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## **Choice among Different Job Search Channels:**

### **The Evidence from Russian Labor Market**

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This paper employs the Russian Longitudinal Monitoring Survey to carry out the empirical analysis of the job search channels choice on the Russian labor market from 1994 till 2001. The econometric estimations of the job search channels choice are based on the modified model of job search with build-in budget and time constraints as model parameters. In this paper the typology of search strategies is represented. Within the framework of the research it has been also investigated how differently socio-demographic and economic parameters influence the search strategy choice. As well we have studied the search intensity, i.e. the choice of the number of the job search channels. The results obtained confirm that occupation, budget constraints, demographic and ethnic characteristics, period of non-employment and local labor market characteristics influence significantly the search channels choice. Dependence of the job search efficiency on the selected search strategy is also represented in the paper. Upon the results of the research we came to conclusion that the strategies including the use of social networks or the large number of channels have the greatest efficiency.

**Keywords.** Russia, job search, job search channels, job search strategies, job search intensity, and efficiency of the job search.

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## NON-TECHNICAL SUMMARY

The main purpose of the research is to analyze the process and the determinants of the job search methods choice on the Russian labor market by unemployed and employed job seekers. The importance of the research is determined by the fact that understanding of the process of job search channels choice allows to increase the effectiveness and targeting of formal mediators on the labor market, including the Public Employment Service, and to formulate the methods of P.E.S. efficiency estimation.

The theoretical framework of the research is based on the job search models, developed within modern economic theory, in which the choice of search channels is analyzed. For the empirical research we used the data of 6 rounds of the Russian Longitudinal Monitoring Survey (RLMS), 1994 – 1996, 1998, 2000, and 2001.

Within the framework of the research we developed the typology of job search strategies. We tested some hypothesis: an influence of time and budget constraints, professional characteristics, non-employment duration, local labor market characteristics on the choice of the job search channels and strategies. The results obtained confirmed our hypothesis partly. In the paper the analysis of the job search efficiency (probability of job finding) depending on the choice of search strategy is also represented. We found that strategies, which included informal nets or largest number of search channels, were the most effective. They provided the highest probability of job finding. It was also found that the main determinant of the search channels choice is the expected return rather than resource constraints.

## 1. PROBLEM SETTING

Job search problem is a consequence of information imperfection and uncertainty that exists on the labor market. Job search is one of the most important processes at the labor market. Job seekers' requirements coincide with characteristics of the real workplaces offered by employers within this process. In combination with oncoming process held by employers (who search for the employees) peculiar properties of job search process determine equilibrium characteristics of labor market.

According to theoretical models, labor market equilibrium is a result of labor demand and supply interaction. It is often depicted as a curves crossing on the graph. But in reality this intersection has its own institutional, spatial and temporal distinctness. It is related to particular kinds of costs, which are one sort of transaction costs. The way search process is arranged influences the results and speed of demand and supply adjustment on the labor market.

The institutional structure of labor market is so that one could use different methods of job search. The main methods are the following: 1) public employment service (P.E.S.), 2) private agencies, 3) ask friends, 4) ask relatives, 5) approach possible employer directly, 6) advertisements in newspapers and other mass media (including Internet).

How do people look for a job? Do they choose different search methods randomly; or does their choice depend on any factors and we can observe stable search strategies? Do individuals related to different socio-demographic and occupational groups use different search channels? What factors define rational search strategies? The possibility of developing a policy, aimed on better effectiveness of labor mediation and lower transaction costs on the labor market, depends on the answers to the questions mentioned above. Interest to these questions is not of an abstract kind. During many years a lot of countries have been created and supported special structures (mediators on the labor market) – public employment agencies. What is an efficiency of such structures if compared with other job search channels? Do they really help in job search? If they do, which group of employees do they help to? Private employment agencies have been also actively developing in different countries from the middle of the last century. Do these organizations influence the job search efficiency and which market segment do they serve to?

All these questions are topical for Russian economics as labor market infrastructure has been actively developing together with the market itself during last ten years. And there is still scantily investigated question of how much efficient they are. Thus, for example, the data on formal intermediaries' efficiency is discrepant. On the one hand data testifies the increase of the P.E.S. efficiency during this period; employment coefficient has been stably increasing. On the other hand the share of job seekers who went to the public employment service dropped down in last years, while share of those seekers who used social contacts increased.

Thus, the main purpose of this research is an empirical analysis of the job search channel and strategy choice, and revealing of the factors determining this choice.

To achieve this goal it was intended to solve the following problems:

- to reveal socio-demographic and economical factors influencing the job search channel choice;
- to develop job search strategies typology, and to estimate the influence of different factors on the probability of a particular strategy choice;
- to reveal socio-demographic and economical factors influencing the job search intensity;
- to estimate to what extent the job search strategy influence the job search efficiency (i.e. employment probability).

## 2. REVIEW OF THE STUDIES IN THE FIELD

Theoretical concepts making up the framework of the job search strategies' choice have been developing in two main directions. One of this is focused on the job search modeling on the whole (without taking into account the variety of the institutional alternatives of search). Within these researches search duration and factors, influencing it, are analyzed. Principal results of the job search theoretical model development are presented in Mortensen (1986), McKenna (1990), Layard, *et. al.* (1991), Burdett *et al.* (1994). The latest summarizing of the research progress in this field is contained in the paper by Mortensen and Pissarides (1999). In this paper a considerable attention is paid to the problems of simulations of the equilibrium at the labor market as the combination of search efforts of job seekers on the one hand and employers on the other hand. Van den Berg G. J. (1999) carried out the analysis of the equilibrium job search models used within the framework of empirical research.

Theoretical concepts of the 2<sup>nd</sup> direction are focused on the job search with the variety of search channels – institutional alternatives of search, and on the problem of this alternatives choice. The main results of the development of these theoretical concepts are represented in the papers of Holzer (1987, 1988), Blau, Robins (1990), Koning, *et. al.* (1997), Van den Berg, *et. al.* (2001). In these papers different approaches to the theoretical analysis of the choice of job search methods' are presented. Holzer pioneered in the development of the model in which search methods' choice is dependent on the value of expected return and costs of each channel as well as total value of non-wage income. Blau and Robins (1990) investigate the model in which the chosen search methods, number of contacts, rate of offers generation and acceptance level influence the job-finding rate. Van den Berg (2001) investigates the theoretical model of choice between 2 methods of search – formal and informal, assumed simultaneously allocation of the search activity between channels and reservation wage determination.

In several papers an efficiency of different job search channels has been analyzed. Thus Montgomery (1991) analyses the importance of social networks for the efficiency of the search process from the point of view of both sides (employers and employees). Kuhn and Skuterud (2001) investigate such search channel as Internet. Lindeboom, van Ours and Renes (1994) discuss the

problems of the efficiency of three search channels – advertising in mass media, public employment agencies and informal methods of search. The paper of Wadsworth (1991) concerns such job search channel as public employment service. The impact that receipt of unemployment benefit has on the job search effort of a job seeker is also investigated in the paper.

Osberg (1993), Addison and Portugal (2001), Boheim and Taylor (2001) has conducted comparative empirical studies of different search methods for Canada, Portugal, and Great Britain. Besides the theoretical aspects of this research, the significant emphasis was made on the econometric panel data analysis.

The main empirical findings of the papers under review are the following ones. Holzer used the theoretical model developed by himself, and empirically estimated factors of the search channels' choice as well as the influence of this choice onto the job search efficiency for unemployed young men of 16-23 y.o. in the USA (Holzer, 1988). He revealed that direct applications and friends' help, which are used most often and intensively, are the most efficient channels concerning the quantity of offers received (and accepted) and individual characteristics of job seekers.

The estimates received by Osberg about unemployed in Canada (Osberg, 1993) show that relative scales of job search channels used differ within the business cycle, because the return/cost rate for each channel depends on the business cycle stage. In particular, in 1983 (period of recession) the State employment service provided considerable social return (i.e. for the some of the unemployed, such as long-term jobless, this job search channel was relatively effective), at the same time during the period of relatively low unemployment level public employment service did not provide any considerable benefits for any group of unemployed.

In the paper of Addison and Portugal (2001) it was pointed out that public employment service in Portugal provides low level of job search success and access to the worse jobs (with low salary and period of employment) compared to other methods of search.

Boheim and Taylor (2001) investigated the job search channels' choice by unemployed men in Great Britain. This paper is the most similar to our research by its structure and purposes. Boheim and Taylor came to the conclusion that British unemployed use mainly mixed search strategies and search intensity influences positively the employment possibility. The main determinants of the choice and success of the particular search strategy are age, education, characteristics of family and local labor market (labor demand), as well as the unobserved characteristics of the unemployed.

In the Russian economic literature researches concerned the problem of job search and the choice of the search strategies are presented much less. The researches that were conducted within the ISITO project are of the largest interest (Kabalina, Kozina, 2000). Within these researches the comparative analysis of the P.E.S. and private employment agencies was conducted. It is necessary to mention the paper of Yakubovich (2002) in which he investigated the importance of social nets during the job and employers search on the Russian labor market was investigated and the paper of Matveenkov and Saveliev (2003) in which the regression analysis had been used to reveal the determinants of the job search channels' choice on the Russian labor market. It is necessary to mention that the subject

of all previous researches on Russian labor market was the job search by unemployed seekers, and the job search of the employed seekers was not analyzed at all.

### 3. JOB SEARCH CHANNELS AND STRATEGIES

#### 3.1. Job search channels

Six job search channels have different characteristics and possibilities of search. Let's describe them in detail.

*Public employment service.* Up to the 1992 there was no such institute of labor mediation on the Russian labor market. In the Soviet Union there were some employment bureaus, but their objects and possibilities were not so numerous. The main development period of public employment service was 1992–1993, when about 2400 public employment centers were created throughout the country. According to the data the share of those placed in job has been increasing stably during the whole period of P.E.S. work (Table 3, App.). Thus if we would measure this channel efficiency only through the place-in-job rate, it will be possible to make a conclusion about the increase of the efficiency of P.E.S. The average place-in-job rate doubled (from 30% to 60%) in 9 years (from 1992 till 2001). At the same time the quantity of applications to the public employment service has been unstable. The greatest quantity of applications was observed in 1995–1996, then the quantity decreased, and the new period of rise began in 2001.

For unemployed job seekers public employment service is associated with low money expenditures and even more – it becomes possible to obtain a benefit, which leads to the reduction of search costs. On the other hand usage of this channel is connected with large time expenses, because of the necessity to visit the employment centers and talk to the consultants. At the same time public employment service can be more effective for unqualified or low qualified positions, as starting from the 1996 the structure of vacant positions in P.E.S. has been biased to these positions. The benefit from P.E.S. for employed job seekers is lower than for unemployed ones.

*Private employment agencies.* Recruitment services market in Russia started its development in the beginning of 1990s. It has been developing rapidly from the single companies to the independent industry branch. If in 1990 there were only 4 recruitment agencies, there were 20 in 1993, more than 100 in 1994, and finally, more than 250 in 2000. Recruitment services market has been developing not only in Moscow. There was the review of recruitment services market in 6 big cities besides Moscow in the guide of 1998 (Uslugi po podboru personala, 1998). Nowadays private recruitment agencies are situated almost in all regional centers and their total quantity exceeds 700.

There are two types of private agencies. 1<sup>st</sup> type consists of recruitment agencies that render staff recruitment services for employers. These services are covered by employers and job seekers are not required to pay. Private agencies of 2<sup>nd</sup> type render place-in-job services for the job seekers. In this case the service is covered by its receiver, i.e. job seeker. That's why the usage of the private



agencies sometimes needs money expenses, but not in all cases. Appeal to private agencies also needs time expenses. Though time expenses have been decreasing within last years because of the spreading of Internet. Private agencies usually operate with the vacancies most required on the labor market – vacancies for qualified specialists or workers of mass professions.

*Friends' help* is one of the traditional job search channels and is based on the informal social network and relations. In comparison with other channels “friends help” supposes low money and time expenses. That is why it is available to anyone and highly effective. The effectiveness of this channel is also explained by the fact that it not only presents information about the vacancy but also implies some sort of obligations (patronage), sort of placement guaranties (Kozina, 1999).

The effectiveness of the social nets possibly depends on the economic situation, on the friends' professional position, on the stability of their financial state. That is why an aggravation of the economic situation may cut down the efficiency of this search channel.

*Relatives' help* as a job search channel is close to the “friends' help” one. The main difference is laid in the nature of the social networks. The strength of the family relationships is different for the various ethnic groups. The strongest family relationships are typical for the East and Caucasian<sup>1</sup> nationalities with their traditional relations and are not so common for the Europeans.

*Direct contact with possible employers* as a job search channel is connected with high time expenses but does not suppose considerable money expenses. The use of this channel leaves the question of the information sources about possible employers opened. It can be mass media as well. In this case these two search channels are complementary and are realized in the borders of the same mixed search strategy. It can be professional contacts and relations, information from the previous working experience. In any case the use of this channel depends on the economic situation. To approach any employers you need them to exist and to run some business and to demand labor. That's why the improvement of the economic situation should influence the scale of the use of this channel.

*Mass Media.* The market of mass media specialized on the labor mediation was formed in 1990s, and in 1998-1999 it was actively supplemented by the Internet possibilities. This market is not uniformly developed in the different regions and towns. There are 4 types of towns based on the different intensity of mass media use for the labor mediation (Uslugi po podboru personala, 1998): Moscow and St. Petersburg, big cities– regional centers of economic activity (such as Ekaterinburg, Novosibirsk, Nizhni Novgorod, Samara, Vladivostok), regional centers with low economic activity (such as Bryansk and Smolensk), small towns. High development level of labor specialized mass media is common for the first two types of cities.

From the point of view of the unemployed mass media as a search channel needs some, but not too big money and time expenses. There are usually presented vacancies of the medium level: mostly

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<sup>1</sup> The term “Caucasian” is used in a meaning of the nationalities historically residing in Caucasus.

for the specialists. The share of the unqualified vacancies presented is not big. The comparative analysis of the main search channels is presented in the table 1.

**Table 1.** The comparative analysis of the main search channels.

<i>Search channels</i>	<i>Time costs</i>	<i>Money costs</i>	<i>Target occupations</i>	<i>Additional possibilities</i>
P.E.S.	high	free of charge, even provides benefits for registered unemployed	mostly for the unqualified or low qualified positions than for the specialists	non (some special programs for the unemployed)
Private agencies	high	relatively high	mostly for the specialists with higher education, managers	non
Friends	low	free of charge	universal	protection
Relatives	low	free of charge	universal	protection
Direct applications	high	free of charge	universal	non
Mass	low	low	mostly for the specialists of middle positions and worker occupations of mass demand	non

As we know search channels can be formal and informal. *Formal channels* are those, which are realized with the help of the formal intermediaries. They are public employment service and private recruitment agencies that are dealing with employment mediation. Such search channels as “friends’ and relatives’ help”, and “direct contacts with employers” are considered as *informal*. There is a tradition to include mass media in the number of the formal search channels as well (Van den Berg *et al.*, 2001; Kozina, 1999). It can be explained with a fact that in this case an information intermediary – special mass media is involved in the process of job search. From our point of view mass media can be as well considered as informal search channel (as in: Holzer, 1988) as the use of this method supposes self-dependence and high individual activity. It differs from the use of the public and private employment agencies where the role of the formal intermediary is much bigger, and not only an unemployed person searches for the job, but also a specialist of the agency. In our opinion the use of mass media is close to the direct contact with employers. In the last case it is also supposed to act self-dependently on the basis of different information sources.

In this paper we will consider friends’ and relatives’ help, direct contacts with employers and mass media services as informal channels, and P.E.S. and private agencies – as formal channels.

### 3.2. The scales of job search channels usage

Detailed data on unemployed usage of the various job search channels is presented in the results of Economic Activity Surveys conducted by the State Committee of Statistics (Goscomstat), 1992-2001, and in the results of Russian Longitudinal Monitoring Survey (RLMS), 1994-2001. The RLMS data allows us to determine precisely the sample of unemployed by the ILO definition<sup>2</sup>. The sample of non-employed was determined by the following question: “Do you have job, or you are in paid or unpaid leave, or you do not have a job?”. If the respondent said that he had not any job on the moment of the interview. It is necessary to mention that some of the respondents may have the odd job. But we do not consider regular or irregular odd jobs as “real” employment, and do not take into account this fact during the determination of the unemployed / employed status. On the 2<sup>nd</sup> stage we picked out the group of job seekers from the all non-employed. For this aim we used the question: “Did you go anywhere or contact anyone in order to get employed in the last 30 days?”. The last (3<sup>rd</sup>) criterion of the ILO unemployed is the willingness to work immediately. The RLMS data also allows considering this criterion with the question: “If on the last week you had found the appropriate job, could you start work immediately?”. But this question was only in 1998–2001, and it was impossible to select accurately unemployed seekers in 1994–1996. But taking into account that the most of the unemployed, which are selected with only 2 criterion of ILO definition, meet the 3<sup>rd</sup> criterion, it is possible to say that possible bias of the results on account of the absence of 3<sup>rd</sup> criterion will be insignificant. So in the paper the unemployed seekers (on the RLMS data) are determined without 3<sup>rd</sup> criterion – willingness to work<sup>3</sup>.

**Table 2.** The influence of 3<sup>rd</sup> ILO criterion (willingness to work) on the unemployed sample selection.

“If on the last week you had found the appropriate job, could you start work immediately?”	Unemployed (selected only with 2 first criterions), 1998-2001, RLMS, %
Yes	92.2
No	5.8
Hard to say	1.8
No answer	0.3

The RLMS data contains the information about usage of the six job search channels: P.E.S., private agencies, help of friends and familiars, help of relatives, newspapers and other mass media, direct contacts with employers. During the research we have used data of 5-10 RLMS rounds (1994–2001), this data contains the information about choice of the different search channels by unemployed, the last 3 rounds (1998–201) contain the information about job search by employed individuals.

<sup>2</sup> The unemployed should satisfy 3 criterions: 1) do not have a job, 2) search for a job, 3) be ready to work.

<sup>3</sup> During the selection of unemployed on the RLMS data we had taking into account only adults (16 y.o. and older).

Comparison of RLMS data (table 4, App.) and Goscomstat information (table 5, App.) about the scale and the dynamics of the channels usage reveals certain reciprocal bias of the data. According to the RLMS the share of those using P.E.S. is much higher than according to the Goscomstat results; at the same time RLMS data as well as the Goscomstat shows that the maximum of this channel use falls at 1996. The share of those using private employment agencies is much higher in the RLMS data than in the Goscomstat, though this channel also takes the last rank by the wide-spreading, and an increase of private agencies usage is observed in 1998-2001. Just as in the Goscomstat data the increase of such channels usage as friends' and relatives' help, direct contacts with possible employers, mass media advertisements is also observed in RLMS data. But at the same time the usage rate of these channels is greater than according to the Goscomstat; and the dynamics of 'direct contacts' do not coincide with the Goscomstat results. Considering the absence of other data sources it is impossible to conclude which data (Goscomstat or RLMS) are more biased. It is necessary to mention that RLMS data shows higher number of search channels used on average as compared to Goscomstat.

Comparing the dynamics of P.E.S. usage (Goscomstat and RLMS data) with the dynamics of the unemployment rate it is possible to make a conclusion that unemployment rate (as a characteristic of the local labor market) may influence positively the applications to P.E.S. from unemployed (Fig.1).

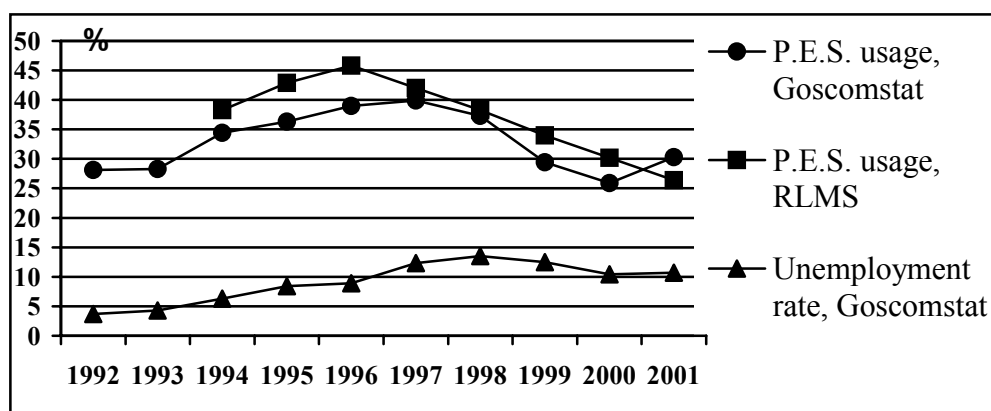


Fig. 1. Dynamics of the public employment service usage and unemployment rate.

Comparison of the RLMS data on unemployed and employed job seekers (table 6, App.) shows that employed use P.E.S. for the job search 1.5 times rarely than unemployed. All other search channels except "friends' help" are also less popular among employed. So friend's help is the dominant search channel among employed, and the scales of this channel usage are twice as big as the next popular channel – direct applications.

### 3.3. Job search strategies

The process of job search supposes the choice of search strategy – stable and rational way of behavior to reach the goal set. The strategy can be *pure* when the only one search channel is used, and *mixed* when the one uses few job search channels at the same time. Search strategy is not only the way of choice of the job search channel. The choice of the search strategy includes many parameters of search process, among them can be:

- Choice of the pure or mixed search strategy,
- Choice of the number of search channels,
- Choice of the channel / channels type – formal and/or informal,
- Job search channels choice,
- Choice of the frequency of the use of chosen channels,
- Determination of the job search duration on the whole and within the chosen strategy (i.e. the change of the combination of search channels in the course of time)<sup>4</sup>.

As we have 6 job search channels the maximum number of all strategies (pure and mixed) is  $C^1_6+C^2_6+C^3_6+C^4_6+C^5_6+C^6_6=63$ . It is essential to mention that search strategies are the search alternatives (in one period of time one can use only 1 strategy) in contrast to search channels, which are not the absolute alternatives of search and their choice is not independent.

According to the RLMS data unemployed used 59 strategies from 63 theoretically possible in 1994-2001 (Table 7, App.). The most popular are the three pure strategies: P.E.S., friends' help, and direct contacts with possible employers. The share of these strategies is 30%. Firstly, this means that these 3 search channels separately can be effective in the terms of search results even without use of other search methods, these channels are almost equally widespread and serve as institutional alternatives of search. Secondly, on the whole the mixed search strategies dominate (66%). This effect could be explained by seekers quest to diversify search channels to increase the job finding probability. The most popular mixed strategies are those, which include the maximum number of search methods, or the different combinations of informal networks (friends) and direct contacts with employers are chosen.

The dynamic analysis of search strategies usage shows that the dynamics of friend's help was almost equal to the inverse dynamics of P.E.S. usage. Thus it could be assumed that these 2 strategies are substitutes. At the same time during the 1990s it has been observed an increase of the share of mixed strategies with the maximal number of channels. This may be a fact in support to the hypothesis about "adaptation effect", i.e. the transition to the use of diversified search strategies is observed as far as the institutional system of Russian labor market is developing. Those looking for

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<sup>3</sup> The last 2 parameters of the job search strategy will not be in the focus of further research, because the discontinuity of the RLMS data does not allow estimates the changes in the unemployed behavior during the period of search and the frequency of use of chosen channels.

a job with a help of different social contacts obtain experience and start using more possibilities for the job search.

For employed job seekers the picture of diversity of search strategies is similar, but there are some differences (table 8, app.). In 1998-2001 employed job seekers used 54 strategies from 63. The most popular among them are: friends' help, direct contacts with possible employers, and friends' and relatives' help. All together they are about 37% of all strategies. An absolute leader here is friends' help – 21%. This is not only the main search channel, but also the leading search strategy. It is almost 3 times more popular than the next leading strategy – direct contacts with possible employers. Among the employed job seekers the formal search channels (P.E.S., private agencies) are less popular than among the unemployed. Thus, among unemployed a pure strategy “public employment service” is on the third place from the top, but among employed it is only on the 10<sup>th</sup> place and its share is only 3%.

We can offer several explanations of the fact that employed job seekers use formal channels less than unemployed ones. Firstly, we can come to the conclusion, that these channels are less effective for employed job seekers. In other words, such channels offer placements, in which employed people are not really interested. This mainly concerns P.E.S. For the vacancies, which firms place in the public employment service, the problem of unfavorable selection exists. And *ceteris paribus* these vacancies are ones with lower wage. Employed job seekers have higher requirements for the expected wage ( $W^e$ ) when looking for job, as it should not only be equal to or greater than the reservation wage ( $W^r$ ), but should exceed the wage on the current working place ( $W^*$ ):  $W^e > W^* \geq W^r$ . In other words according to the theoretical model of the job search the reservation wage of employed seekers should exceed  $W^r$  of the unemployed (McKenna, 1990)<sup>5</sup>.

Secondly, the bias of preferences of the employed job seekers to the friends' help is possibly connected with the fact that this method of job search gives an additional patronage for obtaining a placement. For employed people the selectivity of search is high as leaving the current working place suppose increase of the guarantees of successful adaptation for a new working place. There is no meaning in changing a working place if there is a risk to lose it.

Thirdly, for employed new job gives fewer advantages than for unemployed as they are already working and receiving wage. That is why for employed there is no reason to use search channels with high costs (time and money), to which formal search channels belong.

Fourthly, employed people are more involved in social communications; they have wider social nets and more contacts than unemployed; thus for employed not only the return of informal social nets usage is greater than for unemployed, but also they have more possibilities to use friends and relatives help (Granovetter, 1987).

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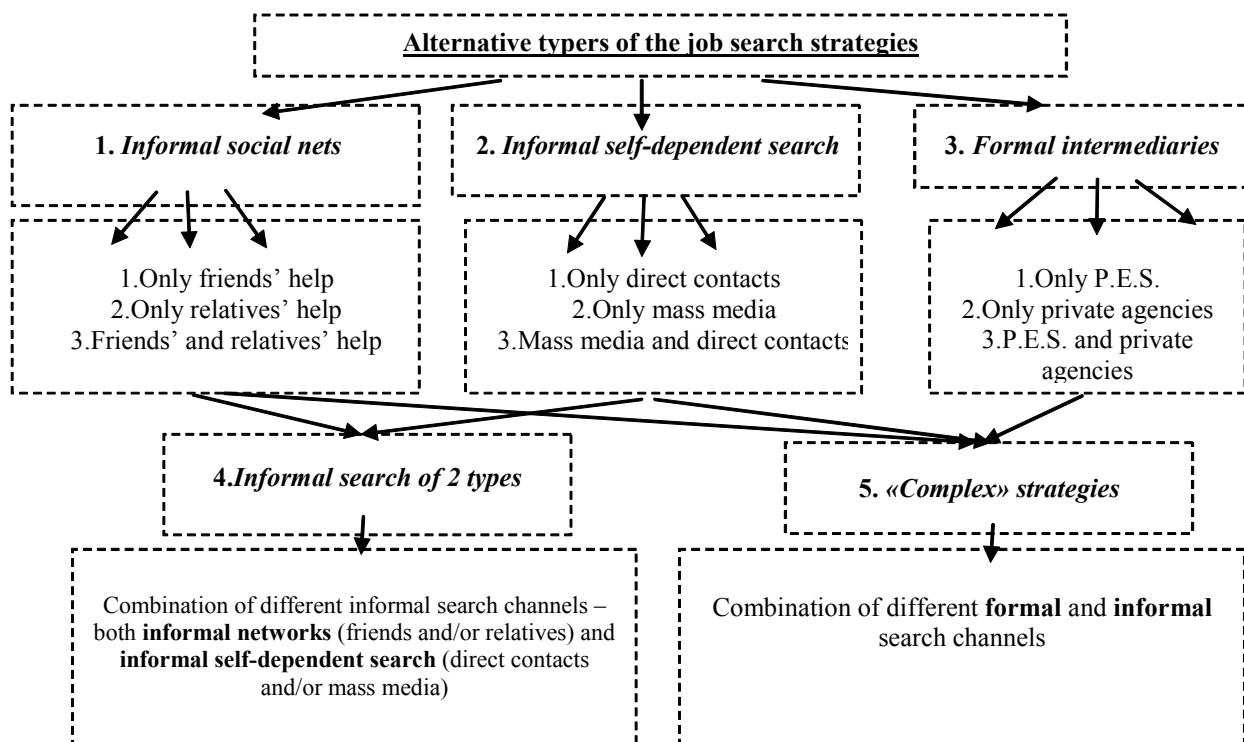
<sup>5</sup> Thus, Holzer, analyzing the process of job search in USA revealed that employed had reservation wage 30% higher than unemployed (Holzer, 1987b).

For the further econometric analysis of job search strategies we had to group 59 (54) strategies into several types. For this we used factor analysis (the method of main components). This method lets us choose 3 main components for unemployed (table 9, app.). The first component concerns the methods of informal search (informal social networks). Friends and relatives have the highest coefficients on this component in the factor matrix. The second component concerns formal intermediaries. P.E.S. and private agencies have the highest coefficients on this component in the factor matrix. The third component concerns direct contacts with employers. Mass media is equally presented in all components. This fact means that as a rule this channel is a complement of other channels. It is also necessary to add that P.E.S., friends help and direct contacts have negative coefficients for two other “alien” components (see factor matrix, tabl.9, app.), i.e. these 3 channels are alternative to each other.

The coefficients of the factor matrix let us interpret 3 main components as 3 main strategies of job search: usage of formal job search channels, usage of informal social networks, independent informal search.

Results of factor analysis for employed job seekers were almost the similar (table 10, app.). But for employed first main component of formal search also included usage of mass media, while the third component consisted only from direct contacts.

According to the results of factor analysis and pair correlation matrix, and also taking into consideration the scales of the job search strategies usage we have distinguished 5 types of strategies, which were used in our further analysis of the determinants of the search strategies choice (fig.2).

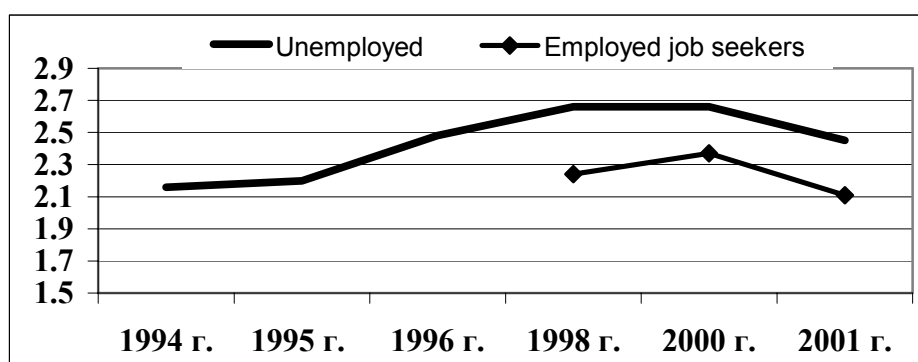


**Fig. 2.** The typology of the job search strategies.

Dynamics analysis shows that there was a decrease of the usage of formal intermediaries and also an increase of the usage of informal social nets (among unemployed and employed job seekers).

### 3.4. Search intensity and the number of search channels

The amount of search channels used is an important characteristic of the job search strategy. The number of search channels used is one of the indices of search intensity. The average number of search channels used by one seeker was increasing steadily from 1994 till 2000, ran up to 2.7 and then declined up to 2.45 in 2001 (fig.3).



**Fig. 3.** The average number of search channels in 1994-2001. RLMS

At that, the dynamics of shares of search strategies with different numbers of channels were not unidirectional (table 13, app.). On average during the period under review there was a negative relation between channels number used within a strategy and a share of this strategy (by the quantity of users). On the whole, the most considerable growth was observed for the shares of strategies with the largest amount of job search channels (five and six channels in use); this fact can be interpreted as the evidence of an increase of the popularity of the mixed strategies with all types of channels in use.

Among employed seekers the search intensity was lower than among unemployed (table 14, app.). The average number of search channels used was between 2,1 – 2,4 in 1998–2001. This result corresponds to empirical estimates which were received in other countries (Holzer, 1987b). Among all strategies there was a rise of shares of the strategies with 2 and 4 channels in use.

## 4. HYPOTHESES

We proceed from the assumption that job seekers act rationally while choosing a search strategy, i.e. they choose the most effective channels of search (from the point of view of return/costs ratio). At that the following theoretical hypotheses have been tested within the research framework.



1. Basing on the theoretical model of job search with different search channels, we assume that factors determining seeker's constraints during search, such as available income and time (taking into account time and costs spent on home production) are ones of the key determinants of the channels choice. Job search channels differ by time-intensity and costs-intensity (table 1). Strong restrictions by time or income lead to the choice of less time-intensive or costs-intensive channels.
2. We also assume that methods of search are not universal: each job search channel is connected with the particular part of the labor market (table 1). This means that the efficiency of search method depends on the professional and qualification characteristics of the job seeker. Thus, the profession and qualification of the job seeker can influence the choice of search channels.
3. The duration of non-employment may influence the search effectiveness (of channels) and search costs. We assume that for the short and long duration of non-employment the usage of the less number of channels and mainly informal channels are typical. The short duration of non-employment enables to use only social networks and limited list of search channels as the problem of job search has not become really acute and individuals still hope to solve the problem with comparative ease. And vice versa: for the long duration of non-employment there are fewer opportunities for using different search channels and less confidence of professional success, which leads unemployed to the principal usage of informal channels (Boheim, Taylor, 2001).
4. We suppose that the choice of search channels and their effectiveness depend on the characteristics of the local labor market, because the state of the local labor market can influence the return/costs rates of job search channels in different ways. At that we suppose the less favorable the economical situation is, the less frequently informal channels are used (in particular, mass media; e.g., Boheim, Taylor, 2001), and more often are used formal channels, especially P.E.S (e.g., Osberg, 1993).
5. We also suppose that an increase of the average number of channels used by a job seeker during the 1990s rides the "adaptation effect" and reflects the changes in institutional environment, mixed search strategies familiarization with the simultaneous widening of search possibilities due to evolution of the formal methods. Thus, time parameters should affect an increase of the average number of channels in use.

## **5. DATA AND EMPIRICAL RESULTS**

### **5.1. Econometric model specification**

According to the theoretical model of the job search and models of the search channels choice (Holzer, 1988; Boheim, Taylor, 2001) the probability of the choice of a particular search channel may be represented as a function of individual's resource constraints (time, income), occupational characteristics and local labor market parameters:

$$P=f(Y, H_D, u, O_p, X),$$

$Y$  – available income of a job seeker,  $H_D$  – time spent on home activity (we should take into account that time available for search –  $H_S$ , is a remainder between all aggregate time and time spent on home activity:  $H_S=T - H_D$ ),  $u$  – regional unemployment rate,  $O_p$  – occupational characteristics,  $X$  – set of socio-demographics parameters.

For empirical research of job search channels choice we have used RLMS data, as Goscomstat data, does not include the information about income.

Based on research hypothesis such *socio-demographic variables* as age, gender, marital status, education and nationality have been included in the econometric equation of the search channels choice by unemployed. Taking into account the possibility of nonlinear age effect on the channels choice, age was included into the equations as dummies: youth (16-25 years old), main able-bodied ages (26-49), and mature ages (50 years old and older). All respondents were divided into 6 parts by nationality: 1) Russian; 2) Ukrainian, Byelorussian, Moldavian; 3) Caucasian; 4) Tatar, Bashkir; 5) Minor Russian Nationalities (Komi, Chuvash, Udmurt, Mordvinian etc.); 6) the others. *Variables of professional and occupational characteristics* have been also included in the equation: duration of general employment record ( $WDt$ ), occupation. The whole sample of unemployed was divided into 5 occupational groups based on the information about respondents' occupation before the period of non-employment. The information about duration of general employment record has been adjusted. For those who did not answer to the corresponding question but had ever worked before the duration of the employment record was computed as a difference between age and the duration of the current non-employment period minus length of a period expended for education.

Time spending on non-search activity has been computed by summation of time spent on different types of home activity, and time spent on odd job. It is necessary to mention that questions about time spending on the home activity have been included in the questionnaires of 5-8 rounds only. Regional unemployment rate computed by the ILO methodology which is an *economic variable* reflecting the characteristics of regional labor market – has also been included<sup>6</sup>. All money variables have been translated into the price level of 2001 using the information about regional deflators. Annual Consumer Price Indices in the regions of Russian Federation have been used as regional deflators (Regiony Rossii, 2002). The final results are based on the specification that includes all money parameters (personal income, income of the other family members) in the natural logarithmical form.

Since initial specification includes all set of variables, and the part of them has been available not in all rounds (in particular, previous occupation could be calculated only for 6-10 rounds, and information about time allocation was available only for 5-8 rounds), the additional testing of

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<sup>6</sup> It is necessary to note that in a number of publications on labor markets of developed countries the U/V ratio was used as a local labor market characteristic. But taking into account that in Russia the U/V ratio is measured much worse and less regularly than unemployment rate we used UR as a characteristic of the local labor markets. This approach is also wide spread in economic research (e.g., Boheim, Taylor, 2001).

significance of variables *Occupation* and *Time* has been done using Wald test and Lagrange Multiplier (LM). The testing results confirmed the insignificance of the only *Time* variable. Thus the influence of time constraints on the search channels choice has not been revealed. So further calculations have been done without this variable, using the data of 6-10 rounds (1995 – 1996, 1998, 2000, and 2001).

Similar model specification has been used during the calculations for employed. Only in this case professional characteristics have been estimated basing upon current, not previous occupation.

## 5.2. Job search channels choice

The econometric analysis of the job search channels choice has been done for six channels with the help of probit-analysis (table 16, app.).

### Unemployed

*Public employment service.* This channel is more popular among women and is less popular among mature seekers. Higher education also increases the possibility of this method choice. This channel is more popular among the national minorities (so-called “minor Russian nationalities”) and is less popular among Caucasians. As it was supposed in the very beginning short duration of unemployment decreases the possibility of P.E.S. usage. Unqualified workers and those whose professional status is not defined are not likely to use public employment service. This job search method is also less popular in big cities (regional centers) and in the rural area in comparison with towns. The positive relation between P.E.S. usage and regional unemployment rate has been observed.

*Private employment agencies.* The number of factors influencing the usage of private employment agencies is much less compared to other channels. This fact tells us that usage of this channel is more independent on socio-economic factors, and probably is more dependent on unobserved characteristics of the job seekers. This channel is more popular among the unemployed with higher education. It is less popular in rural locations, as the market of job search services is not formed there.

*Friends’ help* is less popular among mature people and women. Higher and high special education increases the probability of friends help usage. Friends help usage is not common for “minor Russian nationalities”, Ukrainians, Belorussians. Unemployed belonging to the group “specialists with high education” choose this channel more often. It is an interesting fact that the amount of personal income has negative influence on the probability of friends help usage during job search.

*Relatives’ help* as a job search channel is close to the friends help one, but there are some differences in the set of personal characteristics, which have influence on the choice of this channel. On the contrast with “friends help” there is no dependence on belonging to some professional group and this channel usage. This search method is more popular among the unemployed of Caucasian nationalities. The probability of the relatives help usage is higher among married; what is logical as the quantity of relatives increases when the one gets married.

*Direct contacts with employers.* For this channel, as well as for help of friends and relatives the negative influence of personal income is observed. This channel is less popular among ethnic groups of minor Russian nationalities and mature seekers. Education level has positive influence on the probability of this channel use. But in difference with all other channels this one is also positively influenced by the duration of general employment record – job experience makes direct contacts with possible employers easier.

*Mass Media.* The choice of this job search channel is positively influenced by education level and having casual work. This method of job search is less popular among mature people and those with relatively high personal income. It is also not so popular among ethnic groups of minor Russian nationalities, Ukrainians and Byelorussians. It is obvious that this search method is widespread in cities and less in countryside. This can be explained by better development of mass media market, specialized on labor mediation in towns and especially in big cities. Those who have been unemployed for a long time, managers and specialists with higher education do not use this method of job search a lot.

Thus, the main factors, determining the job search channels choice are sex, age, education level, level of personal income, nationality, the duration of non-employment and occupation. Economic parameters have a limited influence. But on the whole lower personal income leads to more active usage of informal search channels.

### **Employed job seekers**

Determinants of job search channels choice for employed and unemployed are rather different (table 17, app.). Thus, mature employees prefer to use P.E.S. or approach directly to possible employers. Education level does not influence the channels choice at all. Regional unemployment rate increases the usage of friends' help and direct contacts, but decreases the usage of mass media. The level of personal income has a positive influence on the probability of direct contacts with employers. Among the ethnic groups Tatars and Bashkirs are different from all others; they do not prefer to use such job search channels as P.E.S., mass media, friends and relatives. There are some similar trends (for employed and unemployed). Thus women prefer P.E.S. and mass media, and less use friends and private employment agencies. Professional group of employees with high education and office workers prefers to use friends.

What are the reasons of these differences? Probably they lie in the fact that employed and unemployed are groups of people with different possibilities on the labor market. And not only because becoming unemployed changes restrictions, reservation wage and possibilities of the seeker on the labor market, but also because becoming unemployed often means lower working potential and lower working activity, smaller social capital of the individual. Thus, employed seekers prefer to use friends and direct contacts more frequently when the growth of unemployment rate is observed and unemployed in this case prefer to increase the P.E.S. usage. Of course, it is connected with possibility of the receiving of unemployed status and therefore some additional advantages (benefits and possibilities to participate in special programs), but it can also be caused by more passive search. Mature unemployed in comparison with unemployed of working age use less almost

all search channels, including direct applications. At the same time mature employed use direct applications more actively than employees of working age. So, unemployed and employed differ not only by restrictions but also by preferences. It is also important to mention that the search channels choice is less determined for employed seekers by education level and personal income. It can be caused by the fact that employed people have more different ways of behaving and acting, and unemployed mostly act in the same way.

### 5.3. Job search strategies choice

Econometric analysis of the determinants of job search strategy choice has been done for five types of strategies (fig.2) with the help of multinomial regression. The first strategy “social nets” has been taken for the basic one.

#### Unemployed

The strategy of use of only formal intermediaries is more used by the youth, women, and people with long work experience (table 18, app.). Caucasians and people with long duration of non-employment, group of professional workers with high education and office workers are less likely to use this strategy.

The strategy of informal self-dependent search (direct contacts and mass media) is also more popular among young people, women, and people with long work experience. Being married, being unemployed for a short time, having of casual work and regional unemployment rate – all of these decrease the probability of this strategy use (this results about the influence of unemployment rate are similar to: Boheim, Taylor, 2001). Unemployed of the groups of Caucasians and specialists with high education and office workers have lower probability of this strategy use.

The fourth strategy – usage of different channels of informal self-dependent search and social nets simultaneously, is popular among young, people with high special or higher education and those with a long work experience. This strategy is less attractive for mature people, married, minor Russian nationalities, top managers, specialists with higher and high education, office workers and those with long (more than a year) and short (less than 3 months) duration of non-employment.

The “complex” strategy when the channels of all types are used is typical for those with higher education or long work experience (*ceteris paribus*). Also the regional unemployment rate influences positively the probability of this strategy use. Mature people, Caucasians, non-employed for less than 3 months or more than a year, top managers, and specialists with higher and high education, office workers less use this strategy (in comparison with “social nets”).

The variable “round of the survey” had a significant impact only on the choice of formal mediators – the popularity of this strategy reduced in 1998–2001.

#### Employed job seekers

As in the situation of the search channel choice, the strategy choice by employed seekers is under influence of fewer factors in comparison with unemployed (table 19, app.). Education level,

income, work experience – all these parameters have insignificant influence. Mature people and women prefer “complex” strategy. For the group of minor Russian nationalities the strategy of social nets is the most popular. For the Caucasians the strategies of formal search and informal self-dependent search are less preferable than social nets. The strategy of social nets is the most popular among the top managers and specialists with higher education. Specialists with secondary education and office workers use strategy “informal self-dependent search” less than social nets.

Thus, when choosing a job search strategy, economic factors for both employed and unemployed have low impact. Only when choosing “formal intermediaries” strategy the budget constraints (personal income) play a significant role. In all other cases, in contrast with search channels choice, budget constraints do not influence the strategy choice. The regional unemployment level also has not any impact on the search strategy choice by employed seekers. For unemployed this variable has significant positive effect on the probability of the “complex” strategies choice and negative impact on the self-dependent search probability. The choice of the job strategies is more influenced by socio-demographic characteristics and human capital of job seekers. Thus “social nets” is the strategy of people with short job experience, short length of non-employment, middle-aged. The usage of formal intermediaries is mostly a women strategy. Strategies with a large number of search channels are typical for people with higher education.

#### **5.4. The choice of the number of job search channels**

For the evaluation of the search intensity determinants we used ordered probit-analysis. The analysis of the choice of the number of the job-search channels partly approved our hypotheses (table 20, app.). The quantity of the search channels used depends on the round of the survey. Coefficients of the *Round* variable are statistically significant and show the successive increase of an influence of the time variable on the search intensity. It means that development of the job search process on the Russian labor market in 1990-s had taken a direction of using more complicated strategies by the unemployed. In addition to institutional changes in the macro surrounding, macroeconomic factors (unemployment rate) also influence the search intensity by unemployed, and we can confirm that an increase of the unemployment rate leads to the increase of the search intensity.

Among the individual characteristics of the unemployed an educational level influences the number of channels used. It increases the number of the channels used. Higher education provides access to additional information, and therefore increases the diversity of search channels used. Higher education as well leads to the situation when there can be more kind of suitable work for the unemployed and therefore it is reasonable to use different search channels, even they are related to different occupational segments of labor market. Mature age decreases the probability of the use of a large number of search channels. It is easy to explain – mature people are not so active in their search, there are less suitable working places for them than for younger people. Less intensive search is also typical for women, Ukrainians, Byelorussians, Moldavians and minor Russian

nationalities. Fewer number of search channels is used by unemployed with short (less than 3 months) or long (more than a year) duration of non-employment.

It is also interesting to add that the growth of personal income has a negative impact on the intensity of the job search. As personal income of an unemployed person consists from pension, unemployment benefit, casual work payments, this means, that person having larger unemployment benefit or higher income of other sources is less active in his search and uses fewer number of channels.

The influence of individual characteristics on the intensity of search for the employed seekers differs from the one for unemployed (table 21, app.). There is no significant impact of testing characteristics on the choice of search channels number. This means that the search intensity of employed seekers is mainly determined by personal psychological (unobserved) factors, and not by socio-demographical. Let us to emphasize age from the few factors still having impact. For mature employed, in contrast to mature unemployed, the intensity of job search is higher than for younger employed job seekers; mature employees use the largest number of search channels. As the working activity of mature people is mostly determined by health, the situation of self-selection probably takes place. Those of mature people who continue to work *ceteris paribus* are more active.

## 6. THE EFFICIENCY OF JOB SEARCH STRATEGIES

First of all the effectiveness of job search strategies is determined by the success of the search, i.e. by finding a job. Furthermore the effectiveness of job search can be understood more widely when it is determined also by qualitative characteristics of the new job; these characteristics are – salary, stability of employment, conformity to the professional characteristics, possibilities of career grows.

For estimation of the impact of the job search channels on the effectiveness of the search we used RLMS data about the status of economic activity of unemployed in the next,  $t+1$ , round<sup>7</sup>. Certainly, taking into consideration the discontinuity of RLMS data and considerable breaks between rounds (1 or even 2 years) such estimation can not be precise. We have 2 possible sources of mistakes (biases). Firstly, during the break between surveys the person whose behavior is studied could find a job and loose it again. In this case job search in the previous round is successful but the job obtained is not stable. So we obtain the understated rate of job finding and understated coefficients of search effectiveness. Secondly, the situation when an unemployed during the break between surveys had found a job, then lost it and then, after new period of job search has found it again. But

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<sup>7</sup> We analyzed only the job search effectiveness only for unemployed seekers because it were only 3 years data about employed seekers (1998-2001), and we had only 2 waves – 2000 and 2001 – to analyze the job search effectiveness for them. The sample size of those employed job seekers about whom there was information about labor market status on the next period  $t+1$  was too small. From our point of view the analysis of the job search effectiveness for employed seekers could be one of the problems of the further research in this field.

for obtaining second job he could use other strategies than those he pointed in the interview. In this case we can get biased estimates of the effectiveness of different job search strategies.

According to RLMS data the average rate of job finding was almost 40% (table 22, app.). The comparison of the job finding rate and search channels used (table 23, app.) allows to suppose that the most effective channels were private employment agencies and mass media. Among the five groups of search strategies the most effective is the 5<sup>th</sup> strategy of complex search (table 24, App.). We also can see the positive effect of search intensity (the number of job search channels) on the job search effectiveness (table 25, App.).

However cross-table analysis does not let us make the final conclusion about comparative effectiveness of job search channels. We carried out an econometric analysis of the impact of parameters of the job search on its effectiveness. The influence of search channel choice, search strategy choice and intensity of search (the number of search channels) on the probability of job finding was studied<sup>8</sup>.

Individual characteristics have a predictable impact on the effectiveness of job search (table 26, app.). A long duration of non-employment, being of mature age or Caucasian – all of these reduces the probability of job finding. Higher education, marriage, having of casual work – all of these increases the effectiveness of the job search. Regional unemployment rate predictably negatively impacts the effectiveness of the job search.

Econometric analysis showed that *ceteris paribus* the use of private employment agencies, direct contacts with employers, and friends' help increases the probability of job finding. These search channels are more effective. Among the search strategies less effective are the strategies of the 2<sup>nd</sup> and 3<sup>rd</sup> type: usage of only formal channels and only informal self-dependent search. Thus, the most effective are the strategies, which are based on the usage of informal social nets, and mainly friends' help. It is coordinated with the conclusions of Yakubovich (2002) and Kozina (1999). In the same time taking into consideration the information about the effectiveness of different search channels we can make a conclusion that the use of private agencies and direct contacts in addition to social nets increases the effectiveness of the job search (i.e. strategies of 4<sup>th</sup> and 5<sup>th</sup> types).

The number of the channels used increases the probability of job finding, i.e. job search intensity increases search effectiveness on the Russian labor market.

As a result of the analysis of the job search effectiveness we can conclude that the job search strategies choice and the popularity of different search channels are mainly connected with total effectiveness of these search methods. I.e. in spite of differences in the constraints (time and money) of unemployed, they choose strategies and channels that provide highest probability of job finding.

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<sup>8</sup> The estimation of the impact of job search parameters on its effectiveness had been made using probit-analysis. Four equations had been calculated.



The analysis showed that P.E.S. had the lowest job search efficiency in comparison to the other channels. But from our point of view one should not make a hasty conclusion about total inefficiency of the public employment service basing on this fact only. The low efficiency of P.E.S. in comparison to other job search channels is typical not only for Russian labor market. For example Addison and Portugal (2001) showed the low comparative efficiency of P.E.S. in Portugal, Boheim and Taylor (2001) – in Great Britain, Holzer (1988) – in the USA. Segmentation of unemployed by job search channels preferences shows us that P.E.S. often is the most preferable channel for the most passive unemployed seekers. Thus the definition of the P.E.S. efficiency must be corrected; the main purpose of P.E.S. is to help those job seekers who are the least competitive on the labor market. Per se the help in labor mediation provided by P.E.S. is a sort of public good (for a certain segment of labor market). That's why the estimation of P.E.S. effectiveness should be based not on the characteristics of its comparative effectiveness but on the characteristics of its intrinsic efficiency – return/costs rate for services provision.

## 7. CONCLUSION

The empirical analysis of the choice of the job search channels and strategies by unemployed and employed job seekers on the Russian labor market allows to make a number of conclusions. On the whole these conclusions confirm our main hypotheses about job seekers behavior based on the assumptions and conclusions of the theoretical model.

It is possible to make a conclusion that our first hypothesis (about the influence of resources constraints) has been proved partially. Time and budget constraints often are not the main determinants of the search channels choice. The influence of time occupied by household duties and odd jobs on the strategy choice by unemployed has not been revealed. Probably these results can be explained with the bad quality of the data, or probably these factors really are not significant when a job seeker choose a method of the job search. The size of the family income also does not significantly affect the methods of search. But there is the influence of personal income on the choice of some of the job search channels. It partially proves the first hypothesis and testifies that budget constraints truly influence the choice of the job search methods.

Second and third hypotheses have been proved partially as well. The occupation and the duration of non-employment influence the choice of some channels. Duration of non-employment exerts predicted influence on the choice of the public employment service; people with short duration of non-employment use this method of search less often *ceteris paribus*; they also prefer informal social nets most of all. People with long duration of non-employment (more than a year) use mass media and “complex” strategies less (*ceteris paribus*).

As a whole the results obtained coincide with the conclusions of the theoretical model and empirical results of other countries (this concerns an influence of the individual characteristics of the job seekers on the choice of the search channels and strategies). At that there were revealed significant differences of search behavior of unemployed and employed seekers. For employed seekers the

effect of unobserved characteristics is much higher than for unemployed. It is easier to classify unemployed seekers than employed into several groups on the basis of their preferences of different job search channels. So it is possible now to increase the efficiency of the formal intermediaries of the labor market (as job search channels) by the improvement of the targeting of their activities. In the Program of Labor Market Policy of Russian Federation in 2003-2005 the necessity of the development of efficient mechanism of unemployed segmentation (profiling) including segmentation by search intensity and search channels used is stated; the methods and scheme of the analysis presented in this paper may be useful for the development of the methodology of such segmentation (profiling) of unemployed job seekers.

The fourth hypothesis also has been proved. The increase of unemployment rate on the local labor market leads to the increase of the P.E.S. use by unemployed. The rise of unemployment rate also increases the probability of the use of “complex” strategies and decreases the probability of the use of “informal self-dependent search” (in comparison with the probability of the use of “informal social nets”).

Analysis of the use of the job search strategies proves that there is mutual supplementing and mutual substitution between different search channels. P.E.S., friends’ help, and direct contacts with possible employers are the alternative channels. The use of mass media is a supplementary method of job search to the other channels. Of course there is mutual complementing between friends’ help and relatives’ help. It is necessary to mention that the reasons of the mutual supplementing and mutual substitution of channels are mostly conditioned by their complex effectiveness for the different categories of unemployed, but not by their time and money costs.

The fifth hypothesis has also been proved. The idea of this hypothesis is that the increase of an average number of the channels used by a job seeker is explained by the “adaptation effect”. Truly search intensity is determined not only by individual characteristics but mostly by the increasing diversification of search strategies, which is the result of the seekers adaptation to the labor market institutions during 1990<sup>th</sup>.

According to the results the most popular strategies are the most effective strategies; this fact confirms the rationality of the search strategies choice. Informal nets dominate other strategies because they are the most effective. Thus the main determinant of the search channels choice is the expected return (efficiency) rather than resource constraints.

The results obtained explain the advantages of social nets in comparison with formal mediators, but the question about reasons of this higher efficiency is left open. The answer lies not only on the side of labor supply but also labor demand, and it may be received only if the analysis of the job seekers behavior will be added to the analysis of the employers’ behavior while searching for the employees.

## APPENDIX

**Table 3.** Job Placement of Job Seekers, Realized with the Help of the Russian State Employment Service. (According to the data from the Russian Labor Ministry)

Years	Total (all applicants)		Employed applicants		Non-employed applicants		Students (applicants)		Pensioners (applicants)*	
	Thous. people	Placed in job, %	Thous. people	Placed in job, %	Thous. people	Placed in job, %	Thous. people	Placed in job, %	Thous. people	Placed in job, %
1992	2437.7	29.7	95.9	15.2	2225.1	29.7	63.5	63.6	53.1	15.4
1993	2283.4	38.6	74.0	18.3	2062.5	39.0	64.2	77.8	82.7	17.5
1994	3708.5	32.2	125.1	9.9	3193.8	30.2	224.6	87.7	165.0	12.4
1995	5122.4	43.2	169.9	10.5	3937.3	34.6	849.1	94.9	166.1	18.9
1996	5279.8	43.3	150.2	16.3	4415.9	35.7	713.7	96.0	194.9	15.0
1997	4599.0	52.3	102.9	29.0	3806.4	44.9	689.7	96.1	206.5	16.2
1998	4739.1	50.5	119.0	33.1	3836.2	41.7	783.9	96.3	212.5	20.3
1999	4299.6	65.6	113.3	43.4	3271.7	57.7	914.5	96.4	179.5	34.2
2000	4745.9	67.4	177.7	54.4	3283.0	56.6	1285.2	96.6	153.5	44.6
2001	5523.7	67.7	206.6	58.4	3761.0	56.2	1556.0	96.7	167.1	43.8

Source: calculate by Trud i zaniatost' v Rossii (1999), Trud i zaniatost' v Rossii (2001), Social'noe polozhenie i uroven' zhizni naseleniia Rossii. (2002).

\* Pensioners were considered individually until the 1996. Since 1996 they have been included in employed or unemployed population, depending on their status on the labor market.

**Table 4.** Different job search methods used by unemployed job seekers. (According to the data of the Goscomstat of the Russian Federation).

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
(I) All unemployed, thous. people	3877	4305	5702	6712	6732	8058	8902	9094	6999	6303
(1) P.E.S., % from (I)	28.1	28.3	34.4	36.3	39.0	39.9	37.3	29.4	25.9	30.3
(2) Private empl. agencies	1.0	3.1	3.7	3.8	4.2	2.4	2.4	1.5	2.3	3.5
(3) Advertisements in mass media	8.7	13.6	15.6	16.9	17.6	16.3	18.6	18.0	24.0	24.7
(4) Help of friends and relatives	29.9	36.7	37.8	38.5	37.0	55.0	57.7	54.5	58.4	59.1
(5) Direct contacts with employers	26.3	30.9	29.0	27.9	25.6	28.8	29.4	31.9	30.5	27.9
(6) Other methods	10.8	14.8	13.4	16.7	15.2	16.0	16.7	11.5	14.3	11.8

Source: Ekonomicheskaja aktivnost' naselenija Rossii (2002).

**Table 5.** The dynamics of the use of different job search methods by unemployed. According to the RLMS data.

		Term (RLMS round, year)						
		V (1994)	VI (1995)	VII (1996)	VIII (1998)	IX (2000)	X (2001)	Total (1994-2001)
(I)	All unemployed, people	519	531	585	678	603	628	3544
1	P.E.S., % from (I)	38.3	42.9	45.8	38.3	30.2	26.4	36.8
2	Private employment agencies	12.7	12.2	12.0	16.4	18.1	14.5	14.4
	Informal social networks	64.4	62.9	71.3	79.3	78.5	77.0	72.8
	Incl.							
3	Friends' help	59.3	59.3	66.7	76.5	75.3	73.6	69.1
4	Relatives' help	29.1	31.1	41.7	42.0	43.1	40.0	38.3
5	Direct contacts with potential employers	44.7	42.6	46.8	52.1	57.2	51.0	49.4
6	Advertisements in mass media	29.3	31.8	35.2	41.4	41.5	38.9	36.7

**Table 6.** The dynamics of the use of different job search methods by employed. According to the RLMS data.

		Term (RLMS round, year)			
		VIII (1998)	IX (2000)	X (2001)	Total (1994–2001)
(I)	Job search channels users during the last 30 days, people	387	385	394	1166
1	P.E.S., in % from (I)	27.6	22.6	18.0	22.7
2	Private employment agencies	13.2	14.8	9.9	12.6
3	Friends' help	72.4	78.4	74.6	75.1
4	Relatives' help	33.6	37.9	30.5	34.0
5	Direct contacts with potential employers	36.4	43.9	40.1	40.1
6	Advertisements in mass media	39.3	39.2	38.3	38.9

**Table 7.** Job search strategies used by unemployed. 1994 – 2001, RLMS V – X.

	Search strategies						% from all unemployed						
	P.E.S.	Private agencies	Friends' help	Relatives' help	Direct contacts	Mass Media	Total (1994-2001)	V 1994	VI 1995	VII 1996	VIII 1998	IX 2000	X 2001
1			*				11.3	13.5	9.8	7.7	11.2	12.5	12.9
2					*		9.1	11.5	9.8	8.7	7.3	9.4	8.4
3	*						8.4	12.5	17	12	4.6	2.3	4.3
4			*	*			6.6	4.2	5.1	7.5	9.1	5.7	7.4
5			*	*	*	*	5	3.6	4.9	3.9	4.2	7	5.9
6			*		*		4.6	4	4.5	4.1	4.3	4.5	6.1
7			*	*	*		4.4	4.2	3.2	3.4	3.9	5.7	5.6
8	*		*	*	*	*	3.8	2	1.9	6.2	5.1	4.8	2.4
9			*			*	3.4	2.6	3.2	2.6	4.2	3.5	4
10	*	*	*	*	*	*	3.3	1.4	2.8	2.4	4.6	5.7	2.4
11			*	*		*	3	2.4	2.3	3.3	3.7	2.3	3.7
12						*	2.6	2.6	3	2.2	2.2	2.7	2.9
13			*		*	*	2.5	2.6	1.9	1.2	2.2	3.7	3.4
14	*		*				2.4	2.6	3.8	3.3	2.1	1	1.8
15	*		*		*	*	2.3	1.6	1.9	2.6	3.4	1.8	1.9
16	*		*		*		2.2	2	1.9	3.1	2.5	2	1.4
17	*		*	*			2.1	1.4	1.7	2.6	2.2	2.7	2.1
18	*				*		1.9	4	1.5	1.4	2.4	1.7	1
19	*		*	*	*		1.9	1.2	1.9	2.9	1.9	1.5	1.6
20				*			1.4	2	1.3	1.4	0.9	1.2	1.8
21					*	*	1.4	0.6	1.3	1	1	1.3	2.9
22		*	*				1.2	1.2	0.9	1.2	1.3	1	1.6
23	*		*	*		*	1.1	1.2	1.3	1.7	1	1.2	0.3
24		*					0.9	1.4	1.5	0.9	0.3	1	0.6

	Search strategies						% from all unemployed						
	P.E.S.	Private agencies	Friends' help	Relatives' help	Direct applications	Mass Media	Total (1994-2001)	V 1994	VI 1995	VII 1996	VIII 1998	IX 2000	X 2001
25	*				*	*	0.9	0.8	1.1	1	0.6	0.8	0.8
26		*	*	*	*	*	0.9	0.4	0.8	0.2	1.3	0.7	1.8
27	*					*	0.8	1.2	0.6	0.7	0.7	0.8	0.8
28	*		*			*	0.8	1.6	0.8	0.5	0.7	0.3	0.8
29	*	*	*		*	*	0.8	1	0.6	1	1	0.3	0.8
30		*	*			*	0.7	0.4	1.1	1	0.4	0.8	0.3
31	*	*	*	*	*	*	0.7	0.6	0.6	0.7	1	0.7	0.6
32		*	*		*	*	0.7	0.4	0.4	0	1.2	1.5	0.6
33		*	*	*	*	*	0.6	1.2	0.4	0.3	0.1	1	0.8
34		*	*		*	*	0.5	0.4	0	0.3	0.7	0.8	0.5
35	*	*	*	*	*	*	0.5	0.8	0.2	0.9	0.3	0	0.8
36		*	*	*	*	*	0.5	0.4	0.2	0.7	0.6	0.7	0.5
37				*	*	*	0.4	0.2	0.6	0.7	0.1	0.5	0.3
38	*	*	*		*	*	0.4	0.4	0	0.3	0.7	0.5	0.5
39		*	*	*	*	*	0.4	0.8	0.2	0.3	0	0.7	0.3
40	*			*			0.3	0	0.4	0.9	0.3	0.2	0
41	*	*	*				0.3	0	0.6	0.2	0.1	0.7	0.2
42	*	*			*		0.3	0.2	0.4	0	0.3	0.3	0.5
43	*			*		*	0.3	0.6	0.8	0.3	0.1	0.2	0
44				*	*	*	0.3	0.2	0	0.3	0.1	0.3	0.6
45	*	*	*	*	*	*	0.3	0.4	0.2	0.2	0.3	0.2	0.5
46	*	*					0.2	0.2	0.4	0.2	0.1	0.2	0.2
47		*				*	0.2	0.4	0.2	0.2	0.3	0.2	0.2
48	*			*	*	*	0.2	0.2	0.2	0.2	0.1	0.2	0.2
49	*	*	*			*	0.2	0.2	0.4	0.3	0.1	0.2	0.2
50	*	*			*	*	0.2	0.4	0	0	0.4	0.2	0.3
51		*		*			0.1	0	0.4	0.2	0.1	0	0.2
52		*			*		0.1	0.2	0	0.3	0	0.3	0
53				*		*	0.1	0.2	0	0.3	0.1	0.2	0
54	*	*				*	0.1	0	0.2	0	0.3	0	0
55		*		*	*	*	0.1	0.2	0	0	0.1	0	0
56		*			*	*	0.1	0	0	0.2	0.1	0.2	0.2
57	*			*	*	*	0.1	0	0	0.3	0.3	0	0
58		*		*	*	*	0.1	0	0	0	0.1	0.2	0
59		*		*	*	*	0.03	0	0	0	0	0	0.2
60	*	*		*	*	*	0	0	0	0	0	0	0
61	*	*		*	*	*	0	0	0	0	0	0	0
62	*	*		*	*	*	0	0	0	0	0	0	0
63	*	*		*	*	*	0	0	0	0	0	0	0

Channels that are included in the corresponding strategy are marked with star (\*).

**Table 8.** Job search strategies used by employed. 1998 – 2001, RLMS VIII – X.

	Search strategies						% from all employed job seekers			
	P.E.S.	Private agencies	Friends' help	Relatives' help	Direct applications	Mass Media	Total (1998-2001)	VIII 1998	IX 2000	X 2001
1			*				21.2	21.4	21.1	21.2
2					*		8.6	8.2	8.7	8.9
3			*	*			7.4	5	6.3	10.7
4			*			*	5.2	5.6	3.9	6.1
5			*		*		5	2.4	6.1	6.4
6						*	4.7	5.3	3.4	5.4
7			*	*		*	4.4	4.8	5.3	3.3
8			*	*	*	*	3.7	4.2	3.2	3.8
9			*	*	*		3.4	2.4	5	2.8
10	*						3.2	4.5	2.6	2.6
11	*	*	*	*	*	*	3	3.2	5	0.8
12	*		*	*	*	*	2.9	3.7	3.2	1.8
13			*		*	*	2.6	2.4	2.6	2.8
14					*	*	1.7	1.1	1.1	3.1
15	*		*	*		*	1.7	2.1	1.6	1.3
16	*		*				1.5	1.3	1.8	1.3
17	*		*			*	1.5	1.3	1.3	1.8
18				*			1.4	1.6	1.3	1.3
19	*		*		*		1.3	1.9	1.1	1
20	*				*		1	1.6	0.5	0.8
21		*	*				1	1.6	1.1	0.3
22	*		*	*	*		1	1.3	0.8	1
23	*		*		*	*	1	0.8	1.1	1.3
24	*		*	*			0.9	1.6	0.5	0.5
25		*	*			*	0.9	1.1	0.5	1
26		*	*	*	*	*	0.7	0.5	0.5	1
27		*	*	*			0.6	0.5	0.8	0.5
28		*	*		*	*	0.6	0	0.8	1
29		*					0.5	0.5	0.5	0.5
30	*					*	0.5	0.8	0.5	0.3
31	*	*	*			*	0.5	0	0.3	1.3
32	*	*	*		*	*	0.5	0.3	0.8	0.5
33		*				*	0.4	0.8	0.5	0
34				*	*		0.4	0.5	0.5	0.3
35	*	*	*				0.4	1.1	0.3	0
36		*	*	*	*		0.4	0	1.1	0.3
37		*			*		0.3	0.8	0	0.3
38				*		*	0.3	0	0.8	0.3
39	*	*			*		0.3	0.3	0	0.5
40	*			*		*	0.3	0.5	0.3	0

	Search strategies						% from all employed job seekers			
	P.E.S.	Private agencies	Friends' help	Relatives' help	Direct applications	Mass Media	Total (1998-2001)	VIII 1998	IX 2000	X 2001
41		*	*		*		0.3	0.5	0.5	0
42		*		*		*	0.3	0.5	0.3	0
43				*	*	*	0.3	0.3	0.3	0.3
44	*	*	*		*		0.3	0.3	0.3	0.3
45	*	*	*	*	*		0.3	0.3	0.3	0.3
46	*	*	*	*		*	0.3	0.3	0.5	0
47		*	*	*		*	0.3	0	1.1	0
48	*	*				*	0.2	0	0	0.5
49		*			*	*	0.2	0	0	0.5
50	*	*	*	*			0.2	0.3	0	0.3
51	*	*			*	*	0.2	0.3	0	0.3
52	*			*			0.1	0.3	0	0
53		*		*			0.1	0.3	0	0
54	*				*	*	0.1	0	0.3	0
55	*	*					0	0	0	0
56	*	*		*			0	0	0	0
57	*			*	*		0	0	0	0
58		*		*	*		0	0	0	0
59	*	*		*	*		0	0	0	0
60	*	*		*		*	0	0	0	0
61	*			*	*	*	0	0	0	0
62	*	*		*	*	*	0	0	0	0
63		*		*	*	*	0	0	0	0

**Table 9.** Factor analysis. Method: principal components. Rotation: Varimax. Rotated component matrix. Unemployed. 1994 – 2001, RLMS

	Informal networks	Formal intermediaries	Informal self-dependent search
P.E.S.	-0.214	0.811	-0.015
Private agencies	0.259	0.634	0.090
Friends' help	0.833	-0.067	-0.057
Relatives' help	0.742	0.087	0.126
Direct contacts with employers	-0.062	-0.045	0.927
Mass Media	0.378	0.293	0.498



**Table 10.** Factor analysis. Method: principal components. Rotation: Varimax. Rotated component matrix. Employed. 1998 – 2001, RLMS.

	Informal networks	Formal intermediaries	Informal self-dependent search
P.E.S.	-0.029	0.705	0.083
Private agencies	0.002	0.738	-0.030
Friends' help	0.767	-0.015	-0.348
Relatives' help	0.799	0.151	0.281
Direct contacts with employers	-0.010	0.086	0.928
Mass Media	0.218	0.574	0.101

**Table 11.** Different types of search strategies used by unemployed. RLMS, 1994–2001.

	Distribution Among Types of Strategies (%)	Time period (round RLMS, year)						Total (1994–2001)
		V (1994)	VI (1995)	VII (1996)	VIII (1998)	IX (2000)	X (2001)	
1	Informal social nets	19.7	16.3	16.6	21.3	19.4	22.0	19.3
2	Formal mediators	14.1	18.9	13.0	5.1	3.5	5.1	9.5
3	Informal self-dependent search	14.7	14.2	12.0	10.6	13.4	14.1	13.1
4	Informal search of 2 types	19.9	20.6	19.9	23.1	27.8	29.7	23.7
5	“Complex” strategies	31.6	30.1	38.5	40.0	36.0	28.9	34.4

**Table 12.** Different types of search strategies used by employed. RLMS, 1998–2001.

	Distribution Among Types of Strategies (%):	Time period (round RLMS, year)			
		VIII (1998)	IX (2000)	X (2001)	Total (1998–2001)
1	Informal social nets	28.0	28.7	33.2	30.0
2	Formal mediators	5.0	3.2	3.1	3.7
3	Informal self-dependent search	14.6	13.2	17.3	15.0
4	Informal search of 2 types	22.5	27.6	26.0	25.4
5	“Complex” strategies	29.9	27.4	20.4	25.8

**Table 13.** The number of search channels used during job search. Unemployed. RLMS, 1994 – 2001.

Year	The number of search channels						Total, people
	1	2	3	4	5	6	
1994	43.5%	21.5%	18.3%	10.5%	4.8%	1.4%	503
1995	42.5%	22.9%	16.4%	11.3%	4.0%	2.8%	529
1996	32.9%	24.5%	18.0%	13.4%	8.9%	2.4%	584
1998	26.6%	26.5%	18.9%	14.5%	8.8%	4.6%	668
2000	29.1%	21.1%	22.1%	15.6%	6.5%	5.7%	598
2001	30.9%	26.4%	21.2%	12.7%	6.4%	2.4%	622
Total	33.7%	23.9%	19.2%	13.1%	6.7%	3.3%	3504

**Table 14.** The number of search channels used during job search. Employed. RLMS, 1998 – 2001.

Year	The number of search channels						Total, people
	1	2	3	4	5	6	
1998	41.5%	22.0%	19.0%	9.3%	5.0%	3.2%	378
2000	37.6%	23.2%	18.9%	10.0%:	5.3%	5.0%	380
2001	39.8%	29.6%	15.6%	10.7%	3.6%	0.8%	392
Total	39.7%	25.0%	17.8%	10.0%	4.6%	3.0%	1150

**Table 15.** Descriptive statistics. RLMS.

	Unemployed 1995-2001.		Employed 1998-2001.	
	mean	N	mean	N
General employment record (years) <sup>9</sup>	13.06	3013	14.83	1156
Non-employed for 3 months or less	0.25	731	*	*
Middle non-employed duration of 3-12 months	0.21	627	*	*
Non-employed for more than a year	0.54	1593	*	*
Regional center (big city)	0.41	1234	0.53	620
Town	0.28	860	0.29	342
Village or urbane village	0.31	931	0.17	204
Moscow and St. Petersburg	0.08	224	0.09	96
North, North-west	0.10	291	0.13	141
Central, Central black soil	0.18	522	0.19	209
Povolzhye, Volga-Vyatskiy	0.16	485	0.18	198
North Caucasus	0.17	506	0.11	120
Ural	0.15	431	0.16	184
West Siberia	0.12	359	0.10	116
East Siberia, Far East	0.05	148	0.05	56
Regional unemployment rate	10.90	3025	10.53	1166
Russian	0.82	2462	0.86	996
Ukrainian, Byelorussian, Moldavian	0.03	83	0.03	34
Caucasian	0.09	265	0.02	21
Tatar, Bashkir	0.02	62	0.03	39
Minor Russian Nationalities (Komi, Chuvash, Udmurt, Mordvinian etc.)	0.03	102	0.05	54
The others nationalities or missing data	0.01	30	0.02	18
Marital status (1- married or lived together)	0.58	3017	0.72	1160
Youth (16-25 y.o.)	0.34	1020	0.25	294
The main able-bodied ages (26-49)	0.53	1608	0.65	760
Mature age (over 49 y.o.)	0.13	397	0.10	112
Gender (1 – female, 0 – male)	0.50	3025	0.50	1166
Primary education	0.15	441	0.07	86
High education	0.47	1428	0.42	488
High special education	0.26	800	0.28	327
Higher education	0.12	356	0.23	265
Prof. group: qualified workers	0.16	489	0.32	369
Specialists with higher education, executives	0.05	147	0.19	225
Specialists with high education	0.12	359	0.32	371
Common labor workers	0.07	219	0.17	200
Never worked, or missing data	0.60	1811	0.00	1
Family income per capita additional to personal income (in the n.logarithmic form)	5.64	2815	5.55	1123
Personal money income (in the n. logarithmic form)	3.39	3025	5.92	1166
Incidental / Odd job (1 – has one, 0 – hasn't one)	0.24	3025	0.11	1166

<sup>9</sup> “How many years does your general employment record cover?”. If the respondent had never worked GER= 0. If he didn't answer to the corresponding question but had ever worked before the duration of the employment record has been computed as the difference between age and the duration of the current non-employment period minus length of education period.

**Table 16.** The analysis of the job search channels choice. Unemployed. RLMS, 1995 – 2001 (pooled). Probit estimates. Marginal effects (dF/dx) is represented for discrete change of dummy variable from 0 to 1 (at x-bar).

	1	2	3	4	5	6
	P.E.S.	Private agencies	Friends' help	Relatives' help	Direct contacts	Mass media
1996	0.0396	-0.0001	0.0538**	0.0845***	0.0417	0.0465
1998	-0.1078***	0.0509**	0.1338***	0.1152***	0.0657**	0.1533***
2000	-0.1347***	0.0593***	0.1248***	0.1104***	0.1239***	0.1526***
2001	-0.1311***	0.0292	0.1051***	0.0723**	0.0992***	0.1256***
Youth (16-25)	-0.0454	-0.0154	-0.0336	0.0386	0.0441	-0.0007
Mature age (50+)	-0.1030***	-0.0396	-0.0989***	-0.0918**	-0.1482***	-0.1323***
Gender (Female)	0.1070***	-0.0081	-0.0971***	-0.0163	-0.0801	0.0345
Married, lived together	0.0154	-0.0252	-0.0155	0.0442**	-0.0469**	-0.0275
Primary education	-0.0029	-0.0096	-0.0278	0.0106	0.0425	-0.0017
High special education	-0.024	0.0021	0.0522***	0.0570**	0.0652***	0.0623***
Higher education	0.0842***	0.0457**	0.0961***	0.1202***	0.1312***	0.1357***
Ukrainian, Byelorus., Moldavian	0.041	-0.026	-0.1091**	-0.1138**	-0.0101	-0.1128**
Caucasian	-0.0993**	-0.0408	0.0166	0.2227***	-0.0203	0.0728
Tatar, Bashkir	-0.0803	-0.0219	0.0237	-0.0421	0.058	-0.1009
Minor Russian nationalities	0.1276***	0.0003	-0.1802***	-0.0705	-0.0976**	-0.2293***
The others nationalities	-0.1762**	0.1026	0.1305	0.0209	-0.1598	0.0078
Specialists with higher education, executives	0.0098	0.0036	-0.0487	-0.0805	-0.0998**	-0.1343***
Specialists with high education	-0.0239	-0.0247	0.0711**	0.0566	-0.1366***	-0.0299
Common labor workers	-0.0689**	0.0251	-0.0356	0.0174	-0.0069	-0.062
Never worked, or missing data	-0.0560**	-0.0244	0.002	0.0016	-0.1214***	-0.0241
GER	0.0011	0.0001	-0.0015	-0.0013	0.0074***	-0.001
Non-employed for 3 months or less	-0.0552**	-0.0276	-0.0058	-0.0255	-0.0365	-0.0391
Non-employed for more than a year	0.002	-0.0112	-0.0299	-0.0189	-0.0232	-0.0540**
N.logarithm of personal income	0.0013	-0.0033	-0.0073**	-0.0057**	-0.0087***	-0.0110***
N.logarithm of add family income p.c.	-0.0032	0.0007	0.0051	-0.0019	0.0007	0.0035
Odd job	-0.0504**	0.0176	0.1055***	0.0549**	0.0357	0.1009***
Regional unemployment rate	0.0145***	0.0001	0.0026	-0.0004	0.006	-0.0022
Regional center (big city)	-0.0918***	0.0076	0.0212	0.0111	-0.1380***	0.0875***
Villages or urb. villages	-0.0787***	-0.0669***	-0.0999***	-0.0404	0.0106	-0.1991***
Constant (коэфф.)	-0.4666**	-0.7412**	0.639**	-0.6071**	0.0845	-0.0122
Observations	2675	2673	2672	2665	2674	2672

\*\* significant at 5% level; \*\*\* significant at 1% level.

In the tables No 16–21, 26 results are represented in the cut-off form. Besides indicated variables control variables for regions have been included in all regressions (tabl. 15).

**Table 17.** The analysis of the job search channels choice. Employed. RLMS, 1998 – 2001 (pooled). Probit estimates. Marginal effects (dF/dx) is represented for discrete change of dummy variable from 0 to 1 (at x-bar).

	1	2	3	4	5	6
	P.E.S.	Private agencies	Friends' help	Relatives' help	Direct contacts	Mass media
2000	-0.0187	-0.0088	0.1006**	0.0115	0.1067*	-0.0789*
2001	-0.0619	-0.0696*	0.0691	-0.0619	0.0806	-0.1574**
Youth (16-25)	-0.0202	0.0366	-0.0344	0.0481	0.0128	-0.0221
Mature age (50+)	0.2427**	0.0141	-0.0355	0.0335	0.1371*	0.0524
Gender (Female)	0.0713*	-0.0392*	-0.0706*	0.0578	-0.0584	0.0998**
Married	-0.0174	-0.0261	-0.0201	-0.0207	0.0509	-0.0351
Primary education	-0.0506	-0.0291	-0.0124	0.0242	0.0734	0.0639
High special education	-0.0104	-0.0064	0.0226	0.0262	0.0675	-0.0295
Higher education	-0.0267	-0.0142	-0.0375	0.0127	0.0549	0.0261
Ukrainian, Byelorus., Moldavian	-0.0441	-0.044	-0.1448*	-0.0021	0.0533	-0.0852
Caucasian	-0.0956	0.1135	0.131	0.2181*	-0.1899*	0.0623
Tatar, Bashkir	-0.0641	-0.0963*	-0.1272*	-0.2112**	0.0202	-0.3058**
Minor Russian nationalities	-0.0009	-0.0309	0.076	-0.0055	-0.0826	-0.1492*
The others nationalities	-0.171*	0.0513	-0.0292	-0.0728	-0.0615	0.0176
Specialists with higher education, executives	-0.0685	-0.0133	0.0733	-0.062	-0.1215*	-0.1211*
Specialists with high education	-0.028	-0.0178	0.0783*	-0.0177	-0.0621	-0.0892*
Common labor workers	0.0075	0.0185	0.0515	0.0519	0.0196	0.0329
General employment record	-0.0001	0.0016	-0.0015	-0.0001	0.0038	-0.0024
N.logarithm of personal income	0.0003	-0.0017	0.0028	0.???	0.011*1	0.0095
N.logarithm of add family income per capita	0.0076	-0.0012	0.0021	0.0109*	-0.001	-0.0019
Odd job	0.038	0.0513	0.0049	0.0373	-0.0853*	-0.0113
Regional unemployment rate	0.0106	-0.0052	0.0142*	-0.0035	0.0171*	-0.0208**
Regional center	-0.0618	0.0226	0.0153	-0.0432	-0.0861*	0.0849*
Villages or urban villages	0.019	-0.0103	-0.0466	-0.0391	0.0343	-0.1393**
North/North-west	-0.0029	0.1746*	-0.1013	0.2173*	0.11	0.372**
Constant	-0.9769**	-0.8689*	0.2637	-0.8901**	-1.3425**	-0.0801
Observations	1059	1055	1063	1052	1057	1057

\*\* significant at 5% level; \*\*\* significant at 1% level.

**Table 18.** The choice of the search strategy type. Unemployed. RLMS, 1995-2001 (pooled). Multinomial logit regression. Number of observations = 2654. Log likelihood = -3716.2395. Pseudo R2 = 0.0694.

	Strategy choice / joint groups (multi logit coefficients)			
	Formal mediators	Informal self-dependent search	Informal search of 2 types	“Complex” strategies
1996	-0.2727	-0.0673	-0.0292	0.3399**
1998	-1.8676***	-0.2458	-0.0926	-0.1284
2000	-1.7968***	-0.1089	0.1358	-0.0322
2001	-1.2617***	-0.0325	0.2039	-0.0894
Youth (16-25)	0.4575**	0.5439**	0.3681**	0.1066
Mature age (50+)	-0.7624**	-0.0587	-1.0765***	-1.1678***
Gender (Female)	0.8905***	0.2347*	-0.1486	0.2200**
Married, lived together	0.0424	-0.2316*	-0.2115*	-0.1814*
Primary education	-0.4103*	-0.0767	-0.2606*	-0.1501
High special education	-0.2307	0.0044	0.4027***	0.1712
Higher education	-0.0621	-0.2121	0.3828**	0.5534***
Ukrainian, Byelorus., Moldavian	0.5006	0.4504	-0.4422	-0.0119
Caucasian	-0.9071**	-0.6086*	0.0644	-0.5806**
Tatar, Bashkir	-0.7931	0.1653	-0.4998	-0.3657
Minor Russian nationalities	0.8266**	0.1650	-1.2355***	0.0042
The others nationalities	-1.1201	-1.6236*	-0.0169	-0.1529
Specialists with higher education, executives	-0.0290	-0.2983	-0.7451**	-0.4850*
Specialists with high education	-1.1125***	-0.7964***	-0.7099***	-0.5231**
Common labor workers	-0.0113	-0.0292	-0.0395	-0.1095
Never worked, or uncertain occupation	-0.4772**	-0.4315**	-0.5555***	-0.5377***
General employment record	0.0435***	0.0354***	0.0314***	0.0258***
Non-employed for 3 months or less	-0.4839**	-0.3239*	-0.2920*	-0.5977***
Non-employed for more than a year	-0.1596	-0.1023	-0.2409*	-0.2499*
N.logarithm of personal income	0.0455*	-0.0012	-0.0211	-0.0161
N.logarithm of add family income p.c.	-0.0328	-0.0119	-0.0006	-0.0126
Odd job	-0.4880**	-0.5363***	0.0981	-0.1930
Regional unemployment rate	0.0484	-0.0517*	-0.0092	0.0429*
Regional center	-0.4020**	-0.4795***	-0.1430	-0.3966***
Villages or urb. villages	0.1889	0.3972**	-0.0308	-0.4379***
Constant	-1.4779**	0.6148	1.0197**	1.2797***

\* significant at 10% level; \*\* significant at 5% level; \*\*\* significant at 1% level.

(The first group – **informal social nets** is omitted / base category).

**Table 19.** The choice of the search strategy type. Employed. RLMS, 1998–2001 (pooled). Multinomial logit regression. Number of observations = 1049. Log likelihood = -1453.078. Pseudo R2 = 0.0561.

	Strategy choice / joint groups (multi logit coefficients)			
	Formal mediators	Informal self-dependent search	Informal search of 2 types	“Complex” strategies
2000	-0.6429	-0.3750	0.1406	-0.0004
2001	-0.9283*	-0.4509	-0.2348	-0.5965**
Youth (16-25)	-0.7864	0.0935	-0.1017	-0.0009
Mature age (50+)	1.0219*	0.4933	0.6722*	1.3227***
Gender (Female)	0.2495	0.4303**	0.0743	0.3583**
Married, lived together	0.4517	0.1993	0.1699	-0.2267
Primary education	-0.0305	-0.0026	0.2666	-0.0412
High special education	-0.1576	-0.0833	-0.0138	-0.0081
Higher education	-0.1670	0.4252*	0.2478	0.2220
Ukrainian, Byelorus., Moldavian	-0.4351	-0.1975	-0.1731	-0.5718
Caucasian	-30.9424***	-1.6030*	-0.4357	-0.1789
Tatar, Bashkir	0.4346	0.1109	-1.6604***	-1.5863***
Minor Russian nationalities	-31.7876***	-1.4558**	-1.3062***	-0.7262**
The others nationalities	0.0691	-0.5080	-0.0807	-0.4535
Specialists with higher education, executives	0.3523	-0.9595***	-0.4584*	-0.9672***
Specialists with high education	0.0713	-0.8485***	-0.1646	-0.5074**
Common labor workers	0.0704	-0.1494	0.1619	0.1741
Never worked, or uncertain occupation	0.4650	-0.5238	33.4853***	-1.1168**
General employment record	0.0045	0.0160	-0.0080	0.0017
N.logarithm of personal income	-0.0556	0.0713**	0.0331	0.0163
N.logarithm of add family income p.c.	-0.0273	0.0039	-0.0286	0.0124
Odd job	0.0492	-0.1331	-0.3617	0.0492
Regional unemployment rate	-0.0264	-0.0582	0.0209	0.0483
Regional center	-0.9872**	0.0721	-0.0589	-0.0814
Villages or urban villages	-0.0026	0.2756	-0.1472	-0.0678
Constant	-0.4758	-1.1764	-0.5439	-0.5152

\* significant at 10% level; \*\* significant at 5% level; \*\*\* significant at 1% level.

(The first group – **informal social nets** is omitted / base category).

**Table 20.** The choice of the channels number. Unemployed. RLMS, 1995–2001 (pooled). Ordered probit regression. Number of observation = 2676. Log likelihood = -4189.6434. Pseudo R2 = 0.0259.

	Choice of the channels number / Unemployed	
	Coef.	Robust Std. Err.
1996	0.2144***	0.0684
1998	0.3030***	0.0843
2000	0.3253***	0.0711
2001	0.2443***	0.0709
Youth (16-25)	-0.0171	0.0687
Mature age (50+)	-0.4714***	0.0989
Gender (Female)	-0.0634*	0.0455
Married, lived together	-0.0403	0.0467
Primary education	-0.0112	0.0681
High special education	0.1729***	0.0520
Higher education	0.4313***	0.0762
Ukrainian, Byelorus., Moldavian	-0.2565**	0.1341
Caucasian	0.1137	0.1012
Tatar, Bashkir	-0.1228	0.1448
Minor Russian nationalities	-0.3577***	0.1268
The others nationalities	0.0275	0.1632
Specialists with higher education, executives	-0.2593**	0.1183
Specialists with high education	-0.0563	0.0841
Common labor workers	-0.0655	0.0909
Never worked, or uncertain occupation	-0.1534***	0.0617
General employment record	0.0028	0.0034
Non-employed for 3 months or less	-0.1354**	0.0622
Non-employed for more than a year	-0.0874*	0.0553
N.logarithm of personal income	-0.0253***	0.0075
N.logarithm of add family income per capita	0.0043	0.0093
Odd job	0.1880***	0.0557
Regional unemployment rate	0.0161*	0.0103
Regional center	-0.0703	0.0551
Villages or urb. villages	-0.3604***	0.0609

\*\*\* significant at 1% level, \*\* significant at 5% level, \* significant at 10% level.



**Table 21.** The choice of the channels number. Employed. RLMS, 1998–2001 (pooled). Ordered probit regression. Number of observation = 1065. Log likelihood = -1540.7976. Pseudo R2 = 0.0240.

	Choice of the channels number / Employed	
	Coef.	Robust Std. Err.
2000	0.1366	0.1124
2001	-0.1001	0.1243
Youth (16-25)	-0.0141	0.1121
Mature age (50+)	0.3799***	0.1566
Gender (Female)	0.0544	0.0814
Married, lived together	-0.0581	0.0791
Primary education	0.0475	0.1348
High special education	0.0570	0.0882
Higher education	0.0360	0.1121
Ukrainian, Byelorus., Moldavian	-0.2190	0.2006
Caucasian	0.1530	0.2867
Tatar, Bashkir	-0.9277***	0.1998
Minor Russian nationalities	-0.1828	0.1744
The others nationalities	-0.2377	0.2931
Specialists with higher education, executives	-0.2669**	0.1267
Specialists with high education	-0.1071	0.1014
Common labor workers	0.1321	0.1105
Never worked, or uncertain occupation	0.9490***	0.2243
General employment record	-0.0017	0.0057
N.logarithm of personal income	0.0142	0.0129
N.logarithm of add family income p.c.	0.0127	0.0142
Odd job	0.0235	0.1103
Regional unemployment rate	0.0165	0.0192
Regional center	-0.0482	0.0831
Village or urban village	-0.1349	0.1074

\*\*\* significant at 1% level, \*\* significant at 5% level, \* significant at 10% level.

**Table 22.** The change of the status on the labor market in t+1 round, unemployed, RLMS, 1994 – 2000.

	Round					Total
	5	6	7	8	9	
Unemployed in t round, people	373	398	448	508	516	2243
Status in t+1 round						
Employed, %	42.1	37.4	36.4	42.9	39.3	39.7
Unemployed, %	27.6	30.7	26.3	22.8	28.3	27.0
Economically non-active, %	30.3	31.9	37.3	34.3	32.4	33.3

**Table 23.** The efficiency of job-finding by search channels used. Unemployed. RLMS, 1994-2000.

	Job search channels					
	P.E.S.	Public agencies	Friend's help	Relatives' help	Direct contacts	Mass Media
Unemployed in t round, people	877	304	1510	845	1101	799
Status in t+1 round						
Employed, %	40.9	48.7	42.8	41.3	41.9	44.6
Unemployed, %	30.2	26.6	27.4	29.2	27.1	29.7
Economically non-active, %	28.8	24.7	29.8	29.5	31.1	25.8

**Table 24.** The efficiency of job-finding by the type of search strategy. Unemployed, RLMS, 1994–2001.

	Strategy types					Total
	Informal social nets	Formal mediators	Informal self-dependent search	Informal channels of 2 types	Complex strategies	
Unemployed in t round, people	413	240	297	489	775	2214
Status in t+1 round						
Employed, %	39.2	31.7	31.0	40.9	45.2	39.7
Unemployed, %	20.8	28.8	23.2	228.6	29.4	26.7
Economically non-active, %	40.0	39.6	45.8	30.5	25.4	33.5

**Table 25.** The efficiency of job-finding depending upon the number of search channels used. Unemployed, RLMS, 1994–2001.

	Number of search channels						Total
	1	2	3	4	5	6	
Unemployed in t round, people	781	509	409	290	153	72	2214
Status in t+1 round							
Employed, %	34.7	38.7	42.1	42.1	51.6	54.2	39.7
Unemployed, %	23.0	25.9	30.3	31.4	30.1	26.4	26.7
Economically non-active, %	42.3	35.4	27.6	26.6	18.3	19.4	33.5

**Table 26.** The influence of the job search channels on the efficiency of search. Dependent variable is the probability of job finding in the t+1 round. Probit estimates. Marginal effects (dF/dx) is represented for discrete change of dummy variable from 0 to 1 (at x-bar).

	Influence of search channels	Influence of search strategies	Influence of channels number (1)	Influence of channels number (2)
P.E.S.	0.0148			
Private agencies	0.0611**			
Friends' help	0.0392*			
Relatives' help	0.0123			
Direct applications	0.0447**			
Mass Media	-0.0152			
2 <sup>nd</sup> strategy type (Formal mediators)		-0.0588*		
3 <sup>rd</sup> strategy type (Informal self-dependent search)		-0.0867**		
4 <sup>th</sup> strategy type (Informal channels of 2 types)		-0.0256		
5 <sup>th</sup> strategy type ("Complex")		0.0182		
2 channels			0.0422	
3 channels			0.0490	
4 channels			0.0446	
5 channels			0.1245***	
6 channels			0.1442**	
CHANNELS NUMBER				0.0235***
1995	-0.0238	-0.0221	-0.0231	-0.0225
1996	-0.0077	-0.0080	-0.0090	-0.0076
1998	0.1247***	0.1295***	0.1229***	0.1247***
2000	0.0260	0.0305	0.0254	0.0259
Youth (16-25)	0.0406	0.0437	0.0392	0.0415
Mature age (50+)	-0.2142***	-0.2146***	-0.2131***	-0.2153***
Gender (Female)	-0.0211	-0.0262	-0.0277	-0.0292
Married, lived together	0.0811***	0.0760***	0.0786***	0.0790***
Primary education	-0.0304	-0.0310	-0.0291	-0.0302
High special education	0.0279	0.0299	0.0254	0.0267
Higher education	0.1752***	0.1784***	0.1701***	0.1705***

	Influence of search channels	Influence of search strategies	Influence of channels number (1)	Influence of channels number (2)
Ukrainian, Byelorus., Moldavian	-0.0798	-0.0762	-0.0632	-0.0643
Caucasian	-0.1879***	-0.1918***	-0.1931***	-0.1928***
Tatar, Bashkir	0.0408	0.0439	0.0436	0.0477
Minor Russian nationalities	-0.0422	-0.0485	-0.0362	-0.0387
The others nationalities	-0.0794	-0.0912	-0.0616	-0.0597
General employment record	-0.0019	-0.0015	-0.0018	-0.0017
Non-employed for 3 months or less	-0.0085	-0.0106	-0.0089	-0.0085
Non-employed for more than a year	-0.1617***	-0.1641***	-0.1659***	-0.1651***
N.logarithm of personal income	-0.0038	-0.0040	-0.0033	-0.0032
N.logarithm of add family income per capita	0.0007	0.0005	-0.0006	-0.0008
Odd job	0.1014***	0.1057***	0.0970***	0.0947***
Regional unemployment rate	-0.0197***	-0.0202***	-0.0194***	-0.0194***
Regional center	0.0173	0.0122	0.0165	0.0157
Villages or urb. villages	0.0021	0.0104	0.0088	0.0078
Constant (coef.)	0.1616	0.3778	0.2477	0.1886
Number of observations	2014	2014	2042	2042
Pseudo R2	0.1028	0.1023	0.1019	0.1012

\*\*\* significant at 1% level, \*\* significant at 5% level, \* significant at 10% level.

In the second equation the 1<sup>st</sup> strategy type (informal social nets) is omitted.

In the third equation the use of only 1 channel is omitted.

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