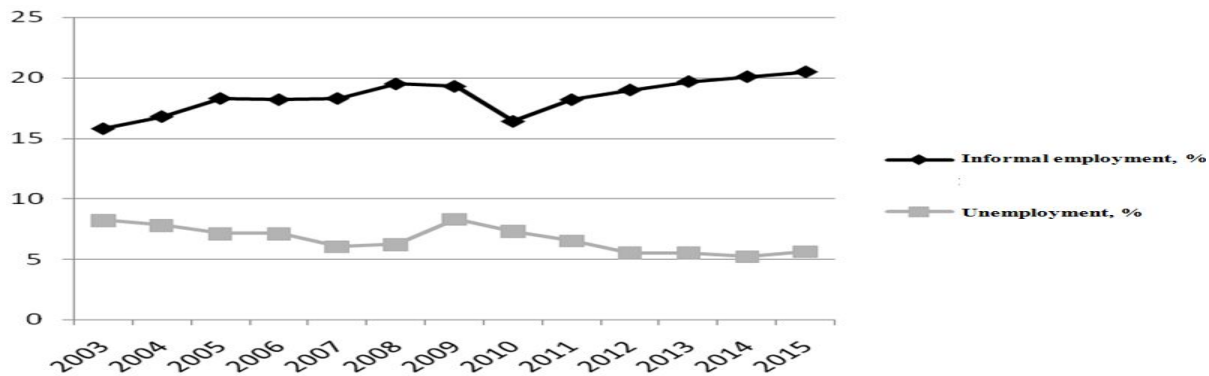


Fig. 6. Value of informal employment and unemployment in Russia, 2003-2015.

Source: compiled by authors on the basis of the Federal State Statistics Service data site <http://www.gks.ru/>

Our findings are confirmed by the analysis of the dynamics of the gross regional product. The decline in the economy in 2008-2009 slowed down the pace of growth of informal employment. Opportunities for public expenditure increases at the beginning of the century, fell. Therefore, unlike the GRP increasing steadily in nominal terms since 2009, the level of informal employment in 2013 had just returned to the level of 2009. The pace of the growth of the real GRP slowed down, affecting the dynamics of informal employment (see Fig. 7).

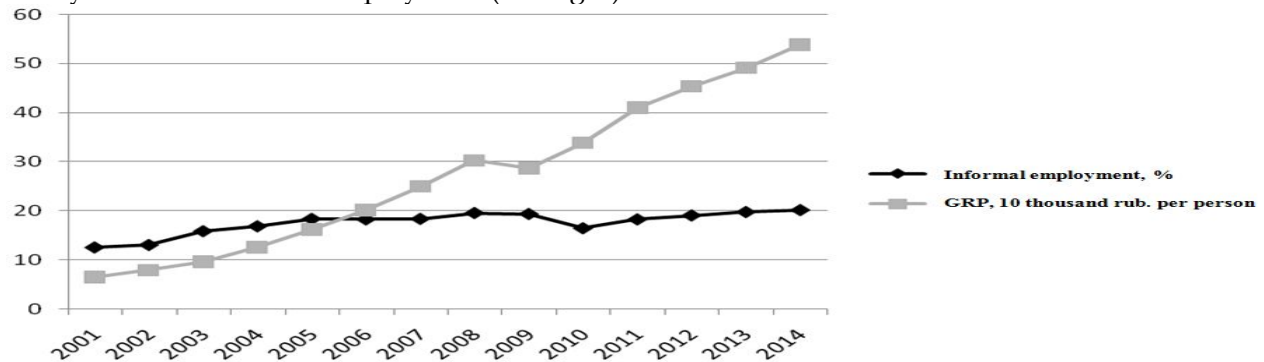


Fig. 7. Value of informal employment and GRP in Russia, 2003-2015.

Source: compiled by authors on the basis of the Federal State Statistics Service data site <http://www.gks.ru/>

The analysis of the rate of GRP growth of informal employment and also confirms the conclusion reached earlier that formal sector ahead detects changes in the informal sector (see Fig. 8). Informal employment is, in turn, belatedly reacts to changes in the formal sector. It turns out that the formal and informal employment does not exist in Russia today without each other. Moreover, each of which creates conditions for another under certain circumstances and enters another, creates itself as both.

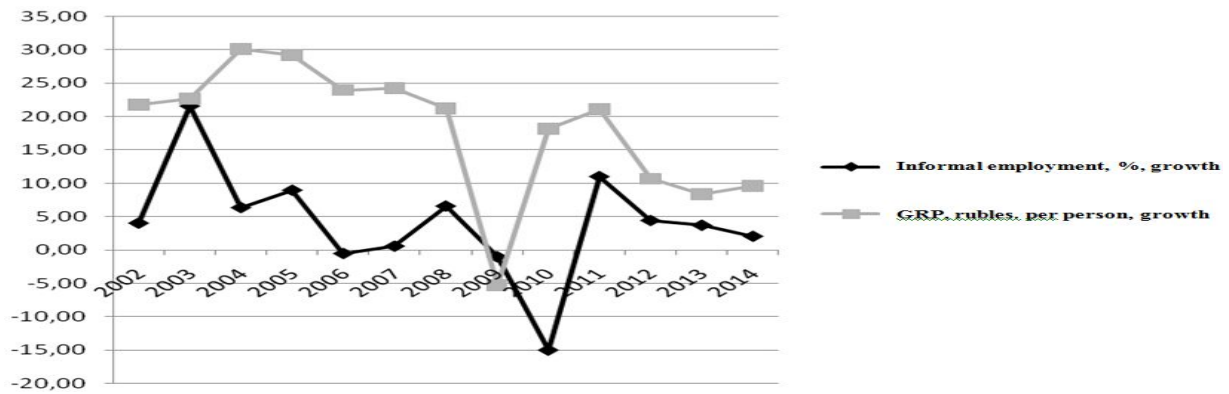


Fig. 8. Value of informal employment and GRP per person in Russia, 2003-2015.

Source: compiled by authors on the basis of the Federal State Statistics Service data site <http://www.gks.ru/>

Our analysis has shown that the informal sector serves the various categories of the Russian population and the demand for its services in high-income and low-income differs from each other, as shown in Figure 9. "Usually, people with higher incomes imposes more high demand for the formal (legal) services sector, which receive, as a rule, a monetary value. However, the feature of the countries in transition is that even in conditions of economic growth increases demand for services in the informal sector, many of whom do not receive the full cash (monetized) assessment"⁴. The fact is that within the post-Soviet sphere of formal sector services is still not sufficiently developed to meet this additional demand. This situation forces people to resort to the informal sector services. Thus, the increase in salaries of the population makes it possible partially to send their income and in the informal sphere.

Analysis of the impact of small business on the level of informal employment leads to a curious conclusion. Traditionally it is assumed that there is an inverse relationship between the two. This proved to be true in the short term on the regional material. However, analysis of the relationship of these indicators in the long term does not allow such categorical conclusions. The rapid growth of small business, followed in the pre-crisis period (namely since 2006), not only did not lead to a reduction in informal employment, but has not stopped some of its growth (see Fig. 10). Another thing is that a small change in the value of informal employment in the background active growth of small business as soon as possible to consider it a sign of stability and constancy of sizes.

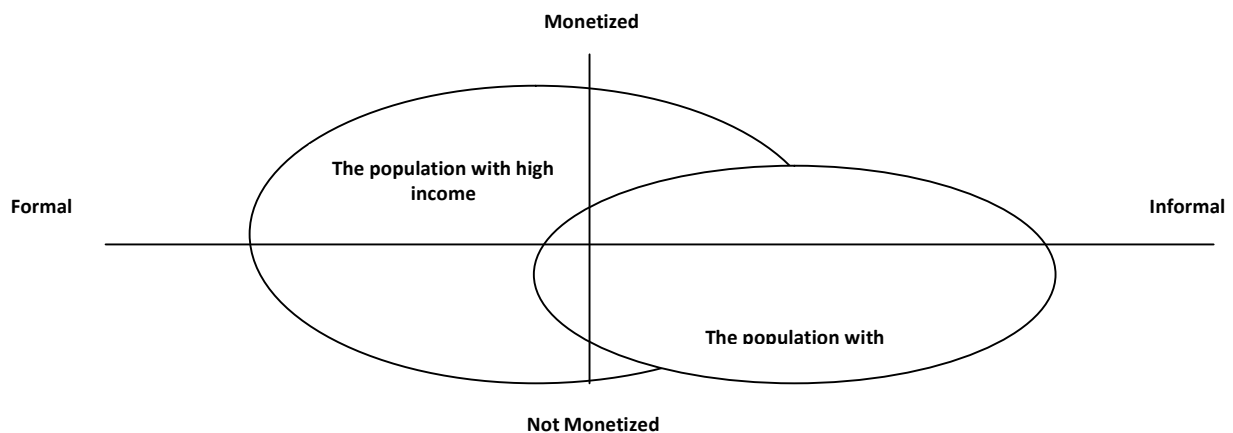


Figure 9. Configuration of labor practices in the post-Soviet space: the formal terms of gross household income.

Source: Colin C. Williams, Jonh Round and Peter Rodgers *The Role of Informal Economies in the Post-Soviet World. Theendoftransition? Routledge, 2014, p. 200.*

⁴ Nureev R. M., Akhmadeev D. R. (2015) Formal and informal employment as «twins brothers» modern Russian practice // *TERRA ECONOMICUS*. – V. 13. - №3. – P. 27.

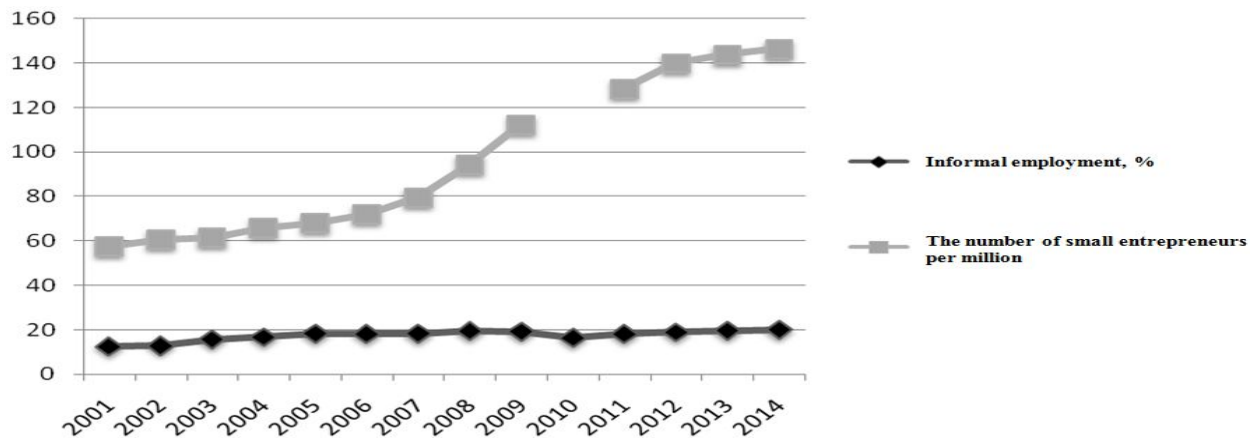


Fig. 10. The ratio of informal employment and the number of small businesses in Russia, 2003-2015.

Source: compiled by authors on the basis of the Federal State Statistics Service data site <http://www.gks.ru/>

After analysis of the relationship of informal employment to unemployment, the dynamics of nominal wages and gross regional product in the long run it can be concluded that, to some extent, informal employment is a consequence of the growth of the formal sector, the result of increasing the economic welfare of the population (see Table 6).

The presence of a direct relationship between the increase in nominal wages, the GRP and the increase in informal employment, on the one hand, and the existence of the reciprocal between unemployment and the growth of informal employment, on the other hand, leads to the surprising conclusion that informal employment in modern Russia is a complementary good to formal employment and economic growth in general. When there is no economic growth, a reduction in informal employment with a certain time lag.

Table 6. The nature of the relationship of informal employment and economic performance in the short and long term in the Russian Federation at the beginning of the XXI century.

Indicators	Period	
	Short-term	Long-term
Unemployment	Direct	Reverse
GRP per capita	Reverse	Direct
Investments per capita	Reverse	Direct, but weakly expressed
Development of small business	Reverse	Direct, but weakly expressed
Average monthly salary	Reverse	Direct, but weakly expressed

Source: compiled by the authors

Sum up all abovementioned. At the beginning of the XXI century, a qualitative change in the structure of informal employment are observed in Russia:

- The average age of workers in the informal sector increased. In absolute terms, the number of employees of the youngest group is reduced by about half, while increasing the proportion of age groups as 25-29, 30-34, 35-39, 50-54, 55-59. The share of the youngest group of informally employed among the total number of employed in the economy increased;
- The proportion of women in the informal compared to women sector is slowly but steadily growing (in 2015 the difference was about 11%);
- The basis of the informal sector continues to account for persons with special secondary education, but in general there is a tendency to increase the level of education of workers employed informally, in particular, the proportion of employees with higher education (from 13.3 to 17.1%);
- Reduced the proportion of agricultural activities, as well as the sphere of circulation (wholesale and retail), and increases the proportion of the production area (manufacturing industries and

construction) and services (other services, transport and communications, hotels and restaurants, real estate);

- Informal employment begins to experience cyclical fluctuations (reduced during the crisis and increases during the boom).

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Annex 1

The dimensions of the shadow economy 28 European countries, 2003-2015. (% of GDP)

Country / Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Austria	10.8	11.0	10.3	9.7	9.4	8.1	8.5	8.2	7.9	7.6	7.5	7.8	8.2
Belgium	21.4	20.7	20.1	19.2	18.3	17.5	17.8	17.4	17.1	16.8	16.4	16.1	16.2
Bulgaria	35.9	35.3	34.4	34.0	32.7	32.1	32.5	32.6	32.3	31.9	31.2	31.0	30.6
Croatia	32.3	32.3	31.5	31.2	30.4	29.6	30.1	29.8	29.5	29.0	28.4	28.0	27.7
Czech Republic	19.5	19.1	18.5	18.1	17.0	16.6	16.9	16.7	16.4	16.0	15.5	15.3	15.1
Denmark	17.4	17.1	16.5	15.4	14.8	13.9	14.3	14.0	13.8	13.4	13.0	12.8	12.0
Estonia	30.7	30.8	30.2	29.6	29.5	29.0	29.6	29.3	28.6	28.2	27.6	27.1	26.2
Finland	17.6	17.2	16.6	15.3	14.5	13.8	14.2	14.0	13.7	13.3	13.0	12.9	12.4
France	14.7	14.3	13.8	12.4	11.8	11.1	11.6	11.3	11.0	10.8	9.9	10.8	12.3
Germany	17.1	16.1	15.4	15.0	14.7	14.2	14.6	13.9	13.2	12.9	12.4	12.2	12.2
Greece	28.2	28.1	27.6	26.2	25.1	24.3	25.0	25.4	24.3	24.0	23.6	23.3	22.4
Hungary	25.0	24.7	24.5	24.4	23.7	23.0	23.5	23.3	22.8	22.5	22.1	21.6	21.9
Ireland	15.4	15.2	14.8	13.4	12.7	12.2	13.1	13.0	12.8	12.7	12.2	11.8	11.3
Italy	26.1	25.2	24.4	23.2	22.3	21.4	22.0	21.8	21.2	21.6	21.1	20.8	20.6
Latvia	30.4	30.0	29.5	29.0	27.5	26.5	27.1	27.3	26.5	26.1	25.5	24.7	23.6
Lithuania	32.0	31.7	31.1	30.6	29.7	29.1	29.6	29.7	29.0	28.5	28.0	27.1	25.8
Luxembourg (Grand-Duché)	9.8	9.8	9.9	10.0	9.4	8.5	8.8	8.4	8.2	8.2	8.0	8.1	8.3
Malta	26.7	26.7	26.9	27.2	26.4	25.8	25.9	26.0	25.8	25.3	24.3	24.0	24.3
Netherlands	12.7	12.5	12.0	10.9	10.1	9.6	10.2	10.0	9.8	9.5	9.1	9.2	9.0
Poland	27.7	27.4	27.1	26.8	26.0	25.3	25.9	25.4	25.0	24.4	23.8	23.5	23.3
Portugal	22.2	21.7	21.2	20.1	19.2	18.7	19.5	19.2	19.4	19.4	19.0	18.7	17.6
Romania	33.6	32.5	32.2	31.4	30.2	29.4	29.4	29.8	29.6	29.1	28.4	28.1	28.0
Slovenia	26.7	26.5	26.0	25.8	24.7	24.0	24.6	24.3	24.1	23.6	23.1	23.5	23.3
South-Cyprus	28.7	28.3	28.1	27.9	26.5	26.0	26.5	26.2	26.0	25.6	25.2	25.7	24.8
Spain	22.2	21.9	21.3	20.2	19.3	18.4	19.5	19.4	19.2	19.2	18.6	18.5	18.2
Slovakia	18.4	18.2	17.6	17.3	16.8	16.0	16.8	16.4	16.0	15.5	15.0	14.6	14.1
Sweden	18.6	18.1	17.5	16.2	15.6	14.9	15.4	15.0	14.7	14.3	13.9	13.6	13.2
United Kingdom	12.2	12.3	12.0	11.1	10.6	10.1	10.9	10.7	10.5	10.1	9.7	9.6	9.4
28 EU-Countries / Average (unweighted)	22.6	22.3	21.8	21.1	20.3	19.6	20.1	19.9	19.6	19.3	18.8	18.6	18.3

Source: Schneider F. *Size and Development of the Shadow Economy of 31 European and 5 other OECD Countries from 2003 to 2015: Different Developments.* January 20, 2015, *ShadEcEurope31_January2015.doc.,p. 6.*