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"Work matters"

Special interest stream: Employable Workers and Attractive Employers?

Graduate employability in transitional economy

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Full paper

Abstract:

This paper addresses higher education graduates' employability in Russia. We seek to find out what demands are placed on graduates by the modern labour market in Russia, in order to know how higher education should perform to prepare the *employable professional*. The transition from the communist economy to a labour market one generated important transformations on graduate labour market. A quasi-total abolition of the public regulating mechanisms in study to work transition, changes in social values and considerable mismatches between education and occupations bring about more demands for *flexible workers*. Under these circumstances, those graduates who acquired during their studies not only a deep field-related knowledge, but a *wider* set of professional competencies would better succeed on the labour market. It appears important not only to master a particular domain of knowledge, but also be able to acquire rapidly new knowledge, to manage others, to be able to negotiate effectively, to perform well under pressure, etc.

Since the yearly 90s, the Russian economy has been experiencing a period of 'system transformation'. Reforms of 1991 proclaimed the shift from the command system to the free market one. This transition has appeared to be painful for the national economy. The GDP shrunk by nearly 38% from 1989 to 1995, the employment level decreased by 15% between 1992 and 1999 (Tchetvernina et al., 2001). Since the beginning of the third millennium, the situation had inversed and a certain revival in the economy has been reported, mostly because of the increase in prices for hydrocarbon products on the international market. Due to a good position of Russia as an exporter of gas and petrol on the international market, the country is currently benefiting of a favourable situation for redressing its economy and improving life standards of population.

However, today, the productivity and growth of a given country depend to a lower extent of the abundance of its natural resources and to a higher extent to the capacity to improve the quality of human capital (David and Foray, 2000). The role of the human capital is thus becoming increasingly important. While in industrial societies the accent was made on material factors of production, a new economic organisation puts emphasis on human resources. The main capital of a society appears to be knowledge. In this context, ***higher education assures a role of a key institution providing individuals with knowledge and skills required by the modern economy***.

It seems that the further development of Russia will depend on its capacity to effectively use and develop its human capital. The latter was considerably increased throughout the socialist past of Russia and during the expansion of higher education throughout the 90s. First, the soviet system provided an equal access to education for all population and this enabled to improve significantly the quality of the human capital in the country. Second, the emergence of the private sector in education in the mid-90s resulted in a considerable increase in tertiary education enrolments. Nowadays, *Russia appears to be one of the most 'educated' country in the world.* According to statistics, in 2002 the percentage share of people aged 25 – 64 with tertiary educational attainment accounted for 54%, which is by 13% more than the maximum in the OECD countries (OECD, 2003; National Statistics Office, 2003). However, high participation rates in tertiary education are not reflected in relevant economic and social indicators of Russia. Experts argue that this is due to ***inefficient labour market and low education quality*** (UNDP, 2004[1]).

It turns out that the national system of ***higher education does not take into account the current needs of employers.*** Higher education graduates appear to experience difficulties in study to work transition and further career because they do not meet new requirements. The economic structure has changed, but higher education system seems to lag behind these transformations providing students with the same type of knowledge and skills as before the 90s. This situation is partially due to *the lack of thorough research on requirements of the modern labour market.* Therefore, it is of high importance to investigate what competencies higher education graduates are required to possess nowadays. Answers to these questions should enable to formulate recommendations for higher education institutions in order to improve academic curriculum and study provision.

[1] UNDP - United Nations Development Programme

Labour market in transition

At the beginning of the 90th, the Russian Federation has become a democratic country, with a large private sector, and a free market. Changes of the 90s had seriously affected the overall economic situation in the country and the labour market, in particularly. One may observe a sharp increase in unemployment rate, an appearance of informal economic practices, growing discrepancies in development of different economic sectors and geographical regions, a diminishing of the demand for specialists with a scientific specialisation and a high level of professional skills and competencies.

Between 1992 and 1999 the employment level in Russia had contracted by 15% and the unemployment had doubled. There appeared multiple discrepancies in development of economic branches. Between 1992 and 2000, employment in manufacturing, agriculture, construction, and research and development has decreased respectively by 32%, 17%, 37%, and 48%. The employment was on the rise in trade and catering, housing and utilities, finance and crediting and administration by accordingly 66%, 11%, 50%, and 115% (National Statistics Office, 2005).

The 90s were particularly marked by the emergence of the private sector. The period between 1993 and 1995 witnessed a mass privatization throughout the country. 122,000 enterprises were privatised during these years. By the end of the 90th, the share of the private sector has reached 30%, in comparisons to 9% at the beginning of the 90th (National Statistics Office, 2005). The private sector became quickly more attractive for workers compared to the public sector and this mostly in terms of wages. While the public sectors enjoyed an important reduction of the state funding and consequently could not offer attractive salaries, the private sector offered two or three times higher wages. In 2004, wages in education or in culture and arts were 30 - 35% less than the average salary across economic branches, whereas in communications and in transport, they were 30 - 40% higher than the national average. In finance and credit branch, the average salary was 2.5 times more than the national average. Gas and oil industrial production branches offered the highest salaries on the labour market, varying between 2 and 5 times higher than the national average. The only exception in the public sector was the administration branch where the average salary was 1,2 times higher than the national average (National Statistics Office, 2005).

Throughout the 90s, discrepancies in economic development across geographic regions have become salient. The mean monthly salary in Moscow in 2004 was 200% higher than in the Volgograd region. In the Tymen region, an oil extracting region, it was 353% higher than in the Volgograd region and 167% higher than in Moscow (National Statistics Office, 2007).

Besides these discrepancies, since the beginning of 2000, ***a relative economic revival*** is observed in Russia. Income per capita and average salaries started to grow. If between 1991 and 2000, the average salary had decreased twice, in the period from 2000 to 2006, it had doubled: in 1991, it was 548 roubles, in 2000 - 238 roubles, and in 2006 - 524 roubles (in prices of 1991)). The GDP started to grow: the average annual increase in GDP at the beginning of the 2000 accounted for 7-8%.

The rate of unemployment had fallen down from 9.8% in 2000 to 6.7% in 2006 (National Statistics Office, 2007).

International experts argue that the improving of the economic situation in Russia since 2000 is linked to the increase in petrol and gas prices (Linn, 2003; World Bank, 2003). At the same time, many researchers argue that Russia has not made the necessary efforts to tackle sources of inefficiency in its institutional organisation. Transitional phase of this period was characterised by Kapeliushnikov as ***"adjustment without restructuring"*** (Kapeliushnikov, 1999). Russian's shift form one type of economy to another one was smoother than in other east European countries according to official indicators. While in Bulgaria or in Hungary, between 1989 and 1995, the employment decrease was 25% and 26% respectively, and the GDP fall by 25% and 14%, in Russia, a 38% decrease in GDP was accompanied by only 12% decrease in employment (World Bank, 2000). A moderate decline in the employment rate hid a considerable underemployment in the Russian economy (involuntary administrative leaves, short working hours, work with delayed payment of wage, etc.). These largely transformed the labour market and contributed to the development of an *informal economy* characterised by a "shadow" compensation and a wide spread of secondary employment (multiple job-holders). Paradoxically, the informal economic practices became finally crucially important for the national economy. They enabled to survive to a number of economic sectors, particularly state funded sectors, that experienced a severe structural and financial crises at that time. The principle of "adjustment without restructuring" is particularly relevant to public sectors.

The economic 'revival' in the country geared *more demand for qualified labour*. Immediately after the period of mass labour hoarding occurred mainly between 1992 and 1995, the economic boom of the beginning of 2000 brought about an increased demand in labour. Companies were induced to compete for highly-qualified employees in hope to get more productive workers that could contribute to a company's development on a rapidly expanding market.

The presence of noticeable labour surpluses in Russian enterprises was characteristic for the soviet economy and at the beginning of the reforms in the yearly 90s. Since the yearly 90s, companies started restructuring and the process of hoarding from labour surpluses had been taking place. The period from 1992 to 1995 is featured by reallocating of workers across industries and getting rid of an excessive manpower accumulation. Since 1999 owing to economic growth, the registered level of labour surpluses was decreasing. According to the Russian economic barometer, the share of enterprises with labour surpluses has fallen from 45% in 1998 to 12% in 2003. Simultaneously, the number of firms reporting labour shortages had augmented from 10 to 25% (Poletaev, 2003). Managers of many companies, including those operating in the industrial production sector, declared that the ***lack of qualified labour became a serious obstacle for production development.*** In fact, in the vague of the general economic growth, Russian companies experienced a steep shortage of qualified labour.

According to a study carried out by the Moscow High School of Economics in 2005[2], *labour shortages are registered in more or less all companies regardless to their size and successfulness of*

[2] Survey among 1,000 enterprises throughout Russia carried out in 2005

their economic activity (Bondarenko et al., 2005). At the same time, labour shortages appear to be different across branches. In business and trade there is a greater shrotage of highly qualified workers rather than low qualified workers. In transportation and manufacturing, the shortage in workers with secondary educational attainment is reported. In construction, the magnitude of shortages for highly and lower qualified workers is similar.

Among the principal reasons of labour shortages is often cited ***a lack of workers with relevant skills and knowledge***. The table 1 presents different reasons of labour force shortages in four branches: manufacturing, construction, trade, transportation.

Table 1. Reasons of labour force shortages, according to branch

Reasons of labour shortages	% of employers who reported labour shortages			
	Manufacturing	Construction	Trade	Transportation
"It is difficult to find qualified workers with appropriate experience"	74	77	68	46
"Educational institutions do not prepare enough workers with desirable knowledge and skills"	52	69	39	36
"It is impossible to assure a satisfying level of wage to attract qualified workers"	53	25	46	70
Long working day and overcharge of work	23	30	23	11

Source: Bondarenko et al. (2005)

Note: the sum for each column can be over 100%, because employers could choose more than one reason

Impact of economic transformations on graduate employment in Russia

The transition period made particularly vulnerable the young population. The employment level of the youth had dropped down drastically. If in 1999, in the age group between 25 – 49, the employment level was 93% of its level in 1992, it was only 75.6% among people aged 15 - 24 (National Statistics Office, 1999). By the end of the 90s, people under 30 years constituted one third of all unemployed (Centre for the Economic and Political research, 1997). In 2002, the unemployment rate accounted for 27,3%, 14,3% and 9% in age groups of under 20, 21 – 24, and 25 – 29 accordingly (Gorisov, 2004).

A drastic decrease in youth employment came together with ***important structural changes in transition from study to work***. They are:

- An abolition of the public system of job-assignment;
- Changes in social values;
- Mismatches between education and occupations.

First, with the collapse of the Soviet state, a public system of job allocation for higher education graduates was abolished. During soviet time, it enabled to provide all graduates with field-related work. Today, graduates have to search for a job by themselves. This appears not that easy,

given the lack of experience in job search among young population. Young people can not even refer to experience of their parents, as the latter had never experienced a “free” job search either.

Second, the difficulties in graduate employment and career development are reinforced by a psychological frustration of young people. The move to a market economy generated a cardinal change in values and beliefs of the society. Today, the graduates’ success on the labour marker depends largely on how he/she accepts new social values and adapt to a new economic organisation. One should note that during soviet time, attitudes to employment and career development differed from ones perceived by individuals presently. According to Beregovaya (2002), the notion of the “professional career” did not exist in Russia until 1995. Scientific research on this theme was forbidden during the soviet period as it was considered that a Russian man worked for the society and not for personal ambitions.

The new labour market economy implies different behaviours and attitudes. Graduates’ success on the labour market lies in identifying and adapting to new demands. I.e., qualities of initiative, decision making and entrepreneurship appear to be crucial today, whereas in the soviet system they were not really encouraged by employers. “Any initiative is punished”, - tells a well-known soviet proverb reflecting perfectly the character of the soviet system.

Mismatches between education and occupations

The third particularity of the graduate labour market in Russia concerns with mismatches between education offered by higher education institutions and occupations available on the labour market. One may distinguish 3 types of mismatches: *educational level mismatch, field mismatch and skills mismatch*, which all gained huge proportions in Russia at the end of 90s – the beginning of the 2000. The below abstract from a Russian newspaper illustrates well the awareness of public authorities by the magnitude that these phenomena gained in Russia.

> “The problem of mismatch between the educational system and demands of the modern labour market was discussed in Moscow on November 19, 2003 at a joint sitting of the Ministry of Education and the Ministry of Labour and Social Development. "Overproduction in the sphere of higher education" is being felt in Russia now, said Vladimir Filippov, minister of Education. According to him, only 50% of university graduates can find a job in keeping with their speciality, the others completely change their specialities or become jobless. At the same time, the country experiences a lack of skilled workers. It turns out, "that we have not been spending money where necessary", outlined the minister. Aleksandr Pochinok, head of the Ministry of Labour and Social Development, noted that the country was suffering from overabundance of general economists, international economists, brokers and accountants who were "trained in an old fashion without account for international standards". On the other hand, there has emerged a demand for engineers, manufacturing engineers and specialists in the food production and machine-building industries (“Vorota v Rossiyu”, Nov. 2003).

Educational level mismatch attained considerable proportions during the period of structural transformations in the economy over the 90s. In that period, highly qualified specialists, prepared within the soviet higher education system and in accordance with occupational demands predicted by state plans of that time, were facing cardinal changes in the economic structure. Massive separations of

the work force in productive sectors asking for deep professional knowledge and the shift for services sector, often with weak appeal to acquired professional specialisation, forced much of the specialists to opt for work demanding low qualification but enabling to provide a sufficient income. Gorisov (2003) states that these practices were also linked in Russia with the move of a highly qualified labour force into the informal economic sector. Former engineers, for example, were had to sell food and clothes in open-air markets, to work as drivers, to sew clothes, to turn to private faming, etc. National estimates on the level of educational mismatch and, particularly in regards to higher education graduate employment, are quite scarce. We found only one recent study providing data on that issue. In 2002, the Institute of system analysis on social problems of big cities (ISA SPAM) carried out a national survey among higher education graduates, one year after their graduation. According to this study, about 8% of graduates do not need higher education in their work (ISA SPAM, 2002).

Alike a mismatch by educational level, *a field mismatch* became widespread due to structural transformations during the economic transition. The inconsistency between the qualifications offered by higher education at soviet time and the occupations in the newly appeared free market economy geared field mismatches. According to estimations by ISA SPAM (2002), mentioned above, a field mismatch accounted for more than 50% at the beginning of 2000. This study showed that about 47% of graduates work within their university specialisation. Nearly 25% of graduates work in a completely different field of study. The highest percentage of field mismatches is reported among graduates in Chemistry, Technical sciences, Agriculture, Exact sciences. On the contrary, graduates in Law, Economics and Human Sciences appear to be rather successful in finding a study-related work. According to other research, field mismatch has gained more important proportions in Russia. Findings from the conference “Employment of graduates in Russia: acute problems and their solutions” witness that only about 20% of higher education graduates work within their specialisation (Afanasieva, 2004). Field mismatch largely depends on the economic branch. Education and agriculture are reported to experience the highest rate of field mismatch.

The inconsistency between the competencies possessed by graduates and those demanded by employers, or s*kills mismatch,* is mentioned in many articles devoted to problems of youth employment in Russia (Bondarenko et al., 2005; Merenkov, 1998; Komarov, 1999, etc.). It became evident that the higher education system does not manage to catch up with dynamic evolutions in a business environment. Moreover, employers recognise that the training provided by universities is completely detached from needs of the labour market.

Many authors argue that Russian students have a very vague idea about the world of work when entering the labour market (Kovaleva, 1995, Vishnevskiy and Shapko, 2000, Liubimov, 2000, etc.). Often they do not familiar with the internal structure of enterprises and organisation of production processes. They are not aware that they would be expected to operate in stress situations, handle conflicts and operate independently. A survey of top managers of large enterprises in the Yekaterinburg region demonstrated that employers seek to find graduates who are capable to settle conflicts arising in the work environment, familiar with the organisation of production in competitive foreign companies, able to find potential clients, speak foreign languages. It is also an advantage for a

graduate to be computer and Internet literate (Merenkov, 1998). Employers mention that ***the education provided by higher education institutions is too academic and it has an excessively broad focus***. This generates ***a lack of practical skills***.

Higher education institutions in Russia see their role in assuring that graduates, first and foremost, acquire deep professional knowledge in field. However, empirical studies show that employers expect graduates to possess not only knowledge in a particular field, but some other professional qualities as well.

Results of the study carried out by a Russian independent agency *'Reitor'* showed that about 20% of employers are not satisfied with the quality of Russian education *('Reitor'*, 2005). *Employers cited 5 main weak points of young workers*:

1) Graduates have little idea about a corporative culture. They have no skills of work in group and they are not willing to follow and respect rules established in a company;
2) They lack knowledge about organisation of production processes in enterprises;
3) They feel a shortage of skills of business communication: an ability to conduct negotiations, a capacity to present products/services and results of own work, etc.;
4) A bad foreign language proficiency;
5) Graduates are not familiar with strategies of job search. They lack information on the labour market dynamics, and have little idea about how to build a career and to succeed in the professional area.

Nonetheless, 80% of employers, approached in the survey, were more or less satisfied with the education that graduates followed. These employers believe that higher education provides basic knowledge and that further competencies can be developed through work. Generally, two or three years after graduation, young people manage to acquire the needed qualities. Although this acquisition will largely depend on personal qualities of graduates: the most ambitious and purposeful people would, no doubts, succeed in this. The most dynamic and active graduates tend to compensate the lack of necessary knowledge and skills by participating in supplementary short-run courses.

The study by *'Reitor'* showed that the work experience is an important advantage for graduates. Many young specialists, however, underestimate it. Employers believe that work experience enable to obtain knowledge and skills, which were not acquired through higher education. The table 2 shows the difference between the importance of work experience, estimated by employers and by graduates. Employers attach high importance to work experience (coef. 2.3), while graduates consider it slightly less important (coef. 3.4). Graduates believe that the quality of higher education is more important than work experience (coef. 2.1 vs. 3.4), while for managers, the quality of higher education is almost as much important as work experience (coef. 2.2 and 2.3). This may indicate that graduates feel that all that they would need for work is taught at university. They are not aware of the importance of other competencies that, according to the employers' point of view, are acquired through professional activity. We also observe that graduates do not attach that much importance to personal characteristics, whereas employers rank them rather high (coef. 4.3 vs. 2.7).

Table 2. Importance of different characteristics for career development

Characteristics	Coefficients of importance	
	Assessment by *employers*	**Assessment by *graduates***
Quality of initial higher education	2.2	2.1
Work experience	2.3	3.4
Personal characteristics	2.7	4.3

Scale: 1 – important; 9 – not very important
Source: 'Reitor' (2005)

Alike the survey by *'Reitor'*, the study carried out by the Moscow High School of Economics witnesses that employers' requirements concern not exclusively the level of educational attainment and the mastery of domain-related knowledge, *but also* behavioural characteristics of workers (Bondarenko and al., 2005). Along with the professional expertise, employers appreciate if a worker is disciplined, has a good capacity to work in group, and a deep feeling of responsibility. It is also a good point for a worker if he/she feels ready to acquire new knowledge, and if he/she is able to take initiative.

In Russian literature, it is common to consider that a professional mismatch is a particularity of the Russian transitional labour market. We found no Russian publications telling about the existence of this problem in European or other countries. However, it is important to look at other nations' experience on the issue. We found that professional mismatch is not a new phenomenon, which is characteristic for only *transitional* economies. There are no doubts, that in Russia, as a result of sudden transformations in the economic structure, inconsistencies between qualifications possessed by individuals and those demanded on the labour market gained drastic proportions. Nonetheless, *it is important to state that professional mismatches are also observed in many developed countries throughout the world*.

The problem of professional mismatch was identified and largely studied by economists and sociologists throughout the last decade in many countries. First studies on professional mismatches appear with the concept of 'over-education' came into prominence in the mid-80s. The adoption of over-education as a research topic dates back to Freeman's book 'The Overeducated American' (1976), where he discovered that following the massive investment in education in the sixties, returns to education began to decline at the outset of seventies. Today over-education is typically conceptualised as an attained educational level that exceeds the required educational level for the job (Green et al., 1999). The concept of 'over-education' was then put further forward and extended to studies on different types of professional mismatches (i.e. field mismatches, skills mismatches). Much empirical works on these topic were conducted by Dutch researchers at the end of 90s – the beginning of the 2000: Ramaekers and Heijke (1995, 1998), Eijs and Heijke (1996), Borghans, Crip and Sloane (1998), Allen and Velden (2001, 2005), Varhaest (2006).

The phenomenon of over-education appears to be quite widespread in many countries today. Findings from an international study on graduate careers carried out in 1998 – 1999 (project

"CHEERS", see above) showed considerable mismatches between field of study and occupations. Table 3 depicts rates of over-education in four European countries and in Japan as reported by graduates.

Table 3. Educational level and field mismatches in Europe and Japan

Level of education and field required	**% of graduates reporting that their job requires …**					
	ES	**DE**	**NL**	**UK**	**JP**	**All 12 countries**
Job at higher level	14.9	4.5	10.7	15.8	10.4	13.6
Job at own level and field	49.3	57.3	62.1	40.8	30.6	48.8
Job at own level but different field	6.0	10.4	11.1	18.6	24.2	11.7
Job at lower tertiary level	11.3	18.7	9.5	15.4	18.3	14.2
Job at below than tertiary level	18.6	9.1	6.6	9.4	16.5	11.6
N=	2 147	3 181	2 907	3 046	2 959	27 219

Source: Allen and Weert (2005). Data from the "CHEERS" project

We remark that professional mismatches are quite common in Japan: 24% of graduates work in a different field, 16,5% have a job requiring below than tertiary level. In Europe, Spain comes at the top of the list of countries with educational level mismatches. 19% of Spanish graduates do not need higher education for their job. In the Great Britain, 24% of graduates work in a different domain. In general, we observe that the share of graduates working in a different field is rather high, 11.7%. For 14,2% of graduates the current work requires a lower tertiary level, 11,6% work in a job requiring lower than higher education level.

It should be mentioned that it is quite difficult to compare the findings from the Russian literature on over-education with the findings from European research. In fact, the Russian higher education system is structured differently in comparison to many European systems. By 2000, there was only one type of higher education diploma in the country.

* * *

Making the conclusion, we may say that the graduate employment in Russia at the beginning of the 2000 is largely framed by the following characteristics:

- Considerable mismatches between occupations on the labour market and education acquired by graduates. We distinguish three types of mismatches: educational level mismatches, field mismatches and skills mismatches;
- Changes in social values. The newly appeared market economy puts more emphasis on initiative and entrepreneurial skills, whereas at soviet times, it was rather demanded to follow established rules and to avoid taking initiative;
- A quasi-total abolition of the public regulating mechanisms in study to work transition. The state does not assign any more graduates to work places at the national level. Graduates should search jobs by themselves.

All these elements make evident *the necessity of thorough research on current labour market demands and an urgent need for a greater diffusion of this information* among different actors of the higher education system: university policy makers, families, and graduates themselves.

We notice that in Russia, the links between fields of study and occupations are weakening. Contrary to that one could think, an increasing complexity in the relationship between education and occupations is not only a consequence of transitional character of the Russian economy. We remark that it is also observed in many developed countries. A greater complexity and flexibility on the labour market appears as a general tendency that graduates will need to face systematically. The question arises then: how to preparer graduates to face a more diversified labour market? What skills/ competencies should higher education graduates possess in order to succeed, first, in job search and, then, in their career path?

Competencies required on the modern labour market and those acquired in higher education

If some research on types of occupations and level of educational attainment required on the current labour market in Russia has already been conducted (however being quite scarce: 'Reitor', 2005, Bondareno et al., 2005), no empirical data is available on the skills acquired in education and those required on the labour market. Moreover, it is of interest to make some comparisons relative to these issues to other European countries.

Such research was possible in the framework of a large European project 'Flexible Professional in the knowledgeable society' (REFLEX) which focused on graduate careers in Europe. Using the theoretical schema developed by European researchers, a survey among graduates in one Russian region was carried out[3].

In 2005, a survey among graduates of a public university, offering a wide range of programmes in Human Sciences and Exact Sciences, was carried out in the Volgograd region[4]. Graduates of 2000/2001 and 2001/2002 were questioned. All of them had an ISCEAD 5A level of diploma (a 'Specialist degree' in the Russian classification which is delivered after 5 years of study[5]). 300 graduates from Human and Exact Sciences are participated in the survey[6]. We used the same questionnaire as in the European graduate survey, conducted in 2005-2007. In the questionnaire,

[3] REFLEX is a large European study on graduate employment carried out in 14 countries of Europe and in Japan in 2005-2006. Around 30,000 graduates were questioned through this survey.

[4] Volgograd (former Stalingrad) is a large industrial city with 1 million inhabitants. It is situated in the Western part of Russia, 1,000 km from Moscow. The social and economic indicators of this region are close to the national average (by 2000, the unemployment rate: 8%, per capita income : 8,201 roubles)

[5] The Specialist's degree was a unique type of higher education diploma in Russia at that time. After the adoption of the Bologna process at the beginning of 2000, universities have diversified their programmes. Nowadays, they offer three types of diploma: the former 'Specialist degree' (5 years of study), the Bachelor degree (4 years) and the Master degree (6 years).

[6] The sampling is representative for different fields of study (Exact Sciences/ Law/Economics/Language) and types of programmes (Full-time/Part-time). Women are slightly over-represented, so weightings were made where necessary.

graduates were asked to rate 19 competencies (those required in their current employment and those developed through higher education).

Previous research on graduate labour markets in Europe, carried out within the framework of another large international study CHEERS[7], revealed that the current job market requires that graduates possess a wide range of competencies. **Even if today, like in the past, knowledge in a particular field stays essential, it is not sufficient any more for becoming a *successful* and *employable* professional.**

On the one hand, changes occurred in organisational structures and technological procedures call up for new competencies. Transformations in social and economic environment generated the blurring of limits between different fields of study and domains of work. This implies that graduates are expected to be *flexible*, capable to work in different fields and in a constantly changing environment. On the other hand, graduates are now inheriting a job market that demands them to change jobs more frequently then previous generations. Thus, it becomes important to take note of the skills that are the most portable from one job to the next.

Given this, young specialists are supposed not only to master their field of study, but also to be able to acquire quickly new knowledge, cope with changing environment, manage other people and come up with new ideas. We make a hypothesis that in the Russian modern economy, in line with tendencies appearing on graduate labour markets in Europe, ***not only professional expertise, but a vide range of competencies turn out to be essential to acquire*.**

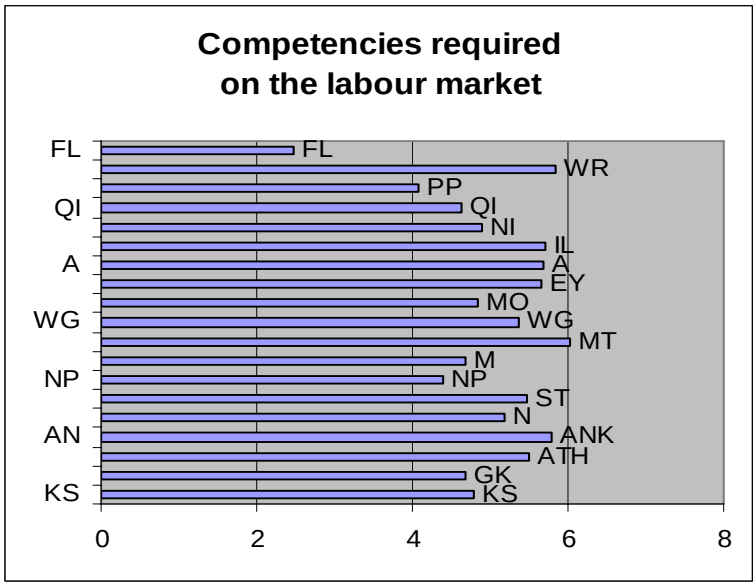
Competencies required in current employment

In our survey, we asked graduates to rate the importance of different types of competencies required at their current job (4 – 5 years after graduation). A scale from 1 (low extent) to 7 (very high extent) was proposed. The Figure 1 presents a ranking of 19 competencies required in graduate current employment. It is important to specify, that this list was elaborated and developed by a group European researchers[8], within the framework of the project "REFLEX" (see above).

[7] Project CHEERS (Careers of Higher Education Graduates in Europe) carried out in 1998 – 1999 in 11 European countries and Japan, focused on the transition from higher education to work.

[8] Research teams of the project « REFLEX » : Prof. Jean-Jacques Paul, Université de Bourgogne, France; Dr. Rolf van der Velden, University of Maastricht, The Netherlands; Prof. Ulrich Teichler, University of Kassel, Germany; Prof. John Brennan, Open University, The United Kingdom; Dr. Liv Støren, Norwegian Institute for Studies in Research and Higher Education, Norway; Prof. Roberto Moscati, IARD Istituto di Ricerca, Milano, Italy; Prof. Osmo Kivinen, University of Turku, Finland; Prof. José-Gines Mora Ruiz, Universidad de Valencia, Spain; Prof. Paul Kellermann, Universität Klagenfurt, Austria; Drs. Egbert de Weert, University of Twente, The Netherlands

Figure 1. Competencies required in current employment



Scale: 1 (very low) – 7 (very high); N = 300

Legend: KS - **mastery of your own field or discipline (expert knowledge)**, GK - knowledge of other fields and disciplines, ATH - analytical thinking, ANK - ability to rapidly acquire new knowledge, N - ability to negotiate effectively, ST - ability to perform well under pressure, NP - alertness to new opportunities, M - ability to coordinate activities, MT - ability to use time effectively, WG - ability to work productively with others, MO - ability to mobilize the capacities of others, A - ability to assert your authority, IL – ability to use computers and Internet, EY - ability to make your meaning clear to others, NI - ability to come up with new ideas and solutions, QI - willingness to question your own and others' ideas, PP - ability to present products, ideas or report to an audience, WR - ability to write reports, memos and documents, FL - ability to write and speak in a foreign language.

The figure 1 shows that, indeed, **besides the expert knowledge (or 'knowledge in field'), some other competencies appear to be highly required by employers**. It turns out that the most demanded competencies are 'capacity to manage effectively time at work' (6,0), 'to write reports' (5,9), and 'to acquire new knowledge' (5,8). The capacity to assert own authority, to express own ideas, and to be computer and Internet literate (each has a coefficient of 5,7) are found to be highly demanded, as well. This finding suggests that **the professional expertise** (or field-related knowledge) ***is not the only quality*** **that graduates are supposed to possess**.

We should specify that we do not argue that the expert knowledge (deep knowledge in a particular domain) is not important nowadays. It has *always* been a key requisite and it *does* today for any professional. But the topic is that, according to a Russian traditional conception of education, the role of a higher education institution lies, first and foremost, in providing deep knowledge in a particular field/ fields. The importance of other competencies that form an effective professional is not well recognised by universities. However, it seems that this does not respond to modern labour market needs. We observe that 'narrow' specialists do not satisfy Russian employers any more. The latter

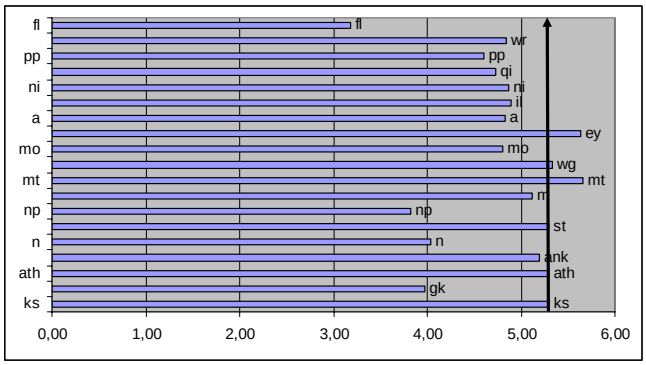
search for *flexible specialists*. These rapid, dynamic and innovative people should largely contribute to the economic growth of the country and to augmenting its international competitiveness.

Low demand for expert knowledge

Data from the European graduate survey (REFLEX project data) also witness that the expert knowledge is not the only competence demanded on the labour market. In France, for instance, competencies like analytical thinking, a capacity to perform well under pressure, a capacity to manage time effectively, an ability to work in group and an ability to make own meaning clear to others appear as much important or more important than the domain-related knowledge, an Internet and computer literacy. However, we remark that the expert knowledge is ranked higher in the list of 19 competencies in European countries than in the Russian sampling. In France, as well as in Germany, and across the whole European sampling, only two or three competencies over-score the domain-related knowledge, whereas in Russia, ten competencies appear to be more important at work than the domain-related knowledge. This suggests that the field-related knowledge is under-demanded on the labour market.

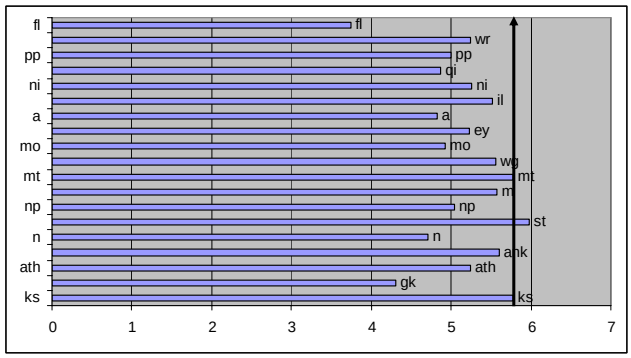
Figures 2, 3, 4: Competences required in current employment in France, Germany and in all European countries covered by the REFLEX study[9]

Competencies required in current employment (France)



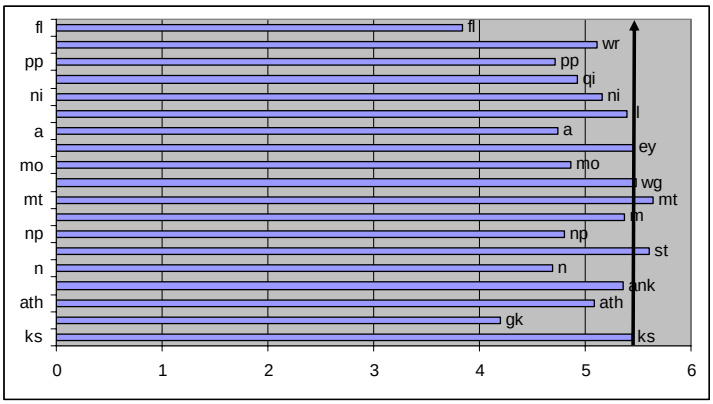
N= 1429

Competencies required in current employment (Germany)



N= 1650

Competencies required in current employment (European sampling)



N = 25,500

[9] 14 European countries and Japan

As we mentioned previously, in Russia a job mismatch is of considerable importance and it varies from 25 to 45%, according to different estimations. Ergo, one could imagine that a low demand for expert-knowledge is a consequence of that. To check this out, we looked at the demand for the domain-related knowledge for those graduates who work in their own domain of study. The same thing is observed. Capacities to manage work time effectively and to write reports are more demanded than the expert knowledge. Analytical thinking, a capacity to express own ideas, an ability to assert own authority appear as much important as an expert knowledge.

A low demand for domain-related knowledge is an interesting finding as it witnesses on a certain underutilisation of knowledge in jobs on the Russian labour market. Authors of the report on Human Development in Russia draw attention to this particular phenomenon of the Russian society. They found that knowledge, as it is, is not valued on the labour market : "the salaries of most people, who take part in production, reproduction, and application of knowledge (teachers of secondary and higher education, medical doctors, scientists, engineers, many skills workers) are low" (UNDP, 2004). Consequently, Russians appear to take mainly *a utilitarian approach towards higher education*. It is seen as a way of achieving a higher social position, with accompanying material well-being and power, rather than value-in-itself. Young people are aware that knowledge itself is not a guarantee of high or even acceptable social status.

This finding points out a mismatch between the orientation of the Russian higher education system that seeks traditionally to develop, first and foremost, a deep domain–related knowledge and the labour market that seems to be much less demanding in expert knowledge. Russian universities emphasise an expert knowledge while it does not seem to be the first competence demanded by employers.

It is important to underline that apart from the problem of mismatch between skills developed in higher education and those required on the labour market, this finding calls into question the move of Russia toward the knowledge society.

Importance of non-cognitive skills

Beyond knowledge in a particular field, a traditional academic-oriented university education contributes to developing of a larger number of *cognitive* skills: mathematical skills, analytical and critical thinking, capacity to acquire rapidly new knowledge, etc. Let imagine that a graduate has succeeded to acquire good cognitive skills through higher education. In this case, *should we consider that this baggage is enough?*

Recent findings brought the clear evidence that ***cognitive* skills contribute *only to a part* of individual's success on the labour market. The other part is attributable to non-cognitive skills.**

Numerous studies established that *cognitive abilities* are highly valued on the labour market. In recent research, the role of *non-cognitive abilities* was recognised and largely studied. The role of non-cognitive skills as a major factor of achievement was originally identified by Marxist economists

(Bowles and Gintis, 1976; Edwards, 1976). They have produced a large body of evidence that employers in low skill labour markets value docility, dependability, and persistence more than cognitive ability and independent thought. Further research showed that, regardless types of occupation, both cognitive and non-cognitive competencies are important (Heckman, Stixrud and Urzua, 2006). Heckman, Stixrud and Urzua investigated the effects of both cognitive and non-cognitive skills on wages. They found that "non-cognitive skills … raise wages through their direct effects on productivity as well as through their indirect effects on schooling and work experience". Suleman and Paul (2006) found that both cognitive skills and non-cognitive competencies are valued in professional situations. They studied how different competencies are rewarded in the banking sector in Portugal. It was found that cognitive competencies (specific technical knowledge, autonomy, responsibility, adaptability, etc.) and strategic competencies (negotiation, persuasion, perseverance and orientation towards results, etc.) have positive significant effects on employers' wages.

We remark that the international research provides rather clear evidence on importance of non-cognitive competencies in professional activity and empirical studies on the topic can be counted with fingers. We provided some of these findings in previous paragraphs.

In our sampling, non-cognitive competencies appear as much important as cognitive ones (rated 5.4 vs. 5.1, the difference being statistically insignificant). This finding suggests that it is as much important to develop cognitive skills as non-cognitive ones during higher education. Does this imply the necessity to widen university curriculum and to offer more subjects with less academic focus? Such a conclusion is probably too precipitous. It appears that cognitive and non-cognitive competencies are related. The correlation coefficient attains 0.71. A relationship between non-cognitive and cognitive competencies seems consistent throughout countries though it appears less important than in the Russian sampling. It attains 0.41 in France, 0.36 in Germany, and 0.47 in the whole European sampling.

According to Heckman (2004) who also noticed positive correlations between two groups of competencies in his research, it is difficult to determine the sense of the relationship between cognitive and non-cognitive competencies. It may imply that cognitive skills contribute to development of non-cognitive skills, but the inverse relation is also possible: better non-cognitive abilities may enable to develop cognitive abilities (Heckman, 2004). Ergo, both cognitive and non-cognitive competencies seem important for graduate success at work and higher education institutions could largely take it into account.

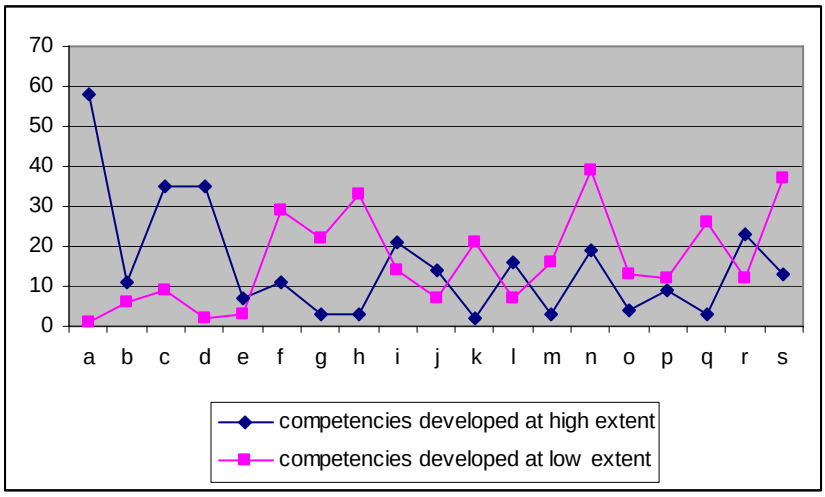
Competencies acquired in higher education

We have considered what skills are required at work; it is now of interest to look at skills that are acquired through higher education. In our survey, graduates were asked to indicate what competencies were developed at a highest extent and what competencies were developed at a lowest extent during university studies. The results are presented below.

Table 4. Top three competencies developed at highest and lowest extent during higher education studies

Most developed competencies	a) mastery of own field or discipline, c) analytical thinking, d) ability to acquire rapidly new knowledge.
Competencies developed at the lowest extent	h) ability to coordinate activities, n) ability to use computers and the Internet, s) ability to speak and to write in a foreign language.

Figure 5. Rating of competencies developed at highest and lowest extent during higher education studies



a) Knowledge in field,
b) knowledge in other fields,
c) analytical thinking
d) acquire new knowledge,
e) negotiate effectively,
f) resistance to stress,
g) alertness to new opportunities,
h) manage,
i) use time effectively,
j) work in group,
k) mobilize the capacities of others,
l) assert your authority,
m) use computers and the Internet,
n) ability to come up with new ideas,
o) willingness to question ideas,
p) report to an audience,
r) ability to write reports,
s) foreign language proficiency.

Legend: *x* – competencies; *y* - % of graduates who ranked a given competence as highly developed through university studies

The competencies most developed through tertiary education are the knowledge in field, an analytical thinking and an ability to acquire new knowledge. Competencies developed at the lowest extent are a capacity to manage work of others, an Internet and computer literacy, and foreign language proficiency.

It indicates that ***universities perform well their principal task, which refers to providing deep professional knowledge in a particular field.*** Higher education also enables to develop analytical thinking and the ability to acquire rapidly new knowledge. It appears that universities learn to learn. However, as we showed in previous paragraph, ***it is not sufficient to possess only these qualities.*** Employers look for professionals with a wider range of knowledge and skills.

The analysis of competencies required on the labour market showed that the capacity to manage work of others is demanded almost as much as knowledge in field. A thorough knowledge of

Internet and computer technologies appears to be of crucial importance today. Thus, it seems important to make emphasis on developing of these professional qualities during studies.

Returns to job tasks flexibility

Recent research on labour market in Europe showed that one of the key characteristics of a modern labour market is that various domains of knowledge intermingle. In fact, boundaries across different domains of study and economic spheres are blurring progressively. Today, more and more jobs demand knowledge from various fields. The hypothesis here is that those graduates who are capable to work in different domains simultaneously enjoy higher premiums on the labour market.

The results from our sampling converge with this hypothesis. We regressed graduate wage on different modalities of a "polyvalent" character of job (Table 5). One may observe that ***graduates whose work requires simultaneously knowledge in many fields earn more***. The fact that a job requires simultaneously knowledge from own field of study, a close field or in other fields brings a wage-premium that varies between 15 to 20% (cf. category 2 and category 4) in comparison to jobs requiring knowledge from exclusively own field of study (category 1).

Table 5. Regression coefficients:
impact of a more or less "polyvalent" character of job on salary

	Model 1		Model 2	
	Bêta	Sign.	Bêta	Sign.
(constante)		,000		,000
Category 1 (reference category): Work in exclusively own field				
Category 2: Work in own field, close field, other field	,202	,001		
Category 3: Work in a close field	-,019	,766		
Category 4: Work in a close field or in other field	,148	,011		
Category 5: Work in other field	-,034	,526		
Category 6: No special qualification is required for my job	,009	,878		
Control variables :				
Sex (Male)	,247	,000	,268	,000
Working in Moscow	,162	,003	,151	,007
Working in private sector	,279	,000	,306	,000
	Adj R-Sq = 0.27		Adj R-Sq = 0.22	

European researchers explain the new characteristics of the labour market that is the demand for a "domain-flexibility", by the move towards a knowledge-based economy. The knowledge-based economy places great emphasis on innovation activity. The latter implies closer links between different fields of knowledge.

In this context, there appears to be a general weakening of the link between fields of study and occupations. According to Teichler, although some occupations continue to require highly specialised formal education, an increasing proportion of graduates are finding work in areas not closely related to their initial study (Teichler, 1999).

In line with transformations occurring in countries of the European Union, in Russia, apparently, these processes are gaining importance as well. In our sampling, 18% of graduates declared to have appeal to more than one field in their work. It seems also that a capacity to work simultaneously in various fields generates wage premiums. The findings from our sampling witness that graduates whose work requires simultaneously knowledge from many areas, enjoy higher wages. We could also cite here results of a study carried by Green (1998). In his study devoted to wage returns to different competencies on the British labour market, he found that works that require simultaneously various skills are paid more. "Jobs involving task variety earn more pay, presumably because of the range of skills needed." Green speaks about jobs involving *task* variety, whereas our study is concerned with a *field* variety. However, we may presume that the capacity to work simultaneously in many fields would imply the need for more competencies.

* * *

Making the conclusion, we may say that it seems that a modern labour market in Russia places ***larger*** requirements on graduates. Given a rapidly changing character of social and economic environment and in particular, a trend for the reproaching of different fields of study and areas of work, graduates need to possess a wider range of professional competencies. They need not only to master well their own field of study, but also possess *larger cognitive competencies* (i.e. a capacity to acquire new knowledge) and a set of non-cognitive competences (i.e. a capacity to manage time effectively, to coordinate activities of others, to assert own authority, to resist to stress, etc.). We presume that the success of higher education graduates on the labour market would greatly depend on ***their capacity to mobilise more competencies than simply a field-related knowledge***.

In this regards, the situation in Russia converges with the trends on European labour markets. After having considered current requirements on European graduate labour market, Teichler (2007) argues that *higher education should not only be focused on providing deep knowledge in a particular field*. In his opinion, it should seek to foster 'competencies beyond systematic cognitive knowledge' (Teichler, 2007). Generally, universities are viewed as institutions whose core function is to transmit theories, methods and a systematic body of knowledge related to particular discipline or domain of work. Apart from this, underlines Teichler, "higher education should foster competencies relevant for successful professional practice which are based to a lesser extent on cognitive and systematic learning". The author singles out four additional dimensions of work-relevant competencies of higher education graduates:

- abilities to transmit systematic knowledge to work tasks and apply systematic knowledge on the job (i.e. 'problem-solving abilities');
- competencies relevant for reflection, innovation and creativity (i.e. 'capacity to find new ideas');

- successful working styles (i.e. ‘working under time pressure’);
- socio-communicative skills (‘teamwork’, ‘leadership’).

However, even if the demand for competencies other than a domain-related knowledge on the labour market is high, this does not necessarily imply that less importance to a domain-related knowledge should be paid in university curriculum. Previous research and finings from our sampling show that there is a link between cognitive competencies, including a domain-related knowledge, and non-cognitive skills. Higher level of cognitive competencies is associated with higher level of non-cognitive competencies. Although the direction of this relationship is not that clear, it may indicate that developing of cognitive competencies contribute to a certain extent to developing of non-cognitive competencies. Given this, the best solution seems to draw importance to both cognitive and non-cognitive skills in university curriculum. It appears essential to keep a strong emphasis on domain-related knowledge, on the one hand, and encourage the developing of other competencies, on the other hand. The latter can be possible through diversifying methods of learning (i.e. introducing a case study approach or more ‘*work-in-group*’ learning) or placing more stress on extra-academic activities (i.e. participation in associations).

In fact, the opposition between a traditional orientation for a domain-related knowledge in university education and the demand for more practically-oriented competencies from the side of employers refers to a long debate on the major function of education. Should university education aim at developing individual’s personality or seek to prepare individuals for a particular job? According to Kellermann, no clear distinction was made between study in general and preparation for a professional activity in the universities of the Middle Age. Theology and philosophy provided basis for different studies (Kellermann, 2007). A clearer distinction was made by Friedrich Schiller between the “philosophical head’, i.e. thinker for enlightment, and the ‘bread scholar’, i.e. striver for money. Nonetheless, university education continues to be considered ends in itself. The turning point in this debate, as states Kellermann, is the OECD conference on “Economic Growth and Investment in Education” in 1961. In the ‘Sector Working Paper ‘Education’”, published by the World Bank in 1974, it was mentioned that while millions of educated people stay unemployed, millions of jobs are waiting to be done because people with write education, training and skills cannot be found (World Bank, 1974, cited by Kellermann, 2007).

In Russia, at soviet times, university education was highly theoretically oriented. The existing studies and findings from our sampling witness that such a high level of abstract studies is not really demanded on the labour market today. At the same time, we observe that in general, independently of a field of work, a domain-related knowledge is at a very low demand. In comparisons to European labour markets, it even appears as under-utilised. We believe, nonetheless, that providing deep domain-related knowledge is an important point for university education in order to assure preparation of highly-qualified specialists for the national economy. If Russia challenges the building of a knowledge-based society, as it is the case in European countries, and not moving down to a ‘resource extracting’ country, the maintaining of a high level of domain-related studies at university level is essential. This suggests a need for a strong emphasis on domain-related knowledge in university

curricula. On the other hand, the successful transition from study to work and career developing will depend on whether graduates possess some other key competencies, beyond the domain-related knowledge, like a capacity to resist to stress situation, a capacity to negotiate effectively, to coordinate activities of others, etc. Developing of competencies other than a domain-related knowledge in university curricula appears therefore of great importance too.

Finally, we should single out some *limits of our study*. Due to a large surface of Russia and financial constraints (lack of financial support from national authorities), it was difficult to conduct an all country representative survey in Russia, as it was the case in European countries. The public funding for research has drastically decreased in Russia these recent years and we failed to find a sufficient funding to cover all Russian regions. We also faced institutional difficulties and problems with involving higher education institutions in our survey. Most institutions we contacted throughout Russia did not respond to our request to participate in a common survey. Moreover, no policy is carried out currently at the federal level to encourage educational institutions to collaborate for such surveys.

Our study was thus limited to one Russian region situated in the Western part of the country. Given this, we do not pretend that the findings from our sampling are representative for the whole country. As we showed above, there are important discrepancies in economic development across Russian regions. We could particularly distinguish the capital region and oil and gas production regions situated in Siberia. These areas are characterised by a low level of unemployment and high per capita income. The situation on graduate employment is these regions should be, to some extent, different from other regions and more research needs to be done particularly in these areas. However, in regards to other regions of Russia, and notably regions of the western part of the country, they appear to be more homogenous in terms of labour market indicators and the overall economic situation. Our results could thus be more applicable to these regions.

Nevertheless, despite the problem of national representativeness, this study seems to be important as this is the *first time* that an empirical research on graduate employment by means of a *competencies-based approach* is done. Moreover, empirical research on graduate employment, in general, is very scarce in Russia. Ergo, this survey is a good contribution for graduate employment research, on the one hand, and on the other hand, it could be *a first step for competencies-based approach studies in Russia*. It seems that Russia is currently lagging behind many other European countries where competencies-based/skills-based studies on employment have gained popularity since a long time (ex. Skills survey in Great Britain since the mid-60s).

The present study was possible due to contributions of multiple actors in Russia, in France and in Europe. Thanks to a support from the Ministry of Foreign Affaires of France (programme EGIDE ECO-NET), funding from the Administration of the Dijon city (which is a twine-city of Volgograd), funding from the Government of the Moscow region, contribution of the Volgograd State University, on the one hand, and thanks to methodological support of the European project "REFLEX" and IREDU (Institute of Research in Economics of Education, University of Burgundy), France, on the other hand, we managed to carry out this study in Russia.

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