



# The job movement on the Russian labor market (according to open sources)

## El movimiento laboral en el mercado laboral ruso (según fuentes abiertas)

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#### ABSTRACT:

The economies of all countries, without exception, experience various turbulences related to jobs every year. Every year new companies appear on the market, while others disappear. Every year operating enterprises reduce or increase the number of jobs. The consequences of such phenomena are the redistribution of workers, capital from less productive companies to more productive ones. In this paper, we generalize and analyze data on the creation and destruction of jobs in Russia, which were obtained by their open sources. Analysis of the causes of creation and destruction of jobs is a very important research topic for Russia, since this phenomenon is a factor in increasing labor productivity.

**Keywords:** labor productivity, Davis-Haltiwanger's methodology, job creation, job destruction, the Russian labor market

#### RESUMEN:

La economía de todos los países, sin excepción, la experiencia de diversas turbulencias relacionadas con el trabajo cada año. Cada año aparecen nuevas compañías en el mercado, mientras que otras desaparecen. Todos los años las empresas operan. Las consecuencias de tales fenómenos son la redistribución de los trabajadores, el capital de las empresas productivas menores. En este documento, generalizamos y analizamos datos sobre la creación y destrucción de empleos en Rusia, que fueron obtenidos por sus fuentes abiertas. El análisis de las causas de creación y destrucción de empleos es un tema de investigación muy importante para Rusia, ya que este fenómeno.

**Palabras clave:** productividad laboral, metodología Davis-Haltiwanger, creación de empleo, destrucción de empleo, mercado laboral ruso

## 1. Introduction

There are high levels job-to-job movements and flows between employment and unemployment in developed countries. Catalysts of these flows are, on the one hand, events and circumstances that encourage workers to change jobs and companies-employers, on the other hand, events that redistribute jobs between the companies. The movement of workers between workplaces and employers due to career opportunities, migration of family members, job satisfaction, gaining new knowledge, competencies and qualifications. Structural and quantitative change of workplaces takes place under the influence of forces affecting the spatial distribution of labour demand (growth or decline of the markets), restructuring of companies and industries, changes in the structure of internal and external competition, as well as changing the state of the business environment and technological progress. These forces are driven by job creation and destruction, which in turn cause workers to change employers and to shuffle between

employment and unemployment. The replacement of less productive and technologically obsolete jobs more efficient and modern making a significant contribution to the growth of aggregate productivity. Thus the movement (creation and destruction) of jobs is the basis of any structural changes in modern economies. The importance of job creation (and destruction) in an economy cannot be overstated (Davis, Haltiwanger & Schuh, 1996).

The study of job flows is very important for Russia. Currently, the productivity Russia lags behind leading countries (table 1). As established, reallocate jobs at intra-firm level (from less effective to more effective) and interfirm level (from less productive businesses to more productive businesses) entails productivity growth at the macroeconomic level.

**Table 1**  
Dynamics of changes in labor productivity in countries  
(GDP per hour worked, constant prices, 2010 PPPs, US dollars)

Country	1995	2000	2005	2010	2011	2012	2013	2014	2015	2016
Luxembourg	72,6	78,8	80,8	79,8	79,5	77,7	79,7	81,7	82,5	83,6
Ireland	34,7	44,4	51,7	58,3	63,9	64,1	63,1	66,7	81,3	83,2
Norway	64,5	71,9	80,6	76,7	76,1	76,7	77,2	77,6	78,7	79,1
Denmark	51,5	54,8	58,6	60,3	60,5	61,6	62,1	63,1	63,4	63,5
United States	44,8	50,4	57,1	61,9	62,1	62,2	62,3	62,5	62,9	63,3
Netherlands	48,9	54,2	58,2	59,4	59,8	59,7	60,1	60,5	61,5	61,7
France	47,7	52,2	56,0	57,0	57,5	57,6	58,4	58,9	59,4	60,0
Germany	46,0	50,6	54,4	56,3	57,5	57,8	58,3	58,5	59,0	59,5
Austria	39,3	44,9	51,8	53,1	53,5	53,4	53,9	54,5	55,8	56,3
United Kingdom	36,8	41,0	45,6	41,1	47,2	46,9	46,9	47,1	47,8	47,9
Italy	44,9	47,3	47,1	47,2	47,5	47,3	47,8	47,8	47,7	47,4
New Zealand	30,2	32,1	33,8	35,9	36,6	37,9	37,2	36,3	37,5	37,8
Turkey	20,4	23,1	28,4	30,7	32,4	33,1	35,3	35,4	36,4	36,9
Russia	15,0	15,3	19,5	22,9	23,5	24,2	24,7	24,7	23,9	23,8

Source: [http://stats.oecd.org/index.aspx?DatasetCode=PDB\\_LV](http://stats.oecd.org/index.aspx?DatasetCode=PDB_LV)

The purpose of this article is to quantify the movement of jobs in the Russian labor market. To do this, it focuses not on changes in employment, but on the simultaneous job creation and job destruction (JC&D).

## 2. Methods and data

The problem of mobility in the labour market is impossible without a common methodology to calculate job turnover and labor. The framework methodology analysis of flows in the labour market was first described by Davis and Haltiwanger (1991). The methodology is universally accepted among economists all over the world and is used in statistical recording of changes in the labor market of many countries. For example, the Bureau of Labor Statistics (BLS) regularly publishes relevant data by region and activity,

based on the Davis- Haltiwanger methodology (hereinafter referred to as MDH): <http://www.bls.gov/bdm/home.htm> (Gimpelson, Kapelyushnikov & Ryzhikova, 2012). MDH has an interdisciplinary nature, since the research is supposed to be carried out at the "junction" between the labor economy (labor movement) and the firm's theory (job movement).

The analysis of movement of workplaces on the basis of MDH allows:

- consider various models of employers' behavior in the labor market. You can assess what the behavior of the employer is, creative or liquidation, depending on the parameters: internal (the age of the firm, the number of employees) and - external: region, industry, state of the economy;
- to assess the "growing" / "extinct" sectoral labor markets. We can assume that having learned about the establishment and liquidation of the industry, we will be able to assess the dynamics of the industry, to trace the relationship with labor productivity;
- when analyzing, it is not just the availability of vacancies that should be taken into account, but their actual filling.

Accounting for the movement of jobs in Russia is carried out by Rosstat on the basis of its own methodology. It is based on the following key approaches, which are presented in Tab. 2 in comparison with the MDH principles and the BLS's methodology (<http://www.bls.gov/bdm/bdmover.htm#concepts>).

**Table 2**  
The components of Rosstat's approach to the assessment of the job movement

The components of Rosstat's approach	Does it comply with MDH principles?
A job is an explicit or implicit contract concluded between an employee and an employer to perform a specific job in exchange for a payment or a mixed income	Yes
The job is an occupied position, and not an open vacancy, therefore not only employees of the payroll staff are considered, but also external part-timers and persons engaged under civil law contracts	Yes
All employees of the company participate in determining the movement of jobs, but their accounting depends on the mode of work in the occupied jobs, i.e. when determining the average number of employees (and hence the number of replaced jobs), the categories of employees are taken into account not as whole units, but in proportion to the time worked by them	No
Covering all types of economic activity in the segment of large and medium-sized companies that form the core of the modern Russian economy	No
The indicator of job creation and destruction is determined on the basis of the average number of employees for the observed period - month, quarter, year	Yes

Source: compiled by the author

Thus, the initial data for writing this paper were the Rosstat's data on the job movement on the Russian labor market, collected in accordance with the described methodology.

## 3. Results

### 3.1. What is meant by JC&D?

In the developed economies arises up about 10-15% of new workplaces (in relation to a total number all busy in all companies) and disappears approximately so much " old" annually .

The movement of jobs this is a permanent flow of creation and destruction of jobs in period t relative to

period  $t-1$ . The details of constructing job creation and destruction series (and caveats about them) are described in Ritter (1993). Davis and Haltiwanger (1998) provide the following definitions of key concepts:

Job creation at time  $t$  equals employment gains summed over all establishments that expand or start up between  $t-1$  and  $t$ .

Job destruction at time  $t$  equals employment losses summed over all establishments that contract or shut down between  $t-1$  and  $t$ .

Gross job reallocation at time  $t$  equals the sum of all establishment-level employment gains and losses that occur between  $t-1$  and  $t$ . It equals the sum of job creation and destruction.

The employment growth rates of enterprises  $i$  between time  $t-1$  and  $t$  is calculated as:  $g_{it} = \frac{e_{it} - e_{it-1}}{n_{it}}$ ,

where  $n_{it}$  is the size of the company measured as the average number of employees across two consecutive time period,  $n_{it} = (e_{it} + e_{it-1}) / 2$ .

The job creation rate ( $JC$ ) is the average employment growth rate among establishments that are growing, and the job destruction rate ( $JD$ ) is the absolute average employment growth rate among establishments where employment is falling; usually in the literature these figures are weighted by employment size (Blanchflower & Burgess, 1996). Thus an understanding of JC&D requires an understanding of this distribution.

The job creation and destruction rates for a firm belonging to sector  $s$  are computed respectively as a weighted average of the absolute value of positive and negative firm-level growth rates. The weights are given by size:  $JC_{st} = \sum_i \frac{n_{it}}{N_{st}} \times g_{it}$  for  $g_{it} > 0$  and  $JD_{st} = \sum_i \frac{n_{it}}{N_{st}} \times |g_{it}|$  for  $g_{it} < 0$ , where  $N_{st} = \sum_{i \in s} \frac{(e_{it} + e_{it-1})}{2}$  is the size of sector  $s$  computed over two time periods.  $s$  can be the whole manufacturing sector, an industry or any other type of group of firms classified in a different manner such as their international status. The job creation and destruction rates computed as above are simply the total number of jobs created or destroyed over the size of sector  $s$ .

The net job creation rate ( $JNst$ ) is computed as the difference between job creation and destruction rates. It is equivalent to the net number of jobs created or destroyed over the size of the sector  $s$  and as such it is a measure of how much it expanded or contracted. The job reallocation rate ( $JRst$ ) is the sum of job creation and destruction rates and it is an overall measure of the turnover of jobs. The excess jobs reallocation rate, calculated as  $JXst = JRst - |JNst|$ , is the rate of job reallocation over and above what is necessary to accommodate the net change.

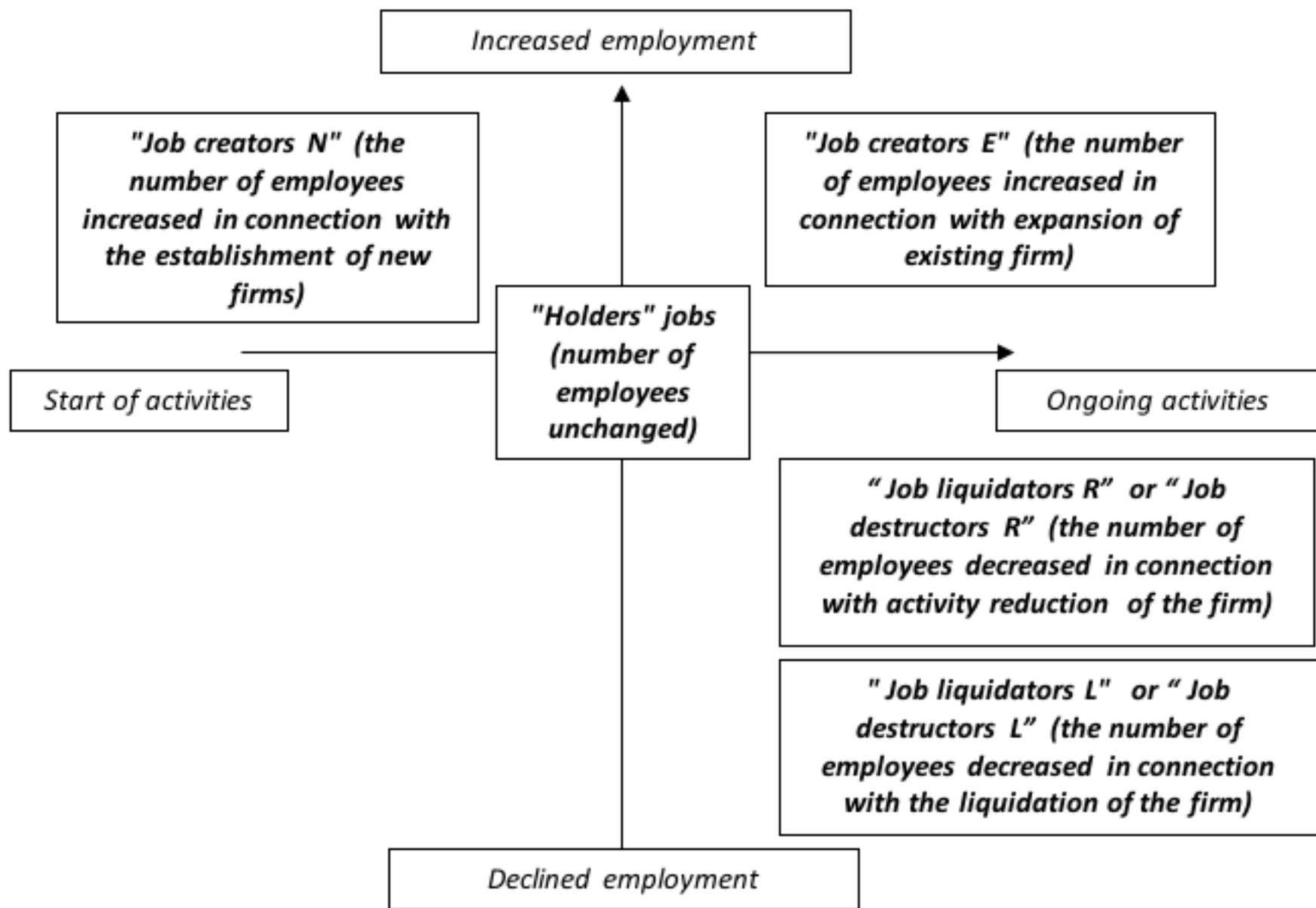
To investigate the reallocation of jobs between different groups of firms, it is possible to decompose the surplus total job reallocation into the components of intra- and inter-group changes. If the groups of firms are defined according to their international status, the latter provides a measure of the reallocation of jobs between firms participating and not participating in international markets. The 'between' and 'within' components can be computed as:

The job creation and destruction have two sources: the first - the expansion or reduction of employment in operating companies, the second - the entry of new, previously non-existent companies, or the liquidation of operating companies. Operating companies dismiss and hire employees, thereby moving jobs and employees. And the processes of dismissal and hiring of workers, as a rule, proceed in parallel. Disappearing from the market, the company destroyed a large number of obsolete jobs, while newly established companies usually create more productive jobs. This thesis is confirmed by studies of Griliches and Regev (1995), Disney, Haskel and Heden (2003).

All companies operating on the labor market are divided into five groups, which are correlated with the coordinate system (Fig. 1)

### Figure 1

Classification of companies in terms of job creation and destruction



Source: compiled by the author

Russian work, which is described in detail Rosstat's methodology for measuring job flows, is Gimpelson, Kapelyushnikov & Ryzhikova (2012). The increase in the average number of employees in companies belonging to "Job creators N" and "Job creators E" groups shows the number of employees created, while the decrease in the average number of employees in the companies belonging to "Job liquidators R" and "Job liquidators L" reflects the number of jobs eliminated in the economy.

Which of the two factors – turnover jobs in existing companies or the creation of new companies and liquidation and termination of activities of the companies is more important in the process of reallocation jobs? According to the project "The European Map of Job Flows," on average, the countries with the developed market and transition economies the contribution of the creation and liquidation of firms is 27% of the total turnover of jobs, and especially the significant contribution of companies in liquidation jobs, where this figure reaches 36% (Martin-Barroso and Andres, 2011). Similar results were obtained OECD experts who have studied the movement of jobs in OECD countries. A third of all jobs created and about 30% of jobs created are associated with the process of occurrence and liquidation of new companies (OECD Employment Outlook, 2009).

### 3.2. What trends of job movement are in the Russian labor market?

The data characterizing the job and labor force movement in 2008-2015 on the Russian labor market are presented in Tab. 3.

**Table 3**  
Dynamics of the job and labor force movement  
(in large and medium-sized companies) in Russian Federation in 2008-2015, thousands of people

	2008	2009	2010	2011	2012	2013	2014	2015
Average number of replaced jobs	39314	37579	36728	36342	36108	35724	35218	34729

during the year								
Number of created jobs during the year (gross job creation)	4079	3091	2983	3174	3304	3198	3835	2367
"Job creators E"	2037	1614	1808	1921	1869	1698	1731	1491
"Job creators N"	2042	1476	1175	1252	1435	1500	2104	876
Number of job destructed (gross job destruction)	4010	4725	3735	3386	3439	3647	4219	3135
"Job liquidators R"	2272	3190	2383	1974	1992	2058	2081	2115
" Job liquidators L"	1738	1535	1352	1412	1448	1589	2137	1021
Change in the number of replaced jobs (increase or decrease) compared to the previous year (net employment change)	+69	-1634	-753	-212	-135	-449	-384	-768

Source: The Russian Labor Market, 2017

In the period 2008-2015 Russian large and medium-sized companies reduced the number of employees from about 39.3 million to 34.7 million people. On average over the year they created about 3-4 million new jobs due to the expansion of employment in some enterprises and about the same amount were eliminated by reducing them to others. Thus the total number of jobs that were redistributed annually (the amount of created and liquidated) jobs fluctuated within 6.5-8 million, but starting in 2009, the difference (created and liquidated) was always negative.

The data in Tab. 3 allows us to calculate the relative indicators of the creation and elimination of jobs, expressed as a fraction of the average employment.

**Table 4**

The coefficients of the dynamics of job and labor force movement (in large and medium-sized enterprises) in the labor market of the Russian Federation in 2008-2015

		2008	2009	2010	2011	2012	2013	2014	2015
The coefficient of job creation in general	$JC_{st}$	10,4	8,2	8,1	8,7	9,2	8,95	10,9	7,8
"Job creators E"		5,2	4,3	4,9	5,3	5,2	4,75	4,9	4,3
"Job creators N"		5,2	3,9	3,2	3,5	4,0	4,2	6,0	2,5
The coefficient of job destruction in general	$JD_{st}$	10,2	12,6	10,2	9,3	9,5	10,21	12,0	9,0
"Job liquidators R"		5,8	8,5	6,5	5,4	5,5	5,76	5,9	6,1
"Job liquidators L"		4,4	4,1	3,7	3,9	4,0	4,45	6,1	3,0
Balance of job movement	$JC_{st} - JD_{st}$	0,2	-4,4	-2,1	-0,6	-0,4	-1,26	-1,1	-1,2
Gross job reallocation	$JC_{st} + JD_{st}$	20,6	20,8	18,3	18,1	18,7	19,2	22,9	16,8
Excess job reallocation	$(JC_{st} + JD_{st}) -  JC_{st} - JD_{st} $	20,4	16,5	16,2	17,5	18,3	17,9	21,8	15,6
The proportion of excessive job reallocation in gross job reallocation	$1 - \frac{ JC_{st} - JD_{st} }{(JC_{st} + JD_{st})}$	99,1	79,1	88,8	96,8	98,0	93,2	95,2	92,9

Source: The Russian Labor Market, 2017

To draw conclusions about which companies (existing or newly formed) contribute more to the creation of jobs, we will analyze Fig. 2.

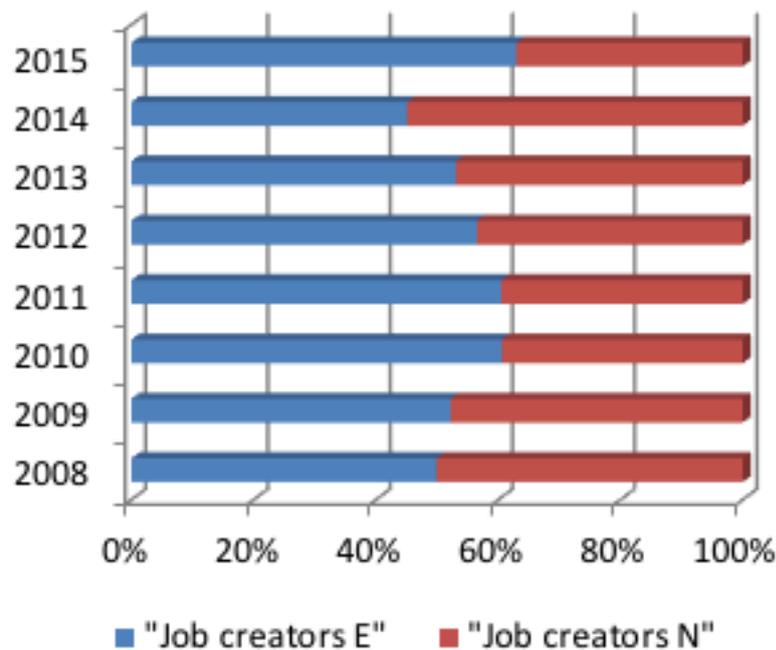


Figure 2 – The ratio of the contribution of the groups of companies "Job creators N" and "Job creators E" to the job creation in Russia in 2008-2015

Source: compiled by the author

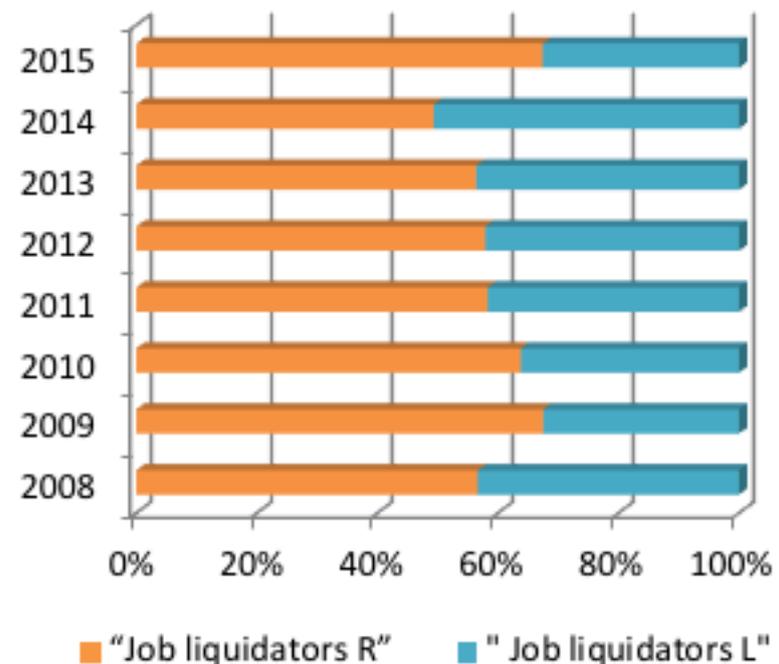


Figure 3 – The ratio of the contribution of the groups of companies "Job liquidators R" и "Job liquidators L" to the job destruction in Russia in 2008-2015

Source: compiled by the author

Figure 2 shows that more "new" companies contribute more to creating jobs, with the exception of 2014, when the increase in jobs was due to the expansion of the scale of activity of existing companies. This cyclicity in the processes of creating jobs is synchronous with the dynamics of GDP. If we translate the absolute values into relative figures (in% of the total number of jobs), then we see a decrease from 10% to 8% at the beginning of the period, then stabilization at 8-9%, growth to 11%, and finally a decrease to 7% (The Russian Labor Market, 2017).

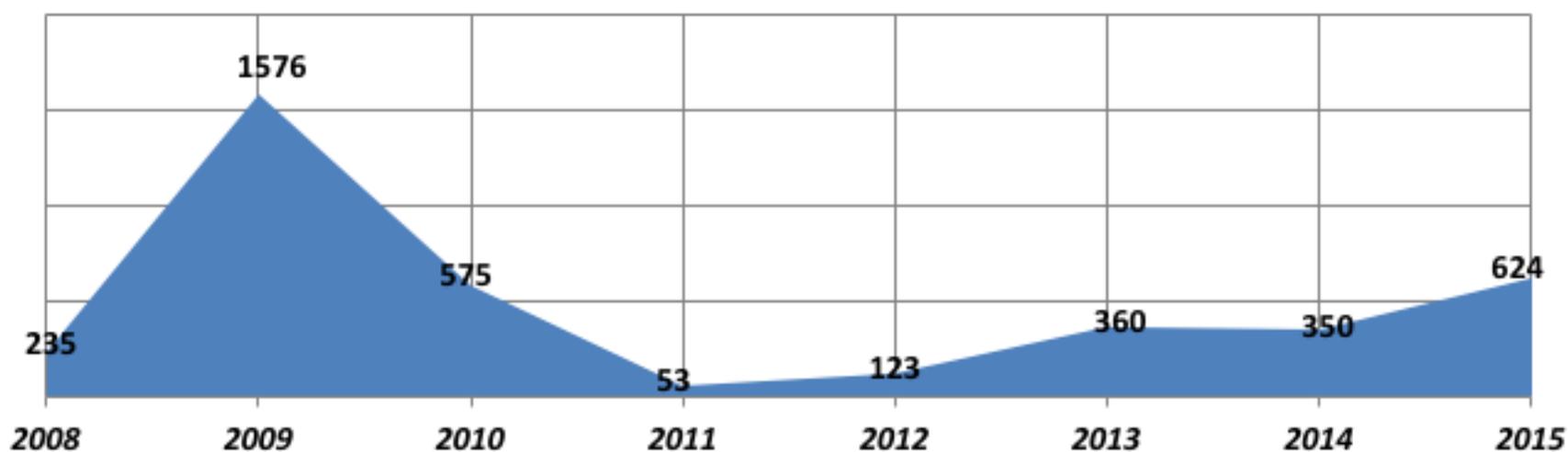
This finding correlates with the results of foreign researchers (for example, Mortensen & Christopher,

1994). Existing firms have good information about the profitability of new differentiated products within their sectors, so a natural assumption to make is that new jobs are more productive than existing ones (Mortensen & Christopher, 1994). It should be understood that the job creation occurs when a company with a vacant job and an employee meets and begins to produce; the opening of a new vacancy is not the job creation, but only the potential employment creation.

The maximum number of jobs (4.7 million) was withdrawn in the crisis year 2009, then during 2010-2013 the number of liquidated positions did not reach 3.8 million per year. A new high was achieved in 2014, when 4.2 million jobs "left". However, in 2015 the liquidation process slowed down dramatically (The Russian Labor Market, 2017). Fig. 3 shows the contribution to the liquidation of the jobs of the groups of companies "Job liquidators R" and "Job liquidators L". As in the situation with the creation, the largest contribution to the elimination of jobs is made by existing companies. This circumstance confirms the thesis about the parallelism, but not the symmetry of creation and destruction of jobs in operating companies. Fig. 4 shows the difference between destroyed and created jobs in existing Russian companies.

**Figure 4**

The difference between destroyed and created jobs in existing companies in Russia in 2008-2015



Source: compiled by the author

Fluctuations in terms of creating and eliminating jobs can occur under the influence of two factors: firstly, changes in the ratio between the number of manufacturing enterprises and the number of liquidator enterprises and, secondly, through the acceleration or slowing down on them of the processes of creating and liquidating workers places (rate or increase, or reset employment) (The Russian Labor Market, 2017).

## 4. Conclusions

This paper describes the movement of jobs in the Russian labor market using open statistics and research results of scientists from the Higher School of Economics (Moscow).

The impossibility of further disaggregation of the available indicators, incomplete coverage of economic operators and a short duration of the time series are significant limitations for making larger conclusions and conclusions. However, the available data allow us to record important trends in the field of job movement and provide the basis for further analysis.

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