Emploi des diplômés de l'enseignement supérieur en Russie

Elisaveta Bydanova

UNIVERSITE DE BOURGOGNE

Institut de recherche sur l'Economie de l'Education
(IREDU)

THESE

Pour obtenir le grade de Docteur
Discipline : Economie

Présentée et soutenue par Elisaveta Bydanova

Titre: "Employment of higher education graduates in Russia"

Directeurs de thèse:
Jean-Jacques Paul (Professeur Université de Bourogne) ;
Alexandre Dyachenko (Professeur Université d'Etat de Volgograd) ;

Rapporteurs :
Eric Verdier (Directeur de recherche, Laboratoire d'Economie et de Sociologie du Travail (LEST)) ;
Larisa Schakhovskaya (Professeur, Université Technique de Volgograd)

Dijon, Décembre 2006

Acknowledgements

First and foremost, I would like to express gratitude to my two research advisors: prof. **Jean-Jacques Paul**, University of Burgundy, and prof. **Alexander Dyachenko**, Volgograd State University. Throughout these three years of scientific "wandering", you were by my sides to help with strategic advices. Your expertise in concerned questions and scientific endeavours inspired me for research. My thanks go to Jean-Jacques Paul, particularly, for providing me with an opportunity to join a great European research project "REFLEX", which brought me very precious experience of work in cooperation with international experts. I would like to thank Alexander Dyachenko for our scientific debates that enabled me to advance in research. I am also grateful to Alexander for his parental attitude to me.

I am particularly grateful to **Christine Guégnard**, senior researcher at the French National Research Centre on Qualifications (CEREQ). Your contribution to the realisation of research on higher education graduates employment in Russia is inestimable. It is thanks to your efforts and interest to the project, but also active deeds, that an empirical study on the topic became possible.

My gratitude is also invaluable in regards to the IREDU's team, and notably, to doctorate students who came to IREDU from all over the world, brining their experience, professional knowledge, humour, culture, and a passion for the Economics of Education too. Seminal exchanges with all of you contributed to ongoing advances in my research, enhanced and motivated me in my work. I am grateful to **Jean-Marc Bernard**, France, **Rodrigo Rocco**, Chilli; **Venant Quenum**, Benin; **Nadia Nakhili**, France; **Justine Quelem**, Burkina-Faso; **Alpha Dia**, Senegal; **Elise Tenret**, France; **Georges Nehme**, Liban; **Magalie Danner**, France; **Tarik Lakhal**, Maroc, and others.

You are not only encouraged and motivated me in my research, but you also helped me to discover lots of things from other domains. Working with you over all these years was a real pleasure for me. As it is mentioned in this Ph.D. paper, it appears that this is not only a domain-related knowledge that enables to succeed and to build a meaningful life, but a wide range of other knowledge and skills. Therefore, I truly appreciate all things I learnt with you and it was a great chance for me to conduct my research in such a friendly and open international environment. Also, I am full of gratefulness for **Aurore Rosier**, a kind "fee" of IREDU, which assisted me with many technical and administrative issues throughout my thesis preparation.

I would like also to express my thanks to **Rolf Van der Velden**, coordinator of the European research project “REFLEX” and all researchers of the “REFLEX” project for their welcoming in the project and sharing their research experience. My thanks go to all IREDU researchers and professors, who were kind to provide me with advices when I faced some puzzling issues.

It is impossible for me not to thank my parents, both my mother, **Vera Bydanova**, and my father, **Nicolai Bydanov**, who were a constant source of encouragement for me throughout these three years of research.

I would like also to thank **Malika Azzaoui**, professor at the Volgograd State University, who greatly contributed to the development of partnership relations between the two universities.

SUMMARY

Au début des années 90, l'économie russe a vécu ***une période de transformation***. Le pays est passé d'une économie de planification à celle du marché libre. Ces reformes ont été suivi par une forte crise économique entraînant une baisse du PIB de 38 % entre 1989 et 1995 et une diminution du taux d'emploi, estimé à 12 %, pour cette même période. A partir de 1999, l'économie du pays commence à se redresser. On observe une réduction constante du taux de chômage, une croissance du PIB (environ 6 % par an), une augmentation des salaires et une amélioration du niveau de vie d'habitants. Cette « renaissance » économique apparaît être fortement liée à la hausse des prix du pétrole et du gaz sur le marché international.

Pourtant, à l'époque actuelle, un pays ne peut plus se permettre de s'appuyer uniquement sur l'exploitation des ressources naturelles. Aujourd'hui, comme le souligne de nombreux auteurs, notamment les « fondateurs » de la théorie du capital humain, Gary Becker et Teodore Schultz, mais aussi beaucoup d'autres économistes contemporains, la productivité et la croissance économique d'un pays dépendent peu de l'abondance des ressources naturels qu'il possède. En revanche, elles sont grandement liées à ***la qualité du capital humain*** (David et Foray, 2000).

Il ne faut pas oublier que le régime soviétique a permit d'améliorer la qualité du capital humain dans le pays, puisque il favorisait l'accès à l'enseignement supérieur pour toutes les classes de la population. Aujourd'hui, on constate que la Russie est devenue ***le pays le plus « éduqué » au monde***, car elle affiche le taux de participation à l'enseignement supérieur le plus élevé au monde. Néanmoins, les hauts indices du développement du capital humain ne s'accompagnent pas par le haut niveau du développement économique (UNDP, 2004).

Il apparaît qu'une des raisons de cette discordance est liée à ***la mauvaise qualité de l'éducation.*** D'importantes modifications ont eu lieu dans l'économie du pays, mais il semble que les institutions de l'enseignement supérieur n'ont pas fait suffisamment d'effort pour adapter les curriculums académiques et le contenu des programmes éducatifs afin de mieux préparer les jeunes à la rentrée dans la vie active dans la société du marché libre. Ainsi on constate que l'économie a changé, mais l'enseignement supérieur n'a pas suivi ces transformations.

Il est important de préciser que les universités, elles-mêmes, ne savent pas d'une façon précise quelles sont les nouvelles demandes qu'affrontent les diplômés à leur sortie sur le marché du travail. Les établissements manquent d'informations exhaustives sur l'état actuel du marché et les attentes des employeurs. Il n'existe que très peu de recherche, et surtout ***très peu d'études empiriques***, ***portant sur l'insertion professionnelle des diplômés et leurs***

carrières. Depuis le début des reformes, les dépenses de l'Etat sur la recherche ne cessent pas de baisser. De ce fait, très peu de travaux empiriques ont pu être réalisés au cours de ces 15 dernières années. Dans ce contexte, notre étude parait très actuelle.

*** * ***

Les chercheurs européens, en s'appuyant sur les résultats d'une grande enquête auprès des diplômés, conduite dans les 11 pays de l'Europe et au Japon en 1998, ont remarqué qu'actuellement les diplômés ont besoin de ***posséder un éventail très large de compétences***. Il ***ne suffit plus*** **de maîtriser un 'savoir expert'** (il s'agit de connaissances approfondies dans un domaine particulier), mais il faut être capable également d'apprendre rapidement des nouvelles connaissances, communiquer d'une façon efficace, savoir coordonner les activités des autres, etc. Selon les chercheurs européens, les employeurs ont besoin d'un nouveau type de spécialiste, un ***« professionnel flexible »***, et les diplômés actuels doivent maîtriser *au moins* quatre grands champs de compétences : 1) le savoir expert, 2) la flexibilité fonctionnelle, 3) innovation et gestion des connaissances, 4) la mobilisation des ressources humaines.

Cette nécessité d'être *polyvalent et flexible* relève des changements survenus récemment dans la société. On observe que la plupart des économies développées évoluent en direction de ***la société***, dite, ***« basée sur les connaissances »***. Dans cette société, un facteur incontournable de la croissance économique d'un pays ou d'une entreprise est l'innovation. Cette dernière est entendue comme un processus de découverte qui s'opère à tous les niveaux, commençant par le développement d'un produit/ un service et sa fabrication, et terminant par son marketing et la mise sur le marché. L'innovation demande, d'un côté, ***la mobilisation de savoirs très divers***, appartenant souvent à des domaines différents, et d'un autre côté, ***la capacité de s'adapter rapidement*** à des nombreux changements dans l'environnement économique et social.

Dans ce contexte on s'interroge sur ***la nature des compétences demandées dans un pays en transition économique, comme la Russie***. La question est de savoir : « Est-ce qu'en Russie, les défis auxquels doivent faire face les diplômés sont les mêmes que dans les autres pays de l'Europe ? Est-ce que les diplômés russes ont *véritablement* besoin de se procurer d'un éventail plus large des compétences afin de mieux réussir sur le marché du travail? ». Nous cherchons à savoir également si l'enseignement universitaire permet d'acquérir *toutes les compétences* demandées par les employeurs ?

Nous avons mené une recherche visant à vérifier notre ***hypothèse*** qu'en Russie, actuellement, il ne suffit plus de posséder des bonnes connaissances dans un domaine particulier, mais **il devient indispensable d'acquérir des *compétences plus larges et variés***, comme la capacité de gérer le stress, de travailler en équipe, de coordonner les activités des autres, etc.

*** * ***

Il faut rappeler que le contexte actuel du pays est influencé par les ***deux dominantes***. D'un côté, le pays vie encore une ***période de transition***, en subissant des fortes pertes économiques suite à l'effondrement du régime soviétique et l'abandon de l'économie de planification à la fin des années 80. De l'autre côté, la Russie ne reste pas à l'écart d'un ***mouvement global vers l'économie basée sur les connaissances***. Certaines de ces caractéristiques sont de plus en plus présentes dans le pays, comme par exemple, la pénétration de nouvelles technologies de l'information et de la communication dans toutes les sphères et à tous les niveaux.

Le passage à une nouvelle organisation économique a été accompagné par ***une sévère crise économique***, le marché du travail étant fortement touché. En 7 ans, le taux d'emploi a baissé de 15% (entre 1992 - 1999). Chez les jeunes âgés entre 16 et 25 ans, le taux d'emploi a baissé d'environ 25%.

La transformation soudaine de la structure économique du pays a causé de ***nombreuses inadéquations*** entre l'offre en main d'œuvre formée par l'enseignement supérieur et la demande en personnel qualifié sur le marché du travail. Ces inadéquations sont de natures différentes et concernent les profils par filière de formation, le niveau de l'enseignement (enseignement secondaire vs. enseignement supérieur), inadéquations entre les compétences demandées par les employeurs et les compétences possédées par les diplômés. Au début du troisième millénaire, on constate que seulement 40% à 50% des diplômés de l'enseignement supérieur travail dans le domaine de leurs études, environ 10% des diplômés n'ont pas besoin d'un enseignement supérieur dans leur travail (ISA SPAM, 2002, sondage auprès 2000 diplômés dans toutes les régions fédérales ; « Reitor », 2005, sondage auprès 2800 diplômés des 41 instituions situées à Moscou et dans sa région). Environ 20% des employeurs ne sont pas satisfaits de la qualité de la formation des diplômés. Parmi les points faibles de la formation universitaire sont cités la méconnaissance de la culture organisationnelle, difficultés de travailler en group et de suivre les règles établies à l'entreprise, manque de compétences dans la communication.

Si on regarde l'évolution des ***inscriptions dans l'enseignement supérieur*** au cours des années 90, nous remarquons ***un fort accroissement***. Le nombre d'inscrits a augmenté de 140% entre 1994 – 2002, essentiellement due à l'augmentation des inscriptions dans les études par correspondance (augmentation de 180% entre 1995 et 2002) et les inscriptions des les universités privés (augmentation de 5 fois entre 1993 et 2002).

Le nombre des diplômés de l'enseignement supérieur augmente, mais on se demande ***avec quelles compétences sortent-ils sur le marché*** ? *Est-ce que leurs compétences leur permettent de réussir dans la vie professionnelle ?* ***Correspondent-elles aux attentes des employeurs ?***

Afin de répondre à ces questions, nous avons mener une ***enquête auprès 3500 diplômés*** des 4 établissements d'enseignement supérieur, dans les deux régions de Russie: dans la région de Moscou et à Volgograd. Nous avons obtenue environ 300 réponses à Volgograd et 180 dans la région de Moscou. Cette enquête a été réalisée grâce à *la participation financière* de nombreux acteurs en Russie et à l'étranger, comme la Mairie de Dijon, le Ministère des affaires étrangères de France, l'Université de Volgograd, l'Académie de management social de Moscou, et également grâce au *soutient méthodologique* de l'IREDU et du projet européen « REFLEX » (« Flexible Professional in the Knowledge Society »).

Dans en premier temps, nous avons procédé à une ***analyse générale de la situation des diplômés sur le marché du travail***. Nous remarquons que les diplômés bénéficient d'une situation assez favorable sur le marché du travail. Le taux de chômage est très bas (2% à Volgograd, 4 fois inférieur au taux moyen de chômage dans la région ; 3% dans la région de Moscou, la moyenne régional étant de 4,2%). 60 % des diplômés à Volgograd, ainsi que dans la région de Moscou, n'ont jamais été au chômage depuis la fin de leurs études (depuis 2000 - 2001). La durée moyenne du chômage, pour ceux qui ont eu cette expérience, est de 2 mois. 65% des diplômés dans les deux échantillons sont satisfaits de leur emploi actuel. Les revenues des diplômés (après le contrôle de l'inflation) ont pratiquement doublés en 5 ans, entre 2000 (sortie des études) et 2005 (emploi actuel).

Dans en deuxième temps, nous nous sommes focalisés sur ***les compétences*** avec un zoom sur les deux questions particulières: ***quelles compétences sont demandées sur le marché du travail*** et ***quel rendement salarial apportent-elles aux diplômés***. Notre analyse est basée sur l'autoévaluation des compétences par les diplômés.

Il apparaît qu'il existe une dizaine de compétences (parmi les 19 compétences proposées) qui sont aussi importantes (voir plus importantes) que le 'savoir expert'. C'est le cas des compétences comme la capacité d'acquérir rapidement des nouvelles connaissances, la capacité de gérer le temps de façon efficace, l'aptitude à rédiger des rapports et de la documentation, l'aptitude de travailler sous pression, la capacité de négocier, etc. Ainsi, nous pouvons constater que ***le 'savoir expert' est loin d'être la seule compétence demandée dans l'emploi des diplômés***.

Aujourd'hui il devient de plus en plus évident que les compétences non-cognitives jouent un rôle important pour la réussite professionnelle. On trouve un grand nombre de travaux se focalisant sur l'importance des compétences non-cognitives (Bowles, Gintis et Osborne, 2001, Heckman, Stixrud and Urzua, 2006, Postleweite et Silverman, 2006, Suleman et Paul, 2006, Blanden, Gregg, Macmillan, 2006). Nous avons voulu savoir si dans le contexte

russe, les compétences non-cognitives sont importantes aussi. A travers les analyses nous constatons que ***les compétences non-cognitives sont aussi importantes que les compétences cognitives***.

Il existe un long débat sur comment se valorisent les différentes compétences sur le marché du travail. De nombreux auteurs souligne l'impact significatif des différentes compétences sur les revenues (Green, 1998, Heckman, Stixrud and Urzua, 2006, Suleman et Paul, 2006). En Russie, jusqu'à présent aucune recherche sur cette question n'a été menée. Nous remarquons que dans notre échantillon, ***les compétences expliquent très peu le salaire*** (2.5%) ***et le revenue*** (5%). Nous constatons également que les compétences expliquent 14% du salaire dans le secteur privé, mais elles n'expliquent pas le salaire dans le secteur public. Cette ***divergence entre le secteur public et le secteur privé*** peut être expliquée par les règles salariales propres à chaque secteur.

Aujourd'hui on ne peut plus dire que le niveau de rémunération d'un individu dépend uniquement de l'offre et de la demande. Il devient de plus en plus évident que la productivité et par conséquent, le salaire, dépendent également de ***la qualité de l'adéquation entre l'emploi et l'individu qui l'occupe*** (Jovanovich, 1979, Sattinger, 1975). Nous avons essayé de voir comment dans le contexte russe, l'adéquation entre l'emploi et la formation de l'individu influence le niveau de rémunération. On observe qu'il n'existe pas de relation causale entre le fait de travailler dans un domaine complètement différent par rapport à la formation initiale et le niveau de salaire. En revanche, il apparaît très clairement que les diplômés dont le travail demande des connaissances dans deux ou plus que deux domaines différents, gagnent plus par rapport à ceux qui travaillent *uniquement* dans leur domaine (avec une prime salariale de 5% à 8%).

Dans un troisième temps, nous avons examiné ***le rôle de l'enseignement supérieur*** dans le développement des compétences requises sur le marché. L'analyse des données montre que l'enseignement supérieur remplie bien sa fonction principale : apprendre les connaissances techniques dans un domaine particulier. En outre, il permet de développer la capacité d'analyse et la capacité d'apprendre rapidement des nouveaux savoirs. Cependant, on observe qu'il n'est pas suffisamment efficace pour aider à développer un certain nombre d'autres compétences requises par les employeurs, comme la capacité de manager le personnel, la maîtrise des outils informatiques (ordinateur, Internet), la maîtrise des langues étrangères, etc.

SUMMARY

В начале 90-ых годов, российская экономика переживает ***период трансформации***. Происходит переход от плановой экономики к экономике свободного рынка. Вслед за реформами последовал сильный экономический кризис, в ходе которого валовый национальный продукт сократился на 38%, а уровень занятости снизался на 12% с период с 1989 по 1995 гг. Начиная с 1999 г., экономическая ситуация в стране начинает улучшаться. Этот период сопровождается сокращением уровня безработицы, ростом ВВП (около 6% в год), повышением уровня заработной платы и улучшением уровня жизни граждан. Исследователи утверждают, что этот экономический «ренессанс» в значительной степени связан с повышением цен на нефть и газ на международном рынке.

В то же время, на сегодняшний день уже непозволительно основывать экономическое благополучие страны исключительно на эксплуатации природных ресурсов и торговле ими на международных рынках. Как отмечают именитые экономисты, основоположники теории человеческого капитала, Гари Бекер и Теодор Шульц, а также ряд других современных экономистов, производительность и экономический рост страны во все меньшей степени зависят от природных рессурсов, которыми обладает страна. Экономическое ***благосостояние нации во все большей степени связано с качеством человеческого капитала*** (Давид и Форей, 2004).

Не стоит забывать, что советская экономика позволила в значительной степени улучшить качество человеческого капитала, поскольку советская система предоставляла равный доступ к образованию для всех слоев населения. На данный момент мы наблюдаем, что Россия стала ***самой образованной в мире страной,*** поскольку количество учащихся в высших учебных заведениях превышает аналогичные показатели во всех других странах мира. В то же время, высокие показатели в области образования пока не влекут за собой высокий уровень экономического развития (Программа развития Организации Объединенных Наций, 2004).

Одной из причин такого несоответствия между образовательными и экономическими показателями является ***низкое качество образования***. В российской экономике произошли важные трансформации, однако, большинство вузов не смогли или не посчитали нужным адаптировать учебные программы к новым экономическим реалиям. Таким образом, экономика страны перешла на новую модель, однако, система высшего образования не сумела адекватно перестроиться для того, чтобы максимально удовлетворять требованиям нового рыночного хозяйства.

Важно отметить, что высшие учебные заведения не имеют четкого представления о том, с какими требованиями приходится сталкиватся выпускникам на рынке труда. Вузы не обладают всеобъемлющей информацией о состоянии и динамике современного рынка труда и о нуждах работодателей. В России в последнее время проводилось ***очень мало исследований, и, в особенности, эмпирических исследований, посвященных проблемам профессиональной интеграции выпускников и их карьерного развития***. Заметим, что с момента начала реформирования экономики объем финансирования государством исследовательской деятельности значительно сократился. На фоне общего снижения количества эмпирических исследовательских работ по данной теме, исследование, проведенное нами и изложенное в данной работе, представляется очень ***актуальным***.

Европейские исследователи, опираясь на результаты опроса выпускников, проведенного в 11 странах Европы и Японии в 1998 году, обратили внимание на тот факт, что от выпускников вузов на сегодняшний день требуется обладать ***широким спектром компетенций*** (навыков и знаний). Не достаточно просто иметь хорошие знания по специальности (экспертные знания), необходимо дополнительно обладать такими качествами как умение быстро осваивать новую информацию, обладать навыками эффективного общения, уметь управлять работой других, и т.д. По мнению европейских исследователей, работодатели желают видеть на своих предприятиях ***«гибких специалистов».*** Выпускники вузов должны быть компетентны в, как минимум, четырех основных областях: 1) экспертные знания (знания по специальности), 2) функциональная гибкость (умение быстро приспосабливаться к меняющимся социально-экономическим условиям; 3) умение управлять информацией и знаниями; 4) умение мобилизовывать других работников к эффективному труду.

Требование *гибкости и многофункциональности* связано с современными трансформациями в глобальной экономике. Большинство развитых стран переходят к так называемой, «экономике, основаной на знаниях». В данном контексте неотъемлемым фактором экономического роста страны, в целом, или предприятия, в частности, является ***инновация***. Под инновацией понимается процес открытия нового, возникающих на всех уровнях экономической деятельности, начиная от создания продукта/услуги и его производства, и заканчивая маркетинговой деятельностью и выходом продукта на рынок. Инновация требует, с одной стороны, ***мобилизации знаний из различных областей***, и, с другой стороны, ***умения быстро адаптироваться к многочисленным изменениям в социально-экономической среде***.

Принимая во внимание глобальные экономические изменения, происходящие в развитых странах, представляется интересным узнать ***какие компетенции (знания и***

навыки) оказываются востребованными в стране с переходной экономикой, такой как Россия, например. Сталкиваются ли российские выпускники с теми же требованиями, что и выпускники европейских вузов? Действительно ли российским выпускникам на сегодняшний день необходимо, кроме знаний по специальности, обладать широким набором компетенций? Важно рассмотреть, каким образом современная российская система высшего образования помогает молодым специалистам приобретать необходимые компетенции?

Гипотеза нашего исследования заключается в следующем. Мы предполагаем, что на российском рынке труда, также как и на европейских рынках труда, важным элементом конкурентоспособности молодого специалиста становится тот факт, что он ***не просто обладает глубокими знаниями по специальности, но и также рядом других важных профессиональных качеств***, таких как умение работать в стрессовой ситуации, умение работать в группе, способость мотивировать других сотрудников к работе, способность эффективно вести переговоры и т.д.

Следует напомнить, что социально-экономическая ситуация в России на данном этапе развития определяется влиянием ***двух основных доминант***. С одной стороны, страна продолжает переживать последствия упразднения советской командной системы и ***перехода на рыночные формы хозяйствования***. Некоторые отрасли до сих пор находятся в кризисном состоянии, все еще пребывая в промежуточной трансформационной фазе. С другой стороны, Россия не стоит в стороне от ***глобального движения в направлении «экономики, основаной на знаниях»***. Экономика знаний начинает постепенно проникать в российскую действительность. Так, например, мы наблюдаем с какой молниеносной быстрой новые технологии в области информации и коммуникации находят свое широкое применение во всех сферах жизнедеятельности и на всех уровнях.

Важно помнить, что переход к рыночной экономике в России сопровождался ***глубоким экономическим кризисом***, который в значительной степени затронул рынок труда. Низкие показатели уровня занятости свидетельствовали о тяжелой ситуации. В целом, за 7 лет (с 1992 до 1999 гг.) уровень занятости сократился на 15%. Среди молодежи в возрасте от 16 до 25 лет уровень занятости снизился на 25%.

Внезапная трансформация экономической структуры в стране привела к ***многочисленным несоответствиям между предложением*** квалифицированной рабочей силы со стороны высшего образования и ***спросом*** на квалифицированный труд со стороны рынка труда. Эти несоответствия, различные по своим причинам и природе, можно разделить на три группы: несоответствия ***по профилю подготовки***,

несоответствия по ***уровню подготовки*** (среднее образование вместо высшего образования, например) и несоответсвия ***по типу компетенций*** (знаний и навыков), которыми обладают специалисты, и компетенциями, которые необходимы работодателям. Исследования показывают, что в начале нового века только около 40 – 50% выпускников работали по специальности, около 10% выпускников занимали должность, для которой не требуется высшее образование (Институт системного анализа социальных проблем мегополисов (ИСА-СПАМ), опрос 2000 выпускников по репрезентативной выборке во всех федеральных регионах, 2002 г.; независимое агенство «РейтОР», опрос 2800 выпускников из 41 вуза в Москве и Московской области, 2005 г.). Около 20% работодателей не довольны качеством образования выпускников. Среди слабых сторон вузовской подготовки работодатели отмечают: ***незнание корпоративной культуры***, неумение ***работать в группе***, нежелание ***принимать сложавшиеся традиции и правила*** работы на предприятии, слабые ***навыки общения***, и т.д.

Характерной чертой высшего образования во второй половине 90-ых годов является ***резкое увеличение числа вузов и студентов***. Так, например, число студентов увеличилось на 140% в период с 1994 по 2002 гг., в основном, за счет увеличения записи на заочное обучение (на 180% с 1995 по 2002 гг.) и роста числа частных вузов (количество частных вузов выросло в 5 раз, с 78 до 384, в период с 1993 по 2002 гг.).

Таким образом, количество выпускников резко увеличилось. Однако, возникает ряд вопросов: ***с какими компетенциями (знаниями и навыками) молодые специалисты выходят на рынок труда?*** Позволяют ли им эти компетенции добиться успеха в профессиональной среде? Соответствуют ли эти компетенции требованиям работодателей?

Для того,чтобы ответить на эти вопросы мы провели ***анкетирование среди 3500 выпускников*** четырех вузов ***в двух регионах России***: Московской области и в Волгограде. Мы получили 300 ответов в Волгограде и 180 в Московской области. Данный проект был проведен благодаря *финансовой поддержке* со стороны российских и зарубежных организаций: Мэрия г. Дижона, Министерство иностранных дел Франции, Волгоградский государственный университет, Академия социального управления Москвы, а также благодаря *методологической помощи* со стороны ИРЕДЮ (Институт экономических проблем в образовании Бургундского университета) и европейской исследовательской группы проекта «REFLEX» (« Гибкий профессионал в обществе знаний»).

В первую очередь, в нашей работе мы провели общий анализ ситуации выпускников на рынке труда. Мы наблюдаем, что ситуация, в целом, носит положительный характер. Уровень безработицы низкий (2% в Волгограде, что в 4 раза ниже среднего уровня безработицы в регионе; 3% в Московской области, при среднем уровне в данном регионе 4,2%). 60% выпускников в Волгограде, как и в Московской области, ни разу не были безработными с момента окончания вуза (в 2000 – 2001 г.). Средняя продолжительность безработицы для тех, кто хотя бы раз был безработным с момента окончания вуза, - 2 месяца. 65% выпускников довольны своей текущей работой. Доходы выпускников (с учетом инфляции) возросли в 2 раза за 5 лет (с 2000 г. по 2005 г.).

Проведя общий анализ ситуации выпускников на рынке труда, мы сфокусировали свое внимание на ***вопросах, связанных с компетенциями*** (навыками и знаниями). Мы рассмотрели два основных аспекта: ***какие компетенции востребованы на рынке труда*** и какую ***денежную премию*** приносит выпускникам обладание той или иной компетенцией.

Результаты анализа свидетельствут о том, что около 10 компетенций (из списка 19 компетенций) востребованы в большей степени, чем «экспертные знания» (знания по специальности). К таким компетенциям относятся: умение быстро осваивать новые знания и информацию, умение эффективно управлять своим рабочим временем, умение составлять отчеты и другую документацию, умение работать под давлением, в стрессовой ситуации, умение эффективно проводить переговоры, и т.д. Таким образом, мы можем констатировать, что ***«экспертные знания» являются далеко не единственной компетенцией, востребованной в работе молодых специалистов***.

На сегодняшний день становится все более очевидным тот факт, что некогнитивные компетенции играют важную роль в профессиональном развитии. Об этом свидетельствует большое количество зарубежных научных работ, доказывающих важность некогнитивных профессиональных характеристик для социального и карьерного развития (Bowles, Gintis et Osborne, 2001, Heckman, Stixrud and Urzua, 2006, Postleweite et Silverman, 2006, Suleman et Paul, 2006, Blanden, Gregg, Macmillan, 2006). Нам представлялось интересным рассмотреть, в какой степени некогнитивные характеристики востребованы на молодежном рынке труда в России. Анализ имеющихся данных показал, ***некогнитивные компетенции востребованы в той же степени, что и когнитивные***.

Уже давно в научной литературе рассматривается вопрос о том, каким образом различные компетенции вознаграждаются на рынке труда. Исследования показывают, что компетенции позитивно влияют на доход индивидов (Green, 1998, Heckman, Stixrud and Urzua, 2006, Suleman et Paul, 2006). В России до настоящего времени еще не проводилось исследований по данной проблематике. Поэтому представлялось важным рассмотреть вопрос о денежном вознаграждении компетенций на российском рынке труда. Результаты нашего анализа показывают, что ***компетенции в очень незначительной степени влияют на заработную плату*** (компетенции объясняют 2,5% вариаций заработной платы) ***и на доход*** индивидов (компетенции объясняют 5% вариаций дохода). Кроме того, мы наблюдаем, что компетенции объясняют 14% вариаций заработной платы в *частном* секторе, тогда как в *государственном* секторе никакой статистической связи между уровнем заработной платы и компетенциями, обладаемыми выпускниками, не выявлено. Такая ***разница между государственным и частным секторами*** может объяснятся спецификой системы начисления заработной платы в этих двух секторах.

Важно отметить, что на уровень заработной платы влияют не только спрос и предложение рабочей силы. Недавние исследования показывают, что оплата труда также зависит от того, насколько профессиональные качества индивида соответствуют занимаемой должности (Jovanovich, 1979, Sattinger, 1975). Мы рассмотрели, каким образом в российском контексте уровень соответствия между индивидом и занимаемой им должности влияет на уровень оплаты труда. Мы наблюдаем, что причинно-следственная связь между тем фактом, что выпускник работает не в соответствии с квалификацией, полученной в вузе, и заработной платой отсутствует. Однако, ***явно выраженная связь*** присутствует между ***заработоной платой*** и тем фактом, что выполняемая выпускником работа ***требует знаний и навыков из двух или более различных областей*** (это влечет за собой денежную премию в размере 5 – 8%).

В-третьих, мы рассмотрели, ***каким образом высшее образование помогает молодым специалистам развивать навыки, востребованные на рынке труда***. Анализ данных показывает, что высшее образование хорошо выполняет свою основную роль: развитие глубоких знаний по специальности. Кроме того, оно позволяет также развивать такие компетенции как аналитическое мышление и умение быстро осваивать новые знания. Тем не менее, система высшего образования не достаточно эффективна в том смысле, что она не способствует развитию других неменее важных характеристик, как, например, умение управлять персоналом, владение компьютером, знание иностранных языков, умение работать в стрессовой ситуации, и т.д.

Contents

General introduction

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. Russia has become a democratic country oriented towards a capitalist economic organisation. 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). The system of social assurance and state guarantees for population were seriously damaged as well. Since the beginning of the third millennium 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. Experts argue that ***Russia should not simply rely on the activities related to export of natural resources but it should assure a deep restructuring of institutional mechanisms enabling an effective functioning of all economic spheres***.

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. The latter takes its name by its main component, knowledge, and comes up as 'knowledge-based economy' ('économie basée sur la connaissance', 'ekonomika na znaniyah'). Higher education graduates turn out to be key actors in this economy. They are challenged to assure technological progress through bringing innovations in all domains.

It seems that the further development of Russia will depend on its capacity to effectively use human capital. The latter was considerably increased throughout the socialist past of Russia. The soviet system provided an equal access to education for all population and this enabled to significantly improve the quality of the human capital in the country. 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 ("Education at glace", OECD, 2003; Goskomstat[1], 2002).

[1] Goskomstat – the Russian National Committee of Statistics

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[2]).

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 strong difficulties on the labour market 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.

The current economic situation in the country is framed by ***two features***. On the one hand, Russia is still experiencing ***a transitional phase***. Last 15 years of a system transformation brought about important changes, like slowing down of activities in manufacturing sector and the shift to services sector, appearance of informal economy including a shadow economy, etc. On the other hand, the country is being influenced by ***a global move towards a knowledge-based society***. New information and communication technologies are rapidly penetrating in all spheres. The number of people with mobile telephones had augmented by about 400% between 2000 and 2004. The share of Internet users among the whole population had tripled in the same period.

Given the influence of these two trends (a transitional character and the influence of a knowledge-based economy), it is of interest to study ***what demands places the current labour market on higher education graduates***. The main objective of our study is, therefore, to shed light on the two key questions:

In the context of transitional economy influenced by the global move towards a knowledge-based society ***what demands face graduates while entering and operating on the labour market and what competencies are they required to possess?***

To what extent does Russian higher education prepare young people to face these demands?

[2] UNDP - United Nations Development Programme

The European research on graduate labour markets revealed that the current job market requires that the present generation of 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 caused that limits between different fields of study and domains of work are blurring. 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 motivate them for work, 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*.**

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 the high school. 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. We argue that the Russian economy needs *flexible specialists*. These rapid, dynamic and innovative people should largely contribute to the economic growth of the country and to augmenting its international competitiveness.

In regard to the hypothesis of our study, we argue, secondly, that transformations occurred in the Russian economy these last 15 years and its peculiarities stemmed from its soviet past, have ***a dual impact on graduate labour market***. Requirements that graduates face on the labour market diverge. ***This duality appears on two levels***. The first one refers to the

opposition between the private and public sectors, the second one concerns ***the difference between the capital and the province regions***. Our study will focus on the first one[3].

The private sector, due to its profit-oriented nature, depends largely on workers productivity. To encourage individuals to work more effectively, employers use different methods, including higher salaries. Thus, competencies that enable to individuals to be more productive are rewarded by employers. In the public sector, wages are still allocated according to a soviet system of reward. Salaries enjoyed by workers in this sector depend rather on formal level of educational attainment and work experience within organisation than on their productivity. Therefore, ***we believe that competencies required and rewarded in the two sectors should be different***.

A problematic of our research, as exposed above, necessitates the following organisation of the theses.

We will first describe ***global trends on graduate labour markets in Europe***, aiming at to reveal what competencies European graduates are required to possess. The situation on the European markets is framed by the move towards a knowledge-based economy. We will, thus, start with presenting ***definition and structure of a knowledge-based society***. The characteristic features of the knowledge-based society are a dominance of knowledge and the importance of human capital. The first one implies that knowledge becomes a main form of capital and it is widly used in various fields of human activities. This reflects in a high rate of investment in research and development, innovation activities, rapid growth of new technologies in all spheres of life and notably, in the field of information and communication. On the other hand, the knowledge-based society puts empasis on the investment in education, training and health care, in other words, on a human capital investment.

The coming of the knowledge-based society brought about ***new challenges for higher education graduates***. These are believed to play a key role in the modern society. This category of highly qualified labour is supposed to assure innovation activities in a wide range of fields, that are necessary to improve national competitiveness and contribute to an economic growth. Thus, graduates are expected to possess various professional characteristics that should enable them to be productive in the context of information society and assure innovations.

Speaking about professional characteristics, the term ***'competence'*** is relevant. If in Europe this term is widely studied and used in literature, it has just penetrated in Russian

[3] Due to technical reasons, the data for considering the second duality was not available.

social and economic research. The second part of the first chapter is devoted to the concept of competence and the theoretical evidence on core or key competencies will be examined. We will end up the first chapter with considering what competencies are required from graduates in European labour markets.

Afterwards, we will focus on ***the economic situation and particularities of the Russian labour market.*** The economic crises, political and ideological changes, occurred in the 90th, modified the society in its integrity. In order to understand the context in which young specialists live in at present, it is inevitable to make an analysis of the recent economic and social transformations. This is what we do in the second chapter.

The third chapter deals with ***transformations and evolution in the system of higher education***. In higher education, like in all other economic branches, a private sector has appeared. This resulted in a sharp increase in the number of new fee-charged higher education institutions: it has augmented by 500% in 9 years, between 1993 and 2002. The number of enrolments has been on a rise in this period as well: from 1995 to 2002 it rose by 113%. The level of selectivity in some educational programmes has fallen. Hence, some higher education diplomas have lost their signalling function. In this context, the level of prestige of a higher education institution and its 'age' turned out to become employers' "filters" while hiring new specialists.

In the fifth chapter, we describe ***the current graduate labour market in Russia***. It is important to realise that before the yearly 90s a system of state allocation of graduates to work places was a key mechanism assuring transition from study to work for graduates. This system enabled to provide a field related work to *all* graduates. A disappearing of this mechanism caused serious difficulties in job search for young specialists. The latter found themselves somewhat frustrated, being deprived of psychological support helping them to adapt to ideological changes, to the transforming system of social values and beliefs, to new economic organisation and its rules of functioning. The absence of mechanisms for study-to work transition and growing differentials across branches generated 'internal brain drain' or field mismatch. Educational level mismatches and skills mismatches have been taken place as well.

While the economy has been changing rapidly the higher education was slightly lagging behind. It appears today that the Russian higher education does not provide young people with all the competencies required on the labour market. Employers attach the importance to behavioural characteristics of workers to practically the same extent as to professional expertise. They expect them to be responsible, honest, social and able to communicate effectively, able to work in groups, etc.

The sixth chapter aims at providing ***empirical evidence on competencies demanded on the labour market*** through the analysis of data obtained by ***a survey of 3,500 Russian higher education graduates in the capital and province regions*** of the country. In this part of our work we seek to found out ***what competencies are demanded and how they are rewarded on the Russian transitional labour market.*** We also seek to find out ***to what extent higher education studies contribute to development of these competencies.***

In the beginning of the chapter we draw out a brief analysis of the general situation of higher education graduates on the labour market. Three key indicators of graduate employment prospects are considered: rate of unemployment, level of satisfaction by current job and level of remuneration in current job and in first job immediately after graduation. We would like to know if higher education graduates manage to take a good position on the labour market in terms of high incomes, for example. If it does, we may suppose that higher education has contributed to some extent to this success.

Further, we study what competencies are required on the labour market and how they are rewarded. We will also examine what factors on the side of labour supply, labour demand and job match appear to have an impact on graduate current income. It is of interest to consider in more details how professional mismatch influences graduate income. The phenomenon of professional mismatch has appeared on the Russian labour market in the yearly 90s and till now, no thorough research concerned the impact of professional mismatch on graduates' success on the labour market.

In this chapter we also considerer ***differences between the private and the public sectors*** in terms of competencies required. We remark that the private sector is more demanding for competencies related to the ability to deal with the 'new'. We also found out that there is no statistical relationship between the income of graduates working in the public sector and the competencies they possess. Whereas the same model with graduates working in the private sector enables to explain 14% of income variation.

We end up the last chapter by exploring ***the role of higher education in developing the required skills***. We suppose that Russian higher education does manage to provide deep knowledge in a particular field and analytical thinking abilities, but it does not contribute to a sufficient extent to producing other essential qualities, like computer and Internet literacy, capacity to work in group and others.

Chapter 1.

Demands placed by

a knowledge-based economy

on higher education graduates

Abstract

Current situation on graduate labour markets is framed by changes in economic and social organisation of the society. Global move towards a knowledge-based economy implies new challenges for higher education graduates.

Different to the industrial economy where the accent was put on material factors of production, the knowledge-based economy makes emphasis on knowledge. The latter becomes the most important element, and hence the success of any society and individual lies in harnessing it.

It is particularly the tacit knowledge which appears to be crucial in the context of the knowledge-based profile of the society. This term refers to 'know-how' and 'know-why' in Lundvall and Johnson' classification (1994) and is described as a set of skills and competencies needed to handle basic knowledge about the society. Capabilities in selecting information, judging market prospects for a new product, learning quickly and training others to learn are thus in increasing demand.

1.1. Role of the human capital in a knowledge-based society

1.1.1. Concept and structure of the knowledge-based economy

A knowledge economy or a knowledge-based economy is a phrase that refers to the use of knowledge to produce economic benefits. The term was introduced by Peter Drucker as the heading to chapter 12 in his book “The Age of Discontinuity”. It came to prominence in New Zealand in the mid-1990s as a way of referring to the manner in which various high-technology businesses, especially computer software, telecommunications and virtual services, as well as educational and research institutions, can contribute to a country's economy. In 1966 Peter Drucker in ‘The Effective Executive’ described the difference between the Manual worker and the Knowledge worker. A manual worker works with his hands and produces "stuff". A knowledge worker works with his head and produces ideas, knowledge, and information.

Various observers describe today's global economy as one in transition to a ***"knowledge economy"***, or an ***"information society".*** A key concept of this sector of economic activity is that knowledge and education can be treated as:

- A business product (educational and innovative intellectual products and services can be exported for a high value return);
- A productive asset.

Knowledge societies have the characteristic that knowledge forms major component of any activity, particularly economic activities. Economic, social, cultural, and all other human activities become dependent on a volume and the way of utilization of knowledge and information. A knowledge society/economy is one in which knowledge becomes major product and raw material.

Knowledge societies are not a new occurrence. For example, fishermen have long shared the knowledge of predicting the weather to their community and this knowledge gets added to the social capital of the community. The new feature is that:

- With current technologies, knowledge societies need not be constrained by geographic proximity;
- Current technology offers much more possibilities for sharing, archiving and retrieving knowledge;
- Knowledge has become the most important capital in the present age, and hence the success of any society lies in harnessing it.

One may find different concepts of the knowledge-based society. According to the OCDE definition, knowledge-based economies are economies which are ***"directly based on the production, distribution and use of knowledge and information"*** (OECD, 1996). The knowledge-based organisation of a society implies large investments in research and development, high-technology industries, education and training and new managerial work structures. The key factor of such a society is a highly-skilled labour. The key terms relevant to the concept of the knowledge-based society are information and knowledge, and all their forms of production, utilisation, archiving, distribution and transmission. In knowledge-based societies, knowledge forms major component of any activity, particularly economic activities. Economic, social, cultural, and all other human activities become dependent on a volume and the way of utilization of knowledge and information. A knowledge society/economy is one in which knowledge becomes major product and raw material.

Knowledge was important in human activities since very ancient time. But in the modern society the use of knowledge is expected to be a source of income growth either on the individual level or on the macro level to contribute to the economic expansion of a country. Therefore, the important characteristic of the knowledge-based economy is that it seeks to use knowledge and information to produce economic benefits.

D. Forray and P. A. David argue (2002) that the productivity and growth of different countries depend to a lower extent of their abundance of natural resources than to the capacity to improve the quality of human capital and factors of production. Authors underscore the importance of intangible capital in the knowledge-based society. Intangible capital falls into two main categories; they are investment in production and dissemination of knowledge (for example, in training, education, research and development, information and coordination) and investment in sustaining the physical state of human capital (health expenditure).

Structure and key elements of the knowledge-based society

There are ***different kinds of knowledge*** that are important in the knowledge-based society. Lundvall and Johnson (1994) distinguished 4 kinds of knowledge; they are ***'know-what', 'know-why', 'know-how', 'know-who'***.

- ***'Know-what'*** refers to knowledge about facts. The example of this type of knowledge can be the knowledge about the size of population in a city, the date of a historical event, etc. Here, knowledge is close to the concept of information – it can be broken down into bits. Layers and medical doctors use this type of knowledge in their job.
- ***'Know-why'*** is called scientific knowledge about basic principles and laws of nature. This knowledge is a pillar of technological development and product and process advances in most industries.

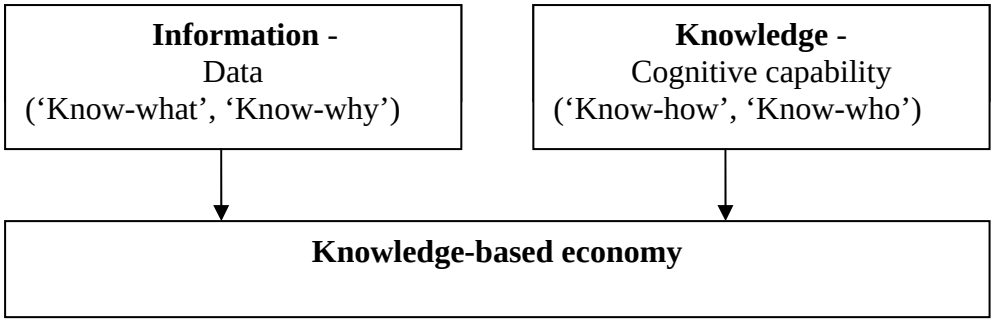
- ***'Know-how'*** refers to skills and capacities needed to perform work tasks.
- ***'Know-who'*** concerns social capability to cooperate, to communicate and to establish relationships. It involves knowledge about changes in the economic and social environment. For example, for the modern manager and organisation, it is important to use this kind of knowledge in response to the acceleration in the rate of change.

Knowledge is a much broader concept than information, which is generally corresponds to 'know-what' and 'know-why'. Two other types of knowledge 'know-how' and 'know-why' are different in nature, they are more difficult to codify and to measure in comparison to 'know-what' and 'know-why'. These four types of knowledge can be acquired through learning but in different ways. While 'know-what' and 'know-why' can be obtained through reading books, attending lectures and accessing databases, the other two kinds of knowledge develop mostly in practical experience. 'Know-who' is learned in situation where an apprentice follows a master and relies upon him as the authority. 'Know-who' is acquired in social practice and sometimes in specialised educational environments. It also develops in every day work tasks concerning dealings with clients, suppliers, external organisations or institutions. 'Know-how' is a particular type of knowledge that cannot be transferred through formal channels of information and acquired through traditional educational programmes.

The above classification of knowledge is also linked to the distinction between tacit knowledge and codified knowledge. Codified knowledge refers 'know-what' and 'know-why' that are used as a 'material' for 'know-how' and 'know-why'. These two types of knowledge help to effectively utilise codified knowledge. In other words, ***tacit knowledge*** is a set of skills and competencies needed to handle basic knowledge about the society. The authors of the OCDE report 'The Knowledge-based Economy' argue that nowadays, in the context of the global knowledge-based economy, ***tacit knowledge is more important than ever in labour markets.*** Capabilities in selecting information, judging market prospects for a new product, learning quickly and training others to learn are in increasing demand.

It is imperative to distinguish knowledge and information. As we mentioned earlier knowledge is a broader concept than information. David and Foray (2002) underscore the importance of making distinction between knowledge and information. *" … what we mean by knowledge is fundamentally a matter of cognitive capability. Information, on the other hand, takes the shape of structured and formatted data that remain passive and inert until used by those with the knowledge need to interpret and process them"*, writes authors. Costs of replicating information are considerably lower than those of reproducing knowledge. Reproducing knowledge is a far more expensive process because cognitive capacitates are not easy to articulate explicitly or to transfer to others, whereas reproducing of information amounts to price of making copies.

Figure 1. Distinction between knowledge and information, key components of the knowledge-based economy



The term of the ***'information society'*** is usually used in couple with ***'the knowledge-based economy'***. The concept of 'information society' outlines the importance of one of the key components of the present society that is ***information.*** A great emphasis is placed on the diffusion and use of information as well as its creation. *Diffused information and knowledge* contribute to emergence of ***networks*** that become the base of the modern society.

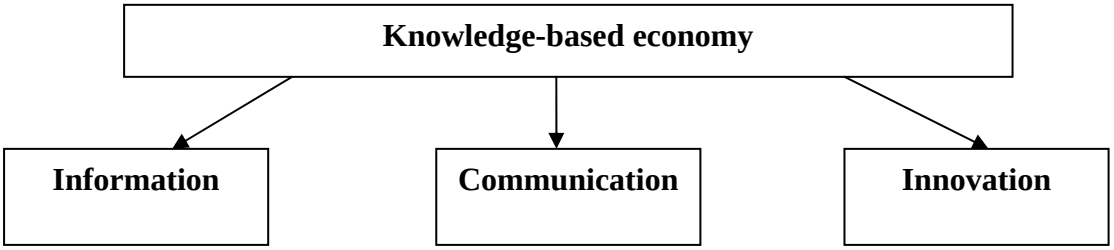
An *exchange of information* between two or more institutions, organisations, individuals, etc. regards the term of ***communication***. The efficiency of communication process became an essential preoccupation not only for enterprises but also for individuals, public institutions and other social actors. As communication is highly dependent on devices of its transmission like telephone, Internet, and e-mail, each enterprise being aware that this is a key factor of its success in the market economy, strives to be well equipped in computers, permanent Internet access, and fax machines. It is the same on the individual level: students try to be computer literate at the end of their studies as they realise that this competence is crucial today.

For Castells (1998), the penetration of new technologies of information and communication in all fields of life transforms material fundamentals of the society. He argues that the modern society becomes not only an 'information society', but '*une societé informationnelle*', characterised by a particular social organisation where information becomes the first source of power. He introduces a term 'network society', describing a network as a set of interconnected 'nudes'. For the author, the coming of the information society brings about a noticeable transformation of traditional capitalist relations. This implies smother management styles, decentralisation and establishing of relations between enterprises, individualisation and diversification of labour contracts and relations, acceleration of competition, notably at the international market.

The creation of knowledge is linked to the one of the key concepts of the knowledge-based economy that is ***innovation***. Technological innovation appears to be one of the key

elements of the knowledge-based economy. Innovation is usually conceptualised as a process of discovery. The latter proceeds via a sequence of phases. Innovation begins with new scientific research, progresses trough stages of product development, production and marketing, and terminates with the successful sale of new products, processes and services. It is now recognised that innovation can stem from many sources, including new manufacturing capabilities and recognition of market needs. Innovation can assume many forms, including improvements in existing products, applications of technology to new markets and uses of new technology to serve an existing market. Innovation requires effective communication among different actors – companies, research laboratories, higher education institutions, consumers – as well as feed back between science, engineering, product, development, manufacturing and marketing (OCDE, 1996).

We believe that knowledge-based economy is underpinned by three main components: they are information, communication and innovation.



* * *

The concept of the knowledge-based society has become very popular in the scientific literature. We suppose that it is linked with the wide use of it for the EU countries development policy. However, it is not very often in research to meet a consideration of the concept of the knowledge-based society and its relation with the term of post-industrial economy. However it seems that two concepts are similar. Like in the knowledge-base society, in the post-industrial one the knowledge is the base of power.

A term of ***post-industrial society*** names an economy that has undergone a specific series of changes in structure after a process of industrialization. A post-industrial society is one in which the majority of those employed are not involved in the production of tangible goods. The manual and unskilled worker class gets smaller and the class of knowledge workers becomes predominant. The character of knowledge also changes and an emphasis is put on theoretical knowledge rather than empirical. Theoretical knowledge is the impetus of innovation and growth. Because of this, universities are expected to become central institutions and prestige and status will be rooted in the intellectual and scientific communities.

The concept of the post-industrial society is linked with the work of Daniel Bell. In *The Coming of Post-Industrial Society* (1973) Bell outlined a new kind of society - the post-industrial society. He argued that post-industrialism would be information-led and service-oriented. Bell also argued that the post-industrial society would replace the industrial society as the dominant system. There are three components to a post-industrial society, according to Bell:

- a shift from manufacturing to services
- the centrality of the new science-based industries
- the rise of new technical elites and the advent of a new principle of stratification

Symbolically, the birth years of the post-industrial society were 1945-50. The developments of nuclear energy established the important relationship between science and government; cybernetics introduced "social physics;" and a new "future-orientation" arose. During this time, the fundamental themes of the technocratic age (rationality, planning, and foresight) were born.

Lyubeckiy (2003) carried out a systematic analysis of a concept of post-industrial society using works of Bell (1976), Drucker (1966), Inozemcev (1990), Riesman (1958), Masuda (1981), Machlup (1984), etc. He distinguished seven key elements of this “new” economic organisation of the society, called a post-industrial society:

- Shift from manufacturing to production of services;
- Information and knowledge become major factors of production;
- Intensification of market competition;
- Shift from ‘mass’ production to production of ‘unique’ goods and services;
- Changes in work schedules, move to non-standard employment, blurring of boundaries between work and private life;
- Increasing role of education;
- Physical activity is replaced by creative activity.

We remark that ***these features are somewhat close to ones of a knowledge-based society*** considered previously.

Dyachenko (2005) argues that the post-industrial economy contains **three sub-systems**: ***an ‘intelligent’ sub-system of production, an industrial sub-system of production and a post-industrial sub-system of production.*** Whereas the industrial economy only includes two of them (see Figure 3):

Figure 3. Industrial economy

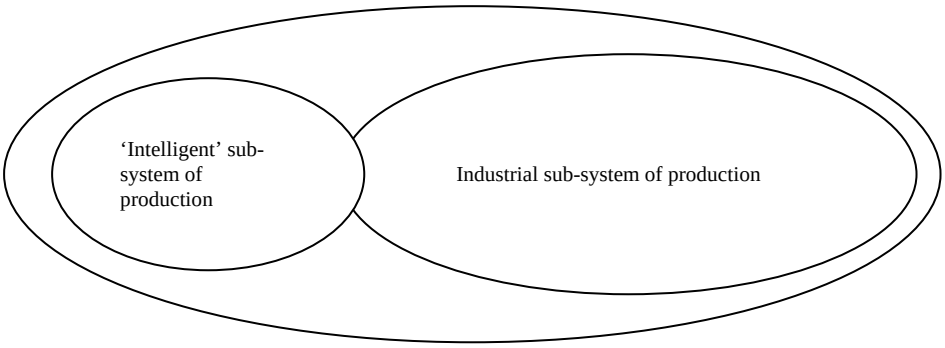
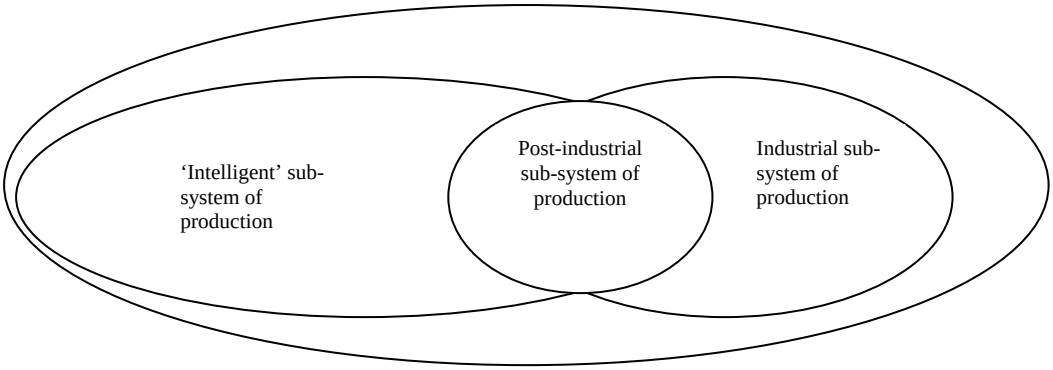


Figure 4. Post-industrial economy



We observe that in the post-industrial economy a sub-system of industrial production is still present. If thinking about the knowledge-based society, one may suppose that the sub-system of industrial production exists as well. This sub-system is characterised by the fact that the production of goods and services does not require deep professional knowledge. Reich (1993) mentions that the modern economy requires 3 types of workers: routine production services worker, in-person services worker and symbolic-analytic services worker. Routine production services, according to Reich, entail the kind of repetitive tasks performed by *"the old foot soldiers of American capitalism in the high-volume enterprise"*. In-person services also include repetitive tasks, but they are provided person-to-person. Symbolic-analytical services refer to problem-solving, problem-identifying and strategic-brokering activities. We remark that for the first category of workers, all 4 types of knowledge, distinguished by Lundvall and Johnson, are not required. Thus this type of professions is still positioned in the industrial sub-system of production.

We think that the share of a sub-system of industrial production in the economy should vary across countries. We believe that the more this system is important in the economic structure, the less a given country is advanced towards a knowledge-based profile.

Making a conclusion we may say that ***it is quite difficult to draw a clear difference between the two terms, 'knowledge society' and 'post-industrial society'***. We did not find any works on this issue in literature. However, we could make a hypothesis that in the knowledge-based economy the accent is made on the specificity of knowledge required by the society. In the post-industrial society this is the theoretical knowledge that became the source of innovative activity in the society. In the knowledge-based society, it is tacit knowledge (vs. codified knowledge) that becomes crucial for professional operating. It is acquired through apprenticeship and permit to handle knowledge from different fields. Moreover, in the knowledge-based society limits between different fields of work became blurred. Globalisation, as an example of the process of blurred boundaries between nations and societies, has as well a more important impact in the context of a knowledge-based society in comparison to a post-industrial economy.

Thus, *we would suppose that the knowledge-based society is a consequent evolution stage of the post-industrial society*. This may also be confirmed by the fact that, to some extent the difference between the two terms includes a temporal dimension. Years of birth of post-industrial economy were 1945-1950. As to a knowledge-based society, researchers started speaking about it since the 60s – 70s.

It is interesting to remark that since the end of the 90s, the term 'knowledge-based society' gained a 'policy-oriented' connotation. The knowledge-based society became an *'objective'*, a means of achieving higher economic growth and increasing the international competitiveness. Countries of the European Union, for example, try actually to construct their future with reference to a kind of 'ideal' model of society where knowledge and an equal access to it are fundamental rights and innovation is a drive of economic development.

* * *

The term of ***the knowledge-based society received a policy-oriented connotation*** as soon as it was adopted by the European Commission aiming to enable countries of European Union to promote social and economic development and to compete with the United States.

At the beginning of the 21-th century taking into account the changing character of social and economic relations in the society the community of developed European countries decides to found a new policy and to settle new priorities for the effective economic development in Europe. Pursuing this goal in 2000 the European Commission declares that a

new model of development of the European economy should be adopted in order to create the world's most competitive society by 2010. A construction of a knowledge-based society was proclaimed a prime objective for the European Union. The first European meeting that raised questions on the knowledge-based society took place in Lisbon in March 2000. Subsequent European Councils, particularly in Stockholm in March 2001 and in Barcelona in March 2002, have taken the Lisbon goal further forward.

At Lisbon conference in 2000, it was stressed that:

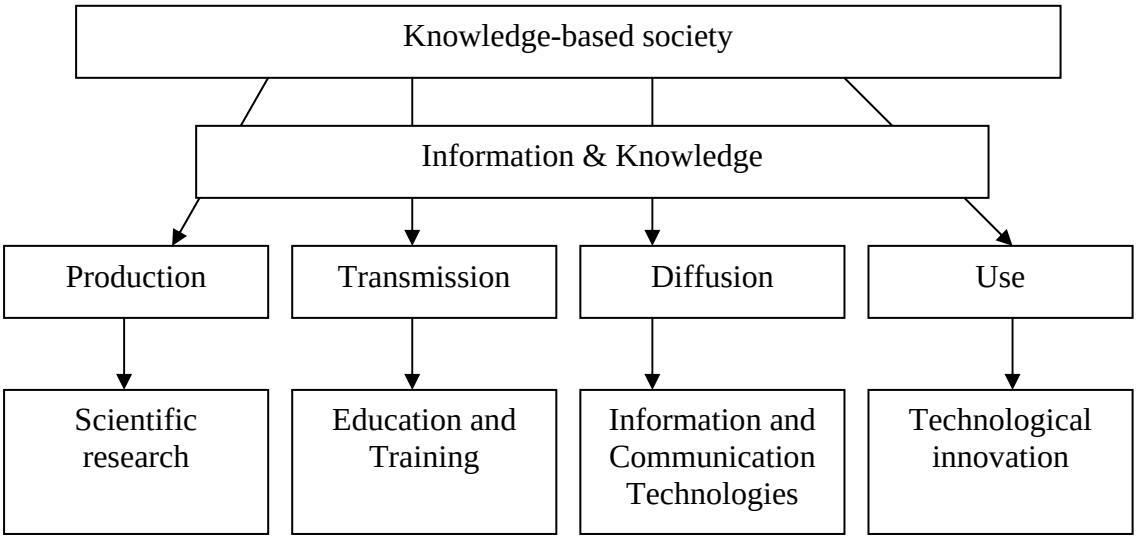
• "businesses and citizens must have access to an inexpensive, world-class communications infrastructure and a wide range of services",

• "every citizen must be equipped with the skills needed to live and work in this new information society",

• "a higher priority must be given to lifelong learning as a basic component of the European social model."

As for the structure of the knowledge-based economy, it should be based on four interdependent elements: the production of knowledge, mainly through scientific research; its transmission through education and training; its dissemination through the information and communication technologies; its use in technological innovation.

Figure 5. Structure of a knowledge-based society



Information technologies are the first key element in the knowledge-based society; they are thought to be a powerful engine for economic growth. ***The importance of digital technologies*** is highlighted in the report of the European Commission "Towards a knowledge-based Europe. The European Union and the information society" (2002). It is

stated that the expansion of the Internet all over the world is no less significant than the Industrial Revolution of the 18th and 19th centuries. *"… Information technologies and the Internet have been transforming the way companies do business, the way students learn, the way scientists carry out research and the way in which governments provide services to their citizens."*

Already in November 1999, the European Commission put forward an ***"****eEurope" programme* to manage the transition to a knowledge-based society, both within the Union and in the candidate countries of Central and Eastern Europe. "eEurope" aimed to ensure that everyone in the European Union – every citizen, every school, every company, every administration – has access to the new information and communication technologies and exploits them as fully as possible. "*e*Europe" not only aims to *make European industry more competitive*, but also to ensure that all European citizens, especially those with special needs, have access to modern communications technologies to improve their quality of life. They must have direct and interactive online access to knowledge, education, training, government, health services, culture and entertainment, financial services and much more. Nowadays, Internet access has become a *fundamental right for all citizens* and responsible governments have a duty to provide it.

As we see, there are two main objectives of construction of the knowledge-based society in Europe; they are economic growth and protection of civil rights of individuals.

* * *

Making the conclusion, we should specify that we understand a term 'knowledge-based economy' in its *large* sense. For us, a phenomenon of a knowledge-based society/ economy includes various trends of the modern environment, like:

- coming of the ***information society*** (society, dominated by a spread of information and communication technologies);
- ***globalisation*** (the process of blurred boundaries between nations and societies);
- a process of ***blurring boundaries across fields of study and domains of work***;
- ***innovation processes*** (processes of discovery of goods, services, ways of organisation and production, occurring at all stages of a productive work and in all spheres of life).

Further, in the present paper, we will often refer to the term 'knowledge-based society'. We will relate requirements imposed by the modern society with the influence of a 'knowledge-based economy'. It should be clear that, hereinafter, when speaking about a "knowledge-based economy' we mean the current economy influenced by the all above trends.

1.1.2. Definition of human capital. Human capital theory

As we showed in the previous paragraph, the world economy is becoming more competitive, more global, and increasingly dominated by information and communication technology. This has made human capital a crucial element inputting into the production process.

Under human capital one usually understands skills, knowledge, capacities, abilities, motivations, acquired and possessed by individuals, that are used during their life to produce goods and services. The main idea of the theory of human capital is that education and training may be seen as forms of investment in the individual which contribute to the accumulation of a stock of human capital. Although origins of the human capital approach may be found in the writings of early economists (for example, Adam Smith, 1776) the studies of both Mincer (1958) and Becker (1964) were specially important for the emergence of a literature which sees education and training as forms of investment in individuals which give rise to an improvement in the quality of labour supply.

Gary Becker in his works recognised the household as a decision-making unit regarding questions whether to participate in the labour market and how many hours to spend on work, on the one hand, and home production and consumption decisions on the other. In his model Becker integrates production, consumption and labour supply decision within a unified framework. *"By doing so, Becker was able to demonstrate how utility-maximising behaviour by households can determine the division of each member's available time between paid work and un-paid or non-market activities, as well as their chosen mix between home-produced and market-purchased goods and their chosen division of labour between various household members in the performance of the range of alternative tasks"* (Sapsford and Tzannatos, 1993). The Becker's model was extremely influential and provided the basic foundations for further theoretical and empirical research in this field.

The human capital theory can be seen as an extension of investment theory in the sphere of human resources. The reason is that one may be willing to incur costs in the short run in return for higher benefits in the long run. At the same time, investment in human capital is a much broader concept than simply further studies after secondary school education. Investment in people occurs from the time they are born and covers their whole life. One type of investment is expenditure on health: the cost of preventing or treating diseases can in the long run be offset by lower labour market "absenteeism rates" due to ill health. This type of investment can be profitable both for the individual (higher earnings) and for the economy (a greater level of production). Besides these two types of human capital

investment (in education and health) some other forms can also be distinguished, they take into account, for example, a ‘social’ dimension and a ‘private’ (individual) dimension of investment.

R. Ehrenberg (2000) points out that workers undertake three main kinds of labour market investment: education and training, migration, and search for new jobs. This type of classification is based on the definition of workers as individuals possessing a set of skills than can be “sold” to employers. The knowledge and skills a worker has – which come from education and training, including the learning that experience yields – generate a certain stock of productive capital. However, the value of this amount of productive capital is derived from how much these skills can earn in the labour market. Job search and migration are activities that increase the value of one’s human capital by increasing price (wage) received for a given stock of skills.

The improvement or the maintenance of human capital is not only an investment decision. It can also be seen as a consumption decision: for example, individuals may prefer to pay for education even if the expected economic returns are not sufficient to cover present costs. *“The benefits of education are more wide-spread and far-ranging”*, - indicates John Middleton et al. (Middleton, Ziderman, Van Adams, 1993). “*The value of education extends … also to utilities such as status, job security, and other income in kind*”.

Education can also be viewed as both as a consumer good, in that students may derive satisfaction, even enjoyment, from study, and as a durable consumer good in that it confers future utilities (the enjoyment of reading books, for example) over the lifetime of an educated individual. More broadly, education has a positive effect on the quality of parenthood, on citizenship, and on health, benefits that extend more widely to family and to society at large.

R. Ehrenberg (2000) distinguishes three stages of investment in knowledge and skills of a particular worker. First, in early childhood, the acquisition of human capital was largely determined by the decisions of others. Parental resources and guidance, plus one’s cultural environment and early schooling experiences, help to influence basic language and mathematical skills, attitudes towards learning, and one’s general health and life expectancy (which themselves affect the ability to work). Second, teenagers and young adults go through a stage in which their acquisition of knowledge and skills is as full-time students in a high school, college, or vocational training program. Finally, after entering the labour market, workers’ additions to their human capital generally take place on a part-time basis, through on-the-job training, night school, or participation in relatively short formal training programs.

The empirical approximation of the human capital theoretical framework is the functional form of the earnings equation introduced by Mincer (1974):

$$Log\ w_i = \alpha + \beta S_i + \gamma X_i + \delta X_i^2 + \varepsilon Z$$

Where w_i is an earnings measure for an individual *i* such as earnings per hour/week, S_i represents a measure of his/her schooling, X_i is an experience measure (typically age minus age left schooling), and Z_i is a disturbance term representing other forces which may not be explicitly measured, assumed independent of X_i and S_i. Note that experience is included as a quadric term to capture the concavity of the earnings profile.

G. Psacharopoulos (1975) argued that it is limiting to calculate the return to education only with data on incomes. He proposed that there are also so-called fringe benefits that count. "*Data on salaries usually do not take into account fringe benefits. This may imply the underestimation of an individual's earnings and his/her private returns to education. There exists a wide set of items of fringe benefits in addition to basic pay. These range from pensions, life assurance to subsidised meals and holidays*"[4]. According to Psacharopoulos, a total compensation package comprises three components:

- basic pay, which reflects the time rate or grade and rating in pay scales,
- pecuniary fringes, such as life assurance and paid leave, and,
- non-pecuniary fringes, like leisure time and working conditions (e.i. use of air-conditioned office).

It is important to be aware of significance of fringe benefits when assessing graduate incomes. Research shows that fringe benefits represent not a negligible percentage. In some countries the proportion of fringes relative to money wages can be as high as 100 per cent. In terms of absolute magnitude Gordon and Le Bleu (1970) report that U.S. companies spent 100 billion dollars in 1967 on employees benefits which is about one-fifth of the country's Gross National Product. And in terms of relative magnitudes employee's benefits expanded more than twice as fast as wages and salaries. The 1927 – 1967 average annual rate of growth for wages was 3.9%, whereas it was 9.6% for fringe benefits.

Fringes as a percentage of money wages vary across countries. At the beginning of the 60s, fringe benefits were reported to be at the highest level in Austria and France among other OCDE countries, respectively 50% and 52%, while they were only 15% and 17% in the U.K. and Denmark.

[4] G. Psacharopoulos (1975), "Earnings and education in OECD countries", Printed version, IREDU

The human capital theory (HCT) has been criticised during these recent years. The first example is the confrontation of the HTC with the screening theory. Several economists advanced a "screening" theory that differs from the human capital approach (Arrow, 1973, Phelps 1972, Taubman and Wales 1973, and Stiglitz 1975). Part of the value of education to employers lies in its ability to provide information to employers about individuals, their aptitudes and behavioural characteristics. The letters are assumed to be important determinants of labour productivity. Employers believe that individuals who attained higher level of education are inherently more productive thus they favour more educated people and pay them higher salaries.

M. Carnoy (1995) stated in his article 'Economics of Education: than and now' that "so far there is no hard evidence that more schooling does raise industrial worker productively – only that higher levels of schooling are associated with higher wages". However, states Carnoy, schooling increases individuals' cognitive knowledge and that such knowledge is relevant to skills needed to be productive at work. The American researcher also demonstrated in his work that this is not only the quality of human capital in terms of acquired skills and knowledge that enables innovation activity in a firm but also the organisation of production within the firm that is fundamental to the effectiveness of innovative processes.

Most emphasis in the human capital discussion was placed these recent years on skill mismatch. The concept of 'overeducation' was introduced and largely discussed since than. Freeman was the first to describe this phenomenon in his book in 1976.

As a ***conclusion*** we may say the following. In this paragraph we depicted that a long discussion on the human capital theory revealed the importance of education for economic growth and raise in individuals' incomes. Schooling increases students' cognitive knowledge and this knowledge contributes to development of skills needed to be productive at work. As to the new requirements appeared in the context of a knowledge-based economy, education is supposed to provide the necessary tools for operating and meeting new economic challenges. Innovation becomes a key feature. We showed that the necessary condition for that human capital produces innovation is the appropriate organisation of production in firms/ institutions. Such an organisation should enable to create an innovative environment with the possibility of learning on the job.

1.1.3. Place of higher education graduates in the knowledge-based society. What challenges for higher education systems?

In the context of move towards the knowledge-based society, universities[5] are perceived as key institutions. Due to their transitional twofold vocation of preparing a qualified labour force, on the one hand, and developing research and implementing scientific innovations, on the other hand, they are expected to contribute significantly to promoting sustained economic growth in countries.

The ***key role of universities*** in the knowledge-based society was recognised by the European Commission in the 2003 Communication on the Role of the Universities in the Europe of Knowledge. This Communication sought to start a debate on the role of universities within the knowledge society and economy in Europe and on the conditions under which they would be able to effectively play that role. It was stated that universities should play a central role in the development of the Europe of knowledge to construct *"the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion"* (2003). Not only in Europe but throughout the world, the primary role of higher education in the social development is acknowledged by researchers and policy makers. The authors of the report of the World Bank (2002) underscore that tertiary education is seen as one of the key elements in a society that have the potential to enhance economic growth and reduce poverty. It is stated in the document that tertiary education exercises a direct influence on national productivity, which largely determines living standards and a country's ability to compete in the global economy.

"*As the 21st century opens*, - write authors of the report, - *tertiary education is facing unprecedented challenges, arising from the convergent impacts of globalization, the increasing importance of knowledge as a principal driver of growth, and the information and communication revolution. But opportunities are emerging from these challenges. The role of education in general, and of tertiary education in particular, is now more influential than ever in the construction of knowledge economies and democratic societies. Tertiary education is indeed central to the creation of the intellectual capacity …"*

Tertiary education institutions support knowledge-driven economic growth and poverty reduction by (a) training a qualified and adaptable labour force, including high-level scientists, professionals, technicians, teachers in basic and secondary education, and future government, civil service, and business leaders; (b) generating new knowledge; and (c)

[5] Under 'universities' we mean all types of higher education institutions

building the capacity to access existing stores of global knowledge and to adapt that knowledge to local use.

One may note that radical changes in the external environment have brought about new requirements for tertiary education systems. This implies the transformation of modes of delivery and organizational patterns in tertiary education in response to the information and communication revolution, for instance. Strengthening the capacity of tertiary education institutions to respond flexibly to the new demands of knowledge societies will increase their contribution to the long-term economic effects in terms of poverty reduction and the associated welfare benefits that come from sustained growth.

The modern society expects higher education institution to change their ordinary way of operating to meet new challenges. Universities are to modify their activities and techniques of management in order *to create innovative environment enabling to produce new knowledge*. Another domain where old patterns should be replaced by new concepts is a training of qualified workers. Higher education should not limit any more to producing standard outcomes, it appears that an added value of education could be larger. Competencies generated through higher education should not only include expert knowledge (deep knowledge in a particular field), but a wider range of professional qualities, like creativity, capacity to quickly acquire new knowledge, ability to handle stress, etc.

It appears that universities have not gained yet their excellence in regards to these two aspects. "*Europe needs excellence in its universities, to optimise the processes which underpin the knowledge society"*, states the European Commission, however, it appears that "*the European university world is not at present globally competitive*". The main areas within which reflection and action is needed are concerned in the following questions:
– how to achieve adequate and sustainable incomes for universities, and to ensure that funds are spent most efficiently;
– how to ensure autonomy and professionalism in academic as well as managerial affairs;
– how to concentrate enough resources on excellence, and create the conditions within which universities can attain and develop excellence;
– how to make universities contribute better to local and regional needs and strategies;
– how to establish closer co-operation between universities and enterprises to ensure better dissemination and exploitation of new knowledge in the economy and society at large;
– how to foster, through all of these areas, the coherent, compatible and competitive European higher education area and the European research area.

The Commission states that a series of actions in the areas of research and education have already been realised in the European Union. One example is the European area of

research and innovation; programmes in this field have been launched recently, with the final objective to increase expenses on the European research and development to 3% of the Union's GDP by 2010. In the area of education and training, it is the achievement of a European area of lifelong learning, the implementation of the detailed work programme on the objectives of education and training systems, work to strengthen the convergence of higher education systems, in line with the Bologna process, and vocational training systems, in line with the Copenhagen declaration.

It is important to develop cooperation between different players concerned (universities themselves, the rectors' conferences, national and regional public authorities, the research community, students, business and the people of Europe) to participate all together in constructing the knowledge-based society.

The creation of the Europe of knowledge is for universities a source of opportunity, but also of major challenges. The latter ones stem from the fact that universities go about their business in a constantly changing environment. They should therefore face an imperative need to adapt and adjust to a whole series of profound changes. These changes fall into five major categories:

- *Increased demand for higher education* (the concern is to keep a high quality of education in face of increasing number of students enrolled)
- *The internationalisation of education and research* (European universities are less competitive in terms of attraction of foreign students and researchers, in comparisons with their American counterparts)
- To develop effective and close *co-operation between universities and industry* (universities should better exploit the results of their knowledge in relationships with industry)
- *The proliferation of places where knowledge is produced* (business sector may subcontract its research activities to universities)
- *The reorganisation of knowledge* (This firstly concerns the contraposition between the highly specialised knowledge and interdisciplinary knowledge that are both required in the society. Another aspect relates to the fact that the borders between fundamental and applied research are blurring)
- *The emergence of new expectations* (These include an increasing need for scientific and technical education, horizontal skills, and opportunities for lifelong learning, which require greater permeability between the components and the levels of the education and training systems).

In regards to the last point, universities have an important challenge to diversify their educational outcomes. *"University education found to produce added value on a number of*

important dimensions of student development. However, on a number of other important dimensions of student development much less value is added by formal university courses. The latter educational outcomes … represent some of more crucial characteristics which future university graduates will require" (Evers & Gilbert, 1991). Higher education institutions need to catch up with new requirements of the labour market.

The problem of ***adequacy of university education to labour market*** needs draws noticeable attention of employers and policy-makers from many countries these last years. The Making the Match Project was designed to investigate the education and training experiences of university students and graduates in Canada. This project was commissioned by the Corporate-Higher Education Forum, a group of Chief Executive officers of major corporations and presidents of universities. The objective of the study was to examine perceptions of managers and university-educated employees for large Canadian corporations about adequacy of university education and corporate employment. In Russia, managers of large firms and companies are invited to participate in elaboration of higher education standards by the Federal Agency of Education in order to better take into account needs of employers and to adapt university curriculum and study provision.

Researchers strive to determine what competencies should possess higher education graduates to match current job requirements. They eager to find out how tertiary education can prepare young specialists to meet these demands. What skills, abilities and qualities should be developed today through tertiary education? This question generated much research in Europe as well as in the Northern America.

According to Canadian researchers, Evers and Gilbert, a consensus has emerged around following basic competencies: reading and communication skills, thinking and reasoning skills, quantitative or computational skills, substantive knowledge of a field of study, creativity, sensitivity, wisdom and integrity (Bowen (1997), Astin (1985), Boyer (1987) (cited by Evers & Gilbert, 1991)). University of Guelph, Ontario, has officially stated its learning objectives and published them at the beginning of its undergraduate calendar together with textual description. The declared objectives are: literacy, numeracy, sense of historical development, global understanding, moral and aesthetic maturity, understanding of forms of inquiry, depth and breadth of understanding, independence of thought and love of learning. It was stated that education is not merely a question of intellectual growth, but it also includes growth in the emotional, spiritual, social, and physical aspects of the human character.

The debate on what appears to be ***a major function of education***, whether it aims at development of individual's personality or if it is a means of preparation for a particular job,

is still very actual today. Kellermann (2002) underscores that the distinction between these two functions of universities was made by Friedrich Schiller who introduced concepts of the 'philosophical head', i.e. 'thinker for enlightenment', vs. the 'bread scholar', i.e. 'striver for money'. Kellermann reminds that no clear distinction existed between general studies and preparation for a professional activity at universities of the Middle Age. Today still higher education is viewed as process of acquiring broad theories, concepts, learning details of a particular field of study. Even the symposium 'The Development a Taxonomy of Educational Objectives" held in Chicago/Illinois in the mid 50s had an idealistic basis, adopting this vision of university studies. 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). The Sorbonne declaration of May 25, 1998, emphasised the role of universities in promoting mobility and contributing to employability of graduates. The joint declaration of the European Ministers of Education signed in Bologna in 1999 stressed the 'achievement of greater compatibility and comparability of the systems of higher education" in order to increase the international competitiveness of the European system of higher education.

According to Teichler (2002), ***higher education should not only be focused on providing deep knowledge in a particular field***. In his opinion, a conviction spread during the last few decades that higher education should play a stronger role than in the past. It should seek to foster 'competencies beyond systematic cognitive knowledge' (Teichler, 2002). 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 five 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;
- successful working styles (i.e. 'working under time pressure');
- socio-communicative skills ('teamwork', 'leadership');
- attitudes and values conducive to successful professional work.

An important contribution on issues of graduate employment, notably on requirements that graduates face in the context of current economic challenges, was made by a group of ***European researches within the framework of projects "CHEERS" and "REFLEX"*** supported by the European Commission (5th and 6th framework programmes).

In 1998, a group of European researches[6] carried out a large study concerning employment prospects of higher education graduates. About 35,000 graduates (level ISCED 5A) in 11 European countries and Japan were surveyed. This research project, called CHEERS (Careers after Higher Education: a European Research Study), enabled to substantially increase knowledge on graduates employment, competencies acquired through higher education and those required on the labour market and on other important issues. Research on this topic was further continued through the project REFLEX (Flexible Professional in a Knowledgeable Society).

Within the framework of the ***project "CHEERS",*** from autumn 1998 to spring 2000, about 3,000 graduates each from 9 countries in the European Region, one EFTA country (Norway), one of the Central and Eastern European countries in transition (the Czech Republic) and one economically advanced country outside Europe (Japan) provided information through a written questionnaire on the relationship between higher education and employment four years after graduation. The respondents answered questions on their socio-biographic background, study paths, transition from higher education to employment, early career, links between study and employment, their job satisfaction and their retrospective view on higher education. The study provided a unique opportunity to examine the extent to which the relationship between higher education and the world of work are similar or different among the Western European countries. The study also helped to understand the common elements and differences between various fields of study and occupational areas. It helps to look at current salient issues of higher education, i.e. equality, the role educational levels play, the demand for specialized or general competencies, the growing role of international mobility and of life-long education, the regional diversity in higher education. Last not least, the study allows examining the extent to which socio-biographic backgrounds, educational experiences and achievements as well as the transition process determine early career and links between competencies and work assignments.

[6] The list of Project Directors in each country includes: Dr. Rolf van der Velden, University of Maastricht, The Netherlands; Prof. Ulrich Teichler, University of Kassel, Germany; Prof. Jean-Jacques Paul, Université de Bourgogne, France; 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. A more detailed list is presented in the chapter 6.

Utilising the same methodology as in "CHEERS", ***the "REFLEX" study*** was focused on three broad and interrelated questions: (1) which competencies are required by higher education graduates in order to function adequately in the knowledge society? (2) what role is played by higher education institutions in helping graduates to develop these competencies? (3) what tensions arise as graduates, higher education institutions, employers and other key players each strive to meet their own objectives, and how can these tensions be resolved? A series of following instruments were deployed to answer these questions: (1) a country study highlighting the main structural and institutional factors that shape the relation between higher education and work in nine European countries; (2) a qualitative study on graduate competences in the knowledge society; (3) a survey of higher education graduates in these countries.

Publications and working papers produced within the framework of the projects "CHEERS" and "REFLEX" significantly enhanced knowledge on graduate labour market and employment issues in Europe. Therefore, we will refer often to these works throughout our study.

A programme proposal for "REFLEX" project summarises the ***requirements that higher education graduates face*** in the context of current economic challenges. Further, we provide a short description of these findings.

- There appears to be a general *weakening of the link between fields of study and occupations.* Although some occupations continue to require highly specialized formal education, an increasing proportion of graduates are finding work in areas not closely related to their initial study.
- The search and transition process has already become more protracted and more complex during the last two decades, and this trend is likely to continue (Teichler, 1999; OECD, 2000). *A first job is less likely to pre-determine the subsequent tasks and positions.* Changes of employer and periods of non-employment are getting more frequent.
- *New information technology* is becoming increasingly salient for most graduate jobs. The effects of this trend are complex and not yet fully understood, but there is evidence that it alters the relative costs of communication, control and task performance, leading to broader and more decentralised organisational forms, perhaps increasing the demand for knowledge workers at the expense of lower skilled labour. The World Bank (2002) points out that while the ICT revolution allows easier access to knowledge and information, *it carries with it the threat of a growing digital divide among and within nations.*
- The formerly sharp distinction between the "two cultures" of higher education and graduate work, namely *science and engineering on the one hand and the humanities and social sciences on the other, seems to be blurring somewhat. There appears to be an increase in the number of 'hybrid' jobs,* as well as in the extent to which graduates on both sides of the

divide are expected to have limited or even extensive understanding of disciplines within the opposite domain of knowledge (Teichler, 2002).

- Generic competencies such as *problem-solving, learning and communication skills are becoming* increasingly important (OECD, 1997). It is no longer sufficient for graduates to *merely acquire specific knowledge and skills that they learn* to apply in a process of learning by doing over the course of their career. Generic competencies are thought to be needed to ensure the transfer of existing knowledge and acquisition of new knowledge required in the changing world of work (Teichler, 1999).
- Learning *is not limited to the initial period of formal education, but is 'lifelong and lifewide'* (OECD, 2001). Technological and organizational changes require the constant formation of new skills during the occupational career as well as the updating of earlier acquired skills (Shields, 1998; De Grip, 2000). The European Commission (1995, 2000) therefore stresses the importance of 'life long learning' for the knowledge society. However, the *basis for a successful 'life long learning' strategy is laid in initial education* (Heckman, 1999).
- In most OECD countries, the percentage of women enrolled in higher education has increased dramatically over the last few decades, and women now constitute more than half of all those enrolled in higher education in many countries. Nonetheless, *the labour market careers of female graduates show marked differences to those of men, and returns to education are generally lower for women than for men.* Sex segregation with regard to field of study is still prevalent, and such differences, as well as differences with regard to type of educational degree and type of occupation, have a substantial impact on the returns to education. Gender differences in returns to education are also found *within* fields of study.

Based on these observations, REFLEX/CHEERS scientific group (hereinafter 'REFLEX research group') singles out the four key groups of competence necessary to be acquired by higher education graduates for effective operating in the knowledge-based society. They are professional expertise, functional flexibility, innovation capacity and capacity to manage and motivate others. All these competencies should contribute to form a *flexible professional*.

* * *

Making the conclusion we may say that it appears that the emerging knowledge-based society places new requirements on higher education systems. To master the new challenges universities will have to change their way of management, an educational policy, administrative procedures, study provision, etc. We remark that, on the one hand, universities are expected to be dynamic and to adapt to a changing environment themselves. On the other hand, certain conditions should be provided by policy makers, like sufficient financing and restructuring of the existing system of financing, for example. One of the key changes in tertiary education systems should concern a broadening of skills and competencies developed through educational process. Universities are expected to produce competencies beyond systematic cognitive knowledge. ***Educational processes should not be limited to transmitting theories, methods and a particular field related knowledge, but they should enable to foster a wide range of competencies needed for successful professional practice*.**

1.2. Competencies required from higher education graduates in a knowledge-based economy

1.2.1. Concepts of competencies and key competencies

The word ‘competence’ is defined in the Oxford dictionary as ‘ability, authority’. A ‘competent’ person in someone having ability or authority to do what is required. Words given as synonyms or related terms to the adjective ‘competent’ are ‘able, accomplished, adept, adequate, capable, clever, effective, efficient, experienced, expert, fit, handy, practical, proficient, qualified, satisfactory, skilful, skilled, trained, workmanlike’ (Oxford dictionary, 1991). The opposite is ‘incompetent’. According to a Webster’s dictionary definition, competence is ‘fitness or ability’, synonymous words are ‘capability, capacity, efficiency, proficiency, skill’. Thus we observe the two main aspects of this term. The first one refers to a capacity, ability of doing something, the second one implies that possessed abilities, capacities, skills enable to fit or to be adequate for a work.

There is still ***no unique definition of the concept of competence***. In literature it may be considered in a more or less large sense. A variety of existing definitions of the concept of competence was yielded partially as a result of interest to it by different field of social sciences. Philosophy, psychology, linguistics, sociology, economics, etc. tried to study and to interpret this term. In general, in all these disciplines, competence is conceptualised as a system of abilities, capacities and skills that are necessary to attain a specific goal.

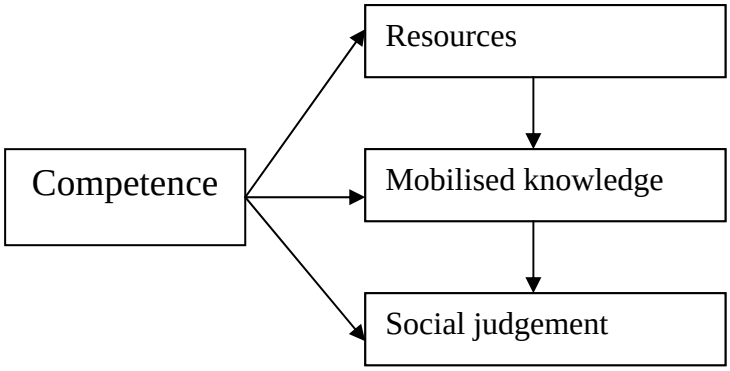
Weinert (2001) writes the following about the term of competence: *“Over the last few decades, competence has become a fashionable term with vague meaning not only in public use, but also in many social sciences. One could even refer to a conceptual “inflation”, where the lack of precise definition is accompanied by considerable surplus meanings.”* Thus the author argues that the definition of competence is not clear enough nowadays. Weinert cites as an example the definition provided by advisory committee for technology and innovation (ACTI) appointed by the German Chancellor where three main structural components are singled out; they are knowledge, experience, and judgement element.

“Competence can generally be understood as knowledge times experience times power of judgement. Knowledge is the necessary foundation of competence, and experience is the habitual way one deals with acquired and continuously changing knowledge. Power of judgement is a criterion for independence of knowledge and its use. Thus competence is always more than just knowledge or just experience” (BMBF, 1998, cited by Weinert, 2001).

Even if the definition provided by the ACTI appears to be rather confusing and vague, it underlines that the competence is not only a stock of knowledge and capacities to use this knowledge, but is also a product of social judgement.

Suleman (2003), argues that the notion of competence included three dimensions: resources, mobilised knowledge, and evaluated behaviour (see Figure 1). Considering works of Eymard-Duvernay and Marchal (1997) realised within the framework of the conventional economy, she considers competence as a product of social judgement, a social construction. According to G. le Boterf (le Boterf, 1998), the distinction between resources and competencies lies in the fact that competence appears with social judgement.

Figure 1. Three key dimensions of competence



However, ***a pith of competence constitutes cognitive knowledge***. This includes all of an individual's mental resources or general intellectual abilities. Psychometric approaches understand intelligence as a system of more or less content and context-free abilities and aptitudes (Carroll, 1993). They provide the cognitive prerequisites for purposeful action, good reasoning, and effective interaction with the environment. In the model by Suleman, cognitive knowledge refers to "resources".

Another important element of competence constitutes the aspect of mobilisation of existing knowledge in the situation of work. This issue refers to the distinction between the notion of competence and the notion of qualification. This distinction was introduced in France in the middle of the 80s as a juxtaposition of the "model of competence" and "model of qualification". For Oiry and D'Iribarne, the notion of 'competence' concerns an individual's qualification, whereas the notion of 'qualification' refers to qualification requirements in a workplace (Oiry and D'Iribarne, 2001). According to Reynaud, context has an important role for the concept of competence. In fact, 'competence' implies to get together

and to mobilise acquired knowledge, abilities, experience and behavioural characteristics in a particular context (Reynaud, 2001).

The competence is frequently used in couple with the term 'skills'. Moreover, ***skills are often confused with competence***. We observe that ***boundaries between the two concepts are somewhat blurred***. It is particularly the case in literature on key skills and key competencies. We found out that the list of key competencies may sometimes coincide with the one of key competencies. The vague distinction between the two terms stems from their linguistic definitions which indicate clear synonymous relations. According to Oxford dictionary, 'skill' is the ability to do something well. Thus both aspects of the meaning of 'competence', that is a capacity to do something and 'perform a work that fits the requirements' are kept in the term 'skill'.

Some authors understand competence in *a larger sense than skills*. Skills refer more to "sensitive-motor" abilities (Leplat, 1993). Skills in some works are argued *to be a base for competence, its constitutive part*. In some literature, skills and competencies are treated as synonymous. It is often not easy to understand clearly the distinction between the two terms, as authors do not define the terms precisely (Salganik, 2001). For example, the Canadian expert panel on skills uses the term skill in its broadest sense. A skill is understood as a combination of knowledge and the ability to apply knowledge. It involves both 'know-what' and 'know-how' to perform a certain task (Expert panel on skills, 2000). Further, in our work we will use competencies and skills as synonymous[7].

In regards to the Russian terminology, the term 'competence' did not exist till presently. With a rather slow pace this word is penetrating now into Russian literature, we found a very limited number of scientific literatures where the word 'competence' is utilised. These publications dates back to two – tree last years. The adjective 'competent' however does exist in the Russian language and names a person who is capable to perform well tasks using a set of existing abilities. The term 'skills' corresponds in Russian to 'navyki', capacities and abilities to a word 'umeniya'.

We indicated before that an important element of competence constitutes a social judgement. Therefore, the measurement of competence appears to be crucial in grasping abilities an individual possesses. Allen and Velden (2005) give an overview of the methods

[7] The choice of using words 'competences' and 'skills' as synonymous is related to the fact that we will analyse and refer to many publications in which skills are understood as competencies (Bowles, Gintis, Osborne, 2001; Heckman, Stixrud and Urzua, 2006; Postlewaite and Silverman, 2006; Blanden, Gregg, Macmillan, 2006; Canadian expert panel; etc.).

that are commonly used to assess skill[8] levels in a given population, differently to level of acquired and required skills.

Table 1. Methods of assessment of acquired and required level of skills

Methods to assess skills acquired		Methods to assess skills required	
Method	Level	Method	Level
Proxy: - by education	Aggregate of educational groups: level or field	Proxy: - by occupational analysis	Aggregate of jobs: occupation
Objective measures: - assessment, - testing	 Individuals Individuals	Objective measures: - job analysis	 Individual jobs
Subjective measures: - supervisor rating, - individual - self-assessment; - proxy by required - skills	 Individuals Individuals Individuals	Subjective measures: - employer survey - supervisor rating, - worker's assessment	 - Aggregate of jobs: sector or occupation - Individual jobs - Individual jobs

Source: Allen and Velden, 2005

In our study we will analyse both acquired and required level of competence in order to see what competencies are demanded from graduates by employers and to investigate to what extent graduates possess them. Two analyses will be based on subjective measurement, notably, individuals' self-assessment. Graduates were asked to rate from 1 (low extent) to 7 (high extent) the level of acquired and required competences. We should mention that the method of self-assessment has its strengths and its weaknesses. According to Allen and Velden (2005), it is well-suited to measuring skills, but at the same time it is time-consuming and therefore, poses limits to the number of skills that can be assessed. The main advantages of self-assessment include the fact that it is *"relatively easy to administer to large samples, can be administered simultaneously in different locations, provide responses that are easily quantifiable and thus analyzable, are relatively inexpensive to produce and administer, and can be used in any or all of a number of different ways, such as personal or telephone interviews and questionnaire distributed by regular mail, email, or via the internet"* (Richter and Johnson, 2001, Patrich and Sievert, 1994, cited by Allen and Velden, 2005).

We should also draw out that measurement of competencies may seem to be complicated to individuals. In practice, different competencies are closely related. They intermingle and overlap one another in many points. Thus it is not easy for an individual to assess each particular competence.

[8] Authors treat identically key skills and key competencies

Key competencies

Another relevant aspect of competence is the notion of key competencies. Key competencies undertaken as a vide range of personal and professional qualities needed for effective performing in the modern society have been largely studied these recent years.

The question on key competencies required in the modern society appears to be of high interest not only for scientists, but also for policy stake holders and other important actors of the society. In recent years, researchers have recognised that curricular-based and subject related competencies do not capture the full range of education outcomes. It was observed that a broader set of competencies are acquired through education and training and other life experiences.

Thorough studies on competencies enabling to individuals to perform effectively in the modern society were conducted since 1997 within the framework of the project DeSeCo (Definition and Selection of Competencies: Theoretical and Conceptual Foundations) commanded by the OECD. Allen and Velden (Allen and Velden, 2005) state that the term naming key competencies was first introduced by Mertens (1974) to "denote skills that have more permanent value in a time where specific skills may quickly be rendered obsolete and where workers need to be more flexible".

Authors point out that the ***unique list of key competencies does not exist currently*** and finding a consensus on it turns out to be rather complicated: *"… Just like the quest for holy grail, the quest for key competencies has proved to be a difficult undertaking"* (Allen and Velden, 2005). Key competencies are also sometimes referred to as basic skills, core skills, core competencies, key qualifications, key skills. The concept of key competence is no less vague, writes Weinert (Weinert, 2001) than the concept of competence. "Only in the German literature on occupational training", states the German professor, "within the last few years over 650 different key competencies have been suggested". These competencies vary from such abilities as creativity, logical thinking, problem-solving capacities, achievement readiness, independence, and concentration abilities to foreign language skills, communication skills, and media competencies. Allen and Velden mentioned three thorough reports providing a list of key skills/competencies.

Key competencies by Rychen (2001) are considered as ***"structured around meeting demands of a high degree of complexity and are comprised of cognitive as well as motivational, ethical, social, and behavioural components"***. The second relevant element of key competencies according to Rychen, is their transversal character. It means that key

competencies should enable to individuals to participate effectively in all relevant social fields.

As a response to a wide range of complex systems of key competencies identified by various authors, Rychen proposes three broader categories that encompass many required features. According to the author, for effective interaction with the environment an individual should be able to:

1) ***act autonomously and reflectively;***
2) ***to use tools interactively;***
3) ***to join and to function in socially heterogeneous groups.***

Sembil (1992, cited by Rychen, 2001) distinguishes between objective competence and subjective one. The first type of competence refers to performance and performance dispositions that can be measured with standardised scales and tests. The subjective competence deals with subjective assessment of performance-relevant abilities and skills needed to master tasks and solve problems (Sternberg and Kolligian, 1990). The concept of subjective competence can be further differentiated into heuristic, epistemological and actualized competence (Staudel, 1987).

- ***Heuristic competence*** (or generalised competence) is a generalised expectancy system concerning the effectiveness of one's abilities across different situations.
- ***Epistemological competence*** (or domain specific competence) concerns believes and confidence that one possesses, domain specific skills and knowledge to master tasks and problems within a specific content domain.
- ***Actualised competence*** (or dynamic competence) refers to momentarily experienced, subjective self-confidence that one has, the abilities, knowledge, and skills believed necessary for success in a concrete learning or performance situation.

According to Canto-Sperber and Dupuy (2001), the five key competencies or constellations of competencies are: ***competencies for coping with complexity, perceptive competencies, normative competencies, cooperative competencies, narrative competencies***. Competencies for coping with complexity, as Canto-Sperber and Dupuy construe them, "command the whole gamut of human expertise". Cooperative competencies enable to handle conflicting interests and to take benefits of social cooperation. Narrative competencies depend upon the human capacity to tell stories. They are mainly a way sense of what happens in life.

In Levy and Murnane's opinion (2001), the following competencies are necessary for 'successful and responsible life":

1. ***Basic reading, mathematical skills and ability to adjust to changing circumstances***. These competencies are important in determining long-run labour market outcomes.

2. The ability to ***communicate effectively***, both orally and in writing.
3. The ability to ***work productively in groups***.
4. The ability to ***relate well with people***.
5. ***Familiarity with computers***.
6. Formal educational credentials seem to contribute to a development of many competencies useful for economic success; they are therefore important in life.

According to Ashton and Green (1996), the modern economy influenced by the growing role of knowledge requires *'multi-skilled workers'*. A large proportion of the workforce is assumed to acquire problem-solving skills. In order that workers could use their problem-solving skills for creative activities, organisations structures should assure that new type of work organisation are introduced enabling more trust and greater participation of workers in managerial processes (Carnoy, 1995). This implies that executives should acquire 'social skills' that should help them to set up and manage more flexible organisational structures. Especially in the expanding service sector, customer-oriented skills are required more widely. However, underline Ashton and Green, "basic skills such as literacy are argued to have an increasing role in the modern workplace".

David and Foray (2002) underscore that knowledge-based economy demands, first and foremost, a proficiency for the use of information technologies. There appear that teamwork, communication and learning skills make part of set requirements. Generic abilities, like "learning to learn, knowing what we do not know, being aware of the main forms of heuristic bias that can distort the power of reasoning" turn out to be essential even more than specific technical skills.

The Canadian expert panel on skills (skills taken in a broad sense, thus equal to competencies) distinguishes five *basic categories of skills*:

1. ***Essential skills*** refer to the ability to read, write, calculate and operate basic computer applications. They also refer to the ability to think; analyse and solve problems; learn independently; exercise responsibility; adapt to a range of situations; communicate effectively; cooperate with others; and work in teams. Essential skills – coupled with attitudes such as drive, determination, enthusiasm and commitment – are broadly recognised as basic building blocks for productive participation in the workforce.
2. ***Technical skills*** include the "ability to do" or to perform specialised tasks which may be particular to a single occupation or industry.
3. ***Management skills*** encompass the ability to undertake organisational activities such as planning and marketing, evaluation, as well as the ability to manage people, capital, budgets, etc. that has broad application across industry sectors.

4. ***Leadership skills*** refer to the ability to motivate and assist others to achieve their full potential, to take risks, and to formulate a vision;
5. ***Contextual skills*** include the ability to operate successfully in different settings, such as in different countries, in different regions, or in a culturally diverse workplace.

In examining the work environment in the knowledge-intensive industries, the panel found out that it is also useful to differentiate among *four distinct skill levels*:

1. In a low skill environment, work is commonly of a repetitive and routine nature. The required skills can often be learned on the job and generally demand limited formal schooling.
2. In an intermediate skill environment, work requires the ability to apply learning to customary and new situations, often independently.
3. In a high skill environment, work usually involves applying new or old technologies to new situations. This regularly requires creative thinking and problem solving.
4. In an "at the edge" skill environment work routinely involves developing new technologies; creating new industries or expanding existing ones.

Kwok (2004) carried out a study among graduates of one Manitoba university, Canada, in order to see to what extent graduates through their university study develop a set of 'employability skills'. He singles out the following key skills or employability skills: writing skills, computer skills, oral communication skills, mathematical skills, research skills, decision-making skills, critical skills, evaluation skills, teamwork skills, and life-learning skills.

We have just examined what competencies appear to be of high importance for effective performing in the society and conducting a meaningful life. We found a large variety of lists of key competencies. These differ from one author to another depending on the aspect approached. The overall consideration of all these theories enables to draw a general picture of competencies required in the process of labour activity. They are:

1. ***Capacity to perform and reflect autonomously;***
2. ***Capacity to learn rapidly new information and knowledge and adapt to changing circumstances;***
3. ***Capacity to relate well with people and to work productively in groups;***
4. ***Be familiar with information technologies.***

Taking into consideration the demands on key competencies imposed by the society, a 'REFLEX' research group distinguished competencies required from higher education graduates. Further we provide the evidence from their analysis.

1.2.2. Competencies required from higher education graduates: evidence from countries of the European Union

A group of European researchers within the framework of a large research project on graduates' employment (REFLEX) argues that graduates are expected to be more or less competent in at least the following four areas: professional expertise, functional flexibility, innovation and knowledge management and mobilisation of human resources.

These demands result from changes in labour market processes. On the '*transitional labour market*' as calls Schmid (2000) the modern organisation of the labour market, the demarcation lines between different fields of social activity have been blurred. This leads to increased mobility and flexibility patterns and to an overall focus on employability. Demands that economics place on graduates are also framed by the increasing role of knowledge in the society. It explicitly appears in rise in importance of high-technology sectors in the economy, and also transformations in work organisation, as Teichler states (Teichler, 1999).

European experts argue that in this context the quality of ***professional expertise*** implies "a high degree of *mastery of the knowledge and skills* that are relevant in one's own domain of work". Mastery is not sufficient for being an expert. A second characteristic feature of experts is an ability to use this mastery to *diagnose and solve complex problems* in their own area of work. As graduates gain more experience, they will develop tacit knowledge and an ability to quickly recognise patterns. Professional expertise according to the REFLEX team Graduates also includes the capacity to *command authority.* They believe that highly qualified professional would one day be asked to act as an authoritative consultant or advisor for others, thus they need to be able to act decisively in uncertain situations.

The ***functional flexibility*** deals with the ability to "take up diverse challenges, many not directly related to their own field of expertise, and to quickly acquire new knowledge". In the context of rapidly changing environment this should enable graduates to be broadly employable on the labour market. The concept of '*high adaptive potential'* being made on graduates seems to be relevant. REFLEX expert group underlines that "flexible graduates need to possess a high level of ability to deal with change in a positive way, seeing changes as windows of opportunities rather than as threats, being eager to learn and to try new things, and using their work as a tool for acquiring new competences through experience".

Innovation and knowledge management refers not only to "the innovation capacity of HE graduates, but also to their ability to create an environment in which knowledge production and diffusion is optimised, and to implement innovation in their own job as well as in the organisation as a whole (Cörvers, 1999, cited in the REFLEX program proposal). This

quality placed on graduates appears to concern a range of competencies needed for both developing and implementation of ideas at work. Finally the quality of ***'mobilisation of human resources'*** implies that graduates should be able to mobilise their own resources as well as ones of others. Young professionals are expected to have a strong capacity to work autonomously but also to work in groups.

We may conclude that the demands made on graduates by the modern economy appear to be quite complex. They call up for a vide range of different competencies for young professionals to possess.

We remark that even if the mastery of knowledge in a field related to ones' work is an important requisite for being an expert and this quality appears in first turn on the list; it is not however sufficient for today's professionals. *"Mastery alone does not make someone an expert"*, state European scientists.

It is also mentioned in the report that all the four competencies are related with each other. Simply according to the common sense, one may imagine that expert knowledge is an important prerequisite for professional expertise or also for innovation and creation of new knowledge. Although a good proficiency of expert knowledge does not necessarily implies a good capacity of innovation.

The latter conclusion seems to be of high importance for our study as it makes clear that ***expert knowledge is an essential quality for effective performance on the labour market, but it does not guarantee graduates' success on the labour market***.

The further analysis undertaken in this thesis will seek to find out whether, in the context of the transitional economy, requirements placed by labour market appear to follow the European tendency. In other words, do Russian graduates face demands that require not only deep expert knowledge but a wider range of competencies, like functional flexibility, innovation and knowledge management, etc.?

Chapter 2.

Russian economy and labour market in transition

Abstract

Reforms of the yearly 90s made the Russian Federation a democratic country, with a large private sector, and a free market. However, at the end of the 90s, with an estimated 40 % decline in the gross domestic product since 1991, a crumbling infrastructure, and increasing political and financial instability, Russia had barely resembled a developed country. Problems of the 90s had seriously affected the overall economic situation in the country. This generated a sharp increase in unemployment rate, lack of workplaces, appearance of informal economic activities and practices, growing discrepancies in development of economic sectors and branches, increasing differentials between geographical regions.

Young people found themselves in a difficult situation in the new economy. Statistics show that the young population had been pushed out of the labour market. Between 1992 and 1999, the employment level in the age group 15 – 24 had decreased by 25% (whereas among people aged 25 – 49, it had fallen only by 7% over the same period) (Goskomstat, 2005). The decrease in youth employment is explained by some researchers by the lack of relevant education and work experience (Tchetvernina et al., 2001).

An economic 'revival' has been reported in the country since 1999 – 2000. This geared more demand for qualified labour. Companies now compete for highly-qualified employees in hope to get more productive workers that could contribute to a company's success. To this regard, a duality appears on the Russian labour market as some companies cannot/do not want to pay competitive wages to qualified labour (Gimpelson, 2006). We believe that this duality occurs between the private sector and the public one.

2.1. Recent transformations in the Russian economy

Russia appears to be the biggest country in the world, with a land area of 17 million square kilometres. Modern Russia has a population of 146 million. The bulk of population is concentrated in the western side of the country. During the period of 1992 to 2000, Russia's population decreased by 2.8 million, representing over 2% of the total. This decrease resulted from emigration and falling birth rates, which in turn reflected the economic crisis that took place in the country since 1990.

The Constitution of 1993 made Russia a federation with 89 'subjects'. These subjects comprised 21 republics, 52 *"oblasts"*, six *"krais"* and ten autonomous *"okrugs"*. At sub-regional level there were 1,869 "*raions"* and 650 major cities which had their own administrations. In 2003, the whole territory of the country was divided in 7 federal "okrugs" (federal region). In each "okrug" a representative of the Russian president was designed.

In 1990-1991 Russia changed its political and economic organisation. The command economy was abandoned for constructing a free market society. Following the dissolution of the USSR, the Communist Party lost its status as a monopolistic political structure. A high degree of centralization and unification was typical for the soviet Russia. From 1990 significant changes were made by the new government to lead the Russian Federation to *democratic society*. First efforts concerned educational system. In June, 1992 a new Law on Education was adopted which introduced new priorities such as liquidation of the state's monopoly on education, decentralization of management in favour of self-governing for educational institutions, humanisation and individualisation of education, etc.

The transitional period started since the 90s is known as ***a period of 'system transformation'***. Kudrov (2006) distinguishes three main stages in the system transformation of that period. The first one refers to the *beginning of restructuring*. This is characterised by the process of acquiring principles of a new labour market economy and abandon of a socialist model of managing. Public companies become private, directing boards get more rights and liberty in decision-making, companies establish themselves trade relations with their clients and deliverers, the practice of state price regulating disappears, the private sector gains in size in both industrial and agricultural branches. The second stage concerns a process of a wide *privatisation, occuring in all economic spheres*. In that period has been forming an infrastructure of different markets: market of capital, labour market, lend market, market of services, market of intellectual products, etc. The third period is linked with *a deepening of restructuring* of a newly appeared market economy underpinned by further privatisation activities.

Many changes, happened in this period of a system transformation, had been painful for the Russian economy.

The attempted "shock therapy" reforms launched in January 1992 brought about ***a period of economic decline*** of unprecedented proportions, after several years of stagnation and relatively modest decline. Partial price liberalization in January 1992 caused an inflationary process in which consumer and producer prices rose by over 2,500% in less than

a year (UNDP, 1996). The resulting dislocation and fall in personal incomes were reinforced by the gradual reduction in government subsidies for rent, transport and other necessities of life. Prices continued to rise by about 20% per month during 1993, 10% during 1994, falling to 3.2% at the end of 1995, prior to rising again in 1996 due to liberalization of energy prices.

With the increase in inflation in the early 1990s, the economy slumped, producing an outcome for several years of ***"hyper-stagflation".*** GDP declined continuously every year since 1990, and in 1994, it declined by 20%. The GDP in 1995 was estimated at about $850 billion, compared to that of the USA of $7 trillion. Industrial output declined 4.7% in 1995, bringing the total fall to 53% since 1989. Agricultural output also fell by 8% in 1995. National income fell by over 40% between 1991 and 1996, and living standards continued to decline. Per capita income in Russia of about $5,700 per year was about 21% of per capita income in the USA. It was expected that the economy would start growing not until 1998.

It is considered that the extent of these falls had been mitigated by ***an active informal sector,*** estimated at about 20% of GDP, which for the majority of people engaged in it provided a modest income supplement. For a minority, however, engaged in "mafioso-type" activities the income and power gained from the so-called informal economy had been very substantial. This phenomenon helps to explain much of the capital flight (estimated about $50 billion) which took place in the 1990's. In addition to these losses, it had been estimated that in 1993, total revenue from economic crime accounted for 6% of GDP, almost as much as contributed by agriculture.

By 1995, about 70% of total production was accounted for by ***the private sector***. Some 14,000 companies were privatized between 1993 and 1996. 40 million Russians had become shareholders by late 1994.

But of serious concern is the fact that between 1989 and the end of 1994, Russia attracted only $1.6 billion in foreign direct investment, which was less than a quarter of the amount attracted by Hungary and about half the amount invested in the Czech Republic. The main factors contributing to this include the lack of operational laws and regulations, crime, political uncertainty, poor infrastructure and the tight budgets which indirectly contributed through limiting public spending on social protection, public sector efficiency, delivery of salaries, and environmental protection and infrastructure.

The overall economic situation had been aggravated by sharp shortages in revenues of the state, due to non payment of taxes and debt. It was estimated that the Russian authorities were collecting taxes equivalent to about 9% of GDP when they were budgeting to collect

13% of GDP. As a result, the state had inadequate funds to cover many of its obligations, particularly social ones like wages in public companies.

In the year 2000 Russia saw a high economic growth (over 8%), substantial budget and trade surpluses, and international reserves were on the rise (three times their 1998 level) (Linn, 2001). This performance is mostly due to high oil prices on the international market.

Notwithstanding, ***Russia cannot rely exclusively on energy resource revenues, but must focus on deep institutional reform of its economy*** and it should aim to achieve a sustained high investment level that is required for broad-based productivity and employment growth. Current weaknesses in the Russia's economic structure are reflected in the following features (Linn, 2001):

- Too little investment, with the exception of the large financial and industrial groups which have benefited from the energy price spike.
- Too little creation of new firms and growth of small and medium enterprises (SMEs). They represent only 30% of employment in Russia, compared with almost 60% in Central Europe.
- Too little bank financing, especially for SMEs.
- Too little foreign direct investment (less than half of the FDI going to Hungary, and less than one fifth of FDI to Poland).
- High capital drain abroad (estimated at over $ 20 billion per year)

The fundamental problems of Russia can be found in four key areas:

- The business environment, while somewhat better than in the past, remains fundamentally unfavourable.
- The quality of public administration is weak.
- The banking and financial system is not working effectively.
- Social services are not effectively provided.

Early progress has already been made in a number of areas: improved payments discipline, tax reform. However, in future, much depends on the ability of the country to pursue effective market-oriented reforms, institution building and integration with its neighbours and the world economy.

Yasin (2004) argues that the modern Russian economy has adopted a model of 'a transitional economy with high adaptation potential'. In his opinion, Russia did not experience a deep restructuring over its move toward free labour market, but it had *adapted* to institutional reforms and changed circumstances. This adaptation process geared some negative trends in the economy. Today, its main particularities appear to be the following:

- ***A gap between formal and informal institutions*.** New reforms were rejected by the traditional model of the society.
- ***Weak state power*.** During transitional periods the power of state usually weakens. This results on the one hand in less control for citizens, but also in more 'proizvol' (free will) of state officials.
- ***Shadow economy*.** This type of economy in Yasin's opinion has always accompanied the soviet economy, but it became more important since the 1990s.
- Increase in ***social differentiation*.** The coefficient of differentiation had augmented from 4,5 times in 1990 to 14,5 times in 2002.
- ***Criminality*.** Weakening of state power decreased risks of punishment, which brought about high rate of criminality in the country.
- ***Reinforcement of red-tape and corruption***.
- ***Managed democracy*.** This implies the presence of formal democracy accompanied by free will of governors.

It is important to mention that in spite of a relative increase in life standards of population, growing GDP since 1998 – 2000, rise in investment in material factors of production, serious disproportions are observed in the development of different economic sectors and branches (Eremina et al., 2004).

Table 1. Average nominal salary in 2004, by economic branches

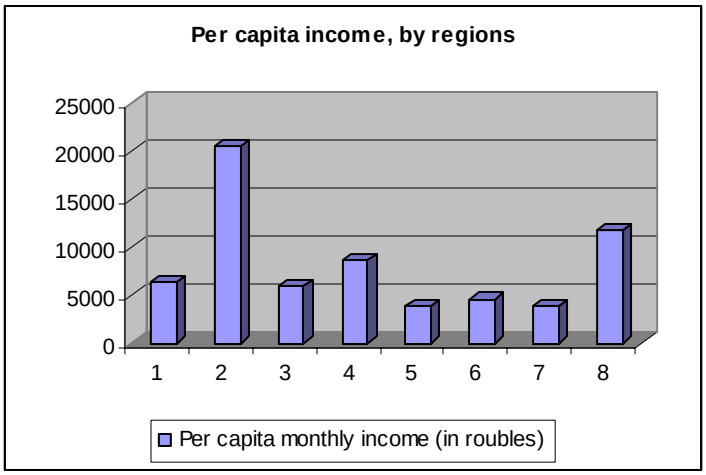
Branch	Salary (in roubles)	% of average wage
All branches	6831	100
Industrial production: including:	8060,8	118
- oil extracting	23725,9	347,3
- oil production	14071,5	206
- gas extracting and production	33747,2	494
Agriculture	2778,3	40,7
Construction	7947,2	116,3
Transport	9684,2	141,8
Communications	9142	133,8
Trade and catering	4923,7	72,1
Informatics	9563,6	140
Housing and utilities	5800,9	84,9
Health and social insurance	4744,8	69,5
Education	4254,3	62,3
Culture and arts	4289,1	62,8
Research and development	8585,4	125,7
Finance and credit	17042,4	249,5
Administration	8330,9	122

Source: "Russia in figures, 2005", Goskomstat, p. 107

We remark ***drastic discrepancies across economic branches***. Wages enjoyed by employees in gas and oil extracting and producing industries turn out to be from 350% to 500% higher than the average wage across all sectors. While in such sectors as trade and catering, house and utilities, health and social assurance, education, culture and arts, an average salary appears to be lower than the mean for all sectors (by 15% to 38%). We should note that the latter branches, except for trade and catering, are state-funded. We note thus that salaries in the public sector are much lower than in the private one, except for the branch administration. The lowest wages are reported in the agricultural sector (41%), in education (62%) and in the culture and arts branch (63%). The highest salaries are observed in the gas and oil extracting and producing branches (350% - 500% of the mean) and in finance and credit (250%).

Official statistics show that there are ***considerable differencies in economic indicators across regions*** in Russia. We may observe from the below table how different are Russian regions in terms of population, surface, industrial production, and gross regional product. We remark a steep differentiation in level of salaries and per capita income as well. These differences have been accentuated significantly over the reform time.

Figure 1. Per capita income, by regions



Legend : 1 – Total for the Russian Federation ; 2 – Moscow; 3 – Moscow region; 4 – S.-Petersburg; 5 – S.-Petersburg region; 6 – Volgograd region; 7 – Stavropol region; 8 – Tyumen region
Source: "Russia in figures, 2005", Goskomstat, p. 42-44

We choose to present five regions and two federal cities. Volgograd region presents a big industrial region, Stavropol region is a rich agricultural zone, Tyumen region is an example of a petrol and gaz industry region. Moscow and Saint-Petersburg are the biggest cities of Russia with the richest economic infrastructure.

Per capita income appears to be the highest in Moscow and Tyumen regions, employee's average salary in these regions are respectively 10,500 and 17,000 roubles, that is

200 and 250% more than in Volgograd, 5,000 roubles, and in Stavropol regions, 4,500 roubles. It is also interesting to mention that there is a significant difference between Moscow and the Moscow region and St.-Petersburg and its region. Per capita income in Moscow is 4 times bigger than in the Moscow region, the average salary per month in the Moscow region is 3,000 roubles higher than in Moscow. The difference between the average salary in St.-Petersburg and its region is smaller, but still important, 1,500 roubles.

Table 2. Socio-economic indicators of some Russian regions, 2004

	Russian Federation	Moscow	Moscow region	Saint-Petersburg	Saint-Petersburg region	Volgograd region	Stavropol region	Tyumen region
Surface (thousands)	17 075	47		86		114	67	1 435
Population (thousands)	143 474	10 407	6 630	4 600	1 653	2 655	2 718	3 308
Number of employed (in 2003) (thousands)	65 666	5 631	2 577	2 380	709	1 240	1 077	1 865
Per capita income (per month), approx. in roubles *(approx. in euros[9])*	6 400 *(180 €)*	20 600 *(570 €)*	5 900 *(160 €)*	8 700 *(240 €)*	3 900 *(110 €)*	4 500 *(130 €)*	3 900 *(110 €)*	11 800 *(330 €)*
Average salary per month, approx. in roubles *(approx. in euros)*	6 800 *(190 €)*	10 600 *(300 €)*	7 600 *(210 €)*	8 200 *(230 €)*	6 800 *(190 €)*	4 900 *(140 €)*	4 600 *(130 €)*	17 300 *(490 €)*
Gross regional product, in 2003, in mld roubles	11 582	2 441	447	436	132	138	110	1 194
Industrial production, in mln roubles	11 209 107	476 651	3 799 974	341 803	158 445	125 970	67 594	1 195 931

Source: "Russia in figures, 2005", Goskomstat, pp. 36 - 43

As states Yasin, another negative consequence of economic transformations appears to be ***a social differentiation***. The Gini's coefficient has been growing steadily throughout the 90s and it continued to rise at the beginning of the 2000s: between 1992 – 2000 it increased by 37 % (from 0.29 in 1992 to 0.40 in 2000), and over the last four years it augmented slightly by 3 % (see Table 3).

Table 3. Gini's coefficient (index of income concentration)

1992	**1995**	**2000**	**2001**	**2002**	**2003**	**2004**
0.289	0.387	0.395	0.398	0.398	0.402	0.406

Source: "Russia in figures, 2005", Goskomstat, p. 110

[9] Exchange rate: 1 euro = 36 roubles (by December 2004)

2.2. Labour market evolutions

We showed in the previous paragraph that in the economic development of the country since the beginnings of 90s ***two main trends*** are observed. The period ***from 1990 till 1999*** is characterised by the ***overall economic decline*** and a drastic GDP decrease. A certain ***revival*** is reported since ***1999 – 2000 till present***. Evolutions on the labour market have been following the overall economic tendencies (Gimpelson and Kapelushnokov, 2006). The first period is characterised by a drastic shrink in employment and decrease in wages, since the beginning of the third millennium the situation has been inversed.

As to the ***period of recession***, researchers split it out into three periods (Tchetvernina and al., 2001). The period from 1991 to 1993 was characterized by the reduction of surplus labour inherited from the soviet past (i.e. in construction, and research and development); the newly emerging private sector; the initial accumulation of surplus labour in manufacturing industries due to a fall in demand for industrial goods; the decrease of real wages; and the growing share of working poor.

The second stage, 1993 to 1995, witnessed the influence of privatization. By the end of 1995, 122,000 enterprises had been privatized. The first mass dismissals showed up, bringing deepening wage differentials and the measures introduced by management (early retirement, shorter working hours, and temporary employment) to adjust labour input. In this period, the level of employment and the unevenness of its distribution across regions rose considerably, due to further falls in output and the emergence of persisting economic depression in some regions.

In the third stage, 1996 to 1999, formal and informal processes intermingled. The distinctions between employment and unemployment became blurred; hidden employment in the shadow economy, along with hidden unemployment, became widespread. In August 1998 the cumulative effect of negative economic factors caused a precipitous fall in the exchange rate and a partial collapse of the national system of credit and finance. The direct consequence of these events was a second round of wage reductions across the economy, including employment reduction in the newly emerged private sector. Almost every region of the Russian Federation suffered a steep increase in unemployment and a crisis in the system of state support for those who were unemployed. Mass failure to pay contributions to the Employment Fund – to regional employment funds on the part of employers and, on the part of regions, to the federal authority – jeopardized government ability to pay unemployment benefits and to provide other types of assistance to their unemployed citizens. These complications and the introduction of restrictions for unemployment registration resulted in a

level of registered unemployment which was considerably below that calculated officially and which began to contract against the background of general unemployment.

The negative socio-economic impact of the 1998 financial crisis also had a positive side. Higher prices of imported goods resulting from rouble devaluation increased the competitiveness of the domestic production, that stimulated output growth in a number of sectors, positively affecting employment in industry and (partially) in the trade and services sector.

A certain ***revival of the economy in 2000*** opened a new stage of development. This was accompanied by the development, albeit not without errors, of new modes of enterprise operation and management in both the public and private sectors – including switching to the production of competitive goods, the search for new business partners, innovation, and changes in employer-employee relations. Informal and secondary employment rose in the mid-1990s, providing some workers with the opportunity to compensate the declining of real wages in their primary employment. However, such an income often implied longer working hours and non-regulated labour relations in the form of civil contracts or none at all.

The following conclusions were made by researchers on the nature of the Russian labour market evolutions throughout this transition period. Rostislav Kapelushnikov (1999) underlines that notwithstanding the unprecedented deepness and longevity of the transition crisis, Russia has experienced neither a sharp employment reduction, nor an explosive increase in open unemployment. Its general unemployment rate has not reached a level characteristic of the peak of transition crisis in CEE countries. The registered unemployment rate has fluctuated around the 2-3% mark; the average unemployment duration has remained rather moderate; dismissals have not become widespread; and enterprises have been actively hiring new employees.

On the one hand, this feature of the Russian labour market may seem to be positive for the Russian economy. However, it doesn't facilitate deep economic restructuring. Thereby, Kapelushnikov argues that the main operational principle of the Russian labour market is "adjustment without restructuring". The actual situation in the Russian labour market presents a puzzling combination: high mobility of workers and flexibility with slow general restructuring. One clue is the deinstitutionalized character of the labour market. In other words, the lack of clear and effectively enforced "rules of the game"; implicit rules and unwritten agreement prevail over formal obligations. Such a situation results finally in numerous abuses and opportunistic behaviour (for example, widespread delays in wage payments).

Consider in more details characteristic of the Russian labour market today[10].

Employment. According to a Goskomstat (National Statistics Office) survey, in November 1999 the total number of employed persons was 85% of the 1992 level. Other data by Goskomstat, based on an evaluation of the balance of labour resources and the share of some categories of employment not collected in official statistics (workers in the informal sector, in unregistered entrepreneurship or unlicensed economic activity, or migrants), indicate that in 1998 the number of employed persons was 88% of the 1992 level and 86% of the 1991 level (Tchetvernina et al., 2001).

Shrinking employment after 1992 was accompanied by a drastic fall in real wages and incomes. In 2000 real wages had not reached their pre-reform level. According to official Goskomstat data, the average wage in December 1998 was only 27% of the average wage across the Russian Federation in December 1991. According to the same source, the ratio of nominal wage to subsistence minimum decreased over the same period 1.5 times: down to 180% in December 1998 from 448% in December 1991.

Table 3. Wage dynamics and ratio of nominal wage to subsistence minimum, 1991-1998

Year	Average wage (roubles, prices of 1991)	Ratio of average nominal wage to subsistence minimum (%)
1991	548	335
1992	369	229
1995	246	179
2000	238	172

Source: "Russia in figures, 2005", Goskomstat, p. 109

Declining employment was accompanied by a decrease in production and a reduction in per capita GDP. According to Goskomstat data, GDP in 1998 was down to 68 per cent of the 1991 level. Until the mid-1990s, GDP reduction rates were outpacing those of employment decline, a feature that set the Russian Federation apart from other transitional economies in Eastern Europe, as Table 4 shows (a similar situation developed in Ukraine and

[10] For the below analysis we used statistic data provided by the State Committee of Statistics (Goskomstat), as well as calculations by following researchers and expert groups:
- Tchetvernina et al, "Report on labour market flexibility and in Russia" International Labour Organisation, Geneve, 2001/31;
- UNDP (1996), United Nations Development Program, Regional Bureau for Europe and the Commonwealth of Independent States, "Human development report 1996";
- UNDP (2004) "Report on human development in the Russian Federation, 2004", UNDP, Moscow, 2004;
- Kapelushnikov R. (Institute of World Economy and International Relations, Russian Academy of Sciences, Moscow), "Russia's labour market: adjustment without restructuring", 1999;
- Linn J.F. (Department for Europe and Central Asia Region of the World Bank), Keynote Speech, 6th Berlin Financing Conference, Berlin, Germany, July 21-22, 2001.

other CIS countries). Two explanations for the discrepancy have been suggested. Some experts view it as the consequence of surplus labour hoarding and the slow pace of restructuring, others as a proof of shadow economy development. The first proposition means we are dealing with an ineffective economy – the second with an ineffective State.

Table 4. GDP and employment level in selected countries with transitional economies, 1989 and 1995

Change (%)	Albania	Bulgaria	Czech Republic	Hungary	Poland	Romania	Russia	Slovenia	Ukraine
GDP	-25	-25	-15	-14	-3	-19	-38	-6	-40
Employment	-41	-25	-9	-26	-16	-11	-12	-17	-16

Source: Tchetvernina et al., 2001, from The Labour Market Development Concept. The World Bank. 2000

In spite of the absolute reduction of the number of workers in all age groups between 1992 and 1999, the share of workers in the 25-49 age group increased by 6% in this period, at the expense of a decrease in employment for elder (50 years and over) and younger (up to 25) age groups. The most drastic employment reduction, from 25 to 11%, was seen in the under-20 age group.

Table 5. Changes in employment, by age group

	Employed population total	**By groups:**		
1992		**15-24**	**25-49**	**50-72**
thousands	71 068	9 398	46 643	15 026
% of the total number of the employed	100	13.2	65.7	21.1
1998				
thousands	57 860	6 339	42 432	9 089
%	100	10.9	73.3	15.8
1999				
thousands	60 631	7 103	43 362	10 167
%	100	11.7	71.5	16.8
1999 as% of 1992	85.3	75.6	93.0	67.7

Source: Calculations by Tchetvernina et al., 2001, from "Labour and employment in Russia", Moscow, 1999, and Labour Force Survey, November 1999 (first issue), Moscow.

The decreasing demand for labour in most industries in the 1990s, caused by the fall in output, slow economic restructuring, and job scarcity crowded out the less competitive and more vulnerable groups of workers – young people, persons of pensionable and prepension age, and women. According to the 1992-1997 surveys of industrial enterprises by the Centre for Labour Market Studies, the share of retirees in the total number of separations rose from 12% in 1994 to 16% in 1997. Second, the contraction of the share of older workers in total employment results is influenced by decreasing life expectancy and a deterioration in the state of health of the Russian population. Third, and most specifically, in both rural areas and suburbs, subsistence farming was a major factor in reducing the employment levels of older

workers. Diminishing real wages created a situation where agricultural products from individual plots of land became a sizeable contribution to the family budgets of many people. Older family members of pensionable and pre-pension age, crowded out of the open labour market, became the main workforce of subsistence farming.

Tchetvernina et al. (2001) suggest the following explanation for the ***contraction of youth employment.*** Employers prefer to recruit workers with relevant education and work experience. At the same time, although the number of graduates in the 1990s was growing, access to (and the quality of) higher education deteriorated as a result of the widening range of government-subsidized and private educational and training institutes, including those that operate unlicensed). In tandem, the higher birth rates of the 1970s and early 1980s resulted in a jump in the number of graduates. These factors were combined with a further slowing down of activities in the secondary special and primary vocational educational institutions. Secondary special education, which has been declining over the past several decades, fell in 1998 to 76% of the 1980 level and to 86% of the 1990 level. Even faster are the drops in the training of skilled workers in the primary vocational training institutions, where the number of graduates in 1998 was 62% of the 1990 level and 56% of the 1980 level.

According to a Goskomstat the general level of employment of people aged 15 to 72 was 55% in 1999. It should be noted that the Goskomstat data demonstrate a growth of almost 5% in the absolute number of the employed population and an increase by 2% in the employment level of people aged 15 to 72 in 1999. The change in employment dynamics in 1999 is attributable both to changes in survey methodology and to a certain degree of economic revival, in contrast to the crisis employment situation in the second half of 1998.

The fall in employment in 1992 - 2000 affected most sectors of the Russian economy. Three branches account for the main share of employment losses: manufacturing, construction and research and development: 6.8 millions, 2.9 millions and 1.1 million people, respectively, left these sectors between 1992 and 2000 (see Table 6).

Table 6. Employment dynamics by branch, 1991 and 1998 (average number of employed, thousands)

Branch	1992	2000	Difference (thousands)	Difference (%)
Total for the economy	72 071	64 327	-7 744	-11
Manufacturing	21 324	14 543	-6 781	-32
Agriculture	10 101	8 370	-1 731	-17
Forestry	235	239	4	2
Construction	7 887	5 002	-2 885	-37
Transport	4 770	4 139	-631	-13
Communications	862	872	10	1
Trade and catering	5 679	9 421	3 742	66
Housing and utilities	2 988	3 317	329	11
Public health	4 227	4 503	276	7
Education	6 413	5 871	-542	-8
Culture and arts	1 108	1 144	36	3
R&D	2 307	1 201	-1 106	-48
Finance, credit, insurance	494	742	248	50
Administration	1 362	2 925	1 563	115

Source: “Russia in figures, 2005”, Goskomstat, p. 81

In research and development between 1992 and 2000 employment fell by 48%. Here, the high rates of employment reduction resulted not only from the persistent budget deficit but also from the high mobility profile of research employees moving to more promising sectors of the economy once restructuring had started. In addition, the low wages in such spheres as research and development, education, culture and the arts and public health fostered official and non-official practices in multi-jobbing (sovmestitelstvo). For example, the official Goskomstat data show that the non-production branches accounted for the greatest number of workers holding more than one job at one time and working under contracts regulated by the Civil Code. The highest shares of these workers are in insurance (22.1%), culture and arts (15.0%), education (8%), research and development (7.3%) and public health (5.1%). At the same time it is not possible to estimate to what extent the data on secondary employment in the above branches are complete and whether the scale of secondary employment in them is really higher than in the rest of the economy. However, it is obvious that two main factors played a clear role in the predominance of the official *sovmestitelstvo* in the above branches. The first factor is related to a relatively low level of wages in these sectors. The second factor is concerned with a comparatively high flexibility of work organization and working time. Due to the nature of the primary job activities, secondary work could be performed at the primary workplace by flexible work, or arrangements with the primary employer to be absent for a certain period, etc.

We mentioned before that the ***private sector has been gaining in proportions*** since the beginning of the 90s. We observe from the below table that the share of private sector has increased by three times from 1990 to 1998 (from 9.4% to 29.7%). At the end of the 90s the

private sector prevailed over the public sector in terms of employment, as shown in the below table.

In 2000, the private sector and the enterprises of mixed forms of ownership accounted for about 60 % of total employment. However, states Tchetvernina et al. (2001), enterprises with mixed forms of ownership cannot be defined as "private", since most are privatized enterprises where the government holds the controlling share of actions. It is interesting to mention, that open stock-holding is not always a decisive factor in enterprises for creating new conditions for market-regulated activities at the internal and external levels and does not always enhance efficiency and competitiveness. "Innovative processes are retarded by the lack of proper taxation and finance systems and inadequate customs policies that stifle the development of an investment-friendly environment. Additionally, enterprises are involved in an intricate system of non-formal relations with agencies of executive power, at the regional level in particular, which limits their freedom of action in the open market" (Tchetvernina et al., 2001).

Table 7. Employment by sectors (millions)

Public or private ownership	**1990**	**1992**	**1995**	**2000**
Total economy	75.3	72.1	66.4	64.3
State and municipal enterprises and organisations	62.2	49.7	27.9	24.4
Private sector	9.4	14.0	22.8	29.7
Public organisations	0.6	0.6	0.5	0.5
Enterprises of mixed forms of ownership without foreign capital	3.0	7.6	14.7	8.1
Enterprises of mixed forms of ownership with foreign capital and fully owned by foreign capital	0.1	0.2	0.4	1.7

Source: "Russia in figures, 2005", Goskomstat, p. 80

Labour turnover in the Russian Federation is characterized by considerable swiftness, despite the slow rate of restructuring and new-job creation. Hiring and separation rates have not changed since 1993. While in 1993-1998 the hiring rates were falling slightly behind the rates of separation (by approximately 10-15%), in 1999 they levelled off (the separations trailing behind hirings by approximately 1%). Comparable indications of labour turnover in the pre-reform period are not available as the relevant data have been included in statistical reporting since 1993. During the soviet period, indicators of labour turnover were published occasionally and without any reference to the methods of assessment. In manufacturing and construction in 1985 labour turnover rates attained 13% and 19% respectively and, in 1991, 15 and 19% respectively. The conditional assumption here is that labour turnover has increased as a result of market adjustments in the 1990s. The highest rates of labour turnover are in construction, trade and catering, housing and utilities, and forestry. A 50% turnover of the payroll has been registered in manufacturing, communications and procurement. In

forestry, utilities and manufacturing the high rates of labour turnover are accompanied by recruitment outpacing separations.

This can be explained by the fact that these sectors have been actually developing rather through enterprises employing small numbers of workers while large and medium-sized enterprises have reduced their workforce considerably in the reform period. By contrast, large institutions in education, culture and the arts are characterized by a higher stability of the level of employment and, in large and medium-sized institutions in the last-mentioned branches, hirings outpace separations in spite of the shrink in overall number of workers.

By the intensity of labour turnover, Russia was ahead of CEE countries, writes R.Kapelushnikov (1999). He believes that Russians were less attached to their jobs and each year a larger part of them became unemployed. Thereafter, they more easily and quickly found new jobs, thereby moving quite rapidly from the labour force to inactivity and vice versa.

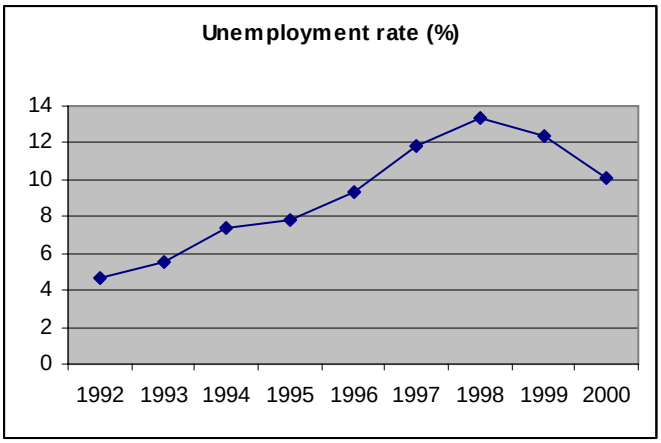
In contrast to the transitional countries of Central and Eastern Europe, where the hiring rates have become lower and separations have mainly been in connection with dismissals, no such trends have yet been observed in the Russian Federation. Most of the separations are voluntary, although their voluntary nature is relative. Managers prefer applying economic methods (forced administrative leaves, wage arrears, shorter hours), thus avoiding open workforce reductions and the organizational and financial obligations involved.

According to the official statistics, in 1998 the share of voluntary quits in total separations was 67.3% while the share of redundancies was only 8.9%. In 1999 these shares corresponded to 70.7% and 6% respectively.

Labour turnover varies strongly by branch. In 1998 hirings in all industrial branches were lower than separations. The highest labour turnover rates were observed in energy, food processing, coal mining, construction materials production, woodworking and oil-producing branches (over 50% of payroll numbers); the lowest in the gas-producing and metallurgy branches. These data demonstrate that the intensity of labour turnover in the Russian Federation does not depend on how successful the branch is or on how much its enterprises are involved in the process of market transformation. Neither job structures nor labour relations between employers and employees have changed significantly. Workers often return to the jobs they left some years earlier in search of higher income. Thus, labour mobility for the most part is of a non-systematic, purely formal nature. Two important factors limiting mobility are high transportation and housing costs. In 1999 alone, internal migration dropped by 105,000 persons (or by 4.1%).

Unemployment. Up to 2000, the total number of unemployed persons and the unemployment rate were both on the rise. From 1992 to 1999 the absolute number of unemployed had almost tripled and the unemployment rate jumped from 4.7% to 13.0% of the labour force, as Figure 1 shows.

Figure 1. Unemployment rate evolution



Source: Tchetvernina et al., 2001

A particularly sharp increase in unemployment was observed between October 1998 and February 1999 when, in the space of five months, the number of unemployed grew by more than 1.5 million, to reach a total number of 10.4 million. The unemployment rate in February 1999 was 15.2% (see Table 9). Such a splash of unemployment may stem from the financial crisis of August 1998.

Table 8. Unemployment rate (%), evolutions in 1992 - 2000[11]

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000
Unemployment rate (%)	4,7	5,5	7,4	7,8	9,3	11,8	13,3	12,4	10,1

Table 9. Unemployment rate (%), evolutions in 1999 - 2000

Year	Oct. 1998	Feb. 1999	May 1999	Aug. 1999	Nov. 1999	Aug. 2000
Unemployment rate (%)	13,3	15,2	13,3	12,4	13	10,1

Source: Tchetvernina et al., 2001

A subtle decline in unemployment rate between 1998 and 2000 (from 13.3% in 1998 to 12.4% in 1999 and further to 10,1% in 2000, see Table 9) may be geared from the overall growth of employment and economic activity. In 2000, the absolute number of unemployed and the unemployment rate continued to decline, reaching 7,092,000 persons and 10.1% (Tchetvernina et al., 2001). The positive shifts in economic development during 1999 -2000 thus led to a comparative "revival" of the labour market and changing dynamics of unemployment.

[11] Rate in December is taken for all years in the table.

While examining the labour market situation in Russia in the period of transition in comparison with CEE countries some particular features may be observed. Rostislav Kapelushnikov studies these differences in his report “Russia’s labour market: adjustment without restructuring”. In CEE, he writes, the start of market reforms provoked a sharp increase in open unemployment. Almost everywhere it immediately exceeded 10% and in some countries even 15 - 20%. However, unemployment in Russia has been increasing slowly and gradually. Only by the seventh year of market reforms did the rate of general unemployment pass the 10% level and approach the level attained by CEE countries after their economies started to recover.

The gap between registered and total unemployment. Another pronounced labour market tendency in the second half of the 1990s is a stable decline of registered unemployment: at the end of the transition decade, the gap between total (as calculated according to the ILO methodology) and registered unemployment became sevenfold.

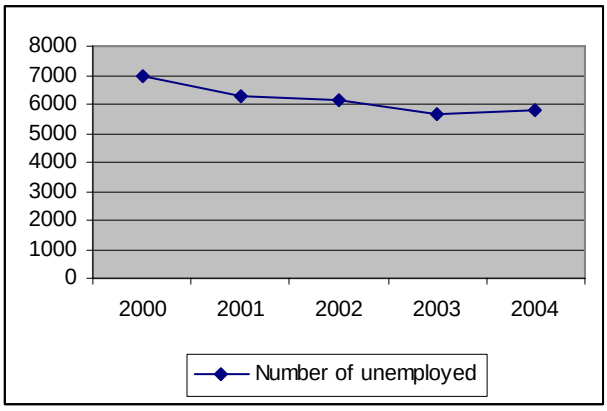
Such a disparity has never been observed in CEE countries, writes Rostislav Kapelushnikov. Moreover, in most of CEE countries the ratio was inverse: registered unemployment was 10-70% higher than surveyed or general unemployment. The huge gap between registered and general unemployment rates in Russia signals that the majority of jobless believe that the benefits of official registration do not outweigh the costs. Ergo, they prefer autonomous job seeking.

Between 1996 and 2000, all these factors contributed to the underestimation of the registered unemployment versus the real scale of the phenomenon. The Employment Fund deficit and corresponding problems with benefit payments and cut-backs in active programmes led to declining motivation to register for unemployment status. Further, the new restrictions in registration, introduced by amendments to the Employment Act adopted in June 1999 and numerous initiatives by regional authorities (which in many cases contradicted federal labour legislation) made it increasingly difficult to obtain official unemployment status. In 1995, 82.9% of jobless clients applying to employment services received the official status; in 1997 only 73.6%; in 1998 70%; in 1999 63.6%; and in April 2000 61.4%. Tchetvernina et al. argue that this declining coverage of the unemployed owing to the activities of the employment services is evidence of the decreasing ability of the government to influence labour market developments in the Russian Federation.

Since 1999 – 2000 ***an economic revival*** has been taking place in Russia. We observe that the number of unemployed was on a downward, falling from 7.0 millions (9.8% of economically active population) in 2000 to 5.8 millions (7.9%) in 2004. The number of

employed had augmented from 64.5 millions to 67.1 millions over the same period (according to Labour Force Survey by Goskomstat and all-Russia survey in 2002, Goskomstat, 2005).

Figure 2. Number of unemployed (in thousands)



Source: Labour Force Survey by Goskomstat: data for 2000 - 2004 by the end of November,
data for 2003 – 2004 acccording to all-Russia survey in 2002, "Russia in figures, 2005", Goskomstat, p.79

Table 10. Employed by economic sectors, evolutions between 2000 and 2004 (in thousands)

	2000	**2004**
Total (economically active population)	71 464	72 909
Employed	64 327	65 900
among them in …		
State and municipal enterprises and organisations	24 365	23 724
Private sector	29 659	33 424
Public organisations	526	449
Enterprises of mixed forms of ownership without foreign capital	8 049	5 865
Enterprises of mixed forms of ownership with foreign capital and fully owned by foreign capital	1 728	2 438

Source: "Russia in figures, 2005", Goskomstat, p. 80

We remark that the share of the private sector in total employment continued to rise. The number of employed in the private sector had augmented by 13% (from 29.7 millions in 2000 to 33.4 millions in 2004), while the number of employed in the public sector had slightly decreased by 3% (from 24.4 millions in 2000 to 23.7 millions in 2004). The share of employed in mixed organisation fell by 27% (from 8.1 millions to 5.9 millions), whereas it had rosen for employed in mixed organisation with foreign capital (by 41%, from 1.7 millions to 2.4 millions).

We note that increase in employment in the period 2000 – 2004 did not concern all economic branches. In manufacturing a 3% decreased is registered (see Table 11). This can be explained, on one hand, by the continuing process of surplus labour hoarding and, on the other hand, by the further slowing down of economic activities in this branch. However, this

indicator appears to be much lower in comparison to a 1992 – 2000 decrease, 32% (see Table 12). A considerable fall in agriculture can be explained by an extremely low level of wages in this sector (see Table 1, p. 53). The average wage in agriculture account for 40 % of the average wage in the economy. This made a noticeable outflow of workers from this sector. Contrary to tendencies over 1991 – 1998, employment has increased in construction (-37% vs. +3%), transport (-13% vs. +2%), education (-8% vs. +3%) and research and development (-48% vs. +1%). Employment in forestry continued to grow (+2% vs. +12%), as well as in trade and catering, public health, finance and crediting and in administration. We remark that the growth in employment in trade and catering and finance and crediting had been proceeding with a slower pace (+66% vs. + 20% and +50 vs. +23).

Table 11. Employment dynamics by branch, 2000 and 2004 (average number of employed, thousands)

Branch	**2000**	**2004**	**Difference (thousands)**	**Difference (%)**
Total for the economy	64 327	65 900	1 573	2
Manufacturing	14 543	14 130	-413	-3
Agriculture	8 370	6 787	-1 583	-19
Forestry	239	267	28	12
Construction	5 002	5 140	138	3
Transport	4 139	4 217	78	2
Communications	872	923	51	6
Trade and catering	9 421	11 335	1 914	20
Housing and utilities, non-productive services	3 317	3 170	-147	-4
Public health	4 503	4 779	276	6
Education	5 871	6 062	191	3
Culture and arts	1 144	1 292	148	13
R&D	1 201	1 211	10	1
Finance, credit, insurance	742	909	167	23
Administration	2 925	31 56	231	8

Source: “Russia in figures, 2005”, Goskomstat, p. 75

Table 12. Evolutions of employment dynamics by branch, 1991 – 1998 and 2000 – 2004

Branch	**Difference (%) 2000 - 2004**	**Difference (%) 1992 - 2000**
Total for the economy	2	-11
Manufacturing	-3	-32
Agriculture	-19	-17
Forestry	12	2
Construction	3	-37
Transport	2	-13
Communications	6	1
Trade and catering	20	66
Housing and utilities, non-productive services	-4	11
Public health	6	7
Education	3	-8
Culture and arts	13	3
R&D	1	-48
Finance, credit, insurance	23	50
Administration	8	115

Source: Authors' calculations from "Russia in figures, 2005", Goskomstat

We remark that in spite of low salaries in such sectors as education, culture and the arts, research and development, employment in these had risen. This owes to development of informal economy. These branches due to flexible hours of work permitted to have a supplementary employment. Revenues from corruptive activities also contributed to completing low wages in these sectors.

It is interesting to study the *position of women on the Russian labour market throughout the transition period.*

Table 11. Employment dynamics, by sex (in thousands)

	1992	**1995**	**2000**	**2001**	**2002**	**2003**	**2004**
Men total	39 171	37 336	37 154	36 846	36 937	37 206	37 079
Employed	37 145	33 720	33 379	33 435	33 615	34 199	34 177
Unemployed	2 026	3 616	3 781	3 411	3 322	3 007	2 902
Women total	35 774	33 525	34 310	34 122	34 982	35 629	35 831
Employed	33 923	30 429	31 091	31 229	32 151	32 953	32 958
Unemployed	1 851	3 096	3 219	2 893	2 831	2 676	2 873

Figure 3. Unemployment dynamics, by sex (in thousands)

Source: Russia in figures, 2005, Goskomstat, p. 36

The absolute number of unemployed women in comparison to men does not differ too much, 2,902 vs. 2,873 thousands. The employment level among men is also close to one among to women, 92.1 vs. 92.0 in 2004. However, we observe that while the number of women in total population is higher in comparisons to men, the share of economically active women among economically active population is lower. Figure 3 shows, that while the number of unemployed men was steadily decreasing between 2001 and 2004. The number of unemployed women slightly fell down in 2002 and 2003; but in 2004 it increased to reach its 2001 level.

Tchetvernina et al. (2000) underlines that traditionally in Russia, women's employment is below that of men's. This difference is low or almost inexistent in the middle-age groups (40-44, 45-49 years) where it varies from 1 to 4%. In the 20-39 age group, the level of women's employment is lower in comparison to men. This is related to child-raising activities. As restructuring progressed, women's employment declined. In the 55-72 age group, men's employment level is twice as high as women's (the statutory retirement age for women is 55 and for men 60).

One should note that a non-formal crowding-out of women have been taken place in the Russian economy. It is the matter of pushing out women to so-called 'female-sectors'.

A range of sectors in the Russian economy are traditionally considered as "female" or dominated by women workers: public health and social services (82% of women among the employed), education (81%), culture and the arts (68%), trade (62%), and communications (61%). Most branches with a high concentration of women workers require high qualifications but are low-paid. The level of wages in public health, social services, education, culture and the arts is below 70% of the average wage for the economy, which amounts to

about 120 – 130% of the subsistence minimum. Wages of women workers are even lower. According to the official data, in 1998 wages of women in public health constituted 123% of the subsistence minimum, in education 112%, in culture and the arts, 111%. In light industry, the universal (for women and men) average wage is below the official subsistence minimum.

The few exceptions to the general rule of segregating women workers in low-paid sectors are the trade, catering, finance and credit branches, which have a relatively high average wage. However, trade, finance and credit account for only one-fifth of all women employed (under 2% in finance, credit and insurance) and in these branches (together with the administration sector) women were actively crowded out in the 1990s. Wage differentiation between women and men is evident. For example, in manufacturing, the wages of female workers on average equal 69% of those of male workers, in trade and catering 73%, and in finance and credit 77%.

Factors other than those related to the labour market and urbanization development lie behind the crowding-out of women from the agricultural branch. Women do not leave agriculture but moves from public and cooperative agricultural enterprises into private subsistence farming. The fact that agricultural enterprises are making losses and reducing the real wages of agricultural workers resulted in a situation where work on private plots now plays a leading role in securing family incomes.

An analysis of the woman's place in the Russian labour market is carried out by Seregina (1999). She argues that recent reforms did not generate significant changes in regards to the position of women in the labour market. Some former stereotypes still persist in the Russian mentality. A woman that manages to be a "good mother and housewife" is viewed as a successful woman. Men make emphasis on professional career development. One should note that the share of men in the population of Russia is inferior to the share of women.

Another characteristic feature of Russian economy is the ***outflow of many workers into informal sector.***

In Russian statistics the data on informal sector was not available for a long time since the beginning of the 90s till the beginning of the third millennium. In 2001 first official information including the number of people involved in informal employment was published by the State Committee of Statistics (Goskomstat). In 2002 more broader information like distribution of employed in informal sector by age, gender, occupation appeared (Goskomstat, 2002, 2003). Some surveys were carried out by the Central Institution of Public Opinion as well. However, the informal employment is very difficult to register. Even in person-to-

person interviews people are reluctant to provide information about their supplementary employment (Gorisov, 2004).

The share of population involved in informal employment account for 14.3%. This figure varies slightly across men and women, 14.4% vs. 14.2% accordingly. The below table show that the rate of informal employment is the highest among population with secondary education and the lowest among workers with higher education.

Economic discrepancies across regions

Official statistics show that there are big discrepancies in labour market indicators across regions in Russia. We may observe from the below table how different are Russian regions in terms of population, surface, industrial production, and gross regional product. This influences the level of salaries and employment rate.

Table 12. Labour market indicators, by regions[12]

	RF	Moscow	MR	SP	SPR	Volgograd region	Stavropol region
Level of employment, in %		65,7	64,9	66,7	60	59,9	52,9
Level of unemployment, in %	8	1,4	4,3	3,4	7	8,4	9,6
Average time of job search by unemployed, in months	8,6	7,2	7,1	6,1	6,9	8,5	10,7
% of unemployed searching a job for 12 months and more	39,3	25,8	29,4	24,3	26,5	39	53,5

Source: "Regions of Russia. Social and economic inicators, 2003", Goskomstat, p. 117

The level of unemployment is almost 800% higher in the Volgograd region and in the Stavropol region than in Moscow. In St.-Petersburg it is 300% higher than in Moscow. We still observe the difference between the Moscow and the Moscow region (400% difference in the unemployment rate) as well as between the St.-Petersburg and St.-Petersburg region (350% difference in the unemployment rate). However, the Russian unemployed put approximately the same time to find a job whether they live in the capital or in the province region. The difference in average time of job search by unemployed across regions is not that big, except for Stavropol region (3 months more than in Moscow and 2 months more than the average).

Kadomceva (2004) splits Russian regions into three main categories. The first one is the European centre of Russia. This region is characterised by a low birth rate and a high rate of elder population, particularly in a country-side; high level of urbanisation, good provision

[12] MR – Moscow region, SP – Saint-Petersburg, SPR - Saint-Petersburg region

with lodging and rich infrastructure. In these regions a high rate of income differentiation is observed between urban and rural areas. North Caucases and the south of Siberia enjoy high birth rates and a high rate of young population. At the same time, a low educational level, low incomes and poor social infrastructure (medical care, etc.) are characteristic for these regions. The third group of regions includes the Far East and the Extreme North. These areas have a high level of urbanisation and the biggest incomes across other country regions. The weaknesses of this part of Russia refer to a bad provision of housing and a poor social infrastructure. At the same time, the ratio of young people to whole population is rather high because of internal migration. In between of these three large parts of Russia are situated other regions, whose social and economic indicators are closer to the national average.

In many regions of the country one observes internal migration that is particularly high for the young population. The youth moves from regions with a poor economic and social situation to more 'successful' regions. One remarks an important outflow of young specialistes with high qualifications in foreign countries. Simultaneously, Russia is receiving a labour force with lower qualification coming from ex-soviet republics. Kadomceva singles out that the challenge for future development of Russia lies in the transforming from a 'donor' of qualified labour into a 'receiver' of qualified workers.

Ryazancev (2005) underlines that Moscow and the Moscow region are the main 'magnets' in the Russian internal migration. Between 1991 – 2003, the increase of population in these regions due to internal migration accounts for 608 thousands. Throughout last three years the annual inflow in Moscow and the Moscow region was estimated at 40 – 50 thousand people. Contrary to these two areas, many regions of the Central federal region experience a negative migration balance. Today this is the case for all regions the Central federal region, except for Belgorodskaya region, Voronegskaya and Yaroslavskaya regions, whereas in 1997 there were only two of them with a negative migration balance, Ryazanskaya and Smolanskaya regions. Therefore, we observe a noticeable discrepancy across Russian regions and across federal sub-divisions as well.

2.3. Growing demand for qualified labour

The presence of noticeable labour surpluses in Russian enterprises was characteristic for soviet economy and for the period of beginning of 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 the 3d quarter of 1998 to 12% in the 1st quarter of 2003. Simultaneously, ***the number of firms reporting a labour deficit had augmented*** from 10 to 25% (Poletaev, 2003).

At the same time, managers of many companies, including those operating in industrial production sector, declared that the lack of qualified labour (both highly-qualified employees and workers with lower qualifications) becomes a serious obstacle for production development. It appears that in the vague of the general economic growth, Russian companies experienced a steep shortage of qualified labour. In many companies, a bulk of personnel was lost during the period of mass quits in the beginning of the reform time and economic restructuring.

Table 13. Payrolls profile in terms of shortage or surplus of labour

	%
Surpluses (number of workers could be reduced)	3.3
Well-balanced	54.6
Shortages (number of workers could be increased)	42.1

Source: Gimpelson, 2006

One of the consequences of the move from labour surpluses to labour shortages in Russian organisations was the pressure on the system of higher education from the part of employers. These demanded to prepare specialists in fields where the lack of qualified workers was reported. Consequently, some reflections were made on how to assure the consistency between the labour supply and demand. However, analytical prognosis approach enabling to foresee future labour market demands appears to be quite limited. It concerns two main difficulties. First, trying to predict dynamics of labour demand one should assume that wages differentials across professions are constant. In the real life it is rarely true. Wages vary in time reflecting a relative demand for different professions. For example, increase in salaries of medical workers would result in a rise in number of those who desire to acquire this profession and to work in this sector. This would cause a decrease in demand for this category

of employees. Thus, middle-term and long-term planning on dynamics of wages and labour demand becomes very complex.

Secondly, there may be an inconsistence between needs that employers declare and their readiness to employ. Gimpleson (2006) found out that the deficit of specialists in many companies stems from an incapacity of employers to pay a competitive wage to their workers. He underlines that some managers can not, other do not want to pay a high enough salary. The researcher found out that a deficit in workers was reported, for example, in public companies created before 1990. They are less willing and capable to offer an appropriate reward to qualified workers. As a result, these organisations experience important labour shortages. This, in our opinion, witnesses about the attitude of Russian managers towards the role of human capital in the production process. It appears that some employers do not recognize to a necessary extent the importance of human resources for company's development.

Rapid development of the services sector and growing differentiation in wages across sectors and branches generated an outflow of human capital from traditional processing industries to natural resources extracting industries and other sectors with higher salaries. The transfer of qualified labour towards the services sector which offered more important wages gained noticeable proportions. Simultaneously, losses occurred in manufacturing industries turned to be enormous. Workers who left the sector of production brought away with them "precious things" that is their specific knowledge and skills that could not be used in other fields. This part of human capital of the country turned out to be forfeited and no educational system could now fill in this gap.

In the conditions of the economic recession throughout the 90s, employers were not worried about voluntary quits of qualified labour. They were concerned by trying to rapidly adapt to the changing economic environment, making exclusively short-term plans. Massive voluntary leaves of workers were profitable for employers as they permitted to avoid costs related to freeing surplus workforce. Whereas dismissals would make employers to support high expenses on social compensating.

By 1999 – 2000, ***the economic revival had brought with it new challenges for companies.*** The rise in consumer demand first geared an increase in working time of employees and a rise in work productivity. The number of employed in some enterprises still continued to decrease at that time, but the competition that companies faced on the market forced them to further increase work productivity by hiring more qualified workers on the place of whose who quitted.

The sharpening of deficit of the human capital in conditions of great wage differentiation played a bad joke with companies who were more reluctant (or incapable) to pay competitive salaries. Less a given company pays to its workers, more they are attracted by other companies and are willing to leave. In the worst situation, a human capital lost by a company was rescued by its first competitors. More a company feels a shortage of labour, more it should pay to offer a satisfying prime to lost personnel or to new qualified candidates. This generates supplementary costs and decreases benefits. Companies hiring ‘cheap’ workers risk wasting their money. Such a strategy brings in less qualified and less productive workers. If workers are competitive, a company can not retain them with low salaries. In this case a firm experiences expenses as well.

* * *

Making the conclusion for this paragraph, we may say that since the 1990s, Russia has experienced ***a difficult transition period which significantly transformed its economic and social situation***.

The Russian Federation has become *a* ***democratic country***, ***with a large private sector, and free market.*** On the other hand, at the beginning of the third millennium, with an estimated ***decline of 40% in the gross domestic product since 1991, a crumbling infrastructure, and increasing political and financial instability***, Russia had barely resembled a developed country. Problems of the 90s had seriously affected the overall economic situation in the country. This generated a sharp increase in unemployment rate, workplaces shortages, appearance of informal economic activities and practices, growing discrepancies in development of different economic sectors, diminishing of demand for specialists with scientific specialisation and high level of professional skills and competencies.

The employment level in Russia had contracted by 12% between 1989 and 1995. Employed population in 1999 constituted 85% of its level in 1992. We observe that ***the young population had been pushed out of the labour market***. 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 (Goskomstat, 1999). The ***decrease in youth employment*** *is* explained by some researchers by the lack of relevant education and work experience among young population (Tchetvernina et al., 2001).

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% (Goskomstat, 2005).

Since the beginning of 2000, one may observe ***a relative economic revival*** in the country. Income per capita and average salaries started to grow. Industrial output had considerably increased. At the same time, the Gini coefficient, measuring inequality among the population, had augmented, from 0.29 in 1992 to 0.41 in 2004, and ***discrepancies in economic development across geographic regions*** have become salient. For example, the mean monthly salary in Moscow in 2004 was 200% higher than in the Volgograd region. In the Tymen region, oil extracting region, it was 353% higher than in the Volgograd region and 167% higher than in Moscow.

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). However, 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 (1999) as "adjustment without restructuring". Russian's shift form one type of economy to another one was smoother than in other east European countries according to official indicators. However, this was due to the functioning of ***informal economic processes*** like hidden employment, ***"shadow" compensation***, ***and wide spread of secondary employment*** (multiple job holders). All these forms present in the Russian labour market became finally crucially important for the national economy. They enabled to survive to a number of economic sectors, particularly state funded sectors, that found themselves in a severe structural and financial crises. The relevant example here is the educational sector: both secondary education and higher education.

The analysis, we carried out in this chapter, enables to draw out a general picture of the economy that frames the graduate labour market. The following factors appeared to be important to take into account for considering higher education graduates' position on the labour market: high level of unemployment among youth population, differentiations in economic development across regions and economic branches, existence of informal regulations on the labour market and large informal sector. The economic 'revival' experienced currently in the country geared more demand for qualified labour. Companies compete for highly-qualified employees in hope to get more productive workers that could contribute to a company's success on the market. ***A duality appears on the labour market as some companies are unwilling to pay competitive wages to qualified labour, while others clearly recongnise the importance of wage compensation for attracting and stimulating better workers.*** One example of such a duality is the opposition between wage strategies in the private and public sectors.

Chapter 3.
Evolutions and main trends in the Russian system of higher education since 1990

Abstract

Move from the command system to the labour market one has brought significant changes in educational system of the country. We observe considerable changes in financial provision, modifications in structure and in content of educational programmes.

The most salient feature of recent evolutions is a significant increase in higher education enrolments. The number of students rose by 2.4 times in 1994 – 2002. The fastest growth was shown among the countryside population: in 1995 – 2002, the number of full-time students had augmented by 77%, whereas the number of part-time students[13] rose by 180%. The expansion of the private sector in higher education gained unprecedented proportions: the number of private universities had increased by 392% in comparison to 20% for public insitutions.

A drastic increase in higher education enrolments may partially be explained by the growth in birth rates in the 1970s - yearly 1980s and slowing down of activities in the secondary special and primary vocational education institutions. But, it was also due to weakening of selectivity at the entrance to higher education and to some other reasons.

[13] In Russia, part-time students are mostly students who live in small towns. They come to big cities for 2 -3 weeks per semester to study or to pass exams.

3.1. Evolutions and current structure of the Russian higher education system

Like in many other countries, the Russian educational system is composed of pre-school education, primary, secondary and higher education. The particularity of the Russian system is that the post-secondary vocational education is not considered as higher education. Before the beginning of the third millennium in Russian classification ***only one type of diploma*** was considered as a diploma on higher education, that is ***a diploma of 'Specialist'***. ***Five years*** (for full-time programmes) ***or six years*** (for part-time programmes) of study were needed to obtain this diploma. Diplomas on higher education are delivered by ***three types of higher education institutions,*** they are ***universities, institutes and academies***. The way of functioning of these three institutions is quite similar and all of them deliver the same degree.

Since the joining of Russia to the Bologna process in 2002, two other degrees were introduced in the system of Russian higher education, that is ***a Master's and a Bachelor's degree***. The former necessitates 4 years and the latter 6 years of study.

Another particularity of the Russian higher education system is ***the existence of full-time and part-time programmes***. Students enrolled in part-time programmes are not obliged to attend all lectures and seminars throughout the academic year. They follow an intensive course of lectures, that generally lasts about two weeks per semester. The rest of the semester part-time students are supposed to learn independently. At the end of the semester they have to pass exams. Therefore, part-time studies imply more autonomous work and less contact with university professors over the academic year. Traditionally, part-time students have a full-time employment and as a rule, they live far from a city where a university is located (for example, if the university is located in Volgograd, most its part-time students live and work in a smaller city situated in the Volgograd region or in neighbour regions).

Higher education institutions are unevenly distributed throughout the Russian territory. Most of them are concentrated in the Western part of the country, and particularly in Moscow and Saint-Petersburg.

Educational reform in Russia

Beginning from the 80's in the education of the Soviet Union the crisis began to deepen because of the stagnation in the society, economy and the government system. The attempts first taken in 1984-85, then in 1986-88 to introduce the reform of education were neither fruitful nor corresponded to world tendencies in this field.

While in the developed countries, the relative and absolute number of students in higher educational institutions was constantly increasing, in the Russian Federation, it has been decreasing (beginning from 1980) (Tkachenko, 1994).

In the leading economic countries, new facilities for raising the quality of education and widening its accessibility have been taken through the process of democratization, differentiation. In North America, West Europe and Japan the sphere of education was acknowledged as the priority of the state policy and gained additional financial resources. But, in Russia, the share of allocations for education in the state budget decreased from 11% to 7% from the beginning of the 70's to the middle of 80's. By the end of the 80's the urgent need to reform education became evident to everyone.

Until recently, ***a high degree of centralization and unification was typical for educational system of Russia***. Also, most of the educational institutions' structures were of the same type. The educational institutions were under strict state and political organizations control. The content of education and inner life of schoolchildren, students and teachers *was ideologically controlled*.

On the other hand, one should mention the ***strongest sides of the former educational system of Russia.*** It strengthened the state's power and consolidated the public consciousness. It also ***maintained the necessary level of scientific and technical thinking and provided an intellectual potential*** of a country isolated from external world. The soviet system of education promoted social mobility of young people and provided wide guarantees for free education at all levels, which in turn ensured its ***mass character and accessibility*** *(*Brajnik and Faure, 1996) (even if it is discussed by some authors, see *Social equalities in higher education*).

However, due to the extremely low sensitivity the Russian education system ***ignored the real needs of individuals and the society;*** the absence of a market of educational services in the country was apparent.

The starting point of the reform is considered to be 1989 when at the All-union Congress of teachers the reform of education priorities was first voiced. The reform started as an innovative socio-pedagogical and organisational project. The year of 1991 gave the impulse to the all level expansion of the reform. The reform of education became a national priority. The reform was supported by the new leaders of the sovereign Russia. Not accidentally the first Ukaz of the President Yeltsin was on the development of education.

In 1991 and especially in 1992, there appeared positive tendencies in education within the reform process. In June, 1992 a new Law of Education was adopted in which the priorities of the reform were consolidated as the principles of the state policy.

General priorities of the reform are fixed and defined by the Law on Education of the Russian Federation. The first priority is the ***democratization of education*** which means: liquidation of the state's monopoly on education, decentralization of management, automation of education institutions, and socio-state governing of the system. The second priority is the ***humanization of education***. The Ministry of Education considered the development of a new generation of textbooks, compensating the shortage of humanitarian components in Russian education to be a very important step on the way to the humanization of education. Another great step is connected with training and retraining teachers of humanities. The third priority of the reform is the ***differentiation of education***, concerning new types of educational institutions as well as the content of education provided by them. The next priority is the ***human approach towards education***, which includes the renovation of its content, overcoming technocracy, and changing mentality. The human approach can be understood as orientation towards the development of a learner's integral vision of the world, state, society, individual. It is impossible to do without the ***individualisation of education*** which shifts the accents from mastering knowledge to the development of personal qualities, to overcoming the traditions and tendencies of former teaching which were directed to giving a student knowledge and development of simple skills.

It is important to mention that the essence of the reform was to ***move from a political paradigm to a teaching paradigm and from a totalitarian society into a civic society***.

By the beginning of 1993 the first stage of the reform came to the end. This stage included destroying stagnation mechanism and creating juridical and normative basis for the reform. As a matter of fact this stage was of the revolutionary character. Few important problems were solved during this period.

The content of education was transformed from unified to variable. Today school and higher educational students and teachers may have a choice.

The process of diversification of educational institutions took place. They became autonomous and have the right to make decisions on economical, staff and teaching policy.

The vertical system of management was also ruined by the differentiation of the duties between the Ministry of Education and local boards. School is no more politicized. The Law forbids political organisations and movements within a secondary school.

The Universal Tariff Scale (UTS) (a differentiated scale of teachers' salaries) for the payment of workers in the educational sphere was introduced.

Carrying out the reform under the conditions of the economical and political crisis provoked the growing conflicts inside the educational system, causing the reduction of social protection of students and teachers and arousing the qualitative and quantitative losses in education.

Such a growth of contradictions is evident as the former patterns of social guidance of educational institutions are ruined and the new ones do not function. Hence, the most burning and vital problem to be solved is stabilization of the situation in the educational sphere.

In general, the implementation of reforms in all sectors in the Russian Federation changed considerably Russian mentality. Bray and Borevskaya (2001) writes that Russia has changed its "immune system, ideological permeability and filters". Many of the changes of the 1990s were of a capitalist kind which could not be accepted one or two decades earlier. The World Bank, in their opinion, played a major role in Russia, bringing with it new term like "cost-effectiveness, efficiency and free-charging" which for a long time had been widely spread in many western countries but had not been part of a Russian vocabulary. Many schools and higher education institutions forged links with foreign countries. Changing of mentalities was also increased by international mobility of labour.

Today Russia continues the educational reform. It is a technological evolution stage. On this stage the problem on stabilizing and developing educational system should be solved. The issue of integrating the Russian educational system in the European educational space is of key importance nowadays.

Russia joined the Bologna declaration for formation of the European space of higher education in 2003. As a result ***two subsystems of higher education coexist now in Russia***:

- ***a soviet one-stage*** (mono-level) ***training*** to obtain a diploma of specialist (5 years of post-secondary studies);
- and ***a new two-stage training*** providing a Bachelor's degree (4 years of post-secondary studies) and a Master's degree (6 years of post-secondary education) .

Even before official signing of Bologna declaration by Russia efforts were made to study Bologna principles for contingence of systems of higher education. A 4-year training to

obtain the Bachelor's degree was introduced in some universities before 2003. For example, in the Volgograd Stat University first bachelor's programmes appeared in 2001.

Structure of the Russian Educational system

The law "On education" of 1992 defined a new educational system with different types of educational and training establishments. Even if the Russian educational system has changed significantly in terms of diversification of educational establishments, its skeleton structure is, nonetheless, quite similar to the one at soviet times.

Preschool education establishments receive children until the age of 7. This establishment is called "kindergarten" ('detskij sad'). Children are supposed to develop basic mental capacities (to draw, to sing, etc.) and to be socialised, in other words, they learn to live in community separately from their parents.

General education (or Secondary education).

General complete education ("sredneye polnoye obscheye obrazovaniye") includes three levels:

1. ***primary secondary education***[14] or primary school (nachalnaya schkola) lasts 3 or 4 years (from 6 to 9 years). Years of study in a primary school correspond respectively to grade 1 ("class 1"), grade 2 ("class 2"), grade 3 ("class 3"), grade 4 ("class 4") in the Russian classification.
2. ***lower secondary education*** or secondary school (sredniye klassy) – 5 years (from 10 to 14 years). Years of study in a secondary school correspond respectively to grade 5 ("class 5"), grade 6 ("class 6"), grade 7 ("class 7"), grade 8 ("class 8"), grade 9 ("class 9") in the Russian classification.
3. *complete secondary education* or high school (starshiye klassy) – 2 years (from 15 to 17). Years of study in a secondary school correspond respectively to grade 10 ("class 10"), grade 11 ("class 11") in the Russian classification.

Upon the completion of primary and secondary schools (at the age of 14) a pupil can obtain a certificate of ***general education***. Two more years of study in a high school (at the age of 17 on average) will enable to get a certificate of ***general complete education*** (Attestat o Srednem Polnom Obshchem Obrasovanii).

In Russia primary, secondary and high schools are usually housed in the same building called "schkola" ('school'). In the beginning of the 90s the structure of secondary and high schools has been diversified. Nowadays there appeared *new types of secondary and high schools*; they are secondary and high schools with profound studies in a certain field, "gymnasiums" (grammar school) and "lyceis" (lycea). *'Gymnasium' (grammar school)* is an

[14] This term is adopted from "Reviews of National Polices for Education : Russian Federation", OCDE, 1998

establishment of general complete education to follow courses of 5 to 11 grades (from “class 5” to “class 11”). The principal goal of ‘gymnasium’ is to ensure the best conditions for the development of intellectual capacities of children to enable them to continue studies at higher education level. Gymnasium is usually specialised in one or more human sciences. ‘Lycei’ (lycea) comprises from 10 to 11 or from 8 to 11 grades of secondary studies. It offers general complete education for two to four years and specialised in professional trainings (as a rule in technical or natural sciences). ‘Licei’ is normally created as a result of integration of a secondary school with an establishment of higher educational (HEI), or a research centre or a cultural centre. In practice, all ‘lyceis’ have cooperation conventions with one or more HEIs or they may constitute one of HEI’s structural units. Through these close ties the profound learning of certain disciplines enables students to be enrolled in a second or third year of HEIs. To be recruited to ‘liceis’ students have to pass selective tests that are defined by each ‘licei’.

Within the framework of general education schools with intensive study of selected subjects represent about 25% of the total of high and secondary schools, lycea – 9%, grammar schools – 12%.

Post-secondary education includes three levels**:**

- “initial professional education” (**initial vocational education**);
- “middle professional education” (**middle vocational education**);
- “higher professional education” (**higher education**).

Initial vocational education. Initial vocational schools represented by specialised technical schools (PTU - Professional'no-technicheskoe uchilische) which offer one to three year programmes of purely professional education. The purpose of this form of education is to train qualified workers for all sectors of professional activity. The base for this type of education is general studies, for some specialities secondary complete studies are required.

Middle vocational education aims to prepare technicians and superior technicians. Two types of establishments are distinguished in this group: ‘tehknikums’ and ‘colleges’. There are some differences between them, but these differences are not clearly perceived by employers and salaries rates for the graduates are the same (Vinokour, 2001).

Higher education is provided by ***universities, academies, and institutes***. A higher education institution may be called ***university*** if it combines education with fundamental research work, and if it is also a leading centre of culture and education. A university offers a wide range of educational programmes in numerous fields of study. One may distinguish classical universities providing a broad range of education in science and humanities and universities specialised in narrower fields – technical, pedagogical, humanities, etc. In 1994

there were 141 universities in Russia, 46 of which were classical universities. ***An academy*** is the second type of higher education institution. It should undertake research work and provide education in one major field of science, technology or culture. In 1994, there were 78 academies with different areas of specialization in Russia. ***An institute*** provides professional education and training programs in various fields of science, technology and culture. Institutes were initially created to prepare specialists for industrial sector and had a very narrow specialisation, like Forestry Institute, Natural Resources Extraction Institute, etc. In 1994 there are 329 institutes in Russia, providing education/training in 49 recognized specialities (Lugachev et al., 1997). Today, within the framework of higher educational institutions the university sector accounts for 50% of the total number of the state higher institutions. Academies make about 30% (UNESCO, 2004).

One of the characteristic features of the Russian higher education is the existence of institutions which have the status of affiliation to an established institution ("filial") or to a particular faculty of a larger institution. This structure is very useful, given the large geographical scale of Russia, because it helps to move institutions to students and to possible future employers of the graduates.

As for types of degrees awarded by HEIs, two subsystems coexist now in the Russian higher education: an old soviet system and a new one in line with Bologna process.

At soviet times all HEIs proposed only one type of higher education programme that lasted 5 years and enables to obtain a diploma of Specialist (Diplom Specialista). Nowadays almost all HEIs still continue to offer a 5 year programme and award the diploma of Specialist. With the introduction of the Bologna process two other types of diploma appeared: Bachelor's degree (Stepen bakalavra) and Master's degree (Stepen magistra). Bachelor's degree requires 4 years of post-secondary studies, and Master's degree is awarded after 6 years of post-secondary studies.

There are two levels of doctorate degrees: a Candidate of Science degree (equivalent of the Ph.D. diploma (the first level) and a Professor Degree (Doktor Nauk) (the second, highest level).

The academic year starts on September 1 and ends in the middle of July. Each academic year includes 2 semesters each of them is followed at the end by an examination session. Sessions are composed of one to five exams noted 5 (excellent), 4 (good) and 3 (passable) and about 5 – 8 "zachet" (examination without marks, a student can only get a note "passed"). If a student passed successfully all "zachets" he/she is admitted to pass the exams. The content of educational programmes offered by the HEI should conform to national standards. The choice of courses for a particular field of study is determined by the

educational institution in conformity with federal educational standards. As a rule students are not free to choose their courses, except for 1 – 2 special courses per semester that are defined in the educational programme as "courses for choice". During a standard semester a student is to attend from 8 to 15 courses. Two or three first years of study usually comprise general disciplines, like mathematics, physics, Russian language, psychology, sociology, etc. and fourth and fifth years include specialised courses in a particular field. Courses are usually organised in a form of lectures, seminars and practical courses.

One may distinguish ***four types of studies in the Russian higher education system***. They are ***full-time studies, part-time, evening studies, and 'externat'***. In full-time programmes, students are expected to follow regular courses offered by the HEI all along the academic year, while part-time students attend as a rule only two-three weeks of lectures per semester and like full-time students they pass examinations at the end of each semester. Evening studies imply that students follow lectures and seminars at evening time. People enrolled in 'Externat' programme are not supposed to be present in lectures and seminars, they study by their own, but they are to pass exams at the end of each semester like all other students.

Concerning the mode of funding of HEIs and tuition fees, one may find ***public and private (non-state) higher education institutions*** (HEIs) in the Russian Federation. There are 609 public HEIs and 206 accredited non-State HEIs in Russia; the Ministry of Education finances 315 public HEIs[15]. The rest are financed by other Ministries or local authorities.

Education in non-state HEIs is fee-charged. Education in public HEIs was initially free of charge. But nowadays HEIs have an opportunity to accept students who do not benefit of federal scholarships on the condition that they pay for their education. In 2003, the number of students studying in state higher educational institutions accounts for 5.596 thousand people; among them about 2.900 thousand people are trained at the expense of the state budget.

Higher education in Russia is under the jurisdiction of the Ministry of Education of the Russian Federation, which is responsible for the accreditation and licensing of HEIs and for developing and maintaining State Educational Standards. Some HEIs depend on other branch ministries or municipal authorities.

Stratification

The stratification of the Russian education starts at the age of 10 in the lower secondary school. Pupils may choose to study at a "gymnasium" (grammar school), in an ordinary lower secondary school or in a lower secondary school with intensive study of

[15] International Associations of Universities, data from National Information Centre on Academic Recognition and Mobility (Russian ENIC), Moscow, 2002, http://www.euroeducation.net/prof/russco.htm.

selected subjects. At the age of 12 or 15 years pupils may choose to pursue their secondary studies in a "licei". Licei' is normally created as a result of integration of a secondary school with a higher education institution (HEI), or a research centre or a cultural centre. In practice, all 'lyceis' have cooperation conventions with one or more HEIs or they may constitute one of HEI's structural units. Through these close ties the profound learning of certain disciplines enables students to be enrolled in a second or third year of HEIs.

There is also another bifurcation after the lower secondary education (at the age of 15 years). One may choose a "vocational" track (to get initial vocational education, possibly followed by professional activity or middle vocational studies) or an "academic" one (to get a diploma of complete secondary education and to continue in a higher education program).

As for higher education establishments, there is no significant difference in career opportunities in the labour market for graduates of "universities" or "academies" or "institutes". Graduates of all these institutions may be employed as high level specialists or continue in postgraduate studies ("aspirantura"). Concerning the recognition of different types of diploma on the labour market, diploma of specialist is a classical one and it is still prestigious. Most of HIEs have just started to introduce a "bachelor – master" system (such an introduction has been taken place since 1996). Within the "bachelor – master" system most students strive to get a "master" degree as it is considered to be equivalent to a classical "specialist" diploma.

Selectivity

Russian legislation proclaims an equal access to higher education for all citizens of the Russian Federation; they may enter any state or municipal HEI on a selective basis. The number of free-charge places in these HEIs is determined by federal or municipal authorities and is very limited due to the reduction of state expenses on higher education since the 90th. The competition for free places in HEIs is very high. In practice in order to pass highly-selective entrance exams it is not sufficient to follow only secondary school courses. As a rule pupils need to get some extra training that is a paid service usually offered by private tutors or teachers from HEIs. Another option is to follow special preparation training that is organised by HEIs in the form of evening courses or courses by correspondence prior to entrance examinations sessions.

It is also considered that the better preparation is offered by gymnasiums and liceis. The education in these establishments may be fee-charged, or may be more expensive because parents are usually asked to pay the equipment: books, repair works in a school, etc. Otherwise, pupils (or more correctly, their parents) may decide to pay for a higher education

program to get education of better quality (it is the case of some private HEIs) or to avoid difficult selective exams in state-HEIs.

Regional distribution of HE institutions

Almost one-third (185 institutions) are located in the Central and North-Western economic regions, mostly in Moscow (81) and St. Petersburg (43). The smallest group of institutions are located in the Northern (16), Volgo-Vyatsky (25) and Central Black Earth (26) regions. This bears out that future expansion of the higher education system might need to pay greater attention to those parts of the country with relatively little higher education provision at present.

The average number of students per 10, 000 of population in 1993 was equal to 171, reaching maximum in Moscow (505), St. Petersburg (432), Tomsk oblast (357) and Novosibirsk oblast (245). The lowest numbers were observed in Sakhalin oblast, Murmansk oblast, Komi republic and Vladimir oblast (less than 100 students per 10,000 of population).

Higher education institutions are usually located in large administrative centres and cities of significant economic importance. The practice of locating the university in a small campus area is not usual in Russia and the only exception is Novosibirsk academic town (campus), which is the result of a specific attempt to create a Siberian Research Centre of the Russian Academy of Sciences supported by the university.

Managing of higher education

Some educational institutions in Russia are managed by the State Committee on Higher Education (SCHE) and some are managed directly by branch ministries like the Ministry of Education, Ministry of Health, Ministry of Transportation, etc. The only institution that has the privilege of being wholly independent is Moscow State Lomonossov University.

Financing of the higher education system is basically provided by the federal budget, and the academic activities of higher education institutions are co-ordinated by the SCHE of Russia.

The legislative background and key principles of higher education functioning are specified in the Constitution of the Russian Federation and the Law “On education” adopted in June 1992. The Constitution states that every citizen “who has passed through the pre-selection process has a right to obtain higher education free of charge in any state-owned or municipal education institution or at an enterprise” (article 43.3). This article envisages a very significant role of government bodies both in providing and funding higher education. The

Law “On education” stipulates the respective roles of federal and local authorities in education and, in particular, higher education management.

Among the stakeholders in the Russian system, the following groups can really influence decision-making process in management of higher education: (1) federal legislative bodies; (2) executive branch authorities, for financial and budgetary aspects; (3) federal bodies governing higher education (the SCHE and branch ministries); (4) unions of educational institutions’ top managers; (5) senior and middle-level managers who participate directly in governing educational institutions like rectors, deans and chairmen, (6) regional authorities.

HEI are managed by the Scientific Council which is composed of the Rector (chief head of the establishment), vice-rectors, faculty deans, some teaching staff, representatives of the student community, etc. Since 2006, the managing of HEIs is assured by two officials; they are the Rector and the President. The first one is responsible for educational process and the second one for financial affaires of the HEI.

3.2. Key indicators of the current higher education system

In the academic year 2000/2001, the higher education system in the Russian Federation comprised 965 higher education institutions, 4.7 million students (among them 2.6 million were full-time students, 2.1 million part-time students, 0.3 million enrolled in evening studies and 0.05 million in 'externat'). 327 people par 10 000 inhabitants were enrolled in higher education institutions vs. 160 people studying in high vocational schools. In the same year public HEIs accounted for 607 (with 5.2 million students) and non-public for 358 (with 0.5 million students) (Goskomstat, 2003).

It is important to mention that high vocational schools do not make part of the system of higher education in Russia. This type of establishments is called in Russia "secondary special educational institutions". Statistics providing international comparisons on higher education indicators put together HEIs and post-secondary vocational schools. Therefore, the below table presents aggregate figures on post-secondary education in Russia.

Table 1. Number of students enrolled in educational institutions of stage III[16] per 1,000 people in different countries in 2000

Country	Nb of students per 1,000 people	Country	Nb of students per 1,000 people
Russia	50	Poland	41
Austria	33	Norway	42
Great Britain	35	USA	49
Spain	46	Finland	54
Italy	31	France	34
Netherlands	32	Switzerland	23
China	4	Sweden	40
Mexico	20	Japan	31
New Zeeland	45		

Source: "Education in figures", Goskomstat, 2003, p. 390

Russia' rates of participation in higher education appear to be one of the highest in the world. In this classification Russia comes just after Finland whose higher education enrolments account for 54 people per 1,000 inhabitants vs. 50 for Russia. Authors of the report "Human development in the Russian Federation, 2004" argue that Russia takes lead in terms of higher education enrolments and can be considered as ***"the most highly educated society in the world at the start of the third millennium".*** The overall percentage of Russians with tertiary education attainment is higher than in any developed country.

[16] According to international classification educational establishments of the third stage include post-secondary vocational education institutions, higher education institutions and postgraduate institutions

Table 2. Percentage share of people aged 25 – 64 with tertiary educational attainment in OECD countries (2001) and Russia (2002)

	%
Russia	54.0
Maximum OECD	41.6
Median OECD	24.1
Minimum OECD	8.9

Source: UNDP, 2004. Calculated from
"Education at glance. P.: OECD, 2003;
Results of the 2002 National Census in Russia (www.gks.ru)

Enrolment tendencies

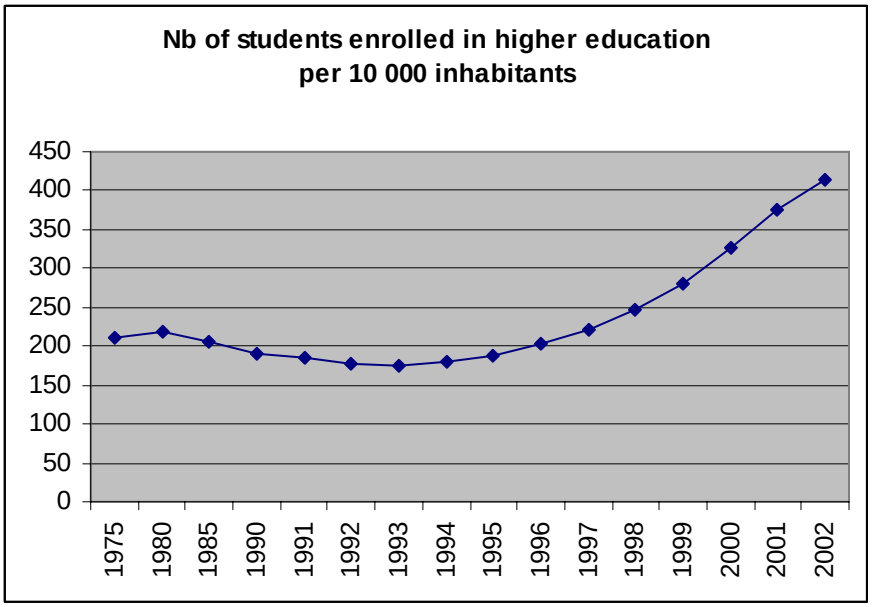
The most salient feature in enrolment tendencies in Russia over the last ten years is a ***sharp rise in higher education participation rates***. The expansion of higher education enrolments was preceded by the decrease at the beginning of the 90s. In fact, the demand for higher education both in absolute terms and as a ratio of higher education students per 10,000 of population was decreasing in Russia since 1980. Between 1980 and 1993 tertiary enrolments in absolute figures diminished from 3,046 to 2,543 thousands and in terms of the number of students per 10,000 inhabitants they decreased from 219 to 176 students.

Table 3. Dynamics of higher education enrolments

Academic year	**Nb of students enrolled**	**Nb of students enrolled per 10,000 inhabitants**
1975	2 857	212
1980	3 046	219
1985	2 966	206
1990	2 825	190
1991	2 763	186
1992	2 638	178
1993	2 543	176
1994	5 654	179
1995	2 791	189
1996	2 965	202
1997	3 248	222
1998	…	247
1999	…	280
2000	…	327
2001	5 427	376
2002	…	414

Source: "Education in Russia, 2003", Goskomstat, p. 153

Figure 1. Dynamics of higher education enrolments



Source: "Education in Russia, 2003", Goskomstat, p. 153

The phenomenon of the enrolments' decline in 1980 – 1993 is partially due to the political changes and economic crise at the end of the 80s and in the beginning of the 1990s. Gerber writes: "The economic turmoil has not only created disarray in the education system, but has led many Russians to place less value on educational achievement. As a result, enrolments at the secondary and tertiary levels declined during the first half of the 1990s." (Gerber, 2000). At the same time, the decline appears to have begun during the Gorbachev era – when the Soviet economy began to deteriorate rapidly. "This situation (enrolments' contraction)", - points out Gerber, "distinguished Russia from other developed countries in the post-World War II era. Non of the 13 countries examined by Blossfeld and Shavit (1993) exhibited a similar contraction in enrolment" (Gerber, 2000).

However, ***since 1994 the demand for tertiary education had began to grow intensively***. The absolute rise in higher education participation rates can be explained, in part, by the demographic dynamics. The number of births in Russia increased rapidly in the second half of the 1970s and early 1980s. It stabilised in 1983 – 1987. Some researchers argue that the rise is due to a relative economic revival in Russia in the mid-90s. We think that besides the above mentioned reasons, another important factor contributed to the rise of tertiary enrolments. Opening of fee-charged programmes in both public HEIs and in newly appeared non-state HEIs has certainly influenced the situation. These programmes' particularity was a low selectivity at the entrance. Prospective students entering these programmes were usually exempt of entrance exams, those students were selected by the results of an interview. It is important to remember that HEIs found themselves in a very difficult situation in the beginning of the 90s: rapidly dwindling budgets, deteriorating facilities and supplies, lack of

necessary equipment and incredibly low salaries of teachers and administrative personnel. HEIs were keen to attract as much private funding as possible, even at the expense of admitting mediocre or even bad students.

The relative economic stability in the mid-90s did not last for a long time. It ended abruptly with the August 1998 financial crisis. However, despite a new economic shock, demand for higher education continued to rise. It is even increased in a quite disproportionate manner: the participation rate in higher education in 2002 is by 190% more than the one in 1997 (see Table 4).

Prokhoroff (2002) argues that the increase in higher education enrolments is linked to the fact that for students and their parents, higher education studies represented a possibility to wait for better economic situation in hope to find a better job. Opportunity costs being low at this period taking into account the difficult economic situation, high level of unemployment and low level of wages. On the contrary, rates of return to higher education were perceived by the population as high.

If *comparing higher education enrolments dynamics to initial and middle vocational education participation rates*, one may observe that higher education attracted much more students. While between 1995 and 2002 the number of students in middle vocational education had augmented by 25.4% and in initial vocational education it had contracted by 2.3%, the number of those enrolled in higher education institutions had almost doubled for this period (113.2% of increase), the same tendency is observed for doctorate and post-doctorate programmes (118.1% of increase). Leclerlq (1995) argues that the decline in the demand for vocational education can be explained, on the one hand, by that lack of the necessary equipment and its bad quality; and, on the other hand, by the insufficient number of vacant work places for workers with low professional qualifications due to the economic crisis.

Table 4. Number of students enrolled in different post-secondary educational establishments in Russia (by the beginning of the academic year; in thousands)

Type of post-school education	**1990/91**	**1995/96**	**2000/01**	**2001/02**	**2002/03**
Initial vocational education	1 867	1 690	1 680	1 649	1 651
Middle vocational education	2 270	1 930	2 361	2 470	2 586
Higher education	2 825	2 791	4 741	5 427	5 948
Postgraduate education	65	65	122	133	140

Source: “Education in Russia, 2003”, Goskomstat, p.25

In the current Russian higher education system public and private sectors coexist since the beginning of the 90s. The number of non-state HEIs augmented considerably since the time of their introduction on the educational market. It rose by 5 times between 1993/94 and 2002/03. Public HEIs were on the rise as well, but the increase was not as sharp as for private institutions.

Table 5. Number of public and private higher educational institutions in Russia (by the beginning of the academic year)

	1990/91	**1993/94**	**1995/96**	**1997/98**	**2000/01**	**2002/03**
Public HEIs	514	548	569	578	607	655
Private HEIs	-	78	193	302	358	384

Source: "Education in Russia, 2003", Goskomstat, p.46

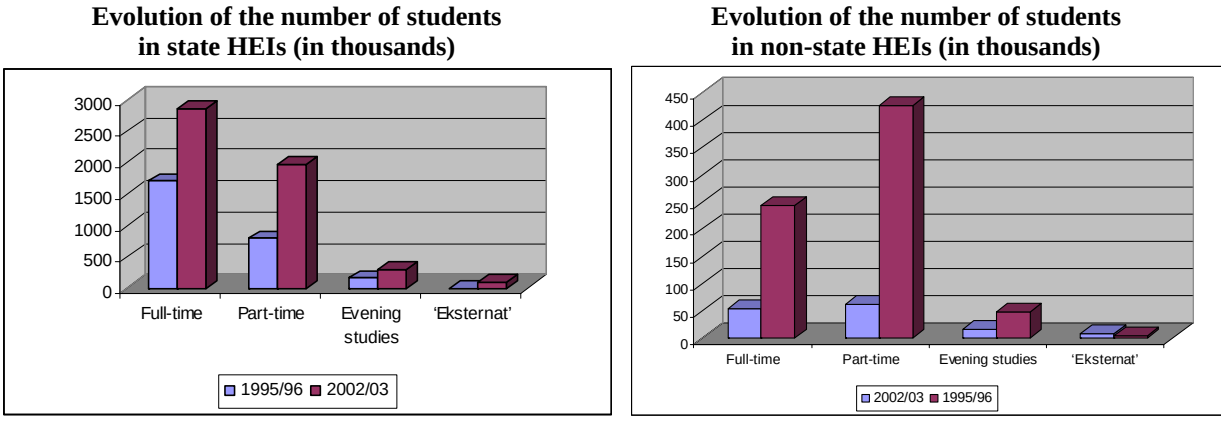
Concerning the evolution of *enrolments by different types of educational programmes*, it appears that the number of part-time students and students enrolled in 'eksternat' programmes has grown very rapidly since 1995. The increase of students in these programmes accounts for 180% and 1,130%, respectively (vs. 77% of increase for full-time students and 98% for evening studies).

Table 6. Number of students in higher educational institutions (by the beginning of the academic year; in thousands)

	1990/91	**1995/96**	**2000/01**	**2001/02**	**2002/03**	**2002 as % of 1995**
Total :	2 825	2 791	4 741	5 427	5 948	213
Full-time	1 648	1 753	2 625	2 881	3 104	177
Part-time	892	856	1 762	2 138	2 400	280
Evening studies	285	175	302	336	346	198
'Eksternat'	-	8	52	73	98	1 230

Source: "Education in Russia, 2003", Goskomstat, p. 274

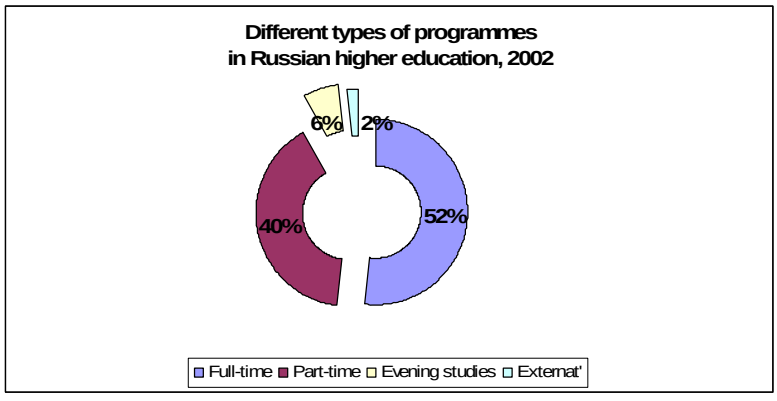
Figure 2. Evolution of the number of students in public and private higher educational institutions



Source: "Education in Russia, 2003", Goskomstat, p. 274

As we mentioned above, the number of students in *non-public HEIs* augmented significantly between 1995 and 2002: the increase for full-time, part-time, and evening programmes attains respectively 360%, 600%, and 232%. The enrolments in 'externat' programmes contracted by 64%. The corresponding figures for *state HEIs* are 68%, 148%, and 86%, respectively for full-time, part-time, and evening programmes. The enrolments in 'externat' programmes increased by 94,800%.One may observe that *a considerable expansion of enrolments in part-time programmes in non-state institutions* (about 600%) and an unprecedented growth in 'externat' programmes in public institutions (94,800%). The growth in enrolments in 'externat' programmes seems to be enormous, however even after such an expansion, this sector represents only 1.6% of all tertiary enrolments (vs. 52.2% for full-time studies, 40% for part-time and 5.8% for evening studies).

Figure 3. Share of different educational programmes in total enrolments



Source: "Education in Russia, 2003", Goskomstat, p. 274

The structure of *enrolments by field of study* changed in the 90s. Soviet education emphasized mathematics and science and downplayed the humanities; on the contrary, a new

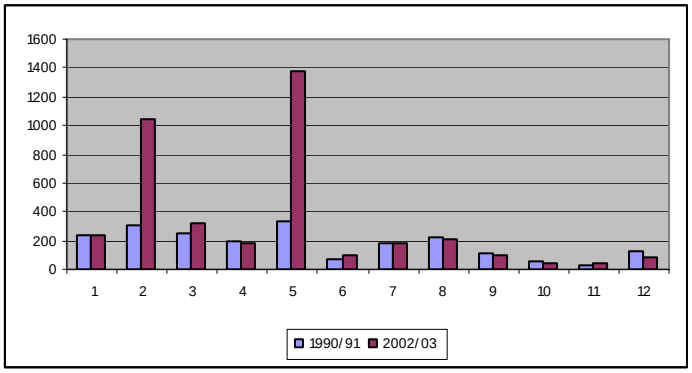
market economy of Russia put forward the development of human and social sciences. The increasing demand for these fields is observed in 1993 – 1998, while the demand for engineering courses declines. As we mentioned before, Russian economy in the 90s can be described as "merchant capitalism", in which buying and selling, rent seeking, short-term financial speculation, and personal services were the main sources of economic gain, not production or long-term investment. At that time many of former socialist big enterprises, plans and factories were closed or suspended their productive activities. Thus this economy did not need engineers and specialists with technical education, on the contrary to economists, accountants, and lawyers who were highly demanded on the labour market.

Table 7. Evolution of number of students in public higher education institutions by field of study (at the beginning of the academic year; in thousands)

	Field	**1990/91**	**2002/03**
1	Natural sciences	237,6	241,4
2	Human and social sciences	303,7	1039,2
3	Education	246,3	319,1
4	Health	192,8	181,9
5	Economics and management	332,3	1377,6
6	Informatics	63,8	97,3
7	Construction	177,1	175,3
8	Agriculture and fishery	218,9	204,3
9	Machine building	116,2	96,6
10	Chemistry	49,6	41,2
11	Electric technologies	24,6	46
12	Electronic technology, radio and communication technology	128,5	88,9

Source: "Education in Russia, 2003", Goskomstat, p.277

Figure 4. Evolution of higher education enrolments by field of study (at the beginning of the academic year; in thousands)



Legend: figures (1 – 12) correspond to figures in column 1, Table 7

Nonetheless, enrolments and students' professional orientations tend to change. As a respond to a growing production output in the country and a relative revival of certain industries since the beginning of the third millennium, there appears to be more demand for technically oriented education specialists. At a joint sitting of the Russian Education Ministry and the Labour and Social Development Ministry the head of the Labour and Social Development Ministry, Aleksandr Pochinok, noted that "there has emerged a demand for engineers, manufacturing engineers and specialists in the food production and machine-building industries" ("Gateway to Russia", 2003). The Russian economy is getting more stable and industrial output is increasing. This will demand more engineers and specialists to work in the industrial production sector.

We have demonstrated with the official national statistics data that the demand for tertiary education in Russia has increased sharply since the mid-90s. As a result at the beginning of the third millennium, Russia took the place of ***the most highly educated country in the world*** *(according to the authors of the report "Human development in Russian Federation, 2004", UNDP)* ***or one of the most highly educated country*** *(according to the data of the National Committee of Statistics: "Education in Russia, 2003")* in terms of higher educational attainment.

We wonder *why the high quantitative tertiary education indicators are not reflected by indicators measuring economic development level and living standards*. The most probable explanation for disparity between education levels and economic development is a ***low quality of education and inefficiency of the labour market***.

The Russian educational system responded promptly to the increase in demand for higher education by introducing paid enrolment in state education institutions and opening new private fee-charged higher education institutions. However, the increase in quantity of educational institutions and educational programmes did not cause a lower rate of unemployment among the youth or a real increase in salaries of young specialists. The rise of employees with higher educational attainment on the labour market did not result either in the increase of workers with required skills and competencies on the labour market. Employers are not satisfied with newly formed specialists and they still experience difficulties to find the personnel with a profile fitting to the company's needs. Diplomas of some HEI's have lost their role of "signal" and many enterprises, especially whose situated in the capital region, started using specific tests while hiring new workers. The prestige of the HEI became an important detail in curriculum vitae that employers take into account. Old, well-known institutions are more trusted by companies in comparison to newly appeared establishments. The position of employers is easily understandable. The quality of educational services in these new institutions was often not conforming to state educational standards. For some

newly-born institutions the objective is to get as many students as possible in fee-charged programmes, consequently, the selection at the entry of these HEI was low, sometimes almost inexistent. Students graduated from these institutions with diploma, but without the required level of knowledge and skills. This inconsistancy became evident at the beginning of XXI century and the Russian ministry of education was pushed to close some private institutions in 2004 - 2006.

Prestige of higher education

The attitudes towards higher education change in line with enrolments tendencies: we observe the ***loss of prestige for higher education at the beginning of the 90s and the increase of interest to it since the middle of 1990s***[17].

Theodore Gerber argues that the contraction of enrolments in HEIs in the first half of 1990s is a result of "changing perceptions of the value of education". Many Russian youths did not view education as an important "stepping stone" to material and social success. The failure of returns to education to increase reflects a character of the Russian capitalism, described as "merchant capitalism", in which buying and selling, rent seeking, short-term financial speculation, and personal services are the main sources of economic gain, not production or long-term investment. Many Russians recognized that higher education does not provide a means to improve one's prospects in these types of activities. The short time horizon imposed by high inflation and economic and political instability reduces the appeal of higher education as investment. In addition, the economic changes have increased the opportunity costs of remaining in school when one can earn immediate income by participating in informal economic activities.

This idea also appears in the article of Natalia Kovaleva (1998). Her research is based on surveys among the scientific elite and the population of Russia. The scientific elite represented by researchers at a high level are concerned about the problem that the prestige of science in society in the state has fallen and that the results of both basic and applied research and development are unclaimed. They are worried about the state of the intellectual potential of Russian science, the preservation and development of Russian scientific schools which are in the process of destruction, professional orientation and personnel training, the integration of science and higher schools.

The survey carried out by N. Kovaleva shows that a considerable percentage of young people are not motivated to continue education. The major proportion cannot continue their education rather for material reasons. In recent times, the spread of paid forms of education

[17] It is more correct to say that tertiary enrolments evolution is, in part, *explained* by the population's attitudes and the level of prestige of higher education in the society.

has become a mass phenomenon. This alternative form of education has come to be widespread in primary and secondary education, as well as within the system of higher education. According to the survey's results for the overwhelming majority of the residents of Russia the transition to paid services on the whole is undesirable. Natalia Kovaleva proposes that this problem could be resolved by setting up an optimum system of education which utilises and combines both free and paid forms and a system of educational credit which is widespread in many countries. Actually the Russian government has started thinking about the possibility of introducing this reform in the country.

However, today the attitude towards higher education has changed. In spite of high costs of higher education acquisition, about 63% of parents of school-leavers want their children to continue in higher education and are ready to cover the major costs. Very few respondents were willing to let their children continue without higher education. Awareness of the importance of higher education is most developed in families of senior officials and managers, highly skilled specialists and teachers.

Polls show that Russians mainly take ***a utilitarian approach to education***. It is seen as a way of achieving a higher social position, that can bring with it higher incomes and power, rather a means of acquiring knowledge and skills for productive work. This approach is partly a legacy of the Soviet time, but it has intensified in recent years, and the value of education has been firmly subordinated to the goal of enrichment. Higher education is perceived a step to high social status and bigger revenues.

There is a general awareness now in Russia that a person's success in life depends on a higher education diploma and the attached prestige. Data shows that the population's beliefs about the link between educational level and a person's social and employments status are correct. Authors of the report "Human development in the Russian Federation" (2004) argue that the relationship between educational level and material well-being is clear in Russia: higher levels of education are associated with higher incomes. Over half of household members in the 20% of Russian households with high income have higher education. The share of people with higher education among heads of government and administrative bodies and different companies and institutions is 62%. In Moscow and Saint-Petersburg this figure accounts for 76%. The share of employers with higher education is higher at 35% than the share of employees, self-employed and members of producers' cooperatives. In Moscow and Saint-Petersburg 55% of employers have higher education.

Social equality in higher education

Higher education viewed as a means of accessing to high social status and high incomes become as a desirable acquisition and effective investment. Parents do their best to enable their offsprings to obtain a higher education degree. An increasing demand for tertiary education creates a severe competition at the entrance to educational institutions. Households with better incomes tend to have the advantage of poorer classes of population on the educational market.

Results of multiple research evidence of a growing inequality among students depending on their parents employment status and level of incomes in the modern Russia. 32% of people aged 17 – 21 in poorest families are HEI students vs. 86% in richest households (UNED, 2004). The inequality is not a recent phenomenon in the Russian educational system, but it has significantly intensified during last ten years.

Theodore Gerber writes that even in Soviet Russia the goal of social equality had not been attained. "Although the Soviet regime raised the educational level of the Russian population over the course of the 20th century, it failed to reduce substantially educational stratification based on social origins and place of residence" (Gerber, 2000). He argues that parents' Communist Party affiliation, education, and occupation all had in Soviet time and still have in the new Russia strong effect on the probabilities of completing secondary school and entering to HEIs.

A series of research projects carried out in different regions of Russia from 1962 to 1998 showed ***a considerable rise of inequalities in the system of higher education*** *(*Konstantinovski, 2000). It is argued that the education of children in the modern Russia depends rather of parents' revenue and ambitions than their personal capacities and efforts.

To compare the ambitions of young people and their real careers the data was collected and numerous polls among population were realised. In the region of Novossibirsk the research had been carried out every year between 1962 to 1974. Futher on, more studies were conducted in other regions of Siberia, Leningrad, the Central part of Russia and in some republics of the USSR. In 1994 and in 1998, mass observations were made in the region of Novossibirsk. The researchers had also analysed some investigations made in Krasnodar in 1994 and in Moscow in 1998. The results of the research showed that children of managers and specialists have better chances to finish high school and they are more representative in higher education institutions. A survey of high school graduates displays that the higher the level of parents' education and status is, the utter the wish of pupils to get qualified jobs with career perspectives.

On the one side, significant efforts had been made to diversify the new educational system (different types of secondary schools had been created as “gymnasiums”, “liceis”, specialised schools and private schools) and the latter could escape of the standardisation and strict regulation. These changes unleashed the initiative of teachers, having been “forbidden” for many years. On the other side, the diversification led to the social differentiation of school establishments. The introduction of fee-charged forms of education intensified the social differentiation. The slump of life standards resulted from economic crisis in the country for the majority of the population of Russia made it impossible for most families to pay for the higher education. The entrance exams to HEIs to get free-charge places are easier for pupils graduated from prestigious high schools or after specialised tutor training courses. The costs of these forms of preparation being extremely expensive are unaffordable for many parents.

* * *

Making conclusions about the evolutions occurred in the higher educational system of Russia since 1990 and their influence on graduate employment we may say the following.

Move from the command system to the labour market one taking place in the 90s has brought significant changes in educational system of the country. We observe considerable changes in financial provision of education at all levels and, particularly, in higher education, and transformations in structure and content of educational programmes. The important modification concerns the vanishing of the ancient 'study to work transition' system which at soviet times enabled to provide a relevant work for *all* graduates. Social and economic transformations also resulted in a change of youth mentality and behaviour strategies while entering the labour market.

According to official statistics there has been **a *significant increase in higher education enrolments.*** The number of students rose by 2.4 times in 1994 - 2002 (from 179 students per 10,000 inhabitants in 1994 to 414 in 2002). The fastest growth of educational level was shown among the countryside population (Leskov, 2003). Between 1995 and 2002 the number of full-time students had augmented by 77%, while the number of part-time students rose by 180%. Private HEIs accounted for 78 in 1993 and 384 in 2002 (increase by 5 times), whereas the increase was less drastic for public HEI, from 548 to 655 (rise by 20%).

A higher education expansion may partially be explained by the growth in birth rates in the 1970s and the early 1980s and slowing down of activities in the secondary special and primary vocational education institutions.

Although the number of graduates in the 1990s was growing, access to (and the quality of) higher education deteriorated as a result of the opening of a wide range of private educational institutes, including those that operated unlicensed. While the official statistics indicate an increase in the demand for the higher education, some researchers doubt about the real reason of this exacerbated interest for higher education among population. ***"Does it mean that the youth realises the importance of education, or that entrance exams in HEIs became easier, or it is just a way for young men to avoid military service?"*** – ask authors of the article "The youth in Russia" (Center for Polititcal and Economic Research, 1997). There are no doubts that the eagerness of young men to enter university is reinforced by the possibility of avoiding military service. According to Russian laws, all young men at the age of 18, who are not enrolled in full-time higher educational programme, are obliged to assure military service in the State Army for two years. Being aware of drastically poor conditions in the Russian Army and the possibility to be sent to the Chechen war, men and their families make use of any opportunity to avoid it, including participation in higher education.

It is interesting to mention that the period of sharp expansion in higher education enrolments was preceded by the period of their decline accompanied by the loss of prestige of higher education in the society. Theodore Gerber (2000) explains the tendency of contraction of enrolments in HEIs in the first half of 1990s as a result of "changing perceptions of the value of education" after communist time and a transitional character of the Russian economy. In his opinion, the low returns to education at this period reflect the specificity of a new Russian capitalism, described as "merchant capitalism", in which buying and selling, rent seeking, short-term financial speculation, and personal contacts are the main sources of economic gain, not production or long-term investment. Many Russians recognized that higher education does not provide the means to improve one's prospects in these types of activities. The short time horizon imposed by high inflation and economic and political instability reduces the appeal of higher education as investment. In addition, the economic changes have increased the opportunity costs of remaining in school when one can earn immediate income by participating in informal economic activities (Gerber, 2000). More recent research witnesses that today ***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****:* "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).

One may note a certain frustration of students and their parents in front of the widening choice of HEIs appeared recently in Russia. The growth and diversification of higher education took place in the second half of the 1990s. In 1993, the system of higher education accounts for 548 state higher education establishments, as well as 78 over non-state institutions. Between 1995 and 2002 the number of private institutions has increased by 5 times accounting for 384.

Diversification of HEIs did not generate more equity in the access to higher education. On the contrary, the introduction of fee-charged forms of education ***intensified social differentiation***. The entrance exams to HEIs are easier for pupils graduated from prestigious high schools or after specialised tutor training courses. To pay these forms of preparation is unaffordable for many parents. David Konstantinovski (2000) states in his article "The youth of Russia in the educational system: dynamics of inequalities" that the education of children in the modern Russia depends rather on parents' revenue and ambitions than personal capacities and efforts of a student.

Chapter 4.
Russia’s path towards a knowledge-based economy

Abstract

The structure of Russian export has not changed since the collapse of the Soviet Union. Even if since 1992, the export of Russia has tripled, three third of them comprise the export of natural resources, like petroleum and natural gas. According to estimations of the British Petroleum, keeping the present way of extraction of hydrocarbon products, the existing stock of petrol should be over in 25 years, and the one of gas in less than 85 years. Therefore, if Russia does not improve its competitiveness through developing other fields, the life standards in the country will decrease dramatically.

The move towards a knowledge-based society, implying emphasis on human capital development and creating necessary conditions for its realisation, could be a way for a country to construct a stable society with sustainable economic growth. We remark that currently, Russia does not stay away of the global move towards a knowledge economy. The spread of new information and communication technologies has been on a steady rise over last ten years, the number of enrolments in higher education had significantly increased, reaching the highest indicators in the world. On the other hand, the number of employed in the R&D sector had decreased accompanying a noticeable shrunk in public funding in this sector. Moreover, Russia needs to overcome some significant obstacles that impede it to construct a knowledge-based economy.

In literature, opinions about Russia's move toward a knowledge-based society diverge. Some authors argue that Russia is moving in an opposite way of a knowledge society (Kleiner, 2000; Liuhto, 2005). Others feel more optimistic: "Russia has a good potential to become a truly knowledge-based society" (UNED, 2004). Many researchers underscore that the only way for the Russian economy to move to the knowledge-based profile is to tackle inefficiency of its institutional mechanisms and regulations and to promote organisational diversity. This should enable to create necessary conditions for realisation of an innovation potential in the country. "The dearth of small firms and specialised suppliers, and the absence of close co-operation among different types of firm, made it virtually impossible to develop innovatory potential" (Dyker and Radosevic, 2000).

The main question we would like to answer in this chapter is ***"Where is Russia in its move towards the knowledge-based society?"***

In this part of our thesis we seek to know to what extent Russia has advanced in its move towards the knowledge-based economy. If Russia demonstrates clear tendencies of developing in this direction, we may thus make a first supposition that Russian graduates face similar demands on the labour market as their European counterpartners.

Nonetheless, even if at the current stage Russia has not sufficiently progressed towards this type of economic and social organisation, it has almost no choice but taking this path. This challenge appears to be imposed by the international environment. Penetration of new technologies in all spheres and in different national contexts, growing role of human resources for innovation development will call up for flexible professionals. Therefore Russian graduates will face these challenges, if not now then it would happen in the nearest future.

The move of Russia towards the knowledge-based society should contribute significantly to competitiveness of the country on the international market. Liuhto (2005) writes that "without the construction of the information society, Russia will not be able to move from an economy based on international export of natural resources to a post-industrial society". He underlines that the structure of Russian export has not changed since the collapse of the Soviet Union. Even if since 1992, the export of Russia has tripled, three third of them comprise the export of natural resources, like petroleum and natural gas. According to estimations of the British Petroleum, keeping the present way of extraction of hydrocarbon products, the existing stock of petrol should be over in 25 years, and the one of gas in less than 85 years. Therefore if Russia does not improve its competitiveness through developing other fields, the life standards in the country will decrease dramatically.

Looking at the recent development in the country, one may conclude that ***Russia does not stay away of the global move towards the knowledge-based economy***. In this part of our thesis we seek to investigate to what extent have the information and knowledge components penetrated in the economic and social fields of the country.

We remark first that the term 'knowledge-based society' is widely used in Russian literature. It came to prominence during last five years. A large amount of publications investigate the challenges imposed by the new type of economic organisation, the knowledge-based society, for different spheres of life (Bobylev, 2005, Tsapenko, 2005, Liuhto, 2005, etc.). Thus, Russian scientific community is aware of the changing nature of economic and social relations and the importance for Russia to join this global move.

Not only researchers but also the government clearly realises the importance of it. In 2002, federal authorities adopted a programme “Electronic Russia”. The latter, budgeted 2,6 billion dollars, aims at developing informational infrastructure in Russia in different fields between 2002 and 2010. Within the framework of a governmental programme of national importance “Education”, it is envisaged to provide an Internet access in all secondary education establishments between 2006 and 2007. Ryabtsyn (2005) argues that this is due to the active intervention of the state in the field of network communications that Internet practices became widely spread in the country. The first notion about Internet appeared in 2000 in different legislative papers. Amendments to the law on providing access to the data on the activity of federal authorities obliged ministries and other public organisms to provide the access to this information on the Internet. Today about 20 federal ministries possess their internet web-sites. The government of the Russian Federation has done it as well.

However, due to the transitional character of the national economy and social and cultural peculiarities of the society, ***Russia seems to take its own specific way while transforming its economy into a knowledge-based one***. Consider some indicators that provide an insight about the move of Russia towards the knowledge-based society.

A first sketch on the country’s advance towards a knowledge-based profile can be obtained through the analysis of following indicators:

1. Accessibility of communication and information technologies for all categories of population.
2. Level of educational attainment in a country (including the number of HEIs and the number of higher education enrolments).
3. Public expenses on education and higher education.
4. Public expenses on research and development activities.
5. Innovation activities indicators (i.e. number of patent applications).

This list can be longer, including for example, the level of investment in high technology development, the number of programmes of continuous education, etc.

Table 1. Some indicators on the move of Russia towards a knowledge-based society

	Number of people with telephones (per one thousand inhabitants)		**Number of people with mobile telephones** (per one thousand inhabitants)		**Number of people having Internet access** (per one thousand inhabitants)		**Volume of expenses on R&D sector** (% of GDP)	**Number of workers in R&D sector** (per one million inhabitants)
	1990	**2001**	**1990**	**2001**	**1990**	**2001**	**1996 – 2000**	**1996 - 2000**
Russia	140	243	0	53	...	29.3	1.0	3481
Countries OECD	392	523	10	539	2.8	332.0	2.6	2324 (by 1998)
Countries of OECD with high income per capita	465	597	13	605	3.2	400.1	2.6	3305 (by 1997)
Developing countries	21	87	...	75	...	26.5	...	...

Source: "International report on human capital development, 2003", UNDP, Paris, 2003

The above table shows that ***one of the weakest points in Russia is the lack of funding for the research and development sector***. At the same time, one observes a relatively high number of researchers (3,481 people per one million inhabitants in Russia vs. 2,324 in the OCDE countries). This suggests an underutilisation of the existing human capital in the R&D sector. Table 2 shows that Russia has a low level of expenditure in education, in comparisons to other countries, and this difference tends to increase over 1998 – 2001. In 1998, Russia spends 35% less than developed countires and 8% less than developing countries, in terms of expenditure in percentage of GDP. In 2001, these figures correspond to 60 and 31% respectively.

Table 2. Dynamics of public expenditure on education (% of GDP)

Country/ Region	**1998**	**2001**
Russia	3.7	3.2
Countries with transitional economy	...	3.2
Developed countries	5.0	5.1
Developing countries	4.0	4.2

Source: «Education for all. International report 2005», UNESCO

As Table 3 shows, the number of enrolled in higher education in Russia is higher than in other countries. We have already treated this topic in the part "Higher education in Russia", where we depicted that ***Russia appears to be in the top ten of countries with the highest rate of higher education participation***. The below table provides some more evidence on it.

Table 3. Number of students enrolled in higher education institutions (% of the total number of students)

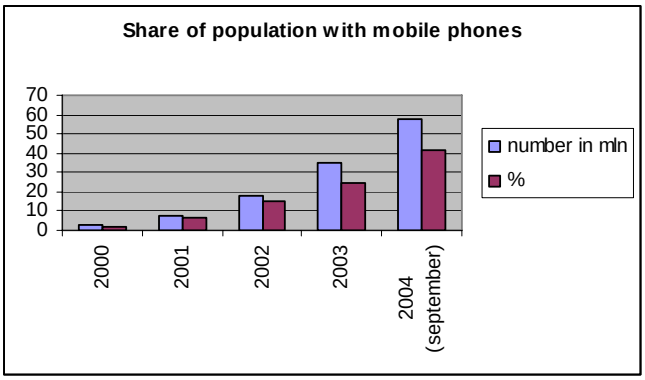
Country/region	**%**
Russia	69.9
Countries with transitional economy	36.5
Developed countries	54.6
Developing countries	11.3
North America and Eastern Europe	57

Source: «Education for all. International report 2005», UNESCO

In regards to development of information and communication technologies in Russia, we observe a significant progress. An important role in democratisation of information and communication technologies in the country played an 'E-Russia' (Electronic Russia) programme implemented on the government's initiative. The programme concernes four following fields : a) judicial environnemnt ; b) Internet-infrastructure ; c) e-gouvernement ; d) distance learning. However, Liuhto (2005) argues that the « e-Russia » has some weaknesses. "First, the allocated budget is too small ; second, the amount of the funding foresaw initially was reduced and third, the rate of participation of foreign capitals is insufficient" (Liuhto, 2005).

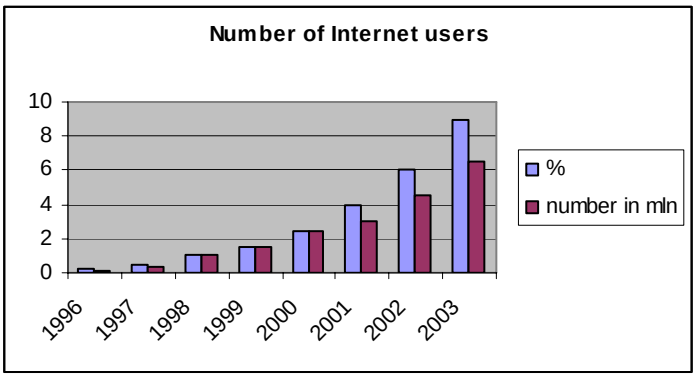
In the sector of information and communication technologies (ICT) telecommunication takes the largest part, it provides 70% of all incomes in this sector. The telecommunication industry accounted for 1,8% of GDP in 2002, the whole sector produced 3% of GDP. Within the sector of telecommunications, the sector of mobile telephone services prevails. In 2004, the turnover of mobile phones operators accounted for 50% of the whole turnover registered in the sector of telecommunications. According to Liuhto (2005), between September 2004 and February 2005 the number of mobile phone users had increased from 60 million to 78,6 million. The latter figure witnesses that the mobile phone services had covered a half of the total population. We observe from the Table 1, that in 1990 the Russian population did not use mobile telephones. By 2001, there were 53 persons with mobile telephones on 1,000 inhabitants. The rapid development of mobile phone sector has been taking place since 2000, as witnesses the below table.

Figure 1. Share of population with mobile phones



Source: Goskomstat and Intra clusters, cited by Liuhto (2005)

Figure 2. Number of Internet users



Source: Goskomstat and Intra clusters, cited by Liuhto (2005)

The production of information and communication goods has been on a rise these last years. In 2002, the number of personal computers manufactured in Russia had tripled since 1998. Throughout the same period the number of mobile telephones made in Russia had doubled, the number of television sets had augmented by 6 times. However, the level of computerisation in the country is still rather low. In 2003, 9 persons per 100 inhabitants had computers. The share of people who have Internet access is even lower (see Figure 2). Looking at the level of use of information and communication technologies in firms and organisations we observe that Russia has still some progress to made (see Table 4).

Table 4. Use of ICT in Russian companies and in other European countries, 2001

Country	**% of companies …**		
	using computers	**using Internet**	**having a web-site**
Russia	76.4	29.0	9.1
Countries of EU:			
Austria	92.0	76.5	54.3
Great Britain	92.0	76.5	54.3
Germany	96.0	82.8	67.0
Finland	98.0	90.8	59.7
Country candidates for EU			
Poland	95.0	74.2	-
Latvia	77.0	50.3	-

Source: "Russia and countries of the European Union", Goskomstat, 2003, p. 217

The spread of Internet technologies amongst population is very uneven across Russian regions. The polled carried out by a Russian "Fund of public opinion" revealed that in the Moscow city 33% of population uses Internet, this figure is almost 5 times smaller in the area around Moscow (the Central federal region). In the South federal region, Volga federal region, Siberian federal region, Ural federal region, and Extreme Orient federal region, the share of population using Internet varies from 7 to 11%. The percentage of Internet-users in the North-Eastern region (area around Saint-Petersburg) comes up to 17% (Fund of Public Opinion, report "All-nation survey "Internet in Russia", Spring 2003).

To impulse the further development of the sector of information and communication technologies in Russia, it is of high importance to invest in technologies production but also in the human capital. Even if the volume of investment in human capital is steadily increasing, to-date magnitude of it is not high enough to contribute to Russian competitiveness on the international market. Educational system does not form enough specialists in this field. The outflow of the qualified labour force in this sector from Russia to foreign countries has also a noticeable negative impact on the development of the national ICT sector.

Concerning innovation activities, Russia is lagging behind European countries. The number of patent applications in Russia accounted for nearly 90,000 in 2002, that is about three times less than in Germany in the same year (262,550), twice less that in Great Britain (233,223), Austria (201,030), Denmark (200,652), Spain (202,439), Sweden (204,173), and 1.5 times less than in France (160,178), the Netherlands (144,341) and Italia (151,188) ("Russia and countries of European Union", Goskomstat, 2003, p. 214). The number of patent applications is lower in Hungary (62,438), Poland (64,873) and Czech Republic (62,645).

These figures witnessing about innovation capacity appear to be even more deplorable if one looks at the number of personnel employed in the research and development sector. This indicator appears to be the highest one in Russia across all European countries. In 2000, it employed 1,007,257 people, whereas in France it riched only 327,466 people, in Germany - 484,526, in Spain - 120,618 ("Russia and countries of European Union", Goskomstat, 2003, p. 210). This suggests that Russia experiences strong difficulties in realisation of the human capital it possesses.

According to Dyker and Radosevic (2000), ***the reason of a low innovation capacity in Russia is the lack of organisational diversity***. This feature is a legacy of a socialist economic organisation. "The dearth of small firms and specialised suppliers, and the absence of close co-operation among different types of firm, made it virtually impossible to develop innovatory potential" (Dyker and Radosevic, 2000). Privatisation was supposed to correct this weakness. In practice, things have not worked out so good. As we showed in the chapter 2, Russian economy experienced a very slow pace of restructuring and even no restructuring at all (Kapeliushnikov, 2003; Dyker and Radosevic, 2000). This is usually a consequence of too rapid privatisation. This situation brough about some tensions and incompatibilities for creation of the knowledge-based economy in the Russian Federation.

In the yearly years of transition, privatisation policies aimed, as general rule, to break up large enterprises. These, however, play a key role in innovation and R&D in developed markets. Statistics on developed countries witness that the incidence of innovative activity is usually higher among big firms than among small firms. On the other hand, rapid

privatization has resulted in mostly ‘nomenklatura’ privatization. New owners issued from soviet ‘nomenclatura’, were uninterested in innovation. They tended more to operate in line with the old ‘Soviet-type’ economy. Such socio-political homogeneity greatly reinforced the impact of the lack of innovation activities.

We have considered in this part of our work some indicators that could provide us with an idea of a Russia’s advance in direction of a knowledge-based society (KBS). We observed that while some facts witness about the move of Russia towards KBS, like indicators on penetration of new technologies of information and communication, others make clear that Russia is still on the way of building a society really based on knowledge.

Some researchers wonder if the modern Russian economy is transforming into a knowledge-based one or if it is moving in an opposite way (Kleiner, 2000; Liuhto, 2005). According to Kleiner, Russia is moving in the opposite way. In Liuhto’s opinion, the country’s shift towards a post-industrial economic organisation is impeded by current economic transformations and their negative consequences. Russia still needs to make efforts to overcome its social and economic difficulties and redress the overall situation. This is a necessary ground for an effective move towards a new type of economy. Dyker and Radosevic think that Russia, like other countries of Central and Eastern Europe are lagging behind leading OECD countries in their move towards KBS. But if we suppose that global European Union trends influence the whole Europe, “we can expect that the shift towards knowledge-based profile will eventually occur in the CEECs as well” (Dyker and Radosevic, 2000). Researchers emphasise that transitional economies would be able to catch up with the advanced industrialised countries only if they are able to develop the institutional diversity and complex collective learning networks.

We believe, that ***Russia does not stay away of the global move towards KBS. It seems difficult to accept the argument of Kleiner that Russia is moving in the opposite way***. Apparently, the country is lagging behind countries of the European Union, but it is inevitably moving in this direction. ***At the same time***, given the above indicators, ***we wonder if Russia is not simply moving to an ‘information society’.*** We observe that as to the spread of information and communication technologies, a significant progress is made these recent years. On the other hand, development of knowledge-intensive industries and the R&D sector, in general, appear to be on a downward.

Chapter 5.
Impact of economic transformations on graduate employment in Russia

Abstract

The shift from a command economy to a free market one caused significant changes in graduate employment. First, sudden changes in the economic structure brought about important labour market mismatches, notably between field and level of education acquired by the young labour force and those demanded by employers. Second, 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.

The difficulties in graduate employment and career development are also 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. The notion of the "professional career" did not exist in Russia until 1995 (Beregovaya, 2002). 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, contrary to the soviet system. "Any initiative is punished", - tells a well-known soviet proverb reflecting perfectly the character of the soviet system.

In this chapter we ***aim at analysing the main issues of the graduate labour market in Russia,*** issues that are related with graduates' transition from study to work and career development. ***We will draw attention to some particularities of the Russian graduate labour market that emerged as a result of economic changes occurred in the yearly 90s***.

As we depicted in the first chapter, the role of the highly qualified youth on the labour market is becoming increasingly important in the context of move towards a knowledge-based economy. These people constitute an essential part of the human capital of a country and they are supposed to cope effectively with a rapidly changing environment and contribute to innovation activity of a country. We demonstrated in the second chapter that the share of people who have higher education among the youth is rather high in Russia. About ¾ of young employees have experienced a post-secondary education. At the same time, ***a high rate of youth unemployment is still registered***. According to statistical data, people under 30 years constitute one third of all unemployed (Centre for the Economic and Political research, 1997). In 2002, the unemployed accounted for 27,3%, 14,3% and 9% in age groups of under 20, 21 – 24, and 25 – 29 accordingly (Gorisov, 2004).

We remark that the level of unemployment among graduates with higher education is lower than in other groups. Nonetheless, some acute problems arise. ***One of the key issues of graduate employment is an 'internal brain drain'*** (Sadovnichiy, 2001), when graduates do not work within the university specialisation and loose for ever their precious professional knowledge and skills. This phenomenon is refered to in literature as 'field mismatch' (Allen and Velden, 2001). Researchers also distinguish 'educational level mismatch' and 'skills mismatch'. These types of professional mismatch also take place on the graduate labour market in Russia. The problem of ***educational level mismatch*** and ***skills mismatch*** is becoming more and more important, alarming government bodies and increasing public awareness.

One should not forget ***another important issue of graduate employment*** that is ***a social identification and adaptability of young professionals to a new market economy***. The system of social values had changed along with economic transformations. 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, contrary to the soviet system. In the soviet system, individuals were not supposed to make decision or to take initiative. Many things were decided and organised by the government. People were expected to execute plans adopted by the ruling party (the Communist Party). "Any initiative is punished", - tells a well-known soviet proverb reflecting perfectly the character of the soviet system. We should mention that even nowadays some Russians still follow the old soviet proverb in their work. This, in our opinion, is one of the obstacles to effective realisation of the human potential of the country.

Problems that young specialists face when striving to build a career, have just started to be approached by Russian researchers. Beregovaya (2002) singles out following issues that drew much attention of researchers these recent years:

- identification of the youth in the modern society, ideological changes, modification of personal and professional values;
- professional career planning and professional orientation,
- the regulating function of the Federal Employment Agency of the Russian Federation and the place of other organisations dealing with unemployment problems in the graduate labour market,
- consistency of graduates' professional qualities with demands of the labour market, adaptability of graduates to labour market changes.

A social situation of graduates is characterised by: *the lack of professional experience, poor financial provision, accommodation problems* (Pletnyeva, 2003). One of the weakest point of a young specialist is *the lack of experience* to reinforce his or her theoretical knowledge. The unwillingness of an employer to recruit a young specialist without work experience constitutes the most acute problem for the youth who wish to enter the labour market.

In many cases graduates, searching for a first employment after graduation, have to accept low-paid jobs. This enables to young specialists to gain the necessary work experience. Usually they keep such positions for about one to three years. Young workers enjoying low earnings at the beginning of their careers can not afford to buy a lodging. The Russian banking system does not function effectively and credit programmes are poorly developed. No special efforts were made for young graduates, a bulk of them can not take loans to buy an even very small apartment.

It is important to mention ***a core role of the former system of job assignment that considerably contributed to graduate labour market regulation at time of the USSR***. *Every student after having graduated from an HEI was assigned to a field-related work.* Such a policy ensured close *interaction between HEIs and employers*. It had been eliminated since the beginning of the 90s; and to date no mechanisms are implemented to reconstitute ties between higher education and the labour market. As we mentioned above, the Federal Employment Agency does not manage to regulate effectively the entrance of graduates into the labour market (Starostin et al., 2002). In addition, the Employment Agency deals with graduates in case they have a status of unemployed.

5.1. Changes in the system of social values and attitudes

We believe that the first key problem of graduates while entering and operating in the world of work is related to how they accept and adapt to a new economic organisation. We observe that depending on the level of social adaptability, graduates may have more or less success on the labour market.

During soviet time, attitudes to employment and career development differed from ones perceived by individuals presently. We should note that ***the notion of the "professional career" did not exist in Russia until 1995*** (Beregovaya, 2002). 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***. Nowadays the difficulties that the Russian youth faces when integrating into the labour market stem from the absence of a correct attitude towards the notion of "professional career".

The question on graduates' attitudes towards new values in the society and the process of adaptation to a new economic model is crucial for our topic. One should be aware of a sudden and cardinal transformation of the system of social ideology in Russia in the 90s. In the soviet system, qualities of initiative, decision making and entrepreneurship were not highly demanded, contrary to the new free market economy. Before the 90s the State took many decisions on the place of individuals (Obukhovich, 2000). In regards to study-to-work transition, for example, state bodies were charged to find an appropriate job for an individual. The situation is different in the new market economy where graduates need to sort out themselves to obtain a job. Not all graduates managed to cope with new challenges successfully.

Young specialists differ according to their ***capacity of integration into the labour market.*** The "careerists" aim to sell their professional qualities in the labour market as quickly as possible. This is the group that human resources departments and employment agencies search. About half graduates have no idea of how to place themselves in the new labour market economy. They do not know what to do in their life, how to use the acquired skills and knowledge. The third group includes young people who have a high potential to work effectively and to be good specialists, but their main problem is that they are not familiar with job search strategies and principles of career planning and professional development (Karezin, 2000).

Antipin (1996) argues that the Russian *society can be split out in four groups* by the degree of social adaptability, in other words to that extent a person accepts the modern labour market structure.

The first group consists of the "potential unemployed" who work in privatised enterprises. This group still has habits and values of the soviet period; these individuals want to live in the labour market economy preserving ideals of the communist society. The "potential unemployed" manifest a negative attitude towards the free market economy. They stay passive while resolving their problems because they wait for the society has changed without their participation.

The second group may be called the "self-confident". They work in state companies. Like the first group; they preserve the former communist ideology, but in contrast with the first cohort they believe that the present labour market economy has some positive features.

The third and the fourth group are formed by the "potential unemployed" working in the private sector and the "self-confident" working in privatised enterprises and private companies. They are active in the labour market, they rely on themselves to succeed in life and feel responsible for misfortunes in their career. They blame a large part of the Russian population for making no efforts for the professional development.

The Antipin's theory of stratification of individuals disregards their education level and revenue. However, the author makes the conclusion that the level of adaptation should influence in future the revenue and education level of an individual. The better a person manages to adapt to the modern economic structure the higher will be his or her revenue and educational status.

Fedotova (2002) in her article "Social and professional status of graduates in the labour market" analyses the capacity of graduates to adapt and to be flexible in the new labour market environment. She studies different strategies of graduates' professional conduct. The research is based on the results of sociological surveys carried out in Saratov[18] in 1998.

A survey of students in one Russian city, Yekaterinburg[19], carried out from 1993 to 1996 showed that most of old economic stereotypes have started to disappear (Merenkov, 1998). An important quality for a modern student is ***a capacity to adapt to new conditions***. The survey revealed that students clearly understand the economic principles of the modern society's organisation. From the beginning of the economic reforms their attitude towards the private property is evident: a lot of graduates try to find a job in private companies.

[18] Saratov is located in the heart of Volga River Valley Region with the population of about 900 thousand people
[19] One of the biggest industrial, cultural and scientific centers of Russia, situated in Ural geographic region of Russia. The population accounts for 1.5 million people.

Actually few students criticise the value of “money making”. On the contrary, the ability to earn a lot of money quickly is considered to be a desirable quality. Young people believe that there are many different ways to succeed in life. A successful life is above all associated with the spirit of entrepreneurship and money. At the same time young people, having observed the “money making” experience of some Russian businessmen, do not believe that being talented and having high degree of professionalism are necessary to become rich.

One may say that the higher education does not successfully perform its function to prepare young people to adapt to the difficult economic situation in the country. On the other hand, students do not expect to be taught about “how to live” in the labour market society, they try to acquire this experience independently.

5.2. 'Internal brain drain' and other professional mismatches

"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. Russia has experienced during recent years a sharp increase in higher education enrolments (see chapter 3, §3.2.'Key indicators of the current higher education system'). At the same time, this was accompanied by contraction of vacant job places due to overall economic recession (see chapter 2, §2.2.'Labour market evolutions'). Falling in number of vacancies demanding highly qualified labour force resulted in an outflow of specialists with higher education to other works, requiring lower qualifications. Thus, a phenomenon of mismatch by educational level became widely spread in Russia.

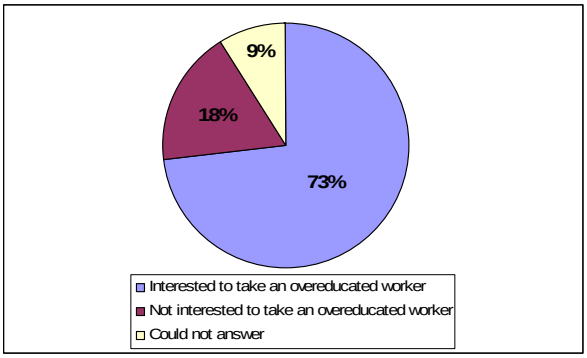
Educational level mismatch attained huge proportion during the period of structural transformations in the economy over the 90s. In that period, highly qualified specialists, prepared within the soviet higher education system and in accordance with occupational demands predicted by state plans of that 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 processes were also linked in Russia with the move of highly qualified labour force into informal economic sector. Former engineers, for example, were had to sell food and clothes in markets, to work as drivers, to sew clothes, to turn to private faming and then selling products of own farming, etc. Most of these activities were not registered by the Labour office. These jobs often assured supplementary revenues in order to complete incomes from principal employment where wages had decreased drastically throughout the transition period. In some cases specialists wanted to keep their main employment that corresponded to their qualifications and to complete their revenues with other jobs. Sometimes, people had to choose to leave the main work and to take vacancies demanding with lower qualification but

providing higher incomes. In 2002, 21% of population with higher education had a supplementary job and 45% of these activities were in the informal economic sector (Gorisov, 2003).

Quantitative research estimating the level of educational mismatch in Russia and, particularly in regards to higher education graduates employment, is very scarce. We found only one recent study providing data on that issue. It was carried by the Institute of system analysis on social problems of big cities (ISA SPAM) (2002) among 2117 graduates, one year after their graduation. The sampling included graduates from all federal regions of Russia. According to the research, about 8% of graduates do not need higher education in their work.

It is interesting to mention, that while in many European countries employers are usually reluctant to hire a worker with a higher level of education, because this may result in supplementary costs, in Russia the situation is slightly different. A survey by the High School of Economics (Bondarenko et al., 2005)[20] revealed that about ***70% of employers agree to hire an overeducated worker***. According to the study, employers expect that an overeducated person has a higher creative potential and a better capacity to acquire quickly new knowledge; that he/she is more productive at work and possesses good communication skills enabling to get along easily with new colleagues. At the same time, employers acknowledge that such workers would seek for better prospects and would tend to take lead in the group. Thus, the highest risk for employers in hiring an 'overeducated' worker is that he/she leaves a company for a better workplace outside. Notwithstanding, we notice that much of employers are ready to take such a risk (70%) (Figure 1).

Figure 1. Distribution of companies by their answer to the question: "Are you interested to hire a worker that has higher qualification (educational attainment) than required?"



Field mismatch

[20] More than 1,000 companies were approached for the study in January – February, 2005. The sampling was designed equally across regions and economic branches. For manufacturing, contruction and transportation branches, companies with, at least, 50 employers were considered. For trade and other services sectors, companies with at least, 10 employers were considered.

The structural inconsistency between qualifications acquired by graduates and qualifications demanded on the labour market ('mismatch by field of study'), gained large proportions in Russia since the mid-90s. ***In Russian literature, the mismatch by field of study is often referred to as 'internal brain drain'*** (Sadovnichiy, cited in *The Moscow University Journal*, 2003; Gorisov, 2004). This term, according to Sadovnichiy[21], names the situation when graduates do not work within their specialisation and their professional knowledge and skills get lost. The concept of internal brain drain comes in complementarity with a well-known '*external brain drain*', when qualified individuals of a country leave it in hopes of getting higher incomes abroad. It is important to remember that Russia had experienced a great flow of external brain drain during the 90s.

The term of 'internal brain drain' is widely used in Russian literature. However, one can hardly find it in international literature. We think that this term has gained popularity in Russia, because it clearly reflects the negative impact of this phenomenon on national economy, as it is the case for external brain drain. According to Sadovnichyi, the extent of internal brain drain is lower than the external one. However, the latter one is not less painful for the national economy.

Alike a mismatch by educational level, a field mismatch became widespread due to structural transformations in the economy during transition. The inconsistency between qualifications of highly educated workers prepared during the soviet time and qualifications required in the newly appeared free market economy provoked a field mismatch. However, throughout the 90s the educational system responded promptly to changes in demands for qualifications. As we depicted in the chapter 3, enrolments in engineering and manufacturing had fallen, whereas those in economics and law increased considerably. Adjusting of the higher education system to new needs of the economy positively influenced a field mismatch. This mitigated the drastic situation that occurred on the market in the middle of 90s when a large percentage of higher education graduates opted for a work with no link to the university major.

According to Russian research, ***the internal brain drain accounts for 25 – 45%***. Survey carried out by ISA SPAM (2002) 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 internal brain drain 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. It is interesting to mention that even if the percentage of those who do not work in

[21] President of the Moscow State University by Lomonosov (the Moscow State University by Lomonosov is the oldest and one of the most prestigious universities in Russia)

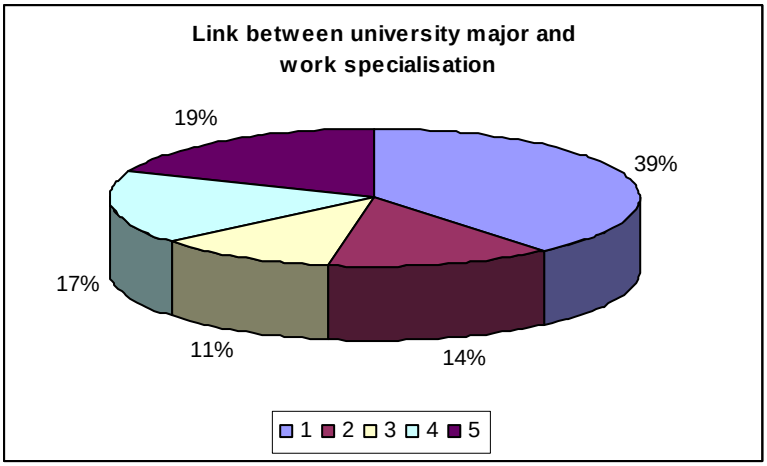
accordance with university specialisation among graduates in Exact sciences is relatively high (28%), the satisfaction at current employment is quite high as well (120 points vs. 72 points for the average), and most graduates do not regret their current profession (70%). Ergo, in spite of an important field mismatch, graduates in Exact Sciences manage to succeed in the labour market in terms of personal satisfaction at work. Authors of the study explain it by the fact that higher education enables to provide graduates in these fields with fundamental knowledge and analytical thinking that further contribute to graduates' professional success in any domain. Moreover, these graduates are aware since the very beginning of their studies that their chances to find a job within the university major are limited, because of current crises in technologically-oriented economic branches in the country. Therefore, they prepare themselves for such a situation. Contrary to graduates in Exact Sciences, a large part of graduates in Law works within their university major. However, their satisfaction with the current work, in terms of job content and earnings, is close to the average (74 points vs. 72 points). This can be explained by excessively high expectations of graduates that do not correspond to the real situation. We should mention that since the middle of the 90s university courses in Law have become highly prestigious. Professionals working in this field (advocates, notaries, etc.) enjoy great salaries, consequently, education in Law is believed a good investment. Fees for university studies in this field attained record marks, nearly 1,500 – 2,000 US dollars per year in province higher education institutions and up to 4,000 dollars in prestigious universities in the capital.

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 field of study and the economic branch a graduate is supposed to work in. Education and agriculture are thus expected to experience the highest rate of field mismatch. According to some estimations (Pankov, 2004; Bogdanovskiy, 2005), in 2002, 86,000 full-time graduates of agricultural higher education establishments and post-secondary professional schools entered the labour market. Only 16,700 of them, or 19,7%, chose to work in agriculture. 18% of them worked in a close relation with their university specialisation. Whereby the number of vacant workplaces accounted for 30,000, by that time.

Findings from the study realised by *'Reitor'* (2005)[22] show that today less than 50% of graduates work within their university specialisation (Figure 2).

[22] "Reitor", Russian Independent Agency in Education Research (2005), "Which universities prepare best graduates?", Moscow. The research is focused on employment issues of graduates, working in Moscow and the Moscow region. Three instruments were used: (1) analysis of curriculum vitae of 2,877 graduates from 41 institutions situated in Moscow and the Moscow region; (2) a poll among directors of Human resources

Figure 2. Link between the university major and a current work specialisation



Legend: 1 – found a job within the university major after graduation and continues to work in this field currently;
2 – found a job in field after graduation, but currently work outside this field;
3 – found a job not related with the university major after graduation, but currently, work within the university major;
4 – the current work is in a field close to the university major;
5 – the current work has no link to university studies.

We observe that about 40% of graduates work within their specialisation, 17% work in a near field, 32% work in a completely different field.

Generally, employment prospects of graduates in regard to this issue may also diverge depending on the prestige of a higher education institution and the region of work. For example, graduates from prestigious Moscow universities tend to experience field mismatch to a smaller extent than their provincial counterpartners. As we showed in the chapter 2, the economic situation differs significantly across Russian regions. However, no empirical studies address discrepancies on the graduate labour market across regions.

The study by ISA SPAM (2002) provides some important insights on the problem of field mismatch. However, more detailed empirical research could bring more evidence on this topic. In the third chapter we will analyse how field mismatch and educational mismatch influence graduates' earnings and satisfaction at work.

Skills mismatch

The inconsistency between the competencies possessed by graduates and those demanded by employers is mentioned in many articles devoted to problems of youth employment in Russia (Bondarenko et al., 2005; Merenkov, 1998; Komarov, 1999, etc.). It

Departments of different companies; (3) person-in-person interviews with 45 representatives from companies in different economic branches.

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*** (*Survey among Employers*, 2006).

Many authors argue that Russian students have a very vague idea about the world of work while entering on 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 of all, 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. ***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 built 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 below table shows the difference between the importance of work experience, estimated by employers (see *experts* in the table) 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 1. Importance of different characteristics for career development

Characteristics	**Coefficients of importance**	
	Assessment by *experts*	**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 the study of the Moscow High School of Economics, managers of more than 1,000 Russian enterprises were questioned about professional qualities that qualified workers should possess. ***Employers distinguish 7 essential competencies*** (see Figure 3 and Figure 4). Bondarenko and al. (2005) split them out into ***three broad categories***:

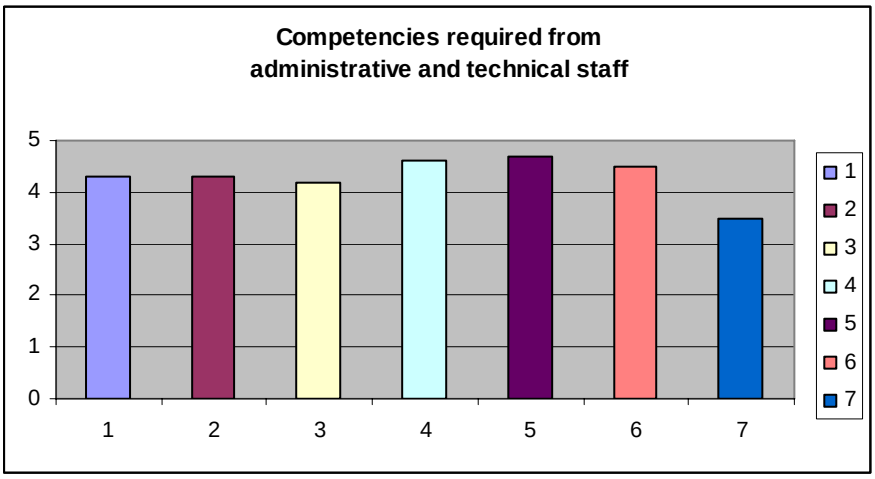
- ***expert knowledge;***
- ***creative or innovative capacitates;***
- ***capacity to be 'executive'.***

The first group concerns knowledge in a particular field. The second one includes a capacity to acquire quickly new knowledge (or a readiness to acquire a new profession), a capacity to take initiative and be creative at work, a capacity to present oneself and results of own work. The third group covers such competencies as a self-discipline and a capacity to follow established rules, an ability to take responsibility, and a capacity to work in group. Competencies are rated from 1 (lowest extent) to 5 (highest extent). Figure 3 shows competencies required from managers and highly qualified specialistes (groups 1 and 2 in the international classification of occupations ISCO-88), while Figure 4 illustrates competencies required from administrative and technical staff (group 3 in ISCO-88).

Figure 3. Competencies required from managers and highly qualified specialists

Legend: 1 - knowledge in a particular field; 2 - capacity to acquire quickly new knowledge/a readiness to acquire a new profession; 3 - capacity to take initiative/ be creative at work; 4 - self-discipline and capacity to follow established rules; 5 - ability to take responsibility; 6 - capacity to work in group.
Source: Bondarenko et al. (2005)

Figure 4. Competencies required from administrative and technical staff



Legend: 1 - knowledge in a particular field; 2 - a capacity to acquire quickly new knowledge/a readiness to acquire a new profession; 3 - capacity to take an initiative/ be creative at work; 4 - capacity to present oneself and results of own work; 5 - a self-discipline and capacity to follow established rules; 6 - ability to take responsibility; 7 - capacity to work in group.
Source: Bondarenko et al. (2005)

We remark that for both categories of workers (Figure 3 and Figure 4), ***a capacity to acquire new knowledge is as much appreciated as the expert knowledge*** (knowledge in a particular field) (coef. 4.5 vs. 4.3 for managers and highly qualified professionals; coef. 4.3 vs. 4.3 for administrative and technical staff). Similarly, an ability to take responsibility is ranked as high as the expert knowledge for both categories of workers (coef. 4.6 vs. 4.3 for managers and highly qualified professionals; coef. 4.5 vs. 4.3 for administrative and technical staff). An important ***conclusion*** that we can make from the above figues is that ***there is a number of competencies that are as much important as the domain-related knowledge***. We emphasise this point because it is related with the main hypothesis of our paper. At the beginning we supposed that on the Russian labour market, similarly to European labour markets, expert knowledge is not the only competence demanded at work: there exist a number of other competencies important to the same extent. Hence, the study by Bondareno ar al. (2005) provides us with the first empirical confirmation of our hypothesis.

Further in the study, Bondarenko et al. investigate to what extent workers possess the required competencies. The authors compare professional qualities of employees in enterprises with different level of benefits. All companies were grouped into 4 categories: companies with the lowest success on the market (column 1), companies with an average success on the market (column 2); successful companies (column 3); and the most successful companies (column 4).

Table 2. Employers' assessment of competencies possessed by workers

	Groups of companies/organisations				Ratio of coefficients for competencies possessed by employees in most successful companies to those with the lowest success
	Companies with the lowest success			Most successful companies	
	1	2	3	4	5 = 4/1
Nb	237	629	143	72	
Expert knowledge	4.0	4.2	4.4	4.3	1.07
Capacity to work in group	3.9	4.2	4.2	4.3	1.07
Self-discipline and capacity to follow established rules	4.0	4.1	4.2	4.3	1.08
Knowledge in other fields (mental outlook)	3.7	3.8	4.0	4.0	1.08
Capacity to take initiative, be creative at work	3.5	3.8	3.9	3.9	1.13
Capacity to present results of own work, capacity to achieve required goals	3.6	3.9	4.1	4.1	1.16
Capacity and readiness to acquire new knowledge and/or new qualification	3.6	3.9	4.3	4.3	1.17

Source: Bondarenko et al. (2005)

Compare competencies possessed by workers in most successful firms and in firms with the lowest success on the market. We observe that workers in most successful companies have higher coefficients for all competencies (the mean for 7 competencies is 4.2 for workers of most successful companies vs. 3.8 for workers of companies with the lowest success). This may suggest a correlation between the economic success of a firm and competenices that its employees possess. Hence, employers are greatly interested in attracting workers with better skills/competencies. We also remark that the greatest gap in competencies possessed by employees of most successful companies and employees of companies with the lowest success on the market, is observed for such qualities as a capacity to take initiative (difference between coefficients - 0.4, ratio - 1.13), a capacity to present own work and a capacity to achieve established goals (difference – 0.5, ratio – 1.16), and an ability to acquire new knowledge or new profession (difference – 0.7, ratio – 1.17). This conclusion gives us one more piece of evidence that ***the expert knowledge is far from being the only and the most important competence at work***.

* * *

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 enormous 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.

The concept of professional mismatch refers to a set of existing terms appeared through discussions on human capital. The notion of 'overeducation' was studied and developed in a scientific literature these recent years. The adoption of overeducation 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 overeducation is typically conceptualised as an attained educational level that exceeds the required educational level for the job (Green et al., 1999). Much empirical works on this topic were conducted by Dutch researchers: Ramaekers and Heijke (1995, 1998), Eijs and Heijke (1996), Borghans, Crip and Sloane (1998), Allen and Velden (2000, 2006), Varhaest (2006).

Professional mismatches also include field and skills mismatches. Allen and Velden (Allen and Velden, 2000) measured professional mismatch through the following indicators: skill match, skill shortage, skill surplus, skill mismatch.

The phenomenon of overeducation appears to be quite widespread in Europe. Lassibille et al. (2001) carried out research in Spain among 1,000 Spanish individuals. The study showed that about 42% of young people participating on the labour market are overeducated, 55% have the education required to perform their job adequately and 3% are undereducated. Other research in Spain conducted between 1985 and 1991, Alba (1993), Beneito, Ferri, Molto and Uriel (1996) and Garcia Serano and Malo (1996) report that between 17 and 30% of Spanish workers are overeducated and between 17 and 23% are undereducated. In France, a study carried out by Colletaz et al. (1995) found that 49% of young people were overeducated in their first work, 51% were adequately educated and about 7% were undereducated. Comparing the results of studies conducted in France and in Spain, Lassibille et al. (2001) make the conclusion that the better working match in favour of Spanish graduates can be explained by the difference in the length of unemployment after graduation. The latter is longer for young Spanish people, and this gives more time to Spanish graduates to search for an adequate job. Lassible et al. also suggest that "young people are more underutilised compared to older co-workers". This is partially due to the fact that because of the increase in higher education enrolments these last years, younger population

tends to have higher educational attainment in all occupational groups compared to older cohorts.

In 1991, Sicherman (cited by Johnes, 1993), using data from the Panel Study of Income Dynamics, measured the extent of overeducation experienced by individuals through comparing the years of education received with the minimum years of education required for the current position. He discovered that 40 % of the sample were overeducated. Two features stand out from this analysis. First, overeducated individuals are significantly more likely than others to change both their occupation and their employer. This suggests that their tenure of a job for which they are overeducated is transient, and that they might choose short-term employment in such a job in order to gain experience which will better equip them for more advanced work in the future, this is the case of *'reculer pour mieux sauter'*. Second, overqualified workers are more likely than others to be promoted to a higher status occupation. In some firms, workers destined to become managers are required to spend a period of 'stand-by' in order to acquire experience in wider range of fields. While such workers are overeducated for a current position, they can be promoted to higher positions in future.

Studies carried out by European researchers within the framework of the project "CHEERS" concerning employment of higher education graduates in 11 European countries and in Japan showed the following rates of overeducation.

Table 4. Educational level and field mismatches in Europe and Japan

	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 is quite difficult to compare the findings from the Russian literature on overeducation with the findings from European research. The main reason is the difference in structure of educational systems. We mentioned in the second chapter that Russian higher education system appears to be quite different in comparison to many European systems. By 2000, there was only one type of higher education diploma in the country. It requires 5 years of study. Research carried out by Lassible et al. (2001) and Colletaz et al. (1995) show rather high indicators of overeducation, between 40 and 50%. One should not forget that in each study young people of different level of educational attainment were questioned. In Lassible et al. people with 5 educational levels were examined. Thus there were more possibilities to be classified as overeducated.

5.3. Transition from study to work. Changed practices

The former Soviet universities played a major role in assigning graduates to work using the mechanism called the ***State Job-Assignment System (SJAS). The collapse of the planned economy led to the end the SJAS, and graduates are no longer compulsorily distributed by the state.*** Instead, graduates must now find a job themselves, and responsibility for failing to do this is their own. Ergo, the old formal institutional linkages between government, enterprises and universities on the graduate labour market have almost disappeared in the new Russia[23].

Generally speaking, ***Russian graduates tend to depend on their informal ties to find job.*** Official statistics show that about 60% the youth depended on personal connections to find job in 2001 (Goskomstat, 2001). Horie (2004) considers that this is neither a national characteristic of Russia, nor a typical characteristic of the youth behaviour for fining a job. In fact, graduates have little choice other than depend on social ties. During soviet times almost all graduates were distributed to their workplaces by the mandatory state job-assignment system. The abolition of this system forced the youth to depend on social ties, and still no social mechanism for recruiting graduates has been established.

In the international practice we find ***a confrontation of models of "formal institutional linkages" and "informal social ties" for regulating the graduate labour market***. The model with the prelevance of formal institutional linkage conflicts with the idea of a "free labour market" where institutional linkages do not and should not affect job placement. This model is used in many countries, like Canada, USA, France and others. On the contrary, strong institutional linkages are reported to be in the Great Britain and Japan where, as a consequence, time of job search and unemployment rate among graduates are lower.

We believe that a policy with stronger emphasis on formal institutional linkages could 'remedy' to some extent job search issues on the Russian youth labour market. Hence, it is important to strengthen the function of universities as assistants in the job-search process, and to reinforce the partnership between universities, employers and government bodies. This may be an important contribution to ensure a smoother study-to-work transition for graduates. Institutional commitment of universities, as well as enterprises and government bodies, should have a positive impact on graduate employment.

[23] It is important to mention that formally the former SJAS still exists. Statistics indicate that 47% of all graduates still receive job assignment. However, few graduates use this mechanism and agree to occupy the proposed vacancies, because salaries in these jobs are usually much lower in comparison to jobs graduates can find by themselves.

Even if most graduates access to employment through their personal network, we should not, however, forget that there are still some other mecanisms of job search at their disposal.

Notwithstanding the decreased role of universities in graduates' study-to-work transition, ***some higher educational establishments still continue to help their graduates to find job.*** A survey among Russian graduates[24], carried out by the Institute of system analysis on social problems of big cities, Moscow, in 2002, showed that about one third of graduates found the first job with the help of their university. At the same time, higher education institutions are not obliged to assign graduates to workplaces or to assist them in job search. In fact, some HEIs do it, others not. Several institutions create special 'employment' departments. Their objectif is to help graduates in job search. They may sign contracts with potential employers so that students could start working while finishing studies. This experience encourages students to terminate successfully their courses and to be prepared for the entrance into the labour market. The employment department of a HEI has numerous functions; the overall purpose of this institution is to establish close ties between a HEI and the labour market.

The State contributes to tacking unemployment through ***the State Employment Agency.*** Its branch is presented in all cities of Russia. Nevertheless, the efficiency of its operating appears to be rather low. Job search through private employment agencies is usually more successful.

To meet the need of graduates in job search assistance ***private employment agencies, non-profit organisations and associations*** have been created recently in Russia. Active position of these organisations on the labour market is observed since 1989. The youth associations like IAESTS, AIESEC organise well-known vacancies fairs in Russia; they are "Den kariery", "Yarmarka vakanciy", etc.

In the new economic situation the way that the Employment Agency functions must be modified. It should not be a labour market regulating institution in the name only, but one that actually performs its duties in a given region. Undoubtedly, the Employment Agency may play a role of coordinator in the job search for graduates from HEIs, secondary and initial vocational institutions. One of the key problems of graduates is the psychological frustration. Ergo, one of the main tasks of this organisation should be to coordinate, organise and ensure assistance for the system of professional orientation and psychological support for the youth.

[24] Potapov and Scherbina (2002), "University graduates: problems of first job search". Report based on results of social survey among young specialists graduated in 2002. Approximately 2200 graduates throughout the Russian Federation were questioned.

Graduates deprived of the psychological assistance feel their judicial and social vulnerability. The lack of information about the labour market development trends results in a contradiction between the expectations of employers and those of graduates.

Inefficiency in the career guidance of young people in Russia is generated by the *absence of an analysis on labour market development tendencies* and by some other reasons:

- a traditional system of education is preserved in higher education institutions without taking into account changing needs of the youth and the labour market;
- the lack of a step-by-step system of training and continuing education.

To date, Russian young people are in a great need of professional guidance services, and the demand for these services comes from the youth, as well as from HEIs.

According to research by ISA SPAM (2002), 21% of graduates found job by themselves, 50% are helped by parents and other family members, 44% got job through their friends and a personal network. 9% obtained an employment through the State Employment Agency, and 13% through private employment agencies. One third of graduates found job with the help of their higher education institution. Research witnesses that ***an important role*** for graduates' transition from study to work ***plays internships or work experience acquired during studies.*** Working in a company during studies permits to find a workplace. Study by ISA SPAM revealed that every fifth graduate continues to work in the same company/ organisation where he/she worked before graduation.

5.4. Limits of demand for higher education graduates

We believe that another important issue that has an implication on graduate employment is related to limits in labour demand in the Russian transitional economy. It appears that employers are not ready or can not pay competitive wages to qualified workers.

We saw in the second chapter that Russia belongs to the top 5 of countries with the highest level of higher educational attainment. However, this does not result in comparable indicators of social and economic development of the country. Authors of the Report on human development in the Russian Federation (2004) argue that such a situation is due to the inefficiency of the labour market preventing from proper use of the acquired human capital. In this respect, we wanted to underline the problem of low wages in the country. Research demonstrates that in many cases Russian enterprises can not or do not want to pay a competitive salary to qualified workers (Bondarenko et al., 2005; Gimpelson, 2004).

Research witness that in the modern Russia, ***the problem of labour surplus has already overcome.*** On the contrary, a shortage of labour force is reported. Simultaniously, a shortage of workers, highly qualified as well as low qualified, is accompanied by a relatively high level of unemployment in many economic sectors. The level of unemployment, by experts' estimations, equals to the number of unemployed. Therefore, we speak about structural unemployment. Youth unemployment appears to have a structural character as well.

According to a study carried out by the Moscow High School of Economics, ***the deficit in labour force is approved in more or less all companies regardless to their size and successfulness of their economic activity.*** However, the structure of deficit varies according to the economic branch. In business and trade there is a greater deficit of qualified workers than low qualified workers. In transportation and manufacturing the deficit is higher for workers with secondary educational attainment. In construction, the magnitude of deficit for two groups is similar.

The principal reasons of the deficit of highly qualified workers are found to be: the difficulty to find a highly educated worker with a relevant work experience, a lack of workers with a required set of skills and knowledge, and an impossibility of a company to offer an appropriate level of remuneration to workers. The below table presents reasons that cause the deficit of labour force in different companies. These are split into four groups according to a branch they belong to: manufacturing, construction, trade, transportation.

Table 4. Reasons of deficit of work force in enterprises, 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, Krasilnikova, and Kharlamov (2005), p. 15

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

We remark that ***one of the reasons of deficit of labour force is the incapability of companies to offer a proper salary to qualified workers***. We have no evidence about the nature of this incapability and whether this is the case that employers are not willing to pay for highly qualified human capital. We observe as well that companies feel lack of qualified workers with appropriate experience.

The unwillingness of employers to pay correct salaries to workers as one of the main reasons of the work force deficit was also reported by Gimpelson (2004). Using findings of a survey among about 300 organisations in 30 regions of Russia, carried out by the Moscow High School of Economics in 2003, he found that 64% of employers experience deficit in highly qualified labour and 61 % in low-qualified labour, because salaries they propose are not competitive (Table 5). Moreover, more than 35% of employers loose workers because other companies offer more competitive salaries (36% for highly qualified workers and 39% for low-qualified workers).

Table 5. Reasons of deficit of work force, according to workers' level of qualification

	Reasons of labour shortages	**% of employers who reported labour shortages of …**	
		workers with higher education	**workers with lower than higher education**
1	"Educational system does not prepare enough workers with appropriate qualification"	28.4	63.9
2	"People do not want to work for a salary we propose them"	63.8	61.2
3	"Other companies attract our workers offering them bigger wages"	36.2	39.3
4	"There are few short training programmes to prepare workers that meet our needs"	13.5	-
5	Hard work and difficult working conditions; "job is not interesting"	25.5	18.7
6	"Workers do not want to live in our city"	7.1	2.7
7	Problems with lodging	38.3	22.8
8	"There is no training courses within our company to prepare workers we need"	-	7.8
9	Other reasons	11.3	10.5
	N	141	219

Source: Gimpelson (2004), p. 87

Using the probit regression function, Gimpelson examined the demand for highly educated workers as well as for workers with lower qualifications in different companies in regards to their output, size, region of location, etc. Findings showed the following. As to the situation for workers with higher education, private companies of small size (below 200 employees) and medium size (below 500 employees), which were created after reforms (in the mid-1990s), endure less difficulties with labour recruitment. According to the author, they accept to increase salaries to their employees and, consequently, experience less problems with labour deficit. Making the final conclusion in his analysis, Gimpelson underlines that ***the deficit in qualified workers in companies is often owe to the fact that employers are reluctant to pay competitive salaries***.

Another important reason of why companies fail in attracting qualified workers is the problem of lodging (Table 3). As G. Psycoropoulos stated in his book "Earnings and education" (1975), an important part of benefits that an individual enjoys at work consists of fringe benefits. Helping employees with lodging could be qualified as a fringe benefit. Some companies have already appealed to this method of extra-remuneration for their workers and this enables them to deal effectively with problems of labour turnover and labour deficit.

We observe that some employers are unwilling to provide a proper remuneration to qualified workers. This may depend on an economic well-being of a company, but probably also, on the extent of awareness across employers on the importance of quality of the human capital factor in the production process. Some Russian employers do not recognise the key role of human capital. They are not always ready to pay higher salaries for obtaining better specialists.

It is noteworthy to speak about the existence of ***two types of enterprises/organisations on the Russian labour market. Most dynamic companies*** *realise the place of qualified labour in the company's development and they do remunerate the human capital of the personnel to its exact value.* These enterprises are often situated in the capital region of the country. These companies are also distinct by a more active policy in graduates' recruitment. They are not only ready to offer high wages, but they also make efforts for detecting and attracting the most qualified labour on the market. For example, some companies organise a recruiting of graduates directly in universities. These companies appear to be more progressive in their perceptions of the role of human capital. Simultaniously, they usually possess the necessary financial provision for permitting themselves such a policy.

The second group of employers *stays more passive in recruitment of qualified personnel*, but this is also because of the lack of appropriate funds. ***These two groups correspond to a certain extent to the two economic sectors: the private and public ones***. The

public sector, after fifteen years of transition, ended up with ***drastic differences in the level of remuneration in comparison to the private one***. It is mostly thanks to fringe benefits, like less work hours, stability of employment, and also to possibilities of informal employment and supplementary incomes from the shadow economy, that this sector still manages to attract young specialists.

* * *

Differentials in wages across branches and economic sectors brought about some paradox features on the Russian youth labour market.

Today earnings of young people appear to be dependant rather on ***the form of property of a company*** than on qualification or level of educational attainment. We showed in the first chapter that the private sector appeared in the Russian economy in the early 90s. Since that time, this sector has become much more attractive for young specialists in comparison to the public one. Moreover, one observes a ***loss of prestige of working in public companies***. This is mostly due to low wages and poor technological provision in the public sector. Earnings differentials between the two sectors have been growing rapidly over the first half of the 90s and have finally become drastic. I.e., in the middle of the 90s a security worker in a commercial firm or a clerical worker in a bank earned a ten times higher salary in comparison to a highly qualified engineer in a public enterprise or a scientist at university.

The major part of the working youth left the sector of production for the sector of distribution and currency circulation (in 1997, 25% of young people had left their jobs for the sector of distribution). Shift of employment from production sectors to the services sector was accompanied by educational mismatches. Entrepreneurship of young people was represented by simple economic activities like sales and outlet trade, that were oriented to short-term investment and quick and easy profits. Decreasing of output in manufacturing, construction and other industries demanding for qualifications with high level of professional knowledge resulted in an outflow of qualified labour force to activities with low demand for professional skills and knowledge. Therefore, many young people had to make a difficult choice: either to work at a public company and to get a miserable salary, or to get employed in a private enterprise with higher salaries but in most cases with no appeal to professional qualification.

Making a conclusion on graduates' employment in Russia, we may say that it is largely framed by the following issues:

- ***professional mismatches*** (educational level mismatch, field mismatch and skills mismatch) resulted from a sudden transformation of the economic structure and growing wage differentials across economic sectors and branches;

- ***study-to-work transition*** *difficulties* which stemmed from the collapse of a former system of state assignment of graduates to workplaces. The situation is worsened by the fact that young people lack appropriate experience and training in job search.

- ***limits in labour market demands in terms of low salaries for qualified labour***. In some firms managers are not able to pay a competitive salary to workers because of their low benefits and poor position on the market. In other firms employers do not recognise the importance of the role of human resources in company's development and they do not want to reward the graduates' human capital to its exact value.

Chapter 6.
Competencies required from higher education graduates in Russia: empirical evidence

Abstract

The move from the command economy to a market one has transformed the Russian society in its integrity. We showed previously, that young specialists experience severe difficulties when entering and operating on the labour market. This deplorable situation is partially due to a lack of information about modern labour market requirements. Graduates, their parents, higher education institutions, employment agencies, and regional policy makers are not aware of current trends on the labour market and employers' needs. In spite of the acuteness of this issue, the empirical research in this area is very scarce in Russia. One should note that not only on this issue, but also on other acute problems in a wide range of sciences, empirical studies were decreasing in number over the recent years. Owe to drastic cuts of public funds for R&D sector, empirical research became difficult to conduct.

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 a survey among higher education graduates, five years after their graduation. 3,500 graduates were approached in Volgograd and in the Moscow region. The survey provides unique data on different aspects of graduate employment. The information, we obtained, is very thorough and comprehensive. This is the first survey in Russia that addresses the topic on competencies, required on the labour market and acquired by graduates, through graduates' assessment. This is the first time in Russia, that a survey includes such a large set of competencies (19 items). Generally speaking, the notion of competence is new in the Russian vocabulary. Considering a notion of competence and measuring them through empirical studies brings a valuable contribution to Russian research on employment.

6.1. Graduate employment. General situation: evidence from empirical findings

6.1.1. Data and sample description

In 2005, ***a survey among 3,500 Russian higher education graduates*** was carried out. Two regions of the Russian Federation participated in it; they are ***the Volgograd region and the Moscow region***.

Some social and economic indicators for two regions are provided in chapter 2 (see §2.1.'Recent transformations in the Russian economy' and §2.2.'Labour market evolutions'). We will just briefly remember that the Volgograd region includes the city of Volgograd and other smaller cities and towns in the area; its surface accounts for 113,9 thousands square kilometres with the population of 2,655 inhabitants. The Moscow region, contrary to what one could believe, does not include the city of Moscow. Moscow has a status of an independent administrative division ("city of federal importance" in Russian). The Moscow region has the population of 6,629 inhabitants with the surface of 47 thousands square kilometres[25]. In 2002, the unemployment rate in Volgograd was 8% and 4.2% in the Moscow region, the average salary accounted for 4,901 roubles[26] in Volgograd and 7,580 roubles in the Moscow region (Goskomstat, 2003).

Four higher educational establishments agreed to participate in the survey. They are, ***in the Moscow region, three public institutions***, ***preparing mostly pedagogical staff for secondary and primary education***, and, ***in the Volgograd region, one public university offering a wide range of educational programmes in exact and human sciences***, like Physics, Mathematics, Languages, Economics, Law, etc.

All people, questioned in the survey, ***graduated in 2000/2001 or 2001/2002*** with a ***Specialist's degree*** (equivalent of a Master's degree, or Master's II degree in the French classification of higher education diplomas). The Specialist's degree was a unique type of diploma delivered in higher education in Russia at that time.

[25] The surface of the Moscow region includes the surface of the Moscow city
[26] 36 roubles = 1 euro

Survey in Volgograd

From June to December 2005, ***2,000 graduates of the Volgograd State University*** (VolSU) were approached. A questionnaire was sent to them by registered mail (for the text of the questionnaire, see the Appendix). ***292 responses were collected***.

The survey was conducted in the following way. First, we sent questionnaires to 2,000 graduates of the sampling. Two months later, we sent a 'reminder' (the same questionnaire) to those who did not respond. One month after the first reminder, we sent a second 'reminder' to those who still did not respond. We should mention that we adopted this strategy in accordance with a methodology of the "REFLEX" project[27]. In 11 European countries, it was decided to send reminder letters to those who did not respond, in order to increase a response rate.

Our study had a restricted funding, therefore, we could not send reminders to all people who did not answer, thus we decided to do as follow: 1) First mailing – to approach about 2,000 graduates; 2) Second mailing - to send reminders to 1,000 individuals among those who did not respond; 3) Third mailing – to send reminders to 500 graduates among those who still did not respond. The below table presents a general schema of mailings with a response rate and returns (letters returned because of incorrect addresses).

	Nb of letters sent	**Responses**			**Returns (incorrect addresses)**	
		Nb	**Response rate at this stage (%)**	**Total response rate (%)**	**Nb**	**%**
June 2005: 1st mailing	2000	213	10.7%	10.2%	86	4.3%
September 2005: 2st mailing	1000	69	6.9%	9.4%	12	1.2%
November 2005: 3st mailing	500	10	5%	8.3%	0	0%
Total	3500	292	-	8.3%	100	2.8%

The total response rate accounts for 8,3%. If substracting 'returns', the response rate comes up to 8,6%. The highest response rate is registered after the first mailing (10.7%). The second and third mailings have lower response rate (less than 7%), and consequently decrease the response rate after the first mailing. This may suggest that it would be more efficient to increase the sample (for example, to 3,000 graduates) and to proceed only one mailing.

In the tables below, we present the distribution of respondents by field of study, gender, type of study, and year of graduation. We also added relevant distributions in the cohort population, in order to check the representativness of our respondent population. The cohort population includes all graduates who studied at the VolSU in 2000/2001 and in 2001/2002[28].

[27] For a detailed description of the project « REFLEX », see chapter 1, §1.1.3. 'Place of higher education graduates in the knowledge-based society'.

[28] Further in this paragraphe we use three terms : cohort population (all graduates who studied at the VolSU in 2000/2001 and in 2001/2002), sample (2,000 graduates taken from the cohort population), and respondent population (292 graduates who answered the questionnaire).

Table 1. Distribution of respondents and the cohort population by field of study

	Respondent population		Cohort population	
Field of study	**Nb**	**%**	**Nb**	**%**
Economic fields	97	34,20	1073	31,2
History	40	14,10	339	9,8
Law	66	23,20	1143	33,2
Mathematics	18	6,30	216	6,3
Philology	39	13,70	414	12,0
Physics	12	4,20	107	3,1
Sociology	12	4,20	152	4,4
Total	284	100	3444	100,0

We grouped different programmes, offered by the VolSU, more or less according to the faculty they belong to at the VolSU. Thus, the group "Economic fields" includes the following specialities: Management, Finance and Credits, Accountability, Economic Theory, Environmental Economics, International Economics. Graduates in "History" are graduates in Philosophy, Regional studies and History. "Mathematics" includes graduates in Mathematics and Applied Mathematics programmes. In "Philology" are grouped graduates in Russian Language and Literature, English Language, German Language, French Language, and Journalism. "Physics" includes graduates in Radio-physics and Electronics and in Laser technologies. As one may observe, there is a large diversity of specialities within each group. One could probably propose to distinguish more groups. However, our sample is too small in number, so we are not able to do this.

Table 2. Distribution of respondents by gender, type of study and year of graduation

	Respondent population		Cohort population	
	Nb	**%**	**Nb**	**%**
Gender				
Male	68	23,45	…	…
Female	222	76,55	…	…
Type of study				
Full-time	202	69,90	2178	63,2
Non full-time	87	30,10	1266	36,8
Year of graduation				
2000	174	61,92	1749	50,8
2001	107	38,08	1695	49,2

As Table 1 shows, graduates in Economics (nearly 35%), Law (23%) and History (14%) are most represented in our sample. The respondents are mostly women (68%), they studied in the VolSU as full-time students (70%) and they graduated in 2000 (62%) (Table 2).

[29] "Total" in all tables of this paragraph shows the number of respondents who answered the corresponding question.

We note that, in regards to *fields of study, our respondent population is quite representative* (except for graduates in Law). In fact, there is 6% of graduates in Mathematics in the cohort population and there is 6% of them in the respondent population (see Table 1). We remark the same thing for graduates in Physics (3% vs. 4% respectively), in Sociology (4% vs. 4%) and in Languages (12% vs. 14%). Graduates in Economics and in History are slightly over-represented (31% vs. 34% and 10% vs. 14% respectively), while graduates in Law are quite strongly under-represented (33% vs. 23%). *The respondent population is also representative in regards to proportion of graduates who studied full-time and part-time* (Table 2). In respondent population, full-time students account for 70%, and in the cohort population, there are 63% of them. As to representativness in regards to *genders*, we do not possess exact data on cohort distribution. However, we know that in the sample population there were 66% of women and 34% of men. The share of women in the respondent population is 77%, which is 11% more than in the sample. This may witness that *females are over-represented in our respondent population*.

Making the conclusion on ***the representativness of our respondent population*** in regards to the whole population of graduates of the VolSU in 2000 and 2001, we remark ***it is quite representative in terms of field of study***[30] ***and type of study***. Concerning ***genders, women are, apparently, over-represented***. At the same time, we can not say that results of the study will be representative for all Volgograd graduates. We explain below why.

As it was mentioned above, graduates of only one university in the Volgograd region were questioned in our survey. It should be specified that in Volgograd, there are twelve other higher educational institutions, ten of them being public. The Volgograd State University, along with three other institutions, is considered to be one of the most prestigious universities in the region and one of the most highly-ranked by employers.

We initially intended to include in our survey several higher education establishments situated in the Volgograd region, in order to make it more representative. Unfortunately, we did not manage to involve more institutions. On the one hand, it is due to the insufficiency of financing needed to carry out a larger survey. On the other hand, it is owing to the absence of electronic data bases with addresses of graduates of 2000 and/or 2001. Retrieving adresses from paper archives and creating electronic data bases make survey conduct more heavy and demands additional personnel which is not always available within universities. Subcontracting supplementary workers from outside would substantially increase the costs.

[30] Except for graduates in Law who are under-represented by 10%.

Another reason of our failure to attract more participating institutions in the project is a lack of interest from the side of institutions to participate in a *common* project (including many or all educational establishments of the region). One should mention that on the local educational market higher educational institutions compete with each other. Even if each institution has its specialisation, like for example, Physical Training Academy, Institute of Pedagogical Studies, Academy of Public Management, Technical University, Medical Academy, etc., most of them propose similar programmes in Law or Economics. These programmes are often fee-charged (for more details, see the previous paragraph on the structure of higher education system in Russia) and they enable to institutions to attract more private funds. Each university is aware that school-leavers would definitely choose an establishment that offers better employment prospects to its graduates. Results of a *common* survey on graduates' careers could put some institutions in better position than others. We believe that some universities are probably afraid of being compared to others in regards to employment situation of their graduates. They did not want to get a bad 'advertisement' after the dissimination of survey results.

An official of one university indicated that his establishment did not need such a survey because the university manages to study graduates' whereabouts by proper means (centres of graduate employment within the institution).

We also asked local authorities to help us in encouraging regional higher educational institutions to participate in the project. The local administration recognised the importance of such a study and a high value of its results for tacking graduate unemployment in the region. However, it was singled out that all institutions are autonomous and local authorities can not influence their decisions.

Moreover, we tried to invole HEIs from outside the Volgograd region. We contacted (by e-mail) about 20 other higher educational institutions situated in different regions of Russia. We never got back an answer from any establishment.

Survey in the Moscow region

A survey among higher education graduates, similar to the one realised in Volgograd, was carried out in the Moscow region in June - October 2005. The project was funded by the government of the Moscow region. All higher educational institutions of the Moscow region participated in this action; they are the Public University of the Moscow region, the Public Pedagogical Institute of Kolomna, and the Pubic Pedagogical Institute of the Moscow region. All the three institutes are specialised in preparation of teachers for secondary and primary schools. They propose some other programmes as well, like Law, Public Management, etc.

The study was conducted by a research team of the Academy of Social Management, Moscow, who worked in cooperation with the IREDU team, active partner in the REFLEX project. The Moscow researchers tried to follow somewhat the European survey; however, the key objective of the study was to report to local policy makers on employment situation of graduates of local higher educational institutions. That is why, the data collected in the Moscow region is slightly different to the one collected in Volgograd. As a consequence, comparisons on some indicators are not be possible. Nonetheless, a common data set with the data collected in Volgograd and in the Moscow region is established for the analysis. As the data from Volgograd is more detailed and complete, we make more often appeal to it in the analysis.

As it was mentioned above, the graduate survey in the Moscow region is slightly different from the Volgograd one. This is applicable to the sampling design too. Keeping the same logic of sample description as for the Volgograd data, we present below the sample distribution by field of study, type of study, year of graduation, and gender. The distribution of the sample by age will also be added. We had no information available on cohort distribution for the Moscow region. Therefore, we could not analyse the representativness of the Moscow region sampling.

Differently from Volgograd, the Moscow team did only one mailing. In July 2005, ***1,500 letters were sent. 181 responses were obtained***. The response rate accounts for 8,28%.

We see that only full-time students who graduated in 2000 were approached for the survey in the Moscow region (Table 2). The sample of graduates of the Moscow region comprises mostly teachers for secondary education (more than 90%) (Table 1).

Table1. Distribution of respondents by field of study

Field of study	**Nb**	**%**
Teacher of natural sciences and mathematics	65	38.92
Teacher of human sciences	67	40.12
Teacher of general sciences	15	8.98
Teacher and specialist	14	8.38
Manager	2	1.20
Chimiste	1	0.60
Primary education teacher	3	1.80
Total	167	100.00

Table 2. Distribution of respondents by gender, type of study and year of graduation

	Nb	**%**
Gender		
Male	24	13.41
Female	155	86.59
Type of study		
Full-time	181	100
Non full-time	0	0
Year of graduation		
2000	181	100
2001	0	0

Table 5. Distribution of graduates by age

Age	**Nb**	**%**
Volgograd		
26 - 29	235	82,46
> 29	50	17,54
Moscow region		
26 - 29	168	95,45
> 29	8	4,55

The sample in the Moscow region is composed to a greater extent by 'young' graduates, aged between 26 and 32 (Table 5). On the contrary, the Volgograd sample contains people aged between 25 and 45. This phenomenon is linked to the fact that in the first case only full-time graduates were approached, while in the Volgograd survey both part-time and full-time graduates were questioned.

Alike the Volgograd survey, in the Moscow region respondent population women prevail (87%). We do not possess data on gender distribution in the sample or in the cohort population in the Moscow region. In the case of the Volgograd survey, we saw that women prevail in the respondent population (77%), but also in the sample (66%). One may wonder if in the Russian higher education women participation rates are higher than the men ones.

The official data of the National Committee of Statistics show that there are more females than males enrolled in higher education institutions. However, the difference is not that big (57% for females vs. 43% for males in 2000-2001) in comparisons to our respondent population (86% vs. 13% in the Moscow region, and 76% vs. 23% in Volgograd)[31]. We may make a supposition that men do not have the same attitude towards postal surveys than women are. Men are probably more reluctant to answer and/or to spend time on filling in long questionnaires, while women are more willing and patient to do this (one should not forget that our questionnaire was about 14 pages in length). In any case, the explanation of this phenomenon is beyond the field of interest of our study, even if its interpretation could be interesting.

[31] We are aware that comparing national statistics with the repondent population distribution is largely simplistic. One should rather take the cohort population on the place of the respondent population. The former being unavailable, we had to consider the latter.

6.1.2. Graduate employment. Key indicators

We should first start with the analysis of key indicators of graduate employment. Measuring the success of a study-to-work transition, three key indicators can provide a quick sketch on the issue. They are the ***rate of unemployment***, ***level of wages***, and ***personal satisfaction***. We will thus present in first turn the distribution of graduates by employment status and provide data on the unemployment experienced by graduates since 2000 – 2001; graduates' satisfaction by their current job will be treated afterwards; and we will conclude our first analysis by considering graduates' earnings: wages enjoyed five years after graduation and wages in the first employment immediately after graduation.

We decided not to mix the data from the Volgograd graduate survey and the one conducted in the Moscow region, even if the questionnaire used in two studies is similar. We believed more relevant to consider each data set separately and then go on to the common interpretation. Two following reasons justify our decision.

On the one hand, as we indicated before, the economic situation in the capital region of Russia is very different in comparison to other regions. In terms of the unemployment rate and the wages level for all occupational groups and economic sectors, Moscow and the Moscow region are in a more advantageous position than other Russian regions. I.e., the average monthly salary is 200% higher in Moscow and 150% higher in the Moscow region than in the Volgograd region. In 2002, the unemployment rate in the Volgograd region was 195% bigger than in the Moscow region and 600% bigger than in Moscow ("Regions of Russia. Social and economic indicators", Goskomstat, 2003).

On the other hand, the Moscow region sampling is rather particular as it is composed mostly by graduates majored in Secondary Education Teaching. The secondary education sector has some peculiarities in Russia. Poor conditions of work, low salaries, lack of necessary equipment are characteristic features of this sector nowadays. Therefore, graduates from the Moscow region are expected to have low incomes due to their university specialisation, at the same time the fact that they live and work in an economically strong region of Russia make us expect that their earnings are higher than those of Volgograd graduates. In order to avoid this bias in the common data, each data set should be treated separately and precautions should be taken when interpreting the Moscow region survey results.

Volgograd

In Volgograd, about 90% of respondents work (5% among them are self-employed). 8% stay at home taking care of their children and family, 2% are unemployed searching a job (Table 1). The last figure appears to be very low in comparison to the general unemployment rate in Russia and the unemployment rate in the Volgograd region. In 2003, the first one was 8% and the second one reached 8.4%. Calculate the confidence interval for the unemployment level[32]. We may state with the exactitude of 95% that the unemployment rate among VolSU graduates is between 0.6 and 4.2%: $\pi = 0.024 \pm 0.018$. We observe that even after estimating the confidence interval, *the unemployment rate among VolSU graduates is still lower than the registered level of unemployment throughout Russia and in the Volgograd region*.

Table 1. Distribution of Volgograd graduates by employment status

	Nb	**%**
Employees	248	84,93
Self-employed	14	4,79
Unemployed	7	2,4
House-wives	23	7,87
Total	292	100

Looking at Table 2, one remarks that *unemployment indicators are rather low*: i.e., the median for times of unemployment, experienced since graduation, is 0. More detailed statistics show that 68% of graduates have never experienced unemployment since graduation. Among those who were unemployed at least one time since graduation, the average period of unemployment accounts for about 6 months. Graduates in Management and Economics have stayed unemployed more time (7.6 and 7 months, respectively). The mean for times of unemployment since graduation (among those who were unemployed at least one time) is 1.2 times, this figure is higher only for graduates with Russian Language major (2.5 times). As to labour market mobility, most graduates stayed with 2 different employers since graduation. Graduates in Translation and Physics were more mobile on the labour market, as they have changed three institutions/ companies since the end of their higher education.

Table 2. Some unemployment indicators and labour market mobility characteristics

	Nb	**Mean**	**St.d.**	**Min**	**Max**	***Median***
Months spent in unemployment	292	2.03	4.37	0	30	*0*
Times of unemployment	292	0.39	0.68	0	4	*0*
Number of employers that a graduate have had since graduation	292	2.32	1.43	1	10	*2*

[32] Following formula was used: $\pi = P \pm 1.96\sqrt{(P(1-P))/n}$; where π and P are proportions of unemployed in population and in the sample, respectively; n – size of the sample (Wonnacott and Wonnacott, 1991, p. 6).

It is interesting to mention that the percentage of graduates being house-keepers is higher than the unemployment rate. ***The 'house-keepers' category*** includes, at no surprise, only females. 100% of those declared themselves as 'house-keepers' are women. It **is almost *four times more than the number of unemployed.*** Loshkin (2004) argues that in Russia women's decision on labour market participation is responsive to the price, quality and availability (in terms of geographical proximity) of childcare institutions or other mechanisms, 'kindergartens' or baby-sitters. It is also largely influenced by the price of reward for women's skills and competencies on the labour market. Due to economical crisis started in the beginnings of the 90s, women were forced out of the employment market, and their wages were gradually falling down. This had a significant effect on women's labour participation. Loshkin underscores that during soviet times almost all women worked. In our study, we found that 10% of female are economically inactive. This may stem, according to Seregina (1999), from the Russian social model where a meaningful life for a woman is closely related to her success in terms of family caring and child raising. Nonetheless, we believe that poor labour market prospects for women and the absence of appropriate institutions of child keeping (of good quality and at an affordable price) leave no much choice to Russian women.

Table 3. Graduates' opinion about their current employment

Level of satisfaction	**Nb**	**%**
Low satisfaction	26	9,92
More or less satisfied	59	22,52
Satisfied	171	65,27
Not answered	6	2,29
Total	262	100

The third indicator on graduate study-to-work transition is a level of satisfaction by the current job. In Volgograd, 65.27% of respondents are satisfied with their current job, while about 10% are not satisfied. 23% are more or less satisfied with their work. On average, about 10% of graduates are looking for to change the current work. This figure is higher for graduates in Mathematics (25%).

Moscow region (MR)

In the Moscow region, 92.5% of respondents work (2.5% of them are self-employed). 3.1% are unemployed, 5% stay at home taking care of children and family (Table 4). Level of unemployment for the Moscow region is thus higher than the one among Volgograd graduates (3.1% vs. 2.4%).

Table 4. Distribution of graduates of the Moscow region by employment status

	Nb	%
Employees	146	89.6
Self-employed	4	2.5
Unemployed	5	3.1
House-wives	8	4.9
Total	163	100

Like for the Volgograd sampling, we calculated the confidence interval for unemployment rate in the Moscow region: $\pi = 3 \pm 2.6$. We may state with the exactitude of 95% that the unemployment rate among the Moscow region graduates is between 0.4% and 5.6%. Comparing these figures with the average registered level of unemployment in the Moscow region (4.2%), we may conclude that in the whole population of graduates of the Moscow region, the unemployment level may attain or be slightly over the registered level in the region. To this regard, we remark that the situation for the Volgograd graduates on the local labour market is better than for the Moscow region graduates. We believe that this stems from the specialisation of the MR graduates, that is a secondary education teacher or primary education teacher. At the same time, in terms of number of months in unemployment since graduation, graduates from the Moscow region are in a better position (2.5 months vs. 6 months).

Similar to the situation in Volgograd, the number of graduates staying at home and taking care of children and family is higher than the number of unemployed (5% vs. 3%). However, the number of graduates staying at home and taking care of children and family in the MR is lower than in Volgograd (5% vs. 8%). This may suggest that women have better employment opportunities in the capital region in comparison to the province. Probably, there are more vacant jobs for women in the Moscow region than in the Volgograd one.

Similar to the Volgograd graduates, more than 50% of graduates of the Moscow region are satisfied with their current job (64%). Whereas about 8.5% are not satisfied and 28% are more or less satisfied (Table 5).

Table 5. Graduates' opinion about their current employment

How satisfied are you with your current work?	Nb	%	Nb cumulated	% cumulated
Very satisfied - 5	33	20,63	160	20,63
4	70	43,75	127	64,38
3	45	28,13	57	92,51
2	8	5	12	97,51
Very dissatisfied - 1	4	2,5	4	100

Measuring graduates' incomes

Methodological dilemma

We should specify that ***the question on current earnings was formulated differently in the questionnaire send to Volgograd graduates and the one mailed to graduates from the Moscow region.*** In the first case (***Volgograd survey***), respondents were proposed to choose between four options:

- ☐ earn less than 3,000 roubles ;
- ☐ earn between 3,000 and 6,500 roubles;
- ☐ earn between 6,500 and 10,500 roubles;
- ☐ earn more than 10,500 roubles.

During the data processing, each option was coded as **a *mean of an appropriate interval***, respectively 2,500, 4,750, 8,500 and 12,500 roubles. In the question concerning the current income, interviewees were asked to cross one option in each column that corresponded to a salary perceived in current employment, a reward for extra hours and revenues from other employments (see the below table). The current income of graduates was, thus, calculated as a sum of values in each column.

How much do you earn … ?		
in current employment	***for extra hours***	***in other jobs***
☐ earn less than 3 000 roubles ; ☐ earn between 3 000 and 6 500 roubles; ☐ earn between 6 500 and 10 500 roubles; ☐ earn more than 10 500 roubles.	☐ earn less than 3 000 roubles ; ☐ earn between 3 000 and 6 500 roubles; ☐ earn between 6 500 and 10 500 roubles; ☐ earn more than 10 500 roubles.	☐ earn less than 3 000 roubles ; ☐ earn between 3 000 and 6 500 roubles; ☐ earn between 6 500 and 10 500 roubles; ☐ earn more than 10 500 roubles.

In the second case (***Moscow region survey***), the question on earnings was open: graduates could indicate the exact sum of their earnings in the current employment, for extra hours in the current employment, and in other jobs. The current income of graduates is thus calculated as the sum of ***absolute values*** in each column. Possessing the information about graduates' revenues in absolute numbers is, no doubts, a big advantage for the research. Measurement of statistical relationship between different variables is more precise and accurate in this case. On the contrary, the Volgograd data analysis risks to be biased or to provide a very approximate estimation. However, the scale measurement method is widespread in research in economics of education, particularly in countries with a developed informal sector in the economy. In these regions/countires, individuals often fear to declare openly their incomes (Duret, Kuepie, Nordman, Roubaud, 2005).

The choice on the form of this question in the Moscow region survey was made by the Moscow region work team. We had a responsibility to choose for the Volgograd survey. Even being aware of the difficulties that would generate the use of scale measurement, we deemed, however, that graduates would not like declaring the exact amount of their revenues, or they would provide wrong figures.

As we indicated before, an informal economy is highly developed in Russia (see chapter 2, §2.2.'Labour market evolutions'). Moreover, ***a practice of double accountancy*** is widely spread in the country. Companies often declare only a part of their benefits, in order to avoid paying state taxes. This implies that ***official salaries of workers are frequently about 40 – 60% lower than the real ones***. We searched for statistics or any research on the topic in the literature, but found nothing. However, in below remarks we presented some interesting evidence from mass-media. We did not dear to put them into the text of our thesis, as these materials are not official scientific publications[33].

Let now analyse which strategy was better: either to leave the question open or to use scale measurement. The data from the below table shows that the number of graduates who did not answer the question about their current revenues is 5 times bigger in the Moscow region study. Hence **the dilemma is:** ***should we sacrifice supplementary answers to get more precise indicators or should we seek to increase a response rate for this type of question which is of high importance for studies on graduates' careers?*** At the same time, the lower number of responses in the Moscow region can be just a matter of chance. We did not find any other research works comparing these two methods in the Russian context. So, we are unable to provide more proves and arguments on the topic.

	Volgograd	**Moscow region**
Size of sampling	292	181
Nb of graduates who do not work (the unemployed and house-wives), and who are consequently expected to omit the question about current incomes	30	13
Graduates who are supposed to respond to the question about current incomes	262	168
Nb of respondents who provided the information about their current incomes	256	138
Number of graduates who were expected to respond to the question on incomes but did not do it	6	30

[33] "There's a sea of taxes," said Slava, 40, who owns a travel agency in Moscow and declined to give his last name. "What other country in the world tries to take so much money?"

Like many other business owners, Slava operates under a dual salary system. He pays his four employees in dollars, slipping them an envelope of cash every month, but keeps another set of records on his books, showing much lower wages in roubles — for the benefit of the tax inspector.

The gap between real and "official" salaries is striking. Slava's employees make between $100 and $300 a month, while on paper they earn a mere 500 roubles to 1300 roubles ($16 to $42).

Most tax inspectors suspect they're not being told the full story, but are willing to overlook their doubts for a "gift," like a hundred of dollars, Slava said with a shrug. Only through this sort of routine deception, he said, can he keep his business from going under"(Engelman, "The enquire", April, 2002).

Current income

Now examine graduates' current earnings (in 2005) and compare them with ones enjoyed immediately after graduation (in 2000-2001).

Four following indicators are needed for the analysis:

- ***current income*** (which includes the salary in current employment, rewards for supplementary work hours in current employment and revenues from other jobs).
- ***salary in current employment*** (includes the salary in current employment and rewards for supplementary work hours in current employment).
- ***salary in the first employment*** (composed of the salary enjoyed in first employment and rewards for supplementary work hours in first employment).
- To compare the last two indicators we should use *real* salary of graduates in 2005. Therefore one more indicator will be taken, ***the real salary of graduates in current employment (in prices of 2000)***. The three other above-mentioned indicators will be presented in nominal prices.

Volgograd

The current revenue of about 30% of graduates is less than 6,500 roubles, 36% earn between 6,500 and 10,500 roubles, 34% more than 10,500 roubles (Table 6)[34]. The median revenue is 8,500 roubles. Compare this indicator with per capita incomes in the region and over the country. According to Goskomstat, in 2004, the per capita income in the Volgograd region accounted for 4,538 roubles and the per capita income in the Russian Federation was 6,337 roubles. We remark that the *average income enjoyed by graduates is around two times higher than the per capita income in the region and it is also 34% higher than the per capita income registered across all Russian regions*[35].

Table 6. Current income distribution (Volgograd)

Percentage of graduates earning …					
	<3 000 roubles	***3000 – 6500 roubles***	***6500 – 10500 roubles***	***> 10500 roubles***	Total
%	3.91	25.78	35.94	34.38	100
Nb	10	66	92	88	256

We should not forget that a part of Volgograd graduates work actually outside the Volgograd region. Taken into account drastic disparities in economic indicators across regions in Russia, it seems important to compare income of graduates working in the

[34] Here, we present an income distribution by *brackets*, because this corresponds to how graduates are responded to the question on revenues (see the previous paragraph, 'Methodological dilema'). Further, however, to simplify the analysis, we will use approximate meanings (*mean* meanings for each interval). We remind that in the Moscow region sampling, contrary to the Volgograd one, *absolute* values were obtained.

[35] One should not forget that the median 8,500 roubles is an approximation. Therefore, we should be careful when interpreting results. This figure, in fact, means that graduates, on average, earn between 6,500 and 10,500 roubles. Nonetheless, we remark that even taken like this, graduates appear to enjoy higher incomes in comparison to national and regional relevant indicators.

Volgograd region with the one enjoyed by graduates who left Volgograd to work in another place (Table 7).

Table 7. Distribution of the current income of Volgograd graduates, depending on place of work

Current income (in roubles) of graduates working in …	Nb	Mean	St.d.	Median	Min	Max	Dispersion coef.
Whole sampling	256	9 366	4 979	8 500	2 500	37 500	53,16
Volgograd and the Volgograd region	219	9 124	4 878	8 500	2 500	37 500	53,46
Big cities except Moscow	5	10 350	8 850	4 750	4 750	25 000	85,51
Moscow	12	14 250	5 150	12 500	8 500	25 000	36,14
Other cities not cited before	13	8 500	3 764	8 500	2 500	15 000	44,28

The mean income of graduates working in the capital is 56% higher than the mean income of graduates who work in the Volgograd region (14,250 vs. 9,124 roubles)[36]. The lowest income of graduates living and working in Moscow is 8,500 roubles vs. 2,500 for graduates living in the Volgograd region. At the same time, the maximum income enjoyed by graduates in Volgograd is 37,500 roubles which is higher than in all other groups. But, there are only 1% of individuals in this category who earn that much. Using the dispersion coefficient (sigma/mean x 100), we found that the highest variation in income is observed among graduates working in big cities[37]. As we showed in the previous chapter, not all big cities of Russia experience favourable labour market conditions and high level of salaries.

If looking at ***income variation across different economic branches and sectors***, we also observe ***a noticeable differentiation*** (Table 8). The private sector offers better salaries in comparison to the public sector (difference of 43%, or 3,500 roubles). The most highly-paid branches are trade and industrial production (more than 20%, or 2,000 roubles, higher than the mean wage), while in education, wages are the lowest (20% lower than the mean). These findings are not surprising. We showed in chapter 2, how different wages are across economic branches and sectors. Using the national statistics data, we also depicted that on the Russian labour market, men earn more than women. Same trends appear to take place on the graduate labour market. We note from the below table that men earn on average 3,000 roubles, or 36%, more than women (Table 9).

Table 8. Distribution of the current income, by economic sectors and branches

Economic sector					
	Nb	**Mean**	**St. d.**	**Min**	**Max**
Public	139	7 863	3 916	2 500	25500
Private	113	11 263	5 531	4 750	37500

[36]In order to know whether graduates, who left Volgograd for Moscow, have really gained a better position on the labour market (in terms of higher incomes), we need to know a purchasing power in two regions. However, we found no data in the national statistics comparing purchasing power across Russian regions.

[37] We should, however, be careful with this finding, as the group 'working in big cities' accounts for only 5 individuals.

Table 8. Distribution of the current income, by economic sectors and branches

Economic branch					
	Nb	**Mean**	**St. d.**	**Min**	**Max**
Education	39	7 577	4 586	2 500	25 500
Trade	28	11 741	7 506	4 750	37 500
Bank	30	8 583	3 320	4 750	15 000
Industrial production	55	11 241	4 530	4 750	25 000
Other	81	8 827	4 412	2 500	25 000

Table 9. Distribution of the current income, by gender

	Nb	**Mean**	**St. d.**	**Min**	**Max**
Women	194	8 630	4 719	2 500	37 500
Men	60	11 771	5 111	2 500	25 500

One remarks a ***differentiation in graduate income depending on field of study*** (Table 10). We saw in chapter 3, that the number of students enrolled in Economics and Management had increased by 415% in 1990 – 2002. This was due to a rising demand for workers with specialisation in Economics. They could find easily workplaces and also with higher salaries. The similar situation was observed for workers with a degree in Law. However, current employment prospects for these specialists appear not to be the best ones, in comparison to other specialisations. Therefore, contrary to what one could expect, graduates in Economics and in Law do not enjoy the highest incomes. These are graduates in Physics, in Sociology and in Journalism who secure the highest pays.

We carried out *a serie of tests* in order to make sure that the differences in wages depending on place of work, economic branches and sectors, gender, and field of study are significant. A General Linear Model test of variation of means showed that these *differences are statistically significant (at $p<0.05$) for the first three cases. Whereas it is not significant for the last case (field of study).* We believe that this may be due to a low number of observations in categories of this variable. A sample of bigger size could provide us with more exact data.

Table 10. Distribution of the current income, by field of study

	Nb	**Mean**	**St. d.**	**Min**	**Max**
Economics	81	9 074	4 999	2 500	37 500
Journalism	8	12 188	6 393	4 750	25 000
Law	61	9 799	4 091	4 750	25 000
Mathematics	17	8 147	5 448	2 500	25 000
Philosophy	2	8 625	5 480	4 750	12 500
Physics	12	11 792	5 757	4 750	25 500
History and regional studies	35	7 814	4 684	2 500	25 000
Russian language	9	7 750	3 349	4 500	13 250
Documentation	4	11 750	3 753	8 500	15 000
Sociology	10	11 675	8 671	4 750	29 500
Translation	11	9 909	3 594	4 750	15 750

Moscow region (MR)

The mean income of the MR graduates is 14,000 roubles. This is, at least[38], 50% more in comparison to the income of Volgograd graduates. We remark that about 50% of MR graduates work in Moscow and other 50% work in the Moscow region. We showed in chapter 3, that in spite of the proximity of these two administrative subjects, their economic prospects differ. In 2004, the per capita income in Moscow attained 20,602 roubles, while in the Moscow region it accounted only for 5,881 roubles (Goskomstat, 2005).

Table 11. Distribution of the current income of MR graduates, according to place of work

	Nb	**Mean**	**St.d.**	**Median**	**Min**	**Max**
Whole sampling	138	14 005	11 523	10 000	1 000	70 000
Current income of graduates working in Moscow	69	18 231	12 416	15 000	1 000	70 000
Current income of graduates working in the Moscow region	67	9 876	8 873	8 000	1 500	60 000

We remark that, the mean monthly current income of graduates, who left the Moscow region and moved to Moscow, is 13% lower than the per capita income, registered in Moscow by Goskomstat (18,231 vs. 20,602 roubles). Nethertheless, it is 310% higher than the per capita income in the Moscow region (18,231 vs. 5,881 roubles).

In general, graduates working in Moscow enjoy 85% higher incomes than graduates working in the Moscow region (18,231 vs. 9,876 roubles). This suggest that people who left their region of studies for working in Moscow earn more than those who work in the Moscow region. However, the situation of graduates who stayed in the Moscow region in not bad either in comparison to regional indicators. Graduates, who stayed in the Moscow region, enjoy salaries that are 68% higher than the average per capita income in the Moscow region (9,876 vs. 5,881 roubles).

Table 12. Distribution of the current income of MR graduates, by type of economic sector

	Nb	**Mean**	**St.d.**	**Median**	**Min**
Public	64	8 165	4 429	1 000	25 000
Private	65	18 402	11 303	3 000	60 000

Table 13. Distribution of the current income of Moscow region graduates, by gender

	Nb	**Mean**	**St.d.**	**Median**	**Min**
Males	19	17 321	14 422	2 800	60 000
Females	119	13 476	10 972	1 000	70 000

Like in Volgograd, we observe a big difference between earnings in the private and public sectors (Table 12). Graduates who work in the private sector earn 125% more than whose who opted for the public sector. ***Similar to Volgograd graduates, there is a difference***

[38] The median income for Volgograd graduates is 8,500 roubles. This is an approximation of the interval 6,500 – 10,500 roubles. Here, we compare an upward limit of the 'medium' interval in Volgograd , 10,500 roubles, with the mean income for the MR.

between earnings of men and women. Among the Moscow region graduates, males earn nearly 30% more than women.

Dynamics of graduates' salaries[39]

Volgograd

About one third of graduates have a salary of less than 6,500 roubles in their current employment, 35% earn between 6,500 and 10,500 roubles, and 30% earn more than 10,500 roubles. The median salary in the current employment is 8,500 roubles.

Table 14. Salary in main current employment

	Nb	**Mean**	**St.d.**	**Median**	**Min**	**Max**
Salary in main employment (in roubles)	251	8 023	3 300	8 500	2 500	12 500

Table 15. Distribution of graduates by level of salary in current employment

Graduates earning a salary of …					
	< 3 000 roubles	***3000 – 6500 roubles***	***6500 – 10500 roubles***	***> 10500 roubles***	Total
%	4.72	28.74	35.43	31.10	100
Nb	12	73	90	79	254

According to the data provided by Goskomstat, at the beginning of 2006[40] the average nominal salary was 6,699 roubles for the Volgograd region, 10,700 roubles for the Moscow region, and 17,600 roubles for Moscow[41].

The median salary of graduates of the VolSU, taken in absolute value, appears to be higher than the average salary in the Volgograd region (8,500 vs. 6,699). But we should not forget that in the case of the Volgograd survey we used a scale measurement. The median salary of 8,500 roubles means that 50% of graduates earn between 6,500 and 10,500 roubles or less. Consequently, 50% of respondents enjoy a salary between 6,500 and 10,500 roubles or more. We may thus say that 50% of graduates earn more than the average salary registered for the region in question. This enables us to conclude that graduates of the Volgograd State university, five/ four years after their graduation, are doing rather well, in terms of salaries that they enjoy, in comparison to the situation on the local labour market. Relatively high salaries of graduates are partially due to the fact that 6.5% of individuals moved to bigger cities and in the capital region.

[39] To compare graduates' earnings in 2005 with ones in 2000, we need to use a *salary*. The fact is that in our questionnaire, the question about first employment dealt with *salary*. Therefore, we should also take *salary* in regards to the current situation, in order to be able to compare.
[40] On March 2006
[41] http://www.gks.ru/bgd/free/B06_29/Main.htm

Taking into account the devaluation of the national Russian currency between 2000 and 2005 (Table 16), the current salary distribution should be presented in the following way (see Table 17).

Table 16. Consumer price index in Russia, 2001 - 2005[42]
(in % to December of the precedent year)

Year	Consumer prixe index
2001	118,60%
2002	115,10%
2003	112%
2004	111,70%
2005[43]	111,70%

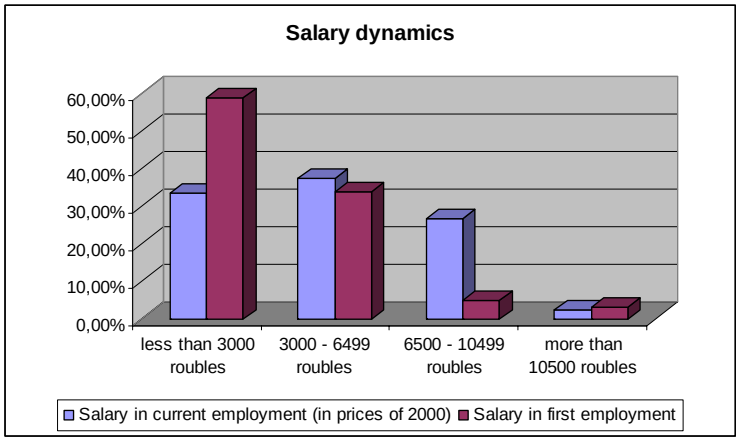
Taking the data of Table 16, we can calculate the consumer price index for 2000 – 2005. It is 1.9.

Table 17 . Salary distribution in first and current employments

Real salary distribution in the current employment (in prices of 2000)				
< 3 000 roubles	3000 – 6500 roubles	6500 – 10500 roubles	> 10500 roubles	Total
33,46	37,4	26,77	2,36	100%
Salary distribution in the first employment				
58.67	33.58	4.80	2.95	100%

If comparing the real salary distribution in the current employment with the one in the first job, one may easily observe ***an increase in wages***. In 2005, more than 70% of graduates have a salary of more than 6,500 roubles, versus less than 10% in 2000. The medium salary in 2005 is 4,473 roubles (in prices of 2000) vs. 2,500 roubles in 2000.

Figure 2. Salary distribution in first and current employments



[42] "Russia in figures. 2005", Goskomstat, Moscow, 2005
[43] We do not have the data available about the consumer price index for 2005, but we may suppose that it is equal to the one in 2004.

Moscow region

Graduates' earnings appear to increase by 65% between 2000 and 2005. In first employment, the graduates' mean monthly salary was 4,457 roubles, while in 2005, it attained 7,371 roubles (in prices of 2000).

Table 18. Distribution of current revenue and first salary[44] (Moscow region graduates)

	Mean	**St.d.**	**Median**	**Min**	**Max**	**Nb**
Current income	14 005	11 523	10 000	1 000	70 000	138
First salary	4 457	4 302	3 000	150	30 000	159
Current income in prices of 2000	7 371	6 065	5 263	526	36 842	138

As a conclusion for this first analysis we may say that graduates' situation on the labour market five year after graduation appears to be rather successful.

- The ***rate of unemployment is low***. It accounts for 2.4% among the Volgograd graduates, which is almost 4 times lower than the average rate of unemployment registered by Goskomstat in this region (8.4% in 2004). Among graduates from the Moscow region, 3.1% are unemployed, which is lower than the average rate of unemployement registered by Goskomstat (4.3% in 2004).
- The ***period of unemployment experienced by graduates since their graduation is rather short as well***. The average time of unemployment varies between 2.5 months for the Moscow region graduates, and 6.7 months for the Volgograd graduates. 68% of graduates in Volgograd and 61% of graduates in the Moscow region have never been unemployed since the end of their studies.
- In both samplings, in Volgograd and in the Moscow region, ***about 65% of all graduates are satisfied with their current employment***, between 23% and 28% are more or less satisfied, and about 10% are not satisfied at all. 11% of graduates in Volgograd are searching for a different job actually.
- Graduates' ***wages have increased considerably since the first employment*** after graduation. Estimations based on the data analysis show that graduates' earnings have almost doubled since 2000.

We suppose that for the Volgograd region, the situation should not be as positive for graduates of *all* higher education institutions (HEI) in the region. One should not forget that there are more than 10 HEIs in the Volgograd region. Most of them are state-funded, others are private. The Volgograd State University is considered to be one of the most prestigious institutions in the area. Therefore, the employment prospects of its graduates are supposed to be better in comparison to other institutions.

[44] In the Moscow region data set, we had no data available on current salary of graduates, therefore, we used current income.

Thus, we do not pretend that these findings reflect the situation for *all* higher education graduates. We can not say that all higher education graduates in Russia have a low unemployment rate, relatively short time of unemployment experienced since graduation, etc., because these indicators would vary largely across regions, and the prestige and age of a higher education institution would significantly influence graduates' employment prospects. However, we argue that in general, graduates from a *'classical'* institution that has been operating on the educational market since a certain period of time and that is relatively prestigious in its region or in Russia, would have similar employment indicators.

6.1.3. Graduate employment. Further indicators

After having considered key indicators on graduate employment, we are going on to present some more details. Further paragraph will present the data on the distribution of graduates among economic branches and sectors, geographical regions, etc.

Table 1. Distribution of graduates by type of sector

	Volgograd		**Moscow region**	
Economic sector	Nb	%	Nb	%
Public sector	144	54.34	72	44.17
Private sector	120	45.28	82	50.31
Private non-profit sector	1	0.38	1	0.61
Other	…	…	8	4.91
Total	265	100.00	163	100.00

45% of Volgograd graduates and 50% of graduates of the Moscow region work in the private sector. As we saw previously, the public sector appears to be much less paid than the private one. The existing research witnesses that young people are aware of low salaries in the public sector. However, they opt for the public sector, because the private sector is more insecure and more demanding in terms of work load.

Table 2. Distribution of graduates by occupation (current employment), Volgograd

	Nb	**%**
Occupation		
0 – Armed forces	1	0.50
1 - Managers	33	16.34
2 - Professionals	115	56.93
3 – Technicians and associate professionals	38	18.81
4 - Clerks	5	2.48
5 - Sales workers	4	1.98
8 – Plant and machine operators	4	1.98
9 – Elementary occupations	2	0.99
Economic branch		
Industrial production:	**55**	**23.81**
Heavy industry, chemistry, gas & oil industry	27	11.69
Other industries	28	12.12
Services :	**176**	**76.18**
Education	36	15.58
Trade	29	12.55
Bank	28	12.12
House and utilities. Public non-productive services	32	13.85
Administration	11	4.76
Other services	37	16.02
Other	3	1.30

To split occupations into different categories, we took as a base the international classification of occupations ISCO-88 (see Appendix). Concerning the division by branches, it was made as follows. In the category 'Education' we included higher education, secondary and primary education. 'Trade' comprises all activities relating to selling of products and services. In 'Bank' we put together finance, credit and insurance sectors. The category 'Heavy industry' includes gas and oil industry, chemical industry, manufacturing, machine building, ship building. 'Other industries' comprise food industry, forestry, light industry, construction, agriculture, and transport. Advertising, communication, and other sectors concerning the production of services form 'Services' category. 'Public services' comprise housing and utilities and other non-productive services provided by public institutions (i.e., social assistance, jobs in public employment centres, etc.). 'Administration' includes jobs in regional governing institutions.

More than 55% of graduates work as "Professionals" like researchers, higher and secondary education teachers, engineers, accountants, translators, journalists, accountants, etc. 16% occupy managerial positions ("Managers"), like general managers, directors and chief executives, diverse departmental managers. 19% work as "Technicians and associate professionals" (technicians at factories, accountant assistants, judge assistants, primary and pre-primary education teachers, customs, tax and related government associate professionals, police inspectors and detectives, finance and law associate professionals, social work associate professionals, etc.). About 2.5% are employed as "Clerks", for example, secretaries, cashiers, office clerks, client information clerks, etc.

About 23% of graduates are employed in the sector of industrial production. Other 77% work in the sector of services, with 14% among them employed in education.

As to Moscow region graduates, we do not possess the detailed data neither on their current occupation nor on the economic branch they work in. We only know that more than 55% of graduates worked as teachers in their first employment.

Table 3. Multi-employment practices

Number of jobs	**Volgograd**		**Moscow region**	
	Nb	%	Nb	%
One job	148	84.21	224	90
More than on job	17	15.79	42	10
Total	165	100	266	100

About 16% of Volgograd graduates have more than one job (Table 3). In the Moscow region, the number of multi-employment holders attains 10%. The results on multi-employment practices are not surprising. As it was mentioned by R. Kapeliouchnikov in "Russia's labour market: adjustment without restructuring" (1999), in Russia at the end of the

XX century multiple jobholders amounted to at least 5-7% of all employees. Results of our survey show that the multi-employment practices still persist on the Russian labour market or, at least, on the youth labour market.

Table 4. Geographical migration (Volgograd graduates)

Place of current employment	**Nb**	**%**
Volgograd	169	59,3
Volgograd region[45]	81	28,42
Moscow and Moscow region	12	4,21
Big cities[46] (except Moscow)	7	2,46
Other[47]	16	5,61
Total	285	100
Place of first employment	**Nb**	**%**
Volgograd	188	65,96
Volgograd region	75	26,32
Moscow and Moscow region	3	1,05
Big cities (except Moscow)	6	2,11
Other	13	4,56
Total	285	100

Table 5. Geographical migration (Moscow region graduates)

Place of current employment[48]	**Nb**	**%**
Moscow	79	52.32
Moscow region	72	47.68
Total	151	100

Current job and first employment. About 88% of graduates work today in the region of their studies (60% in Volgograd, and 28% in the Volgograd region). About 12% found a job out of their region: 4% of respondents work in Moscow and the Moscow region, 2.5% in other big cities and 5.5% work in other cities of Russia. As for the first job, we observe the same tendencies: a large part of graduates lived and worked in the Volgograd region (92%): 66% of graduates worked in Volgograd and 26% in the Volgograd region. 1% worked in Moscow, 2% worked in other big cities of Russia. Thus, we may notice that *the largest part of graduates of the VolSU work actually in Volgograd or in its region (88%).* At the same time, the number of graduates working in Volgograd and the Volgograd region has slightly diminished (form 92% to 88%) in comparison with the situation of 2000 – 2001. Some 8% of graduates left their region in the period between 2000 and 2005 to work in a different place.

In regards to graduates of the Moscow region, about 50% of them work in Moscow, and other 50% in the Moscow region.

[45] In the category "Volgograd region" we also include the Astrakhan region as some towns of the Astrakhan region, like Akhtoubinsk, for example, are situated close to Volgograd.
[46] Cities with the population of more than 1 million
[47] Cities situated outside the Volgograd region, whose population is less than 1 million
[48] The data about the place of first employment is not available.

6.2. Competencies required on the labour market: evidence from graduates' assessment

The objective of the three following paragraphs is to provide empirical evidence on the question **"What competencies are required on the modern labour market in Russia?"** In order to respond to this question, we approached the issue from different aspects:

1) we considered ***what competencies are required on the labour market*** (through ***graduates' assessment***), 2) it was examined to what extent ***non-cognitive competencies*** appear to be important at work; 3) we estimated ***monetary returns to competencies***; the difference in monetary returns to competencies across economic sectors (public vs. private sectors) was investigated, as well; 4) ***the impact of competencies in access to employment*** was studied; 5) ***the impact of job mismatches*** (in terms of inconsistency between competencies possessed by individuals and required in a particular work) ***on wages*** was regarded; 6) ***the role of higher education system in development of competencies*** required on the labour market was explored.

We sought to test, in regards to the Russian labour market, **the hypothesis** made by Teichler (2002), by the research group of the European project "REFLEX" (2003), and by other researchers (Green, 1998; Suleman and Paul, 2006), who proposed that **the current labour market requires not only the deep domain-related knowledge, but a *wide* range of competencies**.

First, we considered ***what competencies are required on the labour market***. Thus 'coefficients of importance' (obtained through graduates' assessment) for a list of 19 competencies, were established and compared. We examined 'coefficients of importance' for 19 competencies for the whole sample of graduates, as well as for different occupational groups.

Much literature appeared these recent years, witnesses about the ***importance of non-cognitive skills*** for social and economic success of an individual (Bowles, Gintis and Osborne, 2001; Heckman, Stixrud and Urzua, 2006; Postlewaite and Silverman, 2006; Blanden, Gregg, Macmillan, 2006). It is important to explore to what extent non-cognitive competencies are required on the Russian labour market. We split out 19 competencies into two groups (cognitive and non-cognitive) and compared 'coefficients of importance' for each group. We carried out this analysis for the whole sampling, but also for different occupational groups.

Considering ***wage returns to competencies*** appears to be of high importance. Such analysis should provide a sort of labour market information that might then illuminate and inform policy with respect to the skill-supplying institutions. The aim is to examine the extent to which the particular kinds of skills emphasised by work analysts are actually being validated in the labour market (Green, 1998). Using least square regression models we estimated the impact of 7 clusters of competencies on graduate income. We also explored the difference in returns to competencies in the public and private sectors. We remark that on the Russian labour market, there is a drastic difference in wages across sectors. It was interesting to investigate to what extent this difference is due to difference in competencies possessed by workers.

In order to complete the analysis on monetary returns to competencies, we considered ***how competencies***, possessed by graduates, ***influence their access to the most highly paid positions***. Binary logit regression models were used for the analysis.

The success of graduates on the labour market may also depend on how they manage to put in value acquired knowledge and skills. This is largely related to the quality of match between tasks performed at work and competencies possessed by individuals. Recent research made clear that an individual's salary does not simply depend on labour supply and labour demand. According to the theory of job match (Sattinger, 1975) and job assignment (Jovanovich, 1979), the quality of match between a job and a worker has an impact on productivity and consequently on salary. Given this, it is of interest to investigate ***how mismatches affect graduates' earnings on the Russian labour market***. We estimated the magnitude of different types of mismatches in our samplings and considered how these mismatches influence wages.

Finally, we explored how higher education contributes to developing different competencies required on the labour market.

* * *

We have depicted in previous chapters that changes in organisation of the modern society bring about new challenges for highly qualified specialists. Teichler (2002) underscores that ***it is essential today for higher education graduates not only to master a particular field, but also to possess a set of other competencies relevant for successful professional practice.*** These include a 'problem-solving' ability, an innovation capacity and creativity, a capacity to work under time pressure, ability to work effectively in groups and to take leadership, etc. Research carried out by European scientists of the project "REFLEX" witnesses that on European labour markets a mastery of knowledge in one's own domain of work is not sufficient for becoming a successful professional. It turns out that higher education graduates are also expected to be highly flexible and adaptable, able and willing to take up challenges not closely related to the specific field, in which they have been trained. European researchers (of the project "REFLEX") single out that currently, highly educated people need to be competent in *at least* four following areas: professional expertise, functional flexibility, innovation and knowledge management and mobilisation of human resources. Green (1998) underlines the *importance of information technology skills* in the modern economy. According to him, they are "in increasing and pervasive demand in many industries" (Green, 1998). This feature is linked to the fact that the modern society is transforming into 'information society' (Castells, 1998, cited by Green, 1998).

We would like to investigate if on the Russian labour market, demands placed on higher education graduates are similar to European ones. In other words, we seek to found out if *Russian graduates need to possess more competencies than simply 'a particular domain- related knowledge'*. Our interest to this topic stems from the following. Russian higher education is still dominated by an old conception of education where the primary role of education is viewed in transmitting of deep knowledge and skills in a particular domain. However, it seems that the current labour market requires *broader expertise, implying possession of a wider range of professional qualities*.

Our analysis will be based on graduates' assessment about the level of competencies required. We asked graduates to rate the importance (required level) of each competence at their current job (4 – 5 years after graduation). A scale from 1 (low extent) to 7 (very high extent) was proposed. Below is presented a list of competencies, that graduates were asked to measure.

It is important to specify, that this list was elaborated and developed by a group European researchers (see names below), within the framework of the project "REFLEX", funded by the European Commission through the 6th Framework Programme for research and technological developpement.

List of partners of the project "The Flexible Professional in the Knowledge Society. New Demands on Higher Education in Europe" ("REFLEX") :

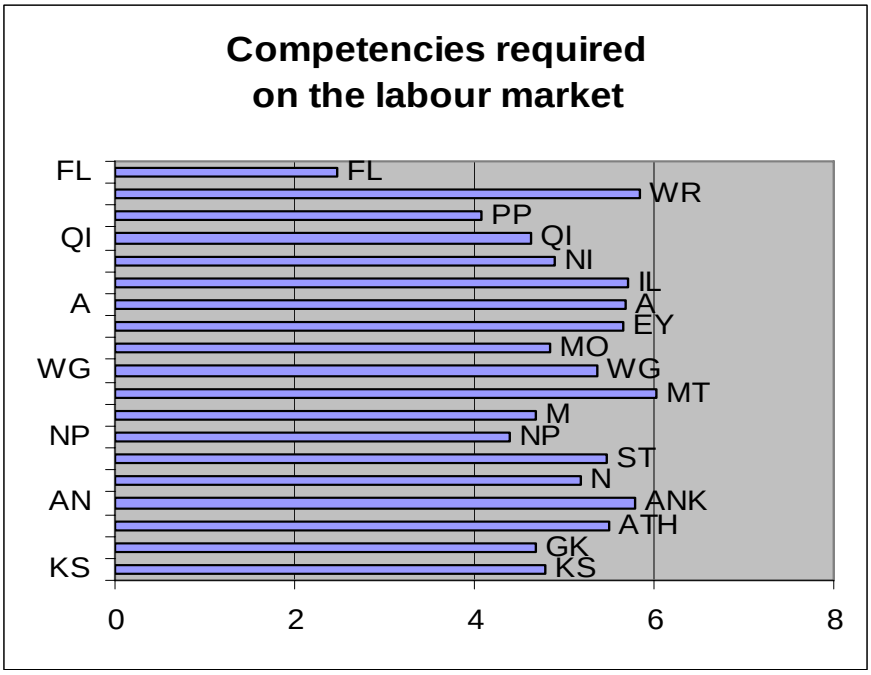
Dr. Rolf van der Velden (coordinator)
Research Centre for Education and the Labour Market, University of Maastricht, The Netherlands
Prof. Ulrich Teichler
Centre for Research on Higher Education and Work, University of Kassel, Germany
Prof. Jean-Jacques Paul
Institut de Recherche sur l'Economie de l'Education, Université de Bourgogne, France
Prof. John Brennan
Centre for Higher Education Research and Information, 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
Research Unit for the Sociology of Education, University of Turku, Finland
Prof. José-Gines Mora Ruiz
Departmento de Economia Aplicada, Universidad de Valencia, Spain
Prof. Paul Kellermann
Institut für Soziologie, Universität Klagenfurt, Austria
Drs. Egbert de Weert
Center for Higher Education Policy Studies, University of Twente, The Netherlands

List of competencies:

a) **mastery of your own field or discipline,**
b) **knowledge of other fields and disciplines,**
c) **analytical thinking,**
d) **ability to rapidly acquire new knowledge,**
e) **ability to negotiate effectively,**
f) **ability to perform well under pressure,**
g) **alertness to new opportunities,**
h) **ability to coordinate activities,**
i) **ability to use time effectively,**
j) **ability to work productively with others,**
k) **ability to mobilize the capacities of others,**
l) **ability to make your meaning clear to others,**
m) **ability to assert your authority,**
n) **ability to use computers and the internet,**
o) **ability to come up with new ideas and solutions,**
p) **willingness to question your own and other's ideas,**
q) **ability to present products, ideas or report to an audience,**
r) **ability to write reports, memos and documents,**
s) **ability to write and speak in a foreign language.**

We calculated the mean for each competence required on the labour market. The following table was obtained[49].

Figure 1. Competencies required in current employment



Scale: 1 (very low) – 7 (very high); Legend:
KS - mastery of your own field or discipline,
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 use computers and the internet,
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.

[49] We enabled to obtain detailed information on competencies required by graduates only in *Volgograd*.
We also included the questions on competencies in the questionnaire for the Moscow region graduates. Unfortunately, because of technical problems occurred during data processing by the Moscow team, this part of the questionnaire was lost. We hope that this data will be restored in the coming days and supplementary research will be conducted with possible comparative findings.

The figure 1 depicts that, ***indeed, besides the expert knowledge*** (see competence 'knowledge in field'), ***some other competencies appear to be highly required by employers***. It turned 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, express own ideas, and be computer and Internet literate (each has a coefficient of 5,7) are found to be highly demanded, as well. Foreign language proficiency appears to be the least demanded. The latter finding reflects the economic infrastructure on the regional labour market of the Volgograd area, where a relatively few number of foreign companies are presented, local companies cooperate little with enterprises in abroad. It is not a particularity of the Volgograd region, but of most province regions of Russia. A bulk of international companies and Russian enterprises cooperating with foreign organisations is concentrated in Moscow and Saint-Petersburg.

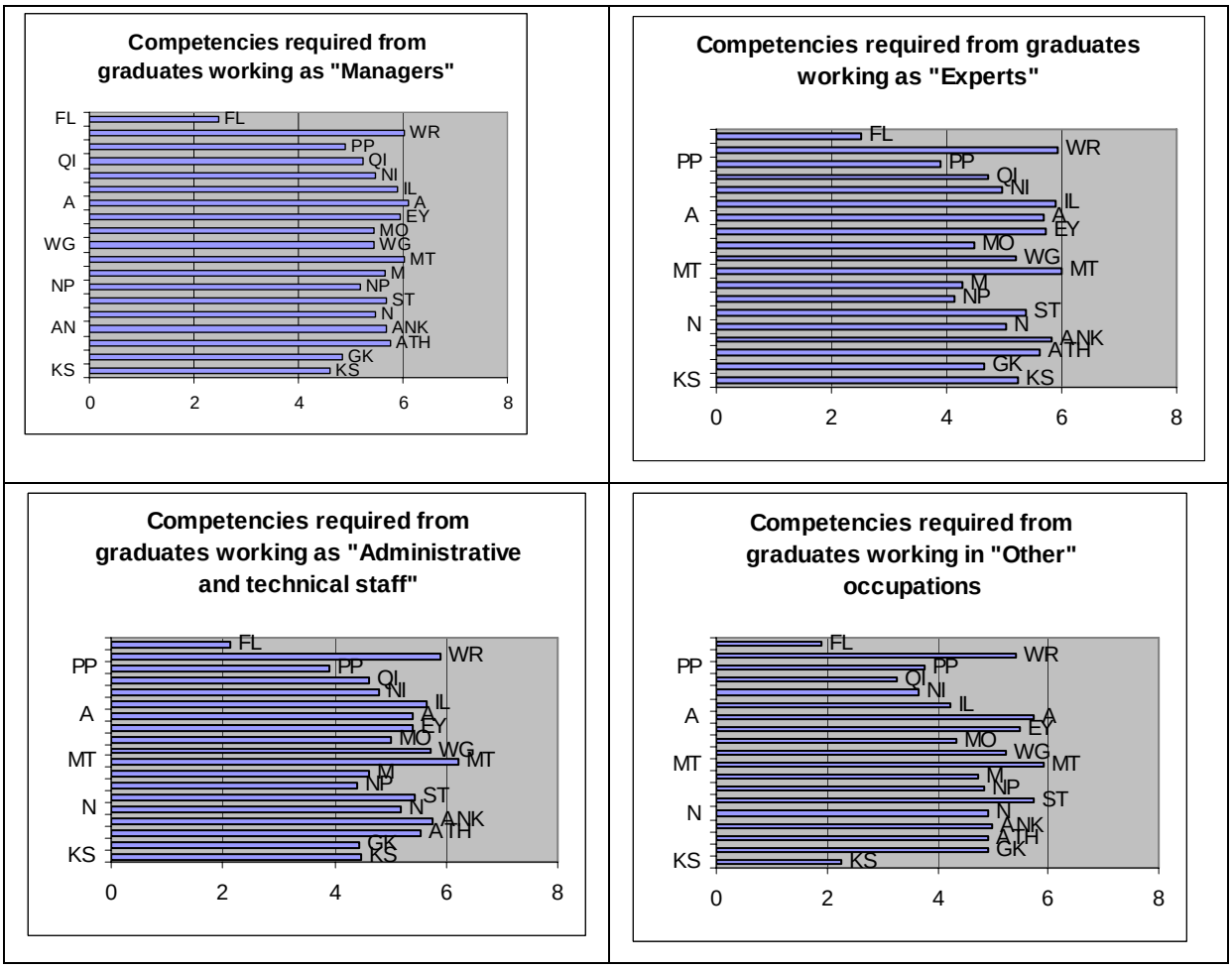
The above findings **confirm our hypothesis that even if professional expertise is of high importance for effective operating on the labour market, *it is not the only quality* that graduates are supposed to possess**. Suppose that our hypothesis is wrong. In this case we would expect that the competence 'knowledge in field' has much higher coefficients than other competencies. We would expect, for instance, that the competence 'knowledge in field' has a coefficient 6.0, whereas other competencies have coefficients 3.0 or lower. But it is far a case in our sampling. On the contrary, 10 of 19 competencies have higher coefficients than the competence 'knowledge in field' (5.2 – 6.0 vs. 4.8). 7 of 19 competencies have slightly lower coefficients than the competence 'knowledge in field' (4.1 – 4.7 vs. 4.8). Only one competence of 19 has a significantly lower coefficient than the competence 'knowledge in field', that is a foreign language proficiency.

The above figure provides a general sketch on demands that graduates face. No doubts, it can take a different form depending on occupation. Further we present profiles of competencies demanded in different occupational categories. We split out all occupations of graduates into 4 larger groups: "Managers", "Experts", "Administrative and technical staff", "Other occupations". This division was realised in accordance with the international classification, ISCO-88. Because of a small size of our sampling (about 300 graduates) we could not afford using a more detailed division by occupational groups.

A group 'Managers' corresponds to the "Major group 1: Legislators, senior officials and managers" in the ISCO-88 classification that includes 'legislators and senior officials' and 'corporate managers' (directors and chief executives, other departmental managers). A category "Experts" refers to the "Major group 2: Professionals" in the ISCO-88. It encompasses physical, mathematical and engineering professionals; life science and health professionals; teaching professionals; other professionals. "Administrative and technical staff"

refers to the “Major group 3: Technicians and associate professionals” in ISCO-88 (physical and engineering science associate professionals; life science and health associate professionals; teaching associate professionals; other associate professionals). In the category “Other occupations”, we included all other *lower qualification* occupations. In ISCO-88, it corresponds to “Major group 4: Clerks”; “Major group 5: Service workers and shop and market sales workers”; “Major group 6: Skilled agricultural and fishery workers”; “Major group 7: Craft and related trades workers”; “Major group 8: Plant and machine operators”; “Major group 9: elementary occupations”[50].

Figure 2. Competencies required in current employment by occupational groups



Scale : 1 (very low) – 7 (very high)

Looking at the obtained results we note the following. Competencies ‘use time effectively’ and ‘ability to write reports, memos and documents’ are highly demanded in all occupational groups. ‘Coefficients of importance’ exceed or equal to 6.0 for all groups for the competence ‘use time effectively’ (MT). Coefficients of importance for an ‘ability to write reports, memos and documents’ riches 5.8 for three first groups and equals to 5.4 for low

[50] For more details on ISCO-88 classification, see Appendix.

qualification jobs (see group ‘other occupations’). An ability to assert own authority is highly demanded in the category ‘Managers’ (coef = 6.1).

It is of no surprise that graduates working as low qualified employees (see ‘Other occupations’) have less appeal to their knowledge in field (coef. = 2,3) than other graduates. Knowledge in field is highly demanded in jobs of ‘Experts’ (coef. = 5,3). ‘Managers’ use it to a slightly less extent, as well as ‘Administrative and technical staff’ (4,6 and 4,5, respectively). Capacity of analytical thinking and capacity to acquire new knowledge are highly demanded in three first groups (their coefficients exceed 5,0).

Internet and computer literacy is highly required in all groups, except for ‘Other occupations’ (coefficients exceed 5.5 for ‘Managers’, ‘Experts’, ‘Administrative and technical staff’ and it is 4.2 for jobs demanding a lower qualification, ‘Other occupations’). ‘Managers’ and ‘Experts’ are supposed to have a good capacity to express own ideas (5,9 and 5,7). It is slightly less demanding in the category ‘Administrative and technical staff’ (5,4).

Role of non-cognitive competencies

We have just considered how a capacity to ‘master well own field’ and other capacities are required by employers. We demonstrated that deep knowledge in a particular domain is not enough in work situations. It appears that other competencies, like a capacity to acquire new knowledge, a capacity to manage effectively own time, to resist to stress, etc., are also highly required at work. We sought to provide clear evidence that graduates need to be equipped with a *wider* range of competencies, in order to meet labour market demands and that higher education should seek to generate *larger* set of outcomes than simply transferring a domain related knowledge and skills.

However, common sense tells us that, beyond knowledge in a particular field, education inevitably 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 or by other means. 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.**

The idea that non-cognitive skills are important for professional success has appeared a long time ago. It was even popularised in some broadly known publications. The most famous example is Dale Carnegie's book 'How to Win Friends and Influence People", which was sold more than 15 million copies and remains in print. In it Carnegie famously conveys that financial success is due to 15 percent to technical knowledge and 85 percent to "the ability to express ideas, to assume leadership, and to arouse enthusiasm among people". Today, Carnegie's insights gained a large popularity and a vast number of 'self-help' books for business, were centred on this idea lateron. However, economists have only recently begun studying the influence of individual characteristics like persistence, leadership, and sociability on market outcomes.

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. The evidence in regards to the Russian labour market is, nonetheless, quite scarce. Existing research is mostly based on theoretical advances. Empirical studies on the topic can be counted with fingers. We provided some of these findings in previous chapters. It was shown that Russian employers do appreciate workers with well developed non-cognitive abilities. According to the study by the independent agency "Reitor", employers attach a great importance to personal characteristics of workers (they are rated at 2.7 points in the scale from 1 (very important) to 9 (not very important)). The study by the High School of Economics in Moscow also revealed that such

qualities as self-discipline, ability to take a responsibility, capacity to work in group are in great demand on the labour market.

The objective of our study is to determine what competencies are required from *higher education graduates*. It is of interest to bring empirical evidence to the question: to what extent non-cognitive skills are required on the graduate labour market?

Therefore, we will seek further to find out *to what extent non-cognitive competencies are required on the Russian graduate labour market.* We suppose that non-cognitive competencies are highly demanded. Employers expect that workers are able to reflect and to mobilise their analytical thinking, critical skills and other cognitive abilities, but also to communicate effectively, to manage others, etc. In order to test our hypothesis, we need to distinguish cognitive and non-cognitive competencies among a set of 19 competencies available in our questionnaire. For this reason, we looked for a definition of cognitive and non-cognitive skills/ competencies in literature. It appeared that there is no unique definition of non-cognitive skills. Different authors group differently competencies into cognitive and non-cognitive ones.

We found ***no unique definition of non-cognitive skills***. Often, writers omit to provide a well-specified definition. The only way to understand what qualities an author considers to be non-cognitive competences is to look at what competencies are included in the group 'non-cognitive skills/ competencies'. Blanden, Gregg, Macmillan (2006), include in non-cognitive skills *personality traits*. Cognitive variables in their study concern copying, reading, maths, and non-cognitive variables include such qualities as self-esteem, application to work, 'extrovert' character profile, 'hyperactive' character profile, level of sociability, and others. For Bowles and Gintis (2000) non-cognitive skills concern individual's norms and preferences. They employ a notion of *'incentive-enhancing preferences'*. For Heckman, Stixrud and Urzua (2006) non-cognitive abilities concern *personal preferences and personality traits.* Postlewaite and Silverman (2006) understand *non-cognitive competencies in a larger sense*, for them these are all competencies beyond technical or professional knowledge. "Non-cognitive skills are whose that are valued by employers or clients that do not involve technical or professional knowledge" (Postlewaite and Silverman, 2006). Suleman and Paul (2006) include in the group 'cognitive competencies', the following capacities: specific technical knowledge, autonomy, responsibility, adaptability, innovation, planning and organisation, ability to organise, ability to selection and to process information, ability to solve problems, ability to learn, ability to transfer knowledge and experiences, capacity to understand the specificities of the banking activity. Using a principal component analysis Suleman and Paul establish five clusters of competencies: cognitive competencies, strategic/ specific skills, behaviour towards the organisation, general knowledge, and behaviour towards

others. We remark that 'general knowledge' cluster is not included in cognitive competencies. One may suppose that for Suleman and Paul, non-cognitive competencies include three of these five clusters of competencies (however, no neat distinction between cognitive and non-cognitive competencies is provided in the paper):

- *strategic competencies* (negotiation, persuasion, perseverance and orientation towards results, orientation towards the client, understanding of the strategy of the bank);
- *behaviour towards the organisation* (readiness to learn, effort to learn, following the rules and procedures, cooperation, adaptation to the working hours, punctuality);
- *behaviour towards others* (relationship with colleagues, capacity to work in team, communication, willingness to help others).

We conclude that there is no unique definition of non-cognitive competencies and ***no neat limits between cognitive and non-cognitive competencies are drawn***. This can be explained by the fact that in some cases, it is not easy to classify competencies as cognitive or non-cognitive ones. ***Some non-cognitive skills would often involve cognition, i.e., the exercise of perception, thought and reason*** (Postlewaite and Silverman, 2006). Taking into account all the above classifications, we distinguished among our competencies whose that have a cognitive nature, and a non-cognitive one. For us, ***cognitive competencies*** would include ***abilities related to reflection and learning processes***. ***Non-cognitive competencies*** are those that ***refer to behavioural qualities and personality traits***.

Cognitive competencies	***Non-cognitive competencies***
Knowledge in own field	Capacity to assert own authority
General knowledge in other fields	Capacity to express own ideas, Ability to present products and services, Capacity to negotiate effectively
Capacity to acquire rapidly new knowledge	Capacity to motivate others Capacity to coordinate activities
Analytical thinking	Capacity to resist to stress
Capacity to question own and other's ideas (critical thinking)	Capacity to manage work time effectively

Consider to what extent non-cognitive competencies are required. The below table presents the mean values of '*coefficients of importance*' of cognitive and non-cognitive competencies in the current job of graduates. These results are based on graduates' assessment of importance of competencies in their current employment.

Table 1. 'Coefficients of importance' of cognitive and non-cognitive competencies

Variable	Nb	Mean	St.d.	Min	Max
cog	240	5.08	1.19	1.00	7.00
noncog	229	5.37	1.19	1.00	7.00

One may note that ***non-cognitive competencies are even slightly more demanded at work than cognitive ones***. We cannot compare this result with similar results in other studies. As it was already mentioned before, the research on this topic is scarce in Russian literature. Nevertheless, we may try to make some comparisons with findings from ***a study by the agency 'Reitor'*** that deals with a different, but still comparable, topic. This study provides two ratings of qualities that appear to be the most important for career development. The first rating is based on assessment by employers and the second one on graduates' assessment. According to employers, education has a 2.2 'coefficient of importance' (scale from 1 (very important) to 9 (not important)), while personal characteristics have a 2.7 'coefficient of importance'. According to graduates, personal characteristics have a 4.3 'coefficient of importance', whereas education obtains a 2.1 coefficient. We suppose that implicitly, both graduates and employers, understand under 'education' cognitive abilities. If it is true, we observe that both, graduates and employers, rate cognitive abilities higher than non-cognitive ones (non-cognitive characteristics refer to 'personal characteristics' in this study). We also remark that coefficients of importance for cognitive and non-cognitive competencies, according to employers' rating, are very close, 2.2 vs. 2.7. Compare them, for instance, with the difference between 'education' and 'foreign language proficiency', 2.2 vs. 4.4. As to the rating by graduates, we note that the difference in importance of cognitive competencies (designed as 'education') and non-cognitive skills ('personal characteristics') are greater than in the employers' rating. It should be specified that 'graduates' in this study are individuals who have just finished their university studies. We may thus suppose that they have not quite enough knowledge about demands on the labour market. Following this reflection, we will rather refer to employers' opinion than the one of graduates. ***In employers' opinion, as we saw before, non-cognitive abilities are almost as much important as cognitive ones***.

Our findings show that non-cognitive skills are more demanded than cognitive skills (5.37 vs. 5.08). We will explore to what extent the difference between the two means is significant. Figure 3 presents box-plots of cognitive and non-cognitive skills coefficients.

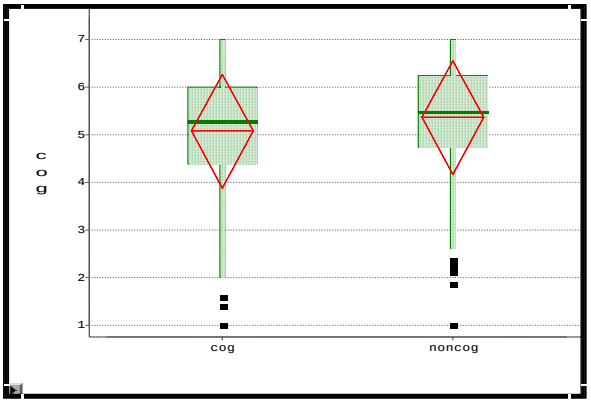
We also compared differences between the means through analysing their limits of confidence at $p < 0.05$. Looking at limits of confidence of means we observe that they overlap. The inferior limit of confidence of the mean for non-cognitive skills is inferior to the highest limit of confidence of the mean for cognitive skills (5.22 vs. 5.23 respectively). The

overlapping appears to be rather small (0.01 point). Thus if we would accept an error term of 0.10, we could say that the difference is significant.

However the test at $p < 0.05$ does not enable us to say that non-cognitive competencies are significantly more demanded than cognitive ones. ***Nontheless, we may say, at least, that they are as much demanded as cognitive skills.***

Taking into account our findings and the ones obtained by the agency 'Reitor', we can *make a conclusion that in our sampling non-cognitive skills are highly appreciated, at the same level as cognitive skills.*

Figure 3. Box-plots of 'coefficients of importance' for cognitive and non-cognitive skills



As state Bowles, Gintis and Osborne (2001) different competencies can be required at a different level, depending on occupations and job characteristics: " … The behavioural traits that contribute to high earnings in some jobs may have negative effects in other situations". It is of interest to see how demands for non-cognitive abilities differ across various occupations.

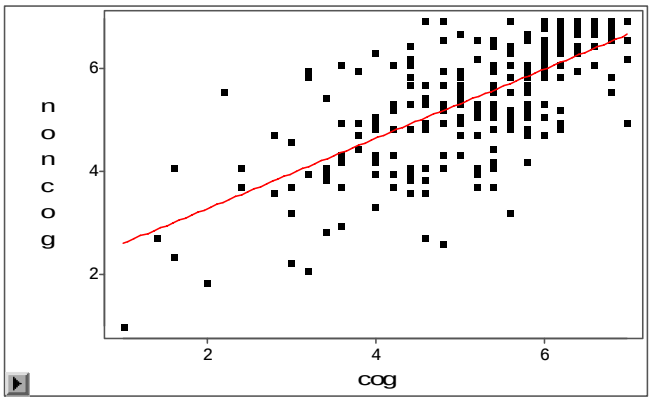
Table 2. 'Coefficients of importance' of cognitive and non-cognitive competencies, by occupational groups

Variable	Nb	Mean	St.d.	Min	Max
'Managers'					
cog	31	5.21	1.20	1.60	7.00
noncog	31	5.71	1.01	3.25	7.00
'Experts'					
cog	97	5.19	1.15	1.0	7.00
noncog	94	5.21	1.24	1.0	7.00
'Technical staff'					
cog	37	4.98	1.17	2.00	6.80
noncog	36	5.37	1.36	1.87	7.00
'Other'					
cog	12	4.06	1.42	1.60	5.80
noncog	12	5.27	1.15	2.37	6.62

One may note that in *all occupational groups*, the non-cognitive skills coefficient is higher than the cognitive skills one (table 2). This implies that non-cognitive competencies are, in absolute terms, more required than cognitive competencies. We remark that the difference between the non-cognitive skills coefficient and the cognitive skills one is the lowest for 'Experts', 0.02 points (5.21 vs. 5.19), and the highest for low qualification workers (see category 'other occupations'), 0.72 points (5.27 vs. 4.06). It is nearly the same for 'Managers' and 'Technical staff', 0.60 points. We tested if the higher demand for non-cognitive skills is statistically significant. It turned out that it is not significant. In all groups, the difference is not significant: the highest limit of confidence of the mean for cognitive skills is higher than the lowest limit of confidence of the mean for non-cognitive skills. Therefore, we cannot convey that non-cognitive competencies are more demanded than cognitive ones. *Nonetheless, we may state that* ***in all occupational groups non-cognitive competencies are highly demanded, at a comparable extent with cognitive competencies***.

The above findings do not imply that cognitive competencies are unimportant on the labour market. We remark that such capacities as knowledge in field, analytical thinking, capacity to acquire quickly new knowledge, etc. are highly valued by employers. We also remark that cognitive and non-cognitive competencies are highly correlated. This may imply that cognitive skills contribute to development of non-cognitive skills. The inverse relation is also possible: better non-cognitive abilities may enable to develop cognitive abilities (Heckman, 2004). Through our data, we observe that cognitive competencies and non-cognitive ones are highly interrelated. Regressing cognitive competencies on non-cognitive ones, we remark that 46% of variance is explained (Figure 4).

Figure 4. Correlation between cognitive and non-cognitive competencies



As a conclusion, we may say that both cognitive and non-cognitive competencies appear to be of high importance at work. Cognitive skills, like analytical thinking, capacity to acquire rapidly new knowledge, capacity to question own or others' ideas, expert knowledge and general knowledge, obtained a coefficient 5.1, in a 1 (not important) to 7 (very important)

scale. Non-cognitive skills are, at least, as much important as cognitive skills (coef. 5.37). We remark also that cognitive skills and non-cognitive skills are highly correlated. Individuals whose cognitive competencies are better developed tend to have better coefficients for non-cognitive competencies. However, it is difficult to state, that these are cognitive competencies that enable to better develop non-cognitive skills and non vice versa. Some research witness that these are non-cognitive competencies that contribute to better development of cognitive competencies (Heckman, 2004).

Computer and Internet literacy: rising evidence

We have depicted previously that knowledge in *own field is not the only competence demanded from graduates*. It is also essential to possess such qualities as an ability to acquire rapidly new knowledge, analytical thinking, etc. Afterwards, we showed that not only cognitive, *but also non-cognitive competencies are highly required on the labour market*. They appear to be as much important as cognitive skills. It is now interesting to investigate to what extent *applied skills*, like computer and Internet literacy, are required by employers.

Computer skills appear to be in growing demand in the present economy worldwide. Organisations influenced by the increasing role of information technologies in the society have more and more appeal to new tools of information and communication in their work. This implies a rising need for workers who are able to use new technologies, notably, computers and Internet. Today a highly qualified worker may be considered as 'handicapped' if he/she does not master basic computer programmes. Knowledge of more sophisticated programmes becomes an advantage for workers, as well.

This tendency is particularly evident in developed countries. For example, Canadian survey asked manufacturing firms about their use of 22 advanced manufacturing technologies, including computer-aid design and engineering, computer integrated manufacturing, flexible manufacturing systems, robotics and computer-based systems and tools. Approximately 48% of Canadian firms use these technologies, mostly in the area of inspection and communications. The attempt to relate technology use to performance showed that technology-using firms tended to have higher labour productivity and to pay higher wages than non-users (Baldwin et al., 1995, cited by OCDE, 1996).

As to the situation in the Russian Federation, we remark that ***new tools of information and communication had rapidly penetrated in almost all life spheres, over these recent years***. According to Goskomstat (2005), in 2003 the number of companies using information and communication technologies accounted for 102,737 out of 121,400 companies questioned. In one year, expenses for information and communication technologies had

augmented by 32% (from 160,213 in 2002 to 211,743 thousand roubles in 2003). ***However, the number of personal computers per 100 workers is still not very high, and it varies noticeably across economic branches.*** In 2002, there were 15 computers per 100 workers (3 of them having access to Internet). In 2003, this figure had risen by 20% reaching 18 computers per 100 workers (4 of them having access to Internet). The same year, a number of PC per 100 employees was 53 in higher education sector, 36 in administration, 30 in R&D sector, whereas it was only 8 in food industry, 8 in construction, and 6 in public health sector. In 2003, 12,7% of all organisations had an Internet web-site. This figure attained 40,3% in chemical industry, 36,4% in R&D sector and 52,0% in higher education (Goskomstat, 2005). According to statistics, the total number of computers in organisations and firms had augmented by 18% (from 3,511 in 2002 to 4,150 thousands in 2003), the number of computers with Internet access was on an upward, as well, and had risen by 30% (from 759 in 2002 to 986 thousands in 2003). Thus, we may say that in Russia the expansion of new information and communication technologies is in progress, even if a large discrepancy across sectors is observed. Given this, ***it is of interest to study to what extent computer and Internet literacy is demanded from graduates at their current work***.

We should mention that the intensity of use of computer and Internet technologies in companies also varies across regions. Firms and organisations situated in big megalopolises, like Moscow or Saint-Petersburg, are much better equipped with modern tools of information and communication. Statistics shows, that in Moscow city 33% of population uses Internet, in Saint-Petersburg this figure comes up to 17%. In other Russian regions this figure varies between 8 – 11%[51]. The discrepancies in the level of use of computer technologies are particularly sharp between big cities (regional centres) and small towns. We will, therefore, pay attention to regional differences while examining the requirements for Internet and computer literacy.

We saw previously that computer and Internet literacy is highly demanded by employers. The coefficient of importance is around 5.8 for all qualified occupations (‘Managers’, ‘Experts’ and ‘Administrative and technical staff’). As to low qualifications (‘Other occupations’ in our classification), it appears to be demanded at a lower extent (coef = 4.25). It is interesting to mention that both in highly qualified occupations (‘Managers’, ‘Experts’) and in middle level occupations (‘Administrative and technical staff’) knowledge of computer and Internet are required at the same extent. This means that for ***both high qualification occupations and middle qualification occupations, graduates are highly required to possess computer and Internet knowledge.***

[51]We have no official statistics at our disposal to illustrate the degree of spread of information technologies in Russian enterprises in different geographical regions. General statistics on population may, however, provide an idea of regional discrepancies.

Examine how, in our sampling, a demand for computer and Internet literacy varies across economic sectors (Table 3). We note that the difference in requirements for computer and Internet literacy across economic branches is not well pronounced. For education, trade, banking and other sectors, the 'coefficient of importance' for this competence riches 5.5 – 5.8. In industry, computer knowledge is slightly more demanded, with a coefficient of 6.1. Results of a general linear model test showed that the difference between these categories is not significant (F statistics = 0.98; $p > 0.10$).

Table 3. Coefficients of importance for 'computer and Internet literacy', by branch

Nb	Mean	St.d.	Min	Max
Education				
32	5.46	1.77	1.00	7.00
Trade				
26	5.57	1.96	1.00	7.00
Banking				
28	5.57	1.59	1.00	7.00
Industry				
50	6.08	1.63	1.00	7.00
Other				
79	5.83	1.52	1.00	7.00

This implies that there is no that much difference between branches in demands for computer knowledge. At the same time, the official statistics (see above) witnesse the contrary. For example, while the trade sector accounts for 13 computers per 100 employees, the education sector accounts for 53 computers per 100 employees. We may explain our findnings by the fact, that graduates tend to occupy mostly *'qualified' positions* where mastering of computer and Internet appears necessary. Taking into account higher educational level of graduates, employers choose them among other employees for works requiring knowledge of new sophisticated tools.

On the other hand, we remark that the difference in demands for computer skills across geographical regions is significant[52]. Comparing coefficients for Volgograd city, small towns in the Volgograd region, and Moscow city, we observe that in small towns there is much less demand for computer knowledge (coef. = 5.28) than than it is in Moscow city (coef. = 6.40) or in Volgograd city (coef. = 5.8) (table 4) . We carried out a test of multiple intervals of Ryan-Einot-Gabriel-Welsch which showed that the 'coefficient of importance' of computer knowledge for small cities is significantly different from coefficients for Moscow city and Volgograd city.

[52] Significant at $p < 0.10$

Table 4. Coefficients of importance for 'computer and Internet literacy', by region

Nb	Mean	St.d.	Min	Max
Volgograd city				
142	5.79	1.64	1.00	7.00
Small towns in the Volgograd region				
69	5.28	2.02	1.00	7.00
Moscow city				
10	6.40	1.10	1.00	7.00

These findings witness about important discrepancies in use of informational technologies over Russian regions. However, on general, ***we may convey that computer skills do important on the labour market, regardless economic branch, geographic region, and type of occupation.*** The process of spread of information technologies in all spheres of life will continue inevitably, and in some ten or twenty years will noticeably gain in proportions. Following an increase in intensity of use of computer technologies in industrial production and other economic sectors, companies will unavoidably search for computer literate individuals. Levy and Murnane (2001) state that it is not always indispensable to master all or many specific software programmes, but it is essential to have basic computer skills. "*Our case studies of applicant screening processes indicate that most high-wage firms do not require that candidates for entry-level jobs have mastery of particular software programmes. These firms typically have internal training programmes to provide these skills. What they do increasingly require of successful applicants, however, are familiarity with the keyboard and a mouse, recognition that most software programs are put together the same way and have on-line help systems, and an openness to learning new programmes*" (Levy and Murnane, 2001).

6.3. Monetary returns to competencies on the Russian labour market.

There is a long debate in literature about ***'how different competencies are rewarded in labour markets'***. A significant contribution to the question was made by Francis Green (1998). In his paper "Value of skills" (1998), Green attempted to estimate the price of competencies on the labour market through hedonic models. He showed, to what extent some specific skills are valued by employers. Using the data from the British Skill Survey of 1997, which gathered information on many aspects of the level and distribution of skills, Green's analysis is based on self-assessment of knowledge and skills. The concept of skill used in the survey is then specified through seven main domains: intellectual skills, interpersonal skills, physical abilities, knowledge, motivations and attitudes.

Green revealed that computer skills are highly valued in the British labour market. Even at "moderate" levels of complexity, i.e. using word-processing packages, workers using computers earn an average premium in excess of 20%, compared to whose who do not use computers at all. But it is not only computer skills that gear a wage premium in the labour market. Green found that professional communication and problem-solving skills are also highly valued. A one-standard deviation increase in either type of skill raises pay by around 5%, after allowing for all the controls. To a lesser extent, verbal skills also carry a pay premium for women. On the other hand, planning, and client and horizontal communication skills, have little independent association with pay. Numerical skills (other than computer skills) also have no conditional link with pay.

Heckman, Stixrud and Urzua (2006) underscore the importance of ***non-cognitive competencies and their strong impact on wages***, as well as on other social and labour market outcomes. They argue that non-cognitive skills affect wages through their indirect influence on schooling decisions. Heckman, Stixrud and Urzua emphasise the value of non-cognitive skills. At the same time, they state that both cognitive and non-cognitive skills are important factors predicting individuals' rents on the labour market. Herrnstein and Murray (1994) and Jensen (1998)[53] focus on ***the primacy of cognitive skills in explaining earnings and other socioeconomic returns***.

Suleman and Paul (2006) write that several competencies entail a wage premium in the European labour market: computer skills, learning skills, foreign languages and analytical skills. The data for the study was obtained through a survey among 35,000 graduates from higher education of 1994-1995 from 11 European countries and Japan (project "CHEERS", mentioned previously). Using the classification proposed by Reich (1991) Suleman and Paul

[53] Herrnstein and Murray (1994), Jensen (1998) are cited by Heckman, Stixrud and Urzua (2006)

split out all graduates into two categories: ‘symbolic analysts’ and ‘civil servants’. Depending on the categorie, wage premium to different competencies may differ.

Considering wage returns to competencies appears to be of high importance. Such analysis should provide a sort of labour market information that might then illuminate and inform policy with respect to the skill-supplying institutions. The aim is to examine the extent to which the particular kinds of skills emphasised by work analysts are actually being validated in the labour market (Green, 1998).

It is interesting to investigate how different competencies acquired by higher education graduates are rewarded ***on the Russian labour market. No study on this topic has been carried out yet in the country.*** It seems worthy to examine *what wage premium different competencies bring to graduates*. A consideration of pay premiums to competencies will shed light on the principal question of our study: “What competencies are required from graduates on the labour market?” In the previous paragraph we attempted to respond to this question using graduates self-assessment on competencies required at current work. In this paragraph we aim to approach the issue through the analysis of wage premiums.

* * *

We used ***two response variables*** for the statistical analysis. They are a graduate current ***income*** and a ***salary*** at current employment. We should remind that in our study a variable ‘income’ is obtained through summarising three other variables: (1) salary in current employment, (2) salary for supplementary hours in current employment, (3) salaries from other jobs currently hold by an individual. Statistics indicate that about 15% of employees in Russia are multiple-job holders. This figure reaches 30% among people employed in sectors with flexible work hours, like education or research and development sector. Drastic shrink in wages in these branches, occurred after reforms in the 90s, pushed individuals to search for supplementary jobs in order to complete salary in main employment. As a result, for example, we observe that today in Russia a significant number of university professors teach simultaneously at several institutions. At the same time, some individuals do it, others not. We suggest that this can be a matter of leisure/work preferences of individuals or competencies they possess (for ex., ‘capacity to organise and to manage effectively work time’).

We believe that the analysis of **relation between *competencies* possessed by graduates and their *salary*** would permit to shed light on the issue **‘how competencies are *rewarded by employers*’**. Whereas, the analysis of **relation between *competencies* and *income***, should provide an idea on **how competencies enable to graduates *to better position themselves on the labour market.*** We think that the salary will largely depend on job

characteristics, like type of economic sector, branch, size of a company, a particular employer's preferences. Whereas income, besides job characteristics, will also be related to individuals' choices and work/ leisure preferences. These include, for example, a decision to take a supplementary job or not. Taking a supplementary job would require more organisation and planning for an individual. He/she will also make a choice whether to spend more time on leisure or to take a supplementary job and, consequently, work more. Taking a supplementary job would also imply that individuals make additional efforts to search for another job (or for any other 'rewarding' opportunities). In this case, individuals would be called up to arrange with their current employer for more flexible timetable or for other conditions enabling to work at more than one place. We believe that multiple job-holding would require a range of competencies like flexibility, capacity to organise work, capacity to use time effectively, etc. Therefore, the retruns to these competencies can be different from the returns to competencies within a particular job.

When starting to explore the relationship between competencies possessed by graduates and their current income/salary, we think it is necessary to look at a correlation between variables related to different competencies and income/salary. We computed a Pearson coefficient of correlation for these variables as follow:

Table 5. Correlation between competencies and income/ salary

Current income		
Competence	Coef. of Pearson	Sign.
N	0.18	**
ST	0.12	+
NP	0.22	***
MT	- 0.15	*
IL	0.11	+
NI	0.15	*
QI	0.15	*
PP	0.12	+
FL	0.17	*
Salary in current employment		
N	0.23	***
NP	0.21	**
QI	0.14	*
FL	0.11	+

KS - mastery of your own field or discipline,
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,
EY - ability to use computers and the internet,
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.

+: $p < 0.10$; *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$

Table 5 shows competencies that correlate with income and salary. One remarks that income is correlated with a wide range of competencies (9 out of 19). However, we note that the relationship is weak (between 0.12 and 0.22). Salary correlates with only 4 competencies. Alike income, the relationship is weak (between 0.11 and 0.23).

We observe that **a 'capacity to manage work time effectively' has a *negative* impact on income**: the higher is the coefficient of a 'capacity to manage work time effectively', the lower is the income. Moreover, we saw in a precedent paragraph that a 'capacity to manage work time effectively' is the most highly demanded at work (it has the highest 'coefficient of importance' in comparison to all other competencies). Therefore, it seems quite bizarre to obtain such a result.

We should not forget that we deal, at the moment, with a simple regression and a *brut* effect of a 'capacity to manage work time effectively' on income is measured. We will see further whether this competence continues to conserve its negative effect on income if controlled by variables of labour supply, for example.

At the same time, we should note that it is not surprising to find a negative impact of a skill variable on wages. *Much research, exploring the effect of competencies on wages, was confronted to this problem.* Heijke and Ramaekers (1998) studied an impact of seven kinds of knowledge and skills on wage levels. They used the 1994 ROA's survey[54], which gathered information on transition of economic graduates from two Dutch universities. Researchers found that knowledge data management is related with lower wages[55]. Green (1998) found that manual skills and client communication skills have a negative impact on pay. Even after controlling by human capital variables and variables of labour supply, they continue to be associated with lower wages[56].

In order to proceed to further analysis on relationship between competencies and wages, we need to group them in larger categories. We cannot utilise all competencies as they are obtained in the survey, because of the problem of correlation between them. Grouping of competencies into clusters is a common practice in research on the topic. A questionnaire utilised by Green (1998) furnished total of 36 variables. "Many of these variables are highly correlated", - states Green. To get round the problem of multi-collinearity, the author decides to deploy two strategies. The main method is to use a data reduction procedure. This implies

[54] ROA – Research Centre for Education and the Labour Market, University of Maastricht, the Netherlands
[55] This result was obtained in the group of graduates who work in a field different to their university major.
[56] The negative impact of client communication skills looses, however, its significance (neither at $p < 0.05$, no at $p < 0.1$) after introducing control variables.

to recur to a derivation of common indices for groups of skills using principal component analyses. An alternative strategy, provided as a check on the first, is to utilise a backwards stepwise procedure to eliminate variables and achieve a parsimonious estimation.

Using a principal component analysis Green singles out 8 groups of competencies: verbal skills, manual skills, problem-solving skills and checking, numerical, planning, client communication, horizontal communication (teamwork, listening), professional communication (professional and managerial communication skills). Suleman and Paul (2006) also split out competencies into clusters in order to be able to examine the impact of competencies upon earnings and profit shares in the banking sector. Using a principal component analysis, they grouped competencies into 5 broader categories. These categories, already presented in the precedent paragraph, include cognitive competencies, strategic competencies, behaviour toward the organisation, general knowledge, and behaviour toward others.

Deploying ***the method of a principal component analysis*** utilised by Green (1998) and Suleman and Paul (2006) ***we split out the existing 19 items in 7 larger groups***. This grouping appears as follow:

Name of competence	**Cluster name**	**Coding name**
analytical thinking	***Analytical thinking***	ath
mastery of your own field or discipline knowledge of other fields and disciplines	***Specific and general knowledge***	know
ability to negotiate effectively ability to present products, ideas or report to an audience ability to express own ideas	***Capacity of effective communication***	negot
ability to rapidly acquire new knowledge alertness to new opportunities ability to come up with new ideas and solutions willingness to question your own and other's ideas	***Capacity to deal with the 'new'*** (new things, materials, information). Potential for innovation	new
ability to perform well under pressure ability to use time effectively	***Capacity to be 'executive' at work***	spos
ability to coordinate activities ability to work productively with others ability to mobilize the capacities of others ability to assert your authority	***Capacity to work in a group***	group
ability to write reports, memos and documents ability to use computers and the internet ability to write and speak in a foreign language	***Applied skills***	umen

This classification gave us ***7 'constellations' of competencies***: they are analytical thinking, specific and generic knowledge, capacity to communicate effectively, capacity to deal with the 'new', capacity to be 'executive' at work, capacity to work in a group, and applied skills. We put the competence ***'analytical thinking'*** aside from other competencies. We believe that this quality can not be grouped with other professional characteristics. It is a fundamental base for developing of many other competencies. Rychen & Salganik (2003) state that reflectivity is an overarching competence that is an important requisite for developing other competencies.

The second group, '***specific and generic knowledge'***, includes a mastery of own field and knowledge in other fields. The third constellation, ***'capacity to communicate effectively'***, concerns such abilities as a capacity to negotiate effectively, ability to present products and report to audience, and ability to express own ideas. We believe that this group of competencies appears to be one of the most important for graduates. As we showed in the chapter 5, graduates often lack these abilities when entering the labour market. The fourth group, a ***'capacity to deal with the 'new'***, includes a capacity to quickly acquire new things (information, knowledge, skills) and a capacity to generate new things (new information, new operating processes in production, marketing, other domains). The ability to rapidly acquire new things is related to individual's ability to adapt and learn quickly. The ability to come up with new ideas and solutions, alertness to new opportunities, willingness to question own ideas or ideas of others make up a capacity to generate new things. All these competencies contribute to innovation capacity of an individual.

We will now go no to considering how different groups of competence influence graduates' earnings. We computed **two models: the first one with *salary*** as a response variable and **the second one with *income*** as a response variable. We seek to know *what competencies are rewarded by employers (model with salary)* and *how different competences enable graduates to better position themselves on the labour market and enjoy higher revenues (model with income).*

Table 6. Estimated coefficients of competencies in regression on graduate salary/ income

	Model : y = Lg (Salary)		Model : y = Lg (Revenue)	
Variable	Coef.	Sign.	Coef.	Sign.
Intercept	8.59575	<.0001	8.67699	<.0001
Know	0.00937	0.8229	0.02079	0.6488
Negot	0.01943	0.6372	0.05812	0.1881
Group	0.04408	0.3248	-0.04715	0.3304
New	0.07701	0.1505	0.11809	0.0427
Umen	0.00930	0.7883	0.03667	0.3331
Spos	-0.06916	0.0394	-0.04424	0.2182
Ath	-0.02865	0.4730	-0.06083	0.1635
	Adj R-Sq	0.0252	Adj R-Sq	0.0479
	Sign. at	<0.10	Sign. at	<0.05

KNOW - Specific and general knowledge
NEGOT - Capacity of effective communication
NEW - Capacity to deal with the 'new'
SPOS - Capacity to be 'executive' at work
GROUP - Capacity to work in a group
UMEN - Applied skills
ATH - Analytical thinking

We remark that competencies explain **5% of *income* variation**. As to ***salary* variation**, competencies explain only **2.5%** of it. This can be due to the fact that a system of remuneration in a particular workplace does not always allow to reward competencies or to reward them to a sufficient extent. Whereas the total revenue, obtained through all types of work activities on the labour market, appears to provide better returns to competencies.

From the above table one may observe that **the only group of competencies statisticly related with the income is *a capacity to deal with the 'new'*** *(new things, materials, information);* more precisely these are **'**ability to rapidly acquire new knowledge', 'alertness to new opportunities', 'ability to come up with new ideas and solutions', 'willingness to question your own and others' ideas'. The mentioned group ***augments graduate income by 12%.*** We think that this finding witnesses about the following. A capacity to deal with the 'new' helps graduates to better position themselves on the labour market. We believe that, to some extent, it enables them to succeed in searching for better 'rewarding' possibilities. We remark that an estimated coefficient for this competence in the Model 1 (where it is regressed on *salary*) is lower in comparison to the Model 2 (regressed *income*), 8% vs. 12%. Moreover, in the Model 1, it is not significant ($p > 0.10$). This implies that a quality 'openness to new' is not systematically rewarded by employers, but, apparently, it provides graduates with a sort of 'tools' necessary to succeed on the labour market.

In the Model 1, a significant class of variables appears to be a *capacity to be 'executive' at work.* It encompasses an 'ability to perform well under pressure' and 'ability to use time effectively'. This group has a negative impact on the response variable. We have already mentioned before that we ignore how to explain a negative effect of competences on wages. The explaining of these negative effects is still an open question in the literature and till today the puzzle stays still unsolved. I.e., Suleman and Paul (2006) found that the higher is a coefficient of competence 'behaviour towards organisation', the lower are profit shares enjoyed by employees in the banking sector. The authors state that *"the negative signal of estimated coefficients indicates that this kind of skills is not related to an increase in wages"*.

Another issue that arises in our analysis is the insignificance of some competencies. We remark that 'specific and general knowledge', 'capacity to communicate effectively', 'capacity to work in a group' and applied skills bring no wage premium. This is a complex question and it may have the following implications. It is possible that the mentioned competencies are not scarce on the labour market and, consequently, their possession does not necessarily result in increase in pay. Green (1998) who faced this problem in his study (his analysis revealed that verbal skills, numerical skills, planning abilities, horizontal communication, and an ability to work autonomously had no significant impact on wages) suggested three explanations of the phenomenon. First, there could be substantial

measurement error. Second, much of the discussion of key skills could be no more than ‘hot air’. In other words, these skills are revealed not to be really in high demand, despite what policy-makers and some employers say. Third, though certain key skills are of value in firms where they are exercised, it is hard for employees to signal possession of the skills to the external labour market.

We feel rather sceptical about the second explanation. The volume of literature on the importance of communication skills is too important, both in international publications and in Russian literature, so that we could accept such an explanation.

We believe, that the insignificance of competencies in models may stem from the fact that employers do not always take into account competencies possessed by employees while deciding salaries. According to literature of human resource management, the earnings are *related* and not *based* on competencies (Armstrong, 1999).

Returns to competencies: differences between public and private sectors

Statistics show that the difference in wages between the public and private sectors appeared in 1992. In December 1993, a salary in education was 200% lower than in construction or in manufacturing ("Vedomosti", 2006). In 2004, the average salary in education was by 38% lower than the average salary in the economy. In health and social insurance it was lower by 30% and in culture and the arts by 38% (Goskomstat, 2005).

Gimpleson (2006) states that we cannot compare salaries of employees in the public sector and in the private one as the intensity of work and functions that workers perform are not the same. "An old teacher is unable to occupy a post of director in a large company", underscores Gimpelson.

Results of our survey show, that the difference between wages of graduates working in the public sector and those working in the private sector is important. In Volgograd, graduates who work in the private sector enjoy a 40% higher income than graduates working in the public sector. In the Moscow region, graduates working in the private sector earn 125% more than graduates working in the public sector[57].

It is of interest to see, whether a wage difference between public and private sectors implies differences in competencies possessed by graduates. ***Does private sector attract more 'competent' and 'able' graduates and that is why they enjoy higher salaries? Are graduates working in the private sector required to possess more competencies and that is why they enjoy higher salaries?*** To answer these questions, we will compare level of competencies possessed by graduates working in the private and the public sectors. We will also compare the level of competencies *required* in the two sectors, in order to see if the private sector is more demanding in terms of professional skills and knowledge.

We start with considering whether there is a difference between competencies *required* in the public and the private sector.

[57] The difference between wages in the public and private sectors is greater in the Moscow region, because wages in the private sector in the Moscow area are much higher than ones in Volgograd

Figure 3. Competencies required in current employment by type of economic sector

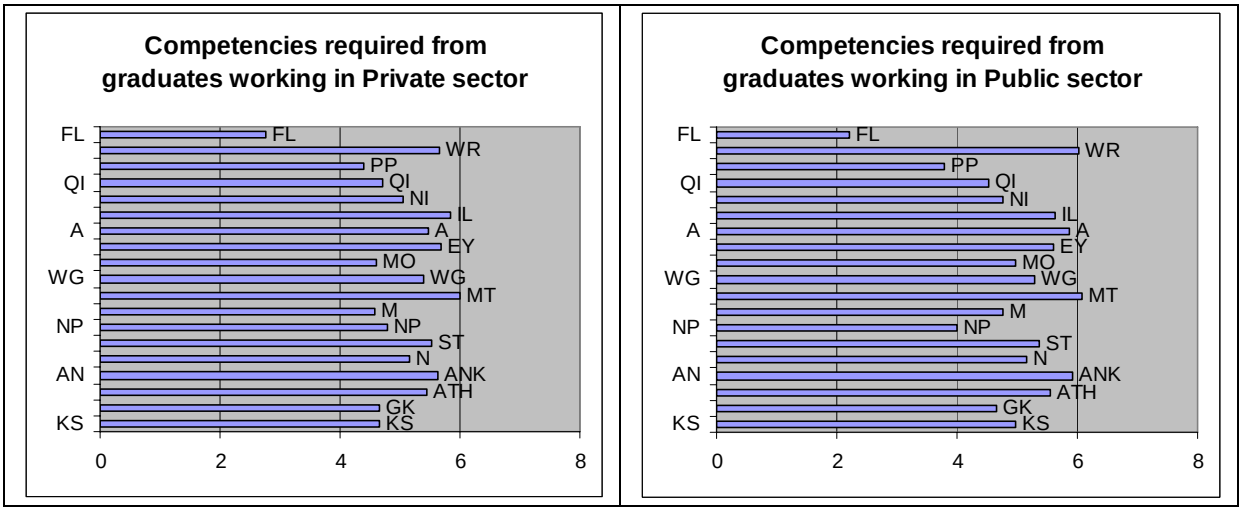


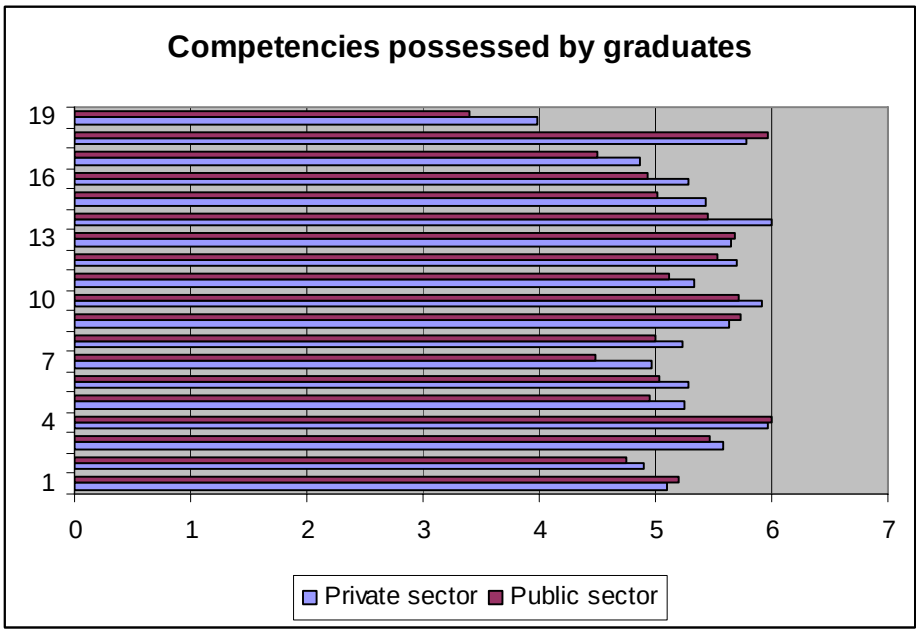
Figure 3 shows, that the private sector requires to a higher extent a capacity to see new opportunities and a capacity to question existing ideas (4,5 for the private sector vs. 4.0. for the public one; and 5,0 vs. 4,6 accordingly). We conclude that in the private sector, competencies related to the capacity to deal with the 'new' are more demanded. Simultaneously, we remark that the expert knowledge appears to be slightly less demanded in the private sector than in the public one (4,7 vs. 5 respectively). Knowledge in field and knowledge in other fields are required at the same level in the private sector (4,7 vs. 4,7), in the public sector knowledge in field appears to be more demanded (5,0 vs. 4,7).

In order to see if these differences are significant, we computed a General Linear Model test. Differences on the following competencies appeared to be significant:

- competencies more required in *the private sector*: 'capacity to see new opportunities' (Private > Public at $p < 0.01$), 'capacity to present products' (Private > Public at $p < 0.05$), 'foreign language proficiency' (Private > Public at $p < 0.01$).
- competencies more required in *the public sector*: 'capacity to assert own authority' (Public > Private at $p < 0.05$), 'capacity to write reports' (Public > Private at $p < 0.10$).

Now examine, if graduates working in the private sector *possess* more competencies than graduates working in the public sector. To do this, we compared mean coefficients of each competence *possessed* by graduates (in the questionnaire graduates were asked to rate a level of development of 19 competencies. The same list of competencies was used as in the case of competencies *required*).

Figure 4. Competencies possessed by graduates working in the public and private sectors



KS	1
GK	2
ATH	3
ANK	4
N	5
ST	6
NP	7
M	8
MT	9
WG	10
MO	11
EY	12
A	13
IL	14
NI	15
QI	16
PP	17
WR	18
FL	19

The results show that only for 3 of 19 competencies, graduates working in the public sector have higher coefficients. In 12 of 19 competencies, graduates working in the private sector have higher coefficients. We carried out a General Linear Model[58] test, to see whether these differences are significant. The difference between following five competencies in the public and private sectors turned out to be significant (* : $p < 0.05$; ** : $p < 0.01$):

- alertness to new possibilities (*);
- capacity to see new ideas (*);
- capacity to question own and others' ideas (*);
- Internet and computer literacy (**);
- foreign language proficiency (*).

These findings witness that, indeed, in regards to a number of key competencies, individuals working in the private sector are more competent than individuals working in the public sector. Thereby, a drastic difference in wages between the two sectors may be, to *some* extent, justified.

Consider now how different competencies are rewarded in the two sectors.

The system of wage formation is different in the public and private sectors in Russia. While in the public sector the salary is strongly related to individual's level of educational attainment, salary in the private sector is not formally attached to educational credentials. In the public sector, the level of educational attainment determines a so-called 'coefficient'

[58] GLM instruction in SAS programme

which has a direct implication on the level of remuneration. In the private sector, this system is quasi-inexistent. In the private sector the wage tends to depend on tasks an individual performs, and the level of salary is usually associated with the employee's productivity at work. Thus, we suppose that monetary returns to competencies should differ from one sector to another.

In order to test this hypothesis, we used two models. In the first one, we regressed competencies on the salary, taking only graduates working in the *private sector*; and in the second one, the response variable was the salary of graduates employed in the *public sector*.

Table 9. Estimated coefficients of competencies in regression on salary in the public sector and in the private sector

	Model : y = ln (Salary) in the public sector		Model : y = ln (Salary) in the private sector	
Variable	Coef.	Sign.	Coef.	Sign.
Intercept	9.05596	<.0001	8.73971	<.0001
know	-0.02380	0.6932	0.03311	0.4862
negot	-0.08732	0.1570	0.10465	0.0285
group	0.12469	0.0483	-0.01960	0.7282
new	0.07799	0.2764	0.06739	0.3478
umen	-0.08077	0.1033	0.04275	0.2912
spos	-0.06424	0.1696	-0.12181	0.0030
ath	-0.01401	0.8071	-0.03526	0.4454
	Adj R-Sq	0.0048	Adj R-Sq	0.1440
	Pr > F	0.3795	Pr > F	0.0032

Legend:

KNOW - Specific and general knowledge
NEGOT - Capacity of effective communication
NEW - Capacity to deal with the 'new'
SPOS - Capacity to be 'executive' at work
GROUP - Capacity to work in a group
UMEN - Applied skills
ATH - Analytical thinking

Results of the regression analysis confirm our supposition. ***We note that while the model with competencies for the public sector does not fit at all*** (Adj R-Sq= 0.0048, not significant), ***the model for the private sector fits well and enables to explain 14% of salary difference.*** We observe that in the model for private sector, capacities to communicate effectively (ability to negotiate effectively, ability to present products, ideas or report to an audience, ability to express own ideas) have a positive impact on salary (rise by 10%). Capacities to 'resist to stress at work' and 'manage time effectively' have a negative impact on salary (-12%). We have already mentioned before, that a negative impact of competencies on earnings is still discussable.

Making the conclusion, we may say that there exists **a significant difference between competencies *required* in the public sector and in the private one**. **The latter is more demanding in such competencies as *a capacity to see new opportunities, a capacity to present products, and a foreign language proficiency***. **Whereas the public sector requires at a greater extent *a capacity to assert own authority and a capacity to write reports***. Simultaniously, we observe a difference between competencies *possessed* by graduates in the two sectors. It appears that graduates working in the private sector have higher coefficients for competencies like an alertness to new possibilities, a capacity to see new ideas, a capacity to question own and others' ideas, Internet and computer literacy and a foreign language proficiency.

A capacity to negotiate effectively brings a wage premium to graduates employed in the private sector (10%). ***Competencies possessed by graduates enable to explain 14% of salary variation in the private sector***. At the same time, ***model does not fit for the public sector***. This implies that, in the public sector, there is no transparent link between competencies possessed by graduates and their earnings. It is interesting to mention to this regard the study by Suleman and Paul (2006). Examining returns to competencies in the banking sector in Portugal, they construed two types of models: (1) with *salary* as a response variable; (2) with *profit sharing* (a flexible part of remuneration allocated across workers by supervisors' decisions) as a response variable. In the first case, employers are more constraint to reward workers in accordance with their competencies. In the second case, employers are more free to decide on wage premium, and, consequently, on competencies premium. Suleman and Paul conclude that skills are better rewarded through incentive-pay: *"competencies are better rewarded through profit sharing than through monthly earnings"*.

Role of competencies in access to employment

We have just considered the impact of competencies on wages. We observe that the analysis of a direct relationship between competencies and wages has some limitations. We think that another possibility of exploring returns to competencies is considering their effect on *access* to employment. As we saw previously, there is a large differentiation across geographical regions and economic sectors in Russia. It seems interesting to consider whether competencies possessed by graduates enable them to access more or less rewarded sectors. ***First consider what variables of labour demand would predict higher earnings for graduates***. We chose some variables that were reported to influence wages on the labour market in previous studies (see Goskomstat, 2005).

Table 7. Estimated coefficients of labour demand variables in regression on graduate income

	Model 1: Y = ln (Revenue)		Model 2 : y = ln (Revenue)	
Variable	Coef.	Sign.	Coef.	Sign.
Intercept	9.03500	<.0001	8.65132	<.0001
PRIV (private vs. public sector)	0.12241	0.1555	-0.02499	0.7373
job2cc2 (working as 'expert' vs. working as 'manager')	-0.03995	0.0233	-0.02526	0.0879
job2cc3 (working as 'administrative staff' vs. working as 'manager')	-0.04421	0.0391	-0.04069	0.0252
job2cc4 (working as 'other occupation' vs. working as 'manager')	-0.04467	0.0819	-0.02928	0.1919
sec2bb2 (working in Trade branch vs. working in Education branch)	0.30688	0.0399	0.37564	0.0048
sec2bb3 (working in Banking and Administration branch vs. working in Education branch)	0.19701	0.1828	0.34679	0.0087
sec2bb4 (working in Industrial production branch vs. working in Education branch)	0.37693	0.0053	0.46350	0.0001
sec2bb5 (working in 'Other' branches vs. working in Education branch)	0.12326	0.3093	0.25901	0.0183
PLW2C2 (working in Volgograd region vs. working in Volgograd)	-0.20275	0.0226	-0.22897	0.0020
PLW2C3 (working in big cities vs. working in Volgograd)	0.18655	0.4998	0.30664	0.1730
PLW2C4 (working in Moscow vs. working in Volgograd)	0.36119	0.0274	0.55399	0.0002
PLW2C5 (working in other cities vs. working in Volgograd)	0.04430	0.7796	0.03054	0.8116
Nbtot (nb of workers in a company/organisation)	-0.00002610	0.6513	0.00005426	0.2980
Multjo: (have more than one job)			0.54611	<.0001
Ownb : (be self-employed)			0.24645	0.0938
	R2Adj = 0.2027		R2Adj = 0.4460	

We observe that graduate income largely varies depending on the sector, region of work, and occupational status. This finding is not new, in all countries wages vary depending on job characteristics. However, the particularity of the Russian graduate labour market consists in a drastic difference in wages between the public and private sectors and between the capital and province regions. I. e., 32% of graduate income variance is explained by the variable "Private sector" in the Moscow region sample and by 13% in the Volgograd sample[59]. These coefficients seem to be quite high.

In the second model we introduced two other variables related to the demand, 'working in more than one job' and 'being self-employed'. Tha fact of having more than one job appears to be significantly related to the current graduate income. It augments the revenue by 63%.

We wonder if the above-considered labour demand variables are related with competencies graduates possess. Ergo, we will test ***if the access to some types of jobs is affected by competencies graduates possess.*** For such analysis it is relevant to utilise binary logistic models.

In the first model we tested the probability of going to Moscow depending on competencies graduates possess. Afterwards we tested the probability of going in countryside (Volgograd region vs. Volgograd, Moscow or big cities) (model 2). The probability of taking managerial position, having more than one job, being self-employed and working in education sector (models 3, 4, 5, 6) were estimated finally.

We computed six models, but ***only two of them fit***. The Model 2 (Table 8) shows that graduates who are more computer literate, have a good foreign language proficiency and a good capacity to write reports, memos and other documents are more likely to go to work in big cities. The Model 6 (Table 8) shows that those graduates who have better knowledge in field and in other disciplines tend to work in education. On the contrary, graduates who have a good capacity to work in group appear to go to other sectors than education.

[59] This difference can be explained by the difference in wages between the public and private sectors in the two concerned regions. A differential between salaries enjoyed by graduates working in the private sector vs. working in the public one in Moscow are much higher in comparison to the same differential in Volgograd.

Table 8. Estimated coefficients of the probability of a) going to education sector and b) working in small cities/countryside

	Model 2 : probability of going to education sector		Model 6 : probability of working in small cities/ countryside	
Variable	Coef.	Sign.	Coef.	Sign.
Intercept	-0.8217	0.5756	1.8252	0.1046
know	0.6519	0.0270	-0.1712	0.4067
ath	0.0985	0.7333	0.0613	0.7497
negot	0.1525	0.5881	-0.0644	0.7596
new	0.3635	0.3038	-0.2137	0.4082
spos	-0.3077	0.1552	0.0939	0.5607
group	-0.9576	0.0012	0.3225	0.1434
umen	-0.1314	0.5332	-0.6245	0.0001
Nb	44		72	
Log-likelyhood	-23		-26	
Chi-2	18.5412		21.9939	
Pseudo R-2	0.0990		0.0983	

Legend:

KNOW - Specific and general knowledge
NEGOT - Capacity of effective communication
NEW - Capacity to deal with the 'new'
SPOS - Capacity to be 'executive' at work
GROUP - Capacity to work in a group
UMEN - Applied skills
ATH - Analytical thinking

The fact that other models do not fit means that ***we can not explain the access of graduates to these positions by competencies they possess***. This may have the following implications. First, we are not able to explain the situation by competencies we chose. For instance, the fact that a graduate opts to have two or more jobs may owe to his/her dynamisme, personal energy, capacity to work a lot, personal choice to work and get higher salaries rather than spend time on leisure or other activities (house keeping, child raising, hobbies, etc.). These competencies were not included in our list of professional qualities. Second, it is possible that the access to different jobs has a chaotic character on the Russian labour market and can not be explained by personal characteristics of graduates. The impact of networks can be important here. I.e., "my friend has left Volgograd for leaving in Moscow, I will do the same". "My uncle has a well-doing company in Moscow, I will go there as I am sure that he will hire me".

Impact of job match on returns to competencies

The success of graduates on the labour market may also depend on how they manage to put in value acquired knowledge and skills. This will largely be related to the quality of match between tasks performed at work and competencies possessed by individuals.

Recent research made clear that ***salary does not simply depend on labour supply and labour demand.*** According to the theory of job match (Sattinger, 1975) and job assignment (Jovanovich, 1979), ***the quality of match between a job and a worker has an impact on productivity and consequently on salary***. On the labour market, jobs are heterogeneous, as well as workers with their stock of human capital. The salary enjoyed by a worker depends on the characteristics of this match.

Given this, it is of interest to investigate how mismatches affect graduates' earnings. In the previous paragraph, we considered how competencies possessed by graduates are related to their wages. We also examined how competencies enable to access to some 'highly-rewarded' jobs. In this paragraph, we aim to study how mismatch between competencies possessed by graduates and those required in a given job influence graduates' earnings.

This paragraph will be devoted to examining the impact of mismatches between competencies possessed by graduates and those required in a job on pays. Mismatches between competencies, possessed by graduates, and those, required in a job, embody ***three types of mismatches***.

In chapter 3, we distinguished 3 types of mismatches: ***field mismatch, educational level mismatch, and skills mismatch***. All these mismatches imply an inconsistency between acquired and required competencies. A field mismatch refers to a *professional knowledge* mismatch. In comparison to a field mismatch, educational level mismatch concerns mismatches in a wider range of knowledge and skills. Skills mismatch refers to integrity of abilities, capacities, attitudes and behaviours of individuals.

We mentioned in the third chapter, that the issue of professional mismatches is very acute in Russia. According to existing research, it accounts for 25 – 30% for field mismatch and around 8% for educational level mismatch. Proportions of skills mismatches were never estimated. In general, quantitative research on mismatches in scarce in Russia.

In order to investigate how mismatches influence graduate earnings, ***we will start by briefly presenting a magnitude of different mismatches in our sampling***. In our questionnaire, we disposed a number of questions related to different mismatches: field

mismatch: “What field of study do you feel is/was most appropriate for your current work/ first work?”; educational level mismatch: “What type of education do you feel is/was most appropriate for your current work/ first work?”; skills mismatch: “To what extent are/were your knowledge and skills utilised in your current work/ first work?”, “To what extent does/did your current work/ first work demand more knowledge than you could actually offer?”. Table 9 presents a distribution of answers to these questions.

Table 9. Field mismatch

	Volgograd		**Moscow region**	
	Nb	%	Nb	%
What field of study do you feel is most appropriate for your current work?				
In field	77	28.73	35	21.74
In field, near field	…	…	73	45.34
Other field	**39**	**14.55**	**47**	**29.19**
No particular field	**4**	**1.49**	**6**	**3.73**
Total	268	100	161	100
What field of study do you feel was most appropriate for your first work?				
In field	…	…	65	37.79
In field, near field	…	…	61	35.47
Other field	**43**	**15.41**	**27**	**15.70**
No particular field	**11**	**3.94**	**19**	**11.05**
Total	279	100.00	172	100.00

About 30% of graduates from the Moscow region do not work within their major today. This figure is twice bigger than for Volgograd graduates (15%). The difference can be explained by the fact that graduates in the Moscow region (MR) are mostly secondary and primary education teachers by their university specialisation. Salaries in this sector are lower than in other occupations, with relatively poor conditions of work. This pushes young specialists to choose a different work.

In their first employment after graduation, 16% of the MR graduates worked in a completely different field and 11% worked in a job that did not required special professional knowledge. In Volgograd, 16% of graduates worked in a completely different field and 4% worked without any appeal to professional knowledge.

Table 10. Educational level mismatch

	Volgograd		Moscow region	
	Nb	%	Nb	%
What type of education do you feel is most appropriate for your current work?				
PhD	24	9.19	8	5.00
Master's degree	222	85.06	137	85.63
Lower than higher education	15	5.75	15	9.38
Total	261	100	160	100
What type of education do you feel was most appropriate for your first work?				
PhD	4	1.48	2	1.18
Master's degree	224	82.66	132	77.65
Lower than higher education	43	15.87	36	21.18
Total	271	100.00	170	100.00

Even if from 15 to 30% of graduates choose today a different profession, they mostly occupy positions requiring higher education. As we observe in Table 10, more than 90% of the Moscow region graduates and 96% of the Volgograd graduates need higher education in their current employment. As to the situation immediately after graduation, 78% of the graduates of the MR and 84% of graduates from Volgograd worked in a job that required higher education or more.

We argue that in some occupations the level of education required formally and the specificity of tasks asked to perform do not correspond. Sometimes higher education is required, but knowledge and skills acquired through it are not really demanded. Therefore, we decided to measure in a different way the need for tertiary education at current work. As we mentioned before, Russian higher education has no stratification, as it is for instance the case of French tertiary studies. Till 2000 – 2002 only one type of higher education diploma was delivered, a diploma of 'Specialist'. It required not less than 5 years. This implies that either a job requires 5 years of study or no higher education at all. Using the international classification of occupations (ISCO-88), we recalculated the percentage share of graduates whose current work demands less than 5 years of higher education (Table 11). We believe that in the ISCO-88 classification, only jobs of 'Managers' and 'Experts' require a 5-years education.

Table 11. Educational level mismatch by ISCO-88 classification

	Volgograd	
Occupational group	Nb	%
'Managers'	33	16.34
'Experts'	115	56.93
'Administrative and technical staff'	38	18.81
'Other occupations'	16	7.92

Table 12 . Skills matches

	Volgograd		Moscow region	
	Nb	%	Nb	%
To what extent are your knowledge and skills utilised in your current work?				
1	**8**	**3.05**	**14**	**8.70**
2	**18**	**6.87**	**21**	**13.04**
3	44	16.79	26	16.15
4	78	29.77	48	29.81
5	114	43.51	52	32.30
Total	262	100.00	161	100.00
To what extent were your knowledge and skills utilised in your first work?				
1	**19**	**6.88**	**13**	**7.56**
2	**32**	**11.59**	**20**	**11.63**
3	62	22.46	38	22.09
4	77	27.90	42	24.42
5	86	31.16	59	34.30
Total	276	100.00	172	100.00

Scale: 1 – very low extent; 5 – very high extent

As Table 12 shows, about 10% among Volgograd graduates and 22% among MR graduates use their professional skills and knowledge at a very low extent (rated 1 and 2). 16% of graduates in both samples use them at a more or less high extent (rated 3). 74% graduates in Volgograd and 63% in the MR use their knowledge at a very high extent (rated 4 and 5). As to first employment, 19% of graduates in Volgograd and 20% in the MR utilised their skills at a very low extent.

Concerning *extra* skills and knowledge demanded at the current work (Table 13), 56% in the MR and 49% in Volgograd feel that the current work demands more knowledge and skills (rated 4 and 5). This indicator shows that about half of graduates *feel lack of skills and knowledge in the current employment.* In regards to first employment, 46% of Volgograd graduates and 35% of the MR graduates felt a shortage of skills.

Table 13. Skill shortages

	Volgograd		Moscow region	
	Nb	%	Nb	%
To what extent does your current work demand more knowledge than you could actually offer?				
1	50	19.16	20	12.42
2	34	13.03	19	11.80
3	50	19.16	30	18.63
4	**75**	**28.74**	**54**	**33.54**
5	**52**	**19.92**	**38**	**23.60**
Total	261	100.00	161	100.00
To what extent did your first work demand more knowledge than you could offer?				
1	60	21.98	37	21.51
2	39	14.29	31	18.02
3	51	18.68	44	25.58
4	**86**	**31.50**	**44**	**25.58**
5	**37**	**13.55**	**16**	**9.30**
Total	273	100.00	172	100.00

Scale: 1 – very low extent; 5 – very high extent

Making the conclusion, we may say that:

(1) *Field mismatch appears to attain 16%* (share of graduates who work in a completely different field and in a job that requires no professional field[60]). This figure is lower than ones reported in other studies (25% - ISA SPAM, 32% - 'Reitor'). We note that *among the MR graduates, field mismatch is twice bigger than in Volgograd, 30%*. This is related to the fact that the MR graduates are mostly secondary and primary education teachers. Low salaries and poor conditions of work push them to 'migrate' to other sectors and to change their profession.

(2) *As to educational level mismatch, it attains 6%*. This indicator is also lower than the one registered by previous studies (8%, ISA SPAM). Once more, we remark that *in the MR sampling*, this figure is higher than in Volgograd, *9%*. The reason for this is the same as in the case for field mismatch.

(3) *10% of graduates have little appeal to their knowledge and skills in current employment* (the figure is twice bigger for *the MR, 22%*).

(4) We notice that the number of graduates with *educational level mismatch had decreased considerably between 2000 and 2005* (from 16% to 6% in Volgograd, and from 21% to 9% in the MR). This phenomenon reminds us the study by Sicherman (1991). He stated that an over-education at the beginning of career has a transitory character. When

[60] We tolerated the fact when a graduate works in a near field and did not classify it as a field mismatch

entering the labour market, young professionals look for to gain work experience. They accept lower positions in order to be promoted and to access to higher positions in future. Ergo, such a situation can be unfavourable at present, but further in the career it may bring good returns.

* * *

We have just provided some quantitative evidence on professional mismatches on the graduate labour market in Russia. *We showed that the magnitude of mismatches is rather high and that it may vary noticeably depending on a field of study*. ***Examine now the impact of professional mismatches on graduate incomes***. We wonder, whether a mismatch necessarily implies a decrease in earnings. The impact of mismatches on wages has already been explored in other countries (Badillo, 2005; Di Pietro and Urwin, 2001). However, there is still no unique evidence if mismatches do affect salaries and whether they have positive or negative incidence on wages.

To analyse the impact of mismatches on earnings, we used a least square regression analysis. We regressed variables related to mismatches on the current income (Table 14). We utilised the following variables related to the quality of job match in current employment:

1. KFC: If the current job requires knowledge exclusively from own field, from near field, from other field, and if it does not require any specialised knowledge.
2. EDU2SR: If the current job requires lower than higher education.

EDU2SR is a dummy variable (EDU2SR=1 if a work requires lower than higher education). KFC is a variable with six modalities: kfcc1 – work in exclusively own field; kfcc2 – work in own field and, at the same time, in a near/other fields (i.e., work in own field, in a near field/ work in own field, in other field/work in own field, in a near field); kfcc3 – work in a near field; kfcc4 – work in a near and, at the same time, in other fields; kfcc5 – work in other fields; kfcc6 – a work does not require any specific field.

Table 14. Estimated coefficients of job match variables in regression on income

	Model : y = Lg (Revenue)	
Variable	Coef.	Sign.
Intercept	8.71809	<.0001
Reference category : exclusively own field		
kfcc2 (in field, near field, other field)	0.07748	<.0001
kfcc3 (near field)	0.00124	0.9254
kfcc4 (near field, other field)	0.04765	0.0234
kfcc5 (other field)	-0.01987	0.7469
kfcc6 (no particular field)	0.02087	0.3000
EDU2SR (higher education is required vs. lower then higher education in required)	-0.07298	0.6568
	Adj R-Sq	0.0804

We observe that ***variables of job match enable to explain 8% of graduate income***. The fact of working in a completely different field (kfcc5) has a negative impact on income, but it is not significant ($p > 0.10$). The fact of working in a job that requires no particular field, is not significant either. However, it appears that ***graduates whose work requires simultaneously knowledge in many fields (kfcc2 and kfcc4) earn more***. The increase in income caused by this specificity of work comes up to ***8% and 5% respectively***.

This finding appears to be really important. There is no research in Russian literature witnessing about this particularity of the labour market. We believe that this is a new phenomenon and it reflects a changing nature of the national economy and job characteristics. As we indicated in the first chapter, with the move towards a knowledge-based economy, the world of work becomes more complex. Boundaries across different domains of study and economic spheres have been blurring (see REFLEX program proposal). Today, a work often demands knowledge from various fields.

In line with transformations occurring in countries of the European Union, in Russia, apparently, these processes are becoming present as well. In our sampling, 18% of graduates declared to have appeal to more than one field in their work. The results from the above regression analysis reveal that graduates whose work requires simultaneously knowledge from many fields, enjoy higher wages.

Green (1998) found that on the British labour market, 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. But we deal here with *field* variety. However, we may presume that the capacity to work simultaneously in many fields would imply the need for more competencies.

* * *

Consider now in more details the impact of field mismatch and educational level mismatch on graduates’ income. We will further look at a brut effect of these mismatches on income.

Table 15. Distribution of current income by type of field demanded (Volgograd)

	Nb	**Mean**	**St.d.**	**Minimum**	**Maximum**
Exclusivly own field	74	8 480	3 635	2 500	17 250
In field, near field, other field	26	13 173	5 604	4 750	25 500
Near field	92	8 389	3 824	2 500	25 000
Near field, other field	24	11 917	7 713	4 750	37 500
Other field	38	9 421	5 619	2 500	25 000
No particular field	2	6 000	1 768	4 750	7 250

Table 16. Distribution of salary in first employment by type of field demanded (Volgograd)

	Nb	Mean	St.d.	Minimum	Maximum
Exclusivly own field	76	3 431	1 509	2 500	12 500
In field, near field, other field	32	4 078	2 402	2 500	12 500
Near field	94	3 816	2 170	2 500	12 500
Near field, other field	16	5 953	3 450	2 500	12 500
Other field	43	3 901	2 033	2 500	12 500
No particular field	10	2 725	712	2 500	4 750

We remark that both in current employment (Table 15) and in first employment (Table 16), the highest income is enjoyed by graduates whose work demands knowledge of more than one field. Graduates who worked in an exclusively own field earn less that whose who worked simultaneously in many fields (8,479 roubles vs. 13,173 or 11,916 roubles for current job; and 3,430 roubles vs. 4,078 or 5,953 roubles for first employment).

In the Moscow region sampling, the data on the relevance between the field of study and the specialisation at current work was not that detailed as in the Volgograd sampling. The variable KFC had only four modalities: 1 - work in exclusively own field; 2 – work in a near field; 3 – work in other fields; 4 – a work does not require any specific field. Let consider how income varies across these four modalities.

Table 17. Distribution of current income by type of field demanded (Moscow region)

	Nb	Mean	St.d.
What field of study do you feel the most appropriate for your current work?			
Exclusivly own field	32	10 381	10 290
Own or a related field	58	14 710	10 394
A completly different field	42	15 864	13 964
No particular field	6	13 500	5 683
What field of study did you feel the most appropriate for your first work?			
Exclusivly own field	62	3 445	3 995
Own or a related field	52	4 478	3 471
A completly different field	26	6 685	6 341
No particular field	19	4 661	2 761

We note that both in current employment and in first employment, graduates who worked in a completely different field earned more than whose who worked in own field (15,864 vs. 10,381 roubles for current employment; 6,684 vs. 3,445 roubles for first employment) (Table 17). Moreover, it appears that graduates whose work requires no specific field earns more than graduates who work in own field (4,660 vs. 3,445 roubles for first work; 13,500 vs. 10,381 roubles for current work[61]). This situation can be explained by an existence of huge wage differentials between the educational sector and other economic branches on the Russian labour market. Salaries in education are 40% lower than the average salary in the

[61] One should be careful with this result as the number of graduates whose current work demands no particular field is very small, only 6.

economy. The Moscow region sampling is mostly composed of secondary and primary education teachers. Therefore, graduates who decided to work within their specialisation enjoy lower earnings, in comparison to graduates who decided to change their domain.

Consider the effect of *educational level mismatches*. As to the situation among Volgograd graduates (Table 18), we remark that in absolute numbers, graduates who occupy jobs requiring higher education are better rewarded in comparison to graduates whose jobs require lower than tertiary level (9,293 roubles vs. 8,193 roubles). This is the same for the first employment (3,903 roubles vs. 3,062 roubles). However, tests of significance of difference between the means are negative (ANOVA test). This implies that earnings do not systematically depend on the level of education required at work.

Table 18. Distribution of current income and salary in first employment depending on the level of educational attainment required (Volgograd)

	Nb	**Mean**	**St.d.**
What type of education do you feel the most appropriate for your current work?			
PhD	24	10 563	4 472
Higher education degree	217	9 294	5 090
Lower than higher	11	8 136	4 480
What type of education did you feel the most appropriate for your first work?			
PhD	41	3 274	1 916
Higher education degree	218	3 904	2 116
Lower than higher	4	3 063	1 125

Table 19. Distribution of current income and salary in first employment depending on the level of educational attainment required (Moscow region)

	Nb	**Mean**	**St.d.**
What type of education do you feel the most appropriate for your current work?			
PhD	5	6 660	4 072
Higher education degree	117	14 806	12 215
Lower than higher	15	10 342	4 371
What type of education did you feel the most appropriate for your first work?			
PhD	2	2 500	2 121
Higher education degree	121	4 266	3 972
Lower than higher	35	5 319	5 375

Concerning the MR graduates, we observe the same thing: graduates whose jobs require higher education, enjoy higher pay. This difference is not statistically significant either. As to first employment, we observe once more a curious phenomenon, graduates who need lower than higher education earn more (Table 19).

Making the conclusion, we may say that the fact of working in a completely different field or in a job that requires lower than higher education does not necessarily affect graduate income. However, we found that working in a job that makes appeal to more than one domain generates higher earnings (increase by 5 – 8%).

6.4. Role of higher education in preparing graduates to face labour market demands

Previous studies ('ISA SPAM', 2002; 'Reitor', 2005; Bondarenko et al., 2005) witness that universities perform well their principal task, which refers to providing deep professional knowledge in a particular field. Higher education also enables to develop such competencies as analytical thinking and critical thinking. A traditional role of education is thought to provide good cognitive skills. However, a number of questions raise: "Does higher education develop only cognitive skills?", "Does it manage to provide thorough knowledge of information technologies being of great demand on the labour market actually?", "Does higher education contribute to developing of other competencies being in a growing demand in the modern society?"

A study by Evers and Gilbert (1991), carried out among 800 students of University of Guelph, Ontario, Canada, showed that university education produces added value on a number of important dimensions of student development. Nonetheless, "on a number of other important dimensions of student development much less value is added by formal university courses". These other skills, underscores Evers and Gilbert, become more and more crucial on the labour market. They found that university instruction contributes noticeably to development of thinking and reasoning skills, problem solving skills, planning and organising skills, time management skills, ability to conceptualise, learning skills and quantitative, mathematical and technical skills. However, formal instruction is not considered to be major source of development of independence, interpersonal and social skills, supervisory skills, risk-taking, managing conflicts, leadership/ influence, and creativity/ innovation.

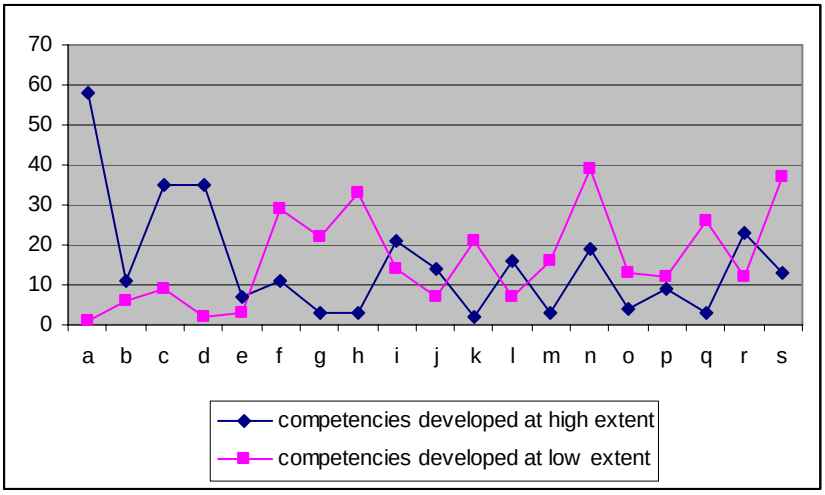
It is of interest to study, how, in Russia, higher education contributes to development of different skills. The current paragraph will, thus, devoted to this issue.

In the questionnaire, we asked graduates to indicate what competencies were developed at a highest extent and what competencies were developed at a lowest extent during university studies. We obtained the following results.

Table 1. 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 1. 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 analysis of the above data (Table 1 and Figure 1) reveals that competencies most developed through tertiary education are knowledge in field, analytical thinking and ability to acquire new knowledge. Whereas competencies developed at the lowest extent appear to be a capacity to manage work of others, an Internet and computer literacy, and a foreign language proficiency.

We remark 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. A famous Russian scientist, inventor of the table of chemical elements, Mendeleyev (cited in Dyachenko, 2005), explains that an individual who has studied thoroughly one field is capable to study easily other fields. Students who understand principles of relations between elements and systems of elements within a particular field are able to learn quickly other disciplines.

However, as we showed in previous chapters, ***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 urgent to make emphasis on developing of these professional qualities during studies.

Even if some key competencies are not well developed at university, we observe that graduates are mostly satisfied with their studies (Table 2). Even if graduates recognise that higher education does not provide all the competencies demanded on the labour market, they seem to accept it. Presumably, they do not expect tertiary system to be the only place for acquiring the necessary skills (Merenkov, 1998). Work experience is seen today as an indispensable complementary element to education as it enables to acquire 'lacking' competencies ('Reitor', 2005).

Among Volgograd graduates, about 84% of respondents are satisfied with their choice of institution. Answering the question *"Looking back, if were free to choose again would you choose the same study programme at the same institute of higher education?"*, 81% of respondents said that they would choose the same study programme at the same university, 4% would choose the same university but a different programme. About 14% regret their choice of higher education institution: 2% would prefer to take the same course but at a different institution and 12% would better do their studies at a different university with a different study programme. Finally, 1% of respondents said that they would decide not to study at all in higher education institution.

Table 2. Graduates' opinion about their higher education institution

	Volgograd		**Moscow region**	
"I would choose to study .....…"	Nb	%	Nb	%
At the same university in the same programme	231	80,77	96	53.04
At the same university in a different programme	11	3,85		
At a different university in the same programme	6	2,1	9	4,97
At a different university in a different programme	34	11,89	71	39,23
Would decide not to study at all	4	1,1	0	0,00
Not answered	6	0,29	5	2,76
Total	292	100	181	100

Graduates form the Moscow region are less satisfied with their choice of higher education establishment than Volgograd graduates (53%). However, none of them regret about experiencing higher education (0%). 40% would choose a different speciality.

Table 3. Graduates' ratings on higher education utility

"To what extent has your study programme been a good basis for …"	Coefficient
Starting work?	3,8
Further learning on job?	3,6
Perform your current work tasks?	3,9
Future career?	3,9
Your personal development?	4,4
Development of entrepreneurial skills?	2,3

Scale: 1 – not important; 2 – very important

Higher education appears to be most useful for personal development (coef. = 4.4). It is also helpful for career development, performing work duties, and to starting working (coef. = 3.8 – 3.9). But, higher education turns out to contribute to a very low extent for developing entrepreneurial skills (coef. = 2.3).

Results

The objective of this chapter was to provide empirical evidence on the question **"What competencies are required on the modern labour market in Russia?"** In order to respond to this question, we approached the issue from different aspects:

1) we considered ***what competencies are required on the labour market*** (through ***graduates' assessment***), 2) it was examined to what extent ***non-cognitive competencies*** appear to be important at work; 3) we estimated ***monetary returns to different competencies***; the difference in monetary returns to competencies across economic sectors (public vs. private sectors) was investigated, as well; 4) ***the impact of competencies in access to employment*** was studied; 5) ***the impact of job mismatches*** (in terms of inconsistency between competencies possessed by individuals and competencies required in a job) ***on wages*** was addressed; 6) ***the role of higher education system*** in development of competencies required on the labour market was explored.

The following results were obtained:

(1) ***Knowledge in field is far from being the only and the most demanded competence on the labour market.*** Besides the 'expert' knowledge (knowledge in field), some other competencies appear to be highly required by employers. It turned out that the most demanded competencies are 'capacity to manage effectively time at work' (coef = 6,0), 'to write reports' (5,9), and 'to acquire new knowledge' (5,8). The capacity to assert own authority, express own ideas, and be computer and Internet literate (each has a coefficient of 5,7) are found to be highly demanded, as well. Foreign language proficiency appears to be the least demanded.

(2) ***Non-cognitive competencies,*** like a capacity to manage others, to motivate others to work, to communicate effectively, to assert own authority, and others, appear to be, at least, ***as much important as cognitive competencies,*** like analytical thinking, capacity to acquire rapidly new knowledge, etc. This finding is true across all occupational groups.

(3) ***A computer and Internet literacy is highly demanded by employers.*** The coefficient of importance is rated around 5.8 for all qualified occupations ('Managers', 'Experts' and 'Administrative and technical staff'). As to low qualifications ('Other occupations' in our classification) it appears to be demanded at a lower extent (coef = 4,25).

(4) ***Competencies explain 5% of income variation. As to salary variation, competencies explain only 2.5% of it***. This can be due to the fact that a system of remuneration in a particular workplace does not always take into account competencies possessed by graduates.

We should remind that in our study a variable 'income' is construed as a sum of: (1) salary in current employment, (2) salary for supplementary hours in current employment, (3) salaries from other jobs currently hold by an individual. Statistics indicate that about 15% of employees in Russia are multiple-job holders. This figure reaches 30% among people employed in sectors with flexible work hours, like Education, Research and Development, etc. Drastic shrink in wages in these branches, occurred throughout reforms of the 90s, pushed individuals to search for supplementary jobs in order to complete salary in main employment. As a result, for example, we observe that today in Russia, a significant number of university professors teach simultaneously at several institutions. At the same time, some individuals do it, others not. We suggest that this can be a matter of leisure/work preferences of individuals or competencies they possess (for instance, 'capacity to organise and to manage effectively work time').

Therefore, we believe that the analysis of relation between competencies possessed by graduates and their salary would permit to shed light on the issue 'how competencies are *rewarded by employers*'. Whereas, the analysis of relation between competencies and income, should provide an idea on how competencies enable to graduates *to better position them on the labour market*. We think that on the Russian labour market, an individuals' salary is largely restraint by job characteristics, like type of economic sector, branch, size of a company, a particular employer's preferences. Whereas income, besides jobs' characteristics, is also related to individuals' choices, work/ leisure preferences and competencies they possess. Taking a supplementary job would imply that individuals make an additional effort to search for another job, or in general for new 'rewarding' opportunities. They would be called up to arrange for more flexible hours and/or for other conditions enabling to work at more than one place. We believe that multiple job-holding would require a range of competencies like flexibility and others. Therefore, 'rents' due to these competencies can be different from returns to competencies within a particular job.

We remark that the ***cluster of competencies 'Capacity to deal with the 'new'*** (new things, materials, information)' ***has a positive impact on income***. This cluster encompasses such competencies as **'**ability to rapidly acquire new knowledge', 'alertness to new opportunities', 'ability to come up with new ideas and solutions', 'willingness to question your own and other's ideas'. This group of abilities turns out to augment graduate income by 12%. Presumably, a capacity to deal with the 'new' helps graduates to better position them on

the labour market. Probably, it enables them to better succeed in searching for new opportunities (in terms of more *'rewarding'* opportunities).

(5) We have just shown that competencies explain 2,5% of salary variation. However, this figure varies noticeably across sectors. ***Competencies possessed by graduates appear to have no incidence on their salary in the public sector. Whereas in the private sector, it enables to explain 14% of salary variation.*** In *the private sector*, a cluster of competencies 'Capacity to communicate effectively' brings a wage premium of 10%. At the same time, we found that a cluster 'Capacity to be executive' at work has a negative impact on salaries. We ignore how to explain the latter finding. It should be remarked that numerous studies had faced this problem (Suleman and Paul, 2006; Heijke and Ramaekers 1998; Green, 1998). However, we found no convincing explanation of this phenomenon in the literature.

It is important to explore how competencies are rewarded on the Russian labour market. We explicit further why. We remark that the system of work remuneration in Russia takes into account competencies possessed by individuals to a very low extent (2,5% of salary variation in explained). One the one hand, this means that workers will not be interested to develop and to acquire the necessary competencies. On the other hand, this implies that higher education institutions may consequently get a false signal from the labour market. Looking at the public sector, they may conclude that it is not that necessary to develop a wide range of competencies at graduates, because they are nor rewarded by employers. However, we found that in the private sector, competencies, other than knowledge in field, are rewarded. Moreover, we showed that graduates who are capable to deal with the 'new' will enjoy higher incomes. ***All these findings witness about the importance of developing a wide range competencies by graduates***. Results from this study should be a *message* for skill-supplying institutions about a rising demand for more and more diverse types of knowledge and skills on the current Russian labour market.

(6) We tried to estimate the probability of access to highly-paid or, on the contrary, lower-paid positions by competencies graduates possess. We found that the highest wages are enjoyed by graduates working in Moscow, in the private sector, by self-employed graduates, by graduates who occupy managerial positions, by graduates who have two or more jobs, etc. However, we failed to explain the probability of access to these highly-paid jobs by competencies graduates possess. This may have the following reasons. First, we are not able to explain the situation by competencies we chose. For instance, the fact that a graduate opts to have two or more jobs may owe to his/her dynamisms, personal energy, capacity to work a lot, personal choice to work more hours and get higher salaries rather than spend this time on leisure or other activities (house keeping, child raising, hobbies, etc.). These characteristics were not included in our list of professional qualities. Second, it is possible that the access to

different jobs have a chaotic character on the Russian labour market and can not be explained by personal characteristics of graduates. The impact of personal networks can be important here. I.e., "my friend has left Volgograd for leaving in Moscow, I will do the same". "My uncle has a well-doing company in Moscow, I will go there as I am sure that he will hire me". One should note that the spread of informal regulations in the Russian economy resulted in instauration of a system of so-called '*blat*'[62], when an access to a highly-paid position depends rather on personal connections than on professional qualities of individuals. This indicator was not taken into consideration into our questionnaire[63].

However, we found that the probability of going to low-paid jobs is related to competencies graduates possess. It appears that good knowledge in field has a positive impact on the probability of accessing to education sector (one the most low-paid sectors): those who have good expert knowledge have a higher probability to access to education sector. However, capacities to work effectively in group have a negative impact on access to education sector. This implies that whose who have a good capacity to work in group do not go to education sector. Applied skills, like foreign language proficiency and computer and Internet literacy have a negative impact on access to jobs situated in small towns (where average salary is significantly lower than in big cities). This suggests that graduates who have good computer knowledge and foreign language knowledge tend to work in big cities.

(7) **G*raduates whose work requires simultaneously knowledge in many fields earn more than those who work exclusively in their own field.*** The increase in income caused by this specificity of work comes up to 5% - 8%.

(8) ***Universities perform well their principal task, which refers to providing deep professional knowledge in a particular field***. Higher education also enables to develop such competencies as ***analytical thinking and critical thinking***. ***However, it does not contribute or contribute to an insufficient extent to developing of some other highly required competencies***, like a capacity to manage others or a computer literacy.

We should finally specify that our study had ***some limitations***. As to the part of our study dealing with general indicators on graduate employment (see chapter 6, §6.1.'Graduate employment: general situation'), a single university was used in Volgograd (among more than ten other education institutions in the region), and a narrow specialised institutions were taken in the Moscow region (mostly offereing programms in Education Studies). Thus, findings and

[62] 'Blat' is a Russian term naming a situation when an access to a highly-paid position depends rather on personal connections than on professional qualities of individuals.
[63] We adopted the questionnaire elaborated by European researchers, where the described phenomenon is not that pronounced as in Russia

conclusions may not be generalized to graduates from all higher education institutions in Russia. However, this provides us with the first piece of idea about graduates' employment prospects in the country.

In regards to the part of our study dealing with competencies (see chapter 6, §6.2.'Competencies required on the labour market, §6.3.'Monetary returns to competencies'), our sampling was reduced to only Volgograd graduates (due to technical problems of the Moscow team, this part of data was unavailable). Therefore, the total number of observations included only 292. Moreover, our analysis was based on self-perceptions of graduates on competencies they possess and competencies required by employers. A certain bias of measurement related to a subjectivity of rating may have occurred. Also, as we mentioned before, a notion of competence is new in Russia. We proposed a list of 19 competencies. The list was rather complicated and, may be, it was not always easy for graduates to distinguish between competencies, as some of them have similar meanings (for example, 'motivate others to work' and 'coordinate activities').

General conclusion

The objective of our paper was to shed light on the question ***"What competencies are higher education graduates required to possess in the transitional labour market in Russia, taking into consideration the influence of a global move towards a knowledge-based society?".***

We supposed in the beginning of our work that highly qualified specialists are demanded ***not only to master their own field***. They are supposed to be capable to learn quickly and be ready to acquire new knowledge or new profession, to be able to manage others, to cope with changes, to be able to come up with new ideas, to operate in stressful situation, to be computer and Internet literate, etc.

Findings from the existing research and from our present empirical study confirmed our hypothesis. Indeed, expert knowledge is not the only competence required on the labour market. Using data from our survey, we found out that the most demanded are the following professional qualities: ***capacity to manage work time effectively, ability to write reports, computer and Internet literacy, capacity to assert own authority, ability to express own ideas, ability to rapidly acquire new knowledge, capacity to perform well under pressure***. All these competencies received a 'coefficient of importance' above 5.5 (in 1 to 7 scale), while the expert knowledge (or knowledge in a particular field) was rated only 4.7. Even if we take a sampling including only graduates, who work *exclusively* within their specialisation, findings appear to converge with the general situation. The coefficient of importance for competence 'expert knowledge' attains 5.4 vs. 5.9 for a capacity to acquire new knowledge, and 5.7. for Internet and computer literacy, a capacity to work in group, ability to write reports, and ability to express own ideas.

Previous research carried out in Russia recently witness about the same tendency. A study conducted by the Moscow High School of Economics in 2003 among 300 employers (Bondareno et al, 2005) showed the following. Such competencies as a capacity to acquire new knowledge, ability to take a responsibility, capacity to work autonomously and ability to work in group are as much appreciated by employers (or even more for some competencies) as the expert knowledge.

These findings do not imply that mastering of own field is not important on the modern labour market. It is evident that specialised knowledge is **a *key quality*** for any professional. These findings just make clear that companies become more 'hungry', more demanding in terms of professional qualities. They are not satisfied any more with workers that only have a good mastery of own field, but they require more. ***In the context of***

increasing number of higher education graduates, companies compete for graduates who not only possess a deep professional knowledge, but who are also able to manage staff, to communicate effectively, to operate in a changing environment and to learn continuously. These employees are more productive and consequently, they will enjoy higher earnings.

Summarizing results of graduates' assessment on required competencies we may conclude that the following professional qualities are highly demanded by employers:

1) **capacity to use work time effectively and to resist to stress;**
2) **analytical thinking and ability to acquire rapidly new knowledge;**
3) **Internet and computer literacy, capacity to write reports and other documents;**
4) **capacity to communicate effectively (to express own ideas and to negotiate with others);**
5) **capacity to work in a group.**

Taking into account theoretical advances on key competencies developed by different researchers (Ashton and Green, 1996; Rychen, 2001; Canto-Sperber and Dupuy, 2001; David and Foray, 2002; Levy and Murnane, 2001, etc.) (see chapter 1, §1.2.1.'Concept of competence and key competencies'), we would also add to this list two other competencies:

6) **ability to act and reflect autonomously (i.e. problem-solving skills);**
7) **ability to adapt rapidly to changing circumstances.**

Considering results of previous research in Russia on competencies that graduates are required to possess, we feel necessary to add one more competence (Bondarenko et al., 2005; survey by the independent Russian agency 'Reitor', 2005) (see chapter 5, §5.2.'Internal brain drain and other professional mismatches'):

8) **be honest and responsible for work.**

The above eight competencies, together with the expert knowledge (knowledge in field), form a comprehensive list of professional qualities indispensable for a successful professional today. Higher education establishments, as well as other educational institutions, like vocational school, may use this list for correcting and elaborating new curriculum.

We noted that competencies related to innovation capacity are not currently highly required. Competencies like ability to question existing ideas, ability to come up with new ideas and solutions, and a capacity to see new opportunities gained coefficients of importance of 4.6, 4.9, and 4.4, respectivly. We think that this is due to the fact that many Russian firms/ organisations do not sufficiently integrate innovation component in the production process

and in other related activities. As we showed in the chapter 4 ‘Russia’s path towards the knowledge-based society’, the innovation potential in Russia appears to be rather low.

Nethertheless, we found out that on the Russian labour market better earnings are secured by graduates who have a good capacity to deal with the ‘new’ (new knowledge, new economic environment, new processes of production, new opportunities, new ideas, etc.). This group of competencies includes an innovation capacity and a capacity to acquire rapidly new knowledge. Young specialists who have high coefficients for these competencies enjoy a 12% increase in current income.

We singled out a list of nine competencies indispensable for graduates to possess while entering the labour market or building a career. All nine competencies appear to be highly required for work. However, not all organisations/firms remunerate competencies. Not all Russian enterprises are ready to compete for highly qualified specialists offering them an appropriate reward to their stock of human capital. Some companies do not realise the importance of human capital for company’s development and they *are not willing* to pay enough and to attract more capable and productive workers. We believe that this feature is a legacy of the soviet economy, where more productive work was not rewarded by a wage premium, but rather by moral recognition.

Some companies *can not* pay higher salaries to more productive workers. This may be due to limitations in the system of remuneration. As an example, we can give the case of the public sector in the Russian economy. The analysis of data from the graduates’ survey revealed a quite shocking result. It turned out that competencies do not explain variation in earnings of graduates in the public sector (a regression model does not fit at all), whereas they explain 14% of income distribution for graduates employed in the private sector.

* * *

We found out that ***the transition from a command system to a free market one had brought about important changes on the graduate labour market in Russia***. All these transformations engendered ***new challenges for graduates*** in terms of skills and knowledge.

Collapse of the state system of job assignment of graduates resulted in multiple problems related to study-to-work transition. The state system of job assignment enabled to provide *all* graduates with a study-related job. There was no need for graduates to search wok, the state did it for them. The situation changed after 1990: a free economy implied a free labour market. The state had lost its function of the main regulator on the graduate labour market and graduates had to perform job search by themselves. Moreveover, the inefficient functioning of the Public Employment Agency after reforms (due to sharp budget cuts, lack of

equipment and appropriate information technologies, shortage of qualified staff trained for a new social and economic organisation) reinforced a negative impact from the weakening of public study-to-work assistance mechanisms. This situation imposed new challengies on young specialists. They were obliged to sort out themselves and to anticipate their entrance into the labour market. Before finishing studies, young people had to search information on job positions, they tried to make networks with professional contacts and to get information on different other issues related to employment. All these factors called up graduates ***to act autonomously and to develop entrepreneurial skills***.

A phenomena of 'internal brain drain' and other types of ***professional mismatches gained large proportions***. Many qualified specialists had to abandon their university major as some professions were not demanded any more on the market or were low-paid. Given a new labour market structure, graduates have no choice but to work in a completely different field. This implied ***to acquire rapidly new profession and to adapt to work that they were not initially trained for***.

One should note that professional mismatch is not a particularity of the Russian transitional labour market. It is true that because of drastic structural changes in the economy occurred in the beginning of the 90s, a large part of professional knowledge and skills acquired by Russian graduates of the mid-90s was lost. Slowing down of economic activities in a bulk of production sectors in the country geared a steep decrease in the demand for specific professional knowledge in relevant fields. Many of knowledge-intensive or high-technology sectors were on a downward. Consequently, qualified specialists with an appropriate profile could not find a job within their specialisation. This situation provoked two negative tendencies in the country; they are 'internal' and 'external' brain drain. The first one refers to the situation where a specialist decides to work in a different field and looses simultaneously its initial qualification. The second one concerns a leave of qualified labour for foreign countries. Both trends had terrific consequences on Russian economy (see chapter 2).

However, starting from the mid-90s, the situation has slightly changed in regards to the 'internal' brain drain. The supply of education had adapted to a changed economic structure. We observe a noticeable increase in the number of higher education graduates with majors in Human and Social Sciences, notably in Law and Economics (see chapter 3). These were specialisations required on the labour market at that time. Thus an 'internal' brain drain had somewhat decreased. Nonetheless, we still speak about professional mismatches that still frame the situation on the national labour market and particularly higher education graduates employment prospects. According to research based on empirical data it accounts for 25 – 30%, according to other estimations this figure comes up to 40 – 50%.

Making comparisons with the situation on the labour markets in other countries, we found out that the phenomenon of ***professional mismatch is not a particularity of the Russian transitional economy***. In the international literature professional mismatches are considered from three aspects. Researchers distinguish educational level mismatches, field mismatches and skills mismatches. Educational level mismatch is usually referred to as 'overeducation'. This phenomenon was already discovered in the USA in the mid-70s and came into prominence with works of Freeman (Freeman, 'Overeducated men', 1976). Further research had been carried out since that in many countries of the world (Duncan and Hoffman, 1981; Thurow, 1975; Sicherman, 1991; Allen and Velden, 2000; Allen and Weert, 2005; Lessible et al., 2001; Badillo-Amador, etc.). Recent works witness about the existence of professional mismatches and their rather high levels in some countries.

We argue that professional mismatches are important in Russia. As to field mismatch, it riches 15% according to empirical findings from our study, and it varies largely depending on field of graduation. For graduates with qualification "Secondary education teacher", for instance, it comes up to nearly 30%. This indicator is higher in comparison to the mean for 11 European countries and Japan (11.7%) but lower than in the UK (18.6%) and Japan (24.2%).

Thus we think that some measures should be taken in order to prevent the drain of acquired human capital in the country.

At the same time, one should be aware of ***a changing nature of the economic organisation framed by the move towards a knowledge-based society***. This generates new patterns in the work organisation. Rapid changes in market environment, a high demand for innovations that are supposed to contribute to economic development and an increase in competitiveness between companies, or countries at large, on the national or international markets, place new challenges for qualified labour. ***This implies that graduates should be ready to work in many fields regardless their initial education***. In the current society organisation it appears that boundaries and limits between different domains of work become blurred. From this view, professional mismatches should not be considered as only negative tendencies. In much Russian literature professional mismatches are perceived as negative tendencies resulted from the economic transformation. Some researchers argue that a system of state planning should be restored as it was in the soviet period in order to assure good match.

However, it seems that to some extent professional mismatches become natural elements of the modern economy. Therefore, ***the educational system should ensure that graduates are equipped with such a competence as a capacity to acquire new knowledge and/or another profession rapidly.*** According to our study, ***graduates who work simultaneously in many fields enjoy higher earnings.*** Graduates who have appeal to many

fields at the same time in their job/jobs secure today 4,000 roubles, on average, more than whose who work exclusively in their own field. We found the similar result for first employment after graduation. Working in many fields brings about an increase by 1,500 roubles in earnings.

Literature

Allen J. and Velden R. (2001), "Educational mismatches versus skill mismatches: effects on wages, job satisfaction, and on-the-job training", Oxford Economic Paper (2001), pp. 434 – 452

Allen J. and Velden R. (2005), "The role of self-assessment in measuring skills", paper for the "Transition in youth" workshop, 8-10 Semtember, 2005

Allen J., Weert E. (2005), "What do educational mismatches tell us about skill mismatches? A cross-country analysis", Paper for the seminar: "European labour market of higher education graduates: Analysis of the CHEERS project", Segovia, June 17 – 18, 2005

Arai M., Ballot G., Skalli A. (1995), "Différentiels intersectoriels de salaires et caracteristiques des employeurs en France", document ERMES 95.1

Armstrong M. (1999), "Employee reward", London, Institute of Personnel and Development

Ashton and Green (1996), "Education, training and the global economy", Edward Elgar Published Limited, UK

Badillo-Amador L. (2004), "Education mismatch and qualification mismatches: monetary and non-monetary consequences for workers", Universidad de Valencia

Becker G.S. (1964), "Human capital: a theoretical and empirical analysis, with special reference to education"; Edition : USA, National Bureau of Economic Research

Bell D. (1973), "The coming of post-industrial society. A venture in social forecasting", Translated by Andler P., Edition Robert Laffont, Paris

Blanden J., Gregg P., Macmillan L. (2006), "Accounting for Intergenerational Income Persistence: Non-Cognitive Skills, Ability and Education", Centre for the Economics of Education London School of Economics, London

Blaug M. (1985), "Where are we now in the economics of education?", Economics of Education Review, Vol. 4, n. 1, pp. 17 -28, Great Britain.

Blaug M. (1976), "The empirical status of human capital theory: a slightly jaundiced survey", J.E.L. 14: 827 – 55, 1976

Bogomolov O. T. (2000), "La Russie face aux défis de XXI-e siècle", Revue internationale des sciences sociales, Mars 2000, n. 163

Bowles S., Gintis H., Osbsorne M. (2001), "The determinants of earnings: A behaviourial apporach", Journal of Economic Literature; Dec. 2001, 39, 4; Academic Research Library

Boys C.J., Brennan J., Henkel M., Kirkland J., Kogan M., Youll P. (1998), "Higher education and the preparation for work".

Brajnik E. et Faure M. (1996), "Les nouvelles tendances du système éducatif russe", Revue international d'éducation № 9, mars, pp.13 – 20

Bray M. and Borevskaya N. (2001), "Financing education in transitional societies: lessons from Russia and China", Comparative Education, Vol. 37 № 3, pp. 345-365

Carnoy M. (1993), "Economics of education, then and now", in "International encycplopedia of economics of education". Second edition, edited by M. Carnoy

Carroll J. B. (1993), "Human cognitive abilities: a survey of factor-analytic studies", New York : Chambridge University Press

Castells M. (1998), "La société en réseaux. L'ère de l'information", Fayard

Chupov V., Zubok J. (2000), "Intégration ou exclusion: les jeunes et le marché du travail en Russie", Revue internationale des sciences sociales, Juin 2000, n. 164
David and Foray (2002)

Sapsford D. and Tzannatos Z. (1993), "The economics of the labour market", Wold Bank, Washington, DC, The Macmillian press LTD, 1993

Duret E., Kuepie M., Nordman C., Roubaud F. (2005), "La dimension économique de l'efficacité externe de l'éducation en Afrique de l'Ouest", Communication à la conférence régionale sur l'éducation en Afrique de l'Ouest : contraintes et opportunités », 1 – 2 novembre 2005

Dyker D.A., Radosevic S. (2000), "Building the knowledge-based economy in countries in transition - from concepts to policies"

Drucker P.F. (1970), "La grande mutation vers une nouvelle société. The age of discontinuity", Translated by Quoniam de Schompré Ph., Les editions d'Organisation, Paris

Ehrenberg R. G. (2000), "Modern labour economics: theory and public policy", Roland G. Ehrenberg, Robert S. Smith. – 7th ed., Addison Wesley Longman, Inc.

Ellingsen T. and Rosen A. (1994), "Skill or Luck? Search Frictions and Wage Diferentials", October 25, 1994, http://swopec.hhs.se/hastef/papers/hastef0001.pdf

Engelman E. (2002), "The enquire", April, 2002

European Commission (2003), Communication "The role of the universities in the Europe of knowledge", 2003, p. 2 http://europa.eu.int/eur-lex/en/com/cnc/2003/com2003_0058en01.pdf

European Commission (2004), "The Europe of knowledge 2020 : A vision for university-based research and innovation", Liège Convention Centre, Liège, Belgium, 25 – 28 April 2004 http://europa.eu.int/comm/research/conferences/2004/univ/pdf/progr_final_en.pdf

Evers F.T. and Gilbert S.N. (1991), "Outcomes assessment: how much does university education add?", The Canadian journal of higher education, Vol. XXI-2

Expert panel on skills (2000), "Critical Skills: Hitting a moving target", Conference Board of Canada and Human Resources Development Canada

Eymard-Duvernay F. and Marchal E. (1997), "Facons de recruter", Paris, Editions Métaillé

Folliet H. and Leclercq J.-M. (2000), "How can an educational system de decentralised while preserving its unity? The case of Russia and France" in Perschar J.L. and Van der Wal M. Education contested: Changing relations between state, market, and civil society in modern European education Swets & Zeitlinger, pp. 65-75

Fox W. (1999), "Statistiques sociales", Les presses de l'Université de Laval, Canada

Prokhoroff G. (2002), "*La démographie: structure et flux*", in "Les transformations du système éducatif de la Fédération de Russie", Ouvrage collectif sous la direction de Annie Vinokur, Paris 2000, UNESCO : Institut international de planification de l'éducation, p. 131-145

Gerber T. P. (2000), "Educational stratification in contemporary Russia: Stability and change in the face of economic and institutional crisis", Sociology of Education, Vol. 73, October, pp. 219 - 246

Giret J.-F. (1998), "Pour une approche économique de l'insertion professionnelle des jeunes", Université des sciences sociales de Toulouse U. F. R de Sciences économiques

Green F. (1998), "The value of skills", EEEG Annual Conference, University of Newcastle, 29 June – 1 July 1998

Hare P.G. (1997), "Structure and financing of higher education in Russia, Ukraine and the EU", GB Jessica Kingsley Publishers, 222 p.

Heijke H. , Ramaekers G. (1998), "The knowledge and skills of economics graduates and their significance on the labour marker", in Nijhof W.J. and Strumer J.N., "Key qualifications in work and education", Kluwer Academic Publishers, Netherland, pp. 221 - 246

Heckman J.J., Stixrud J., Urzua S. (2006), "The effects of cognitive and noncognitive abilities on labour market outcomes and social behaviour", NBER working paper series, Working paper 2006, http://www.nber.org/papers/w12006

Horie N. (2004), "The role of universities for youth labour market in Russia", Center for Far Eastern studies, Toyama university, Toyama

International Associations of Universities (http://www.euroeducation.net/prof/russco.htm) J. F. Linn, Keynote Speech, 6th Berlin Financing Conference, Berlin, Germany, July 21-22, 2001, http://www.worldbank.org/

Johnes G. (1993), "The economics of education", The Macmillan Press Ltd., London

Jovanovic B. (1979), "Job matching an the theory of turnover", Journal of Political Economy, Chicago, University of Chicago, Vol. 87, n. 5, part 1, Outubro, pp. 972 - 990

Middleton J., Ziderman A., Van Adams A. (1993), "Skills for productivity. Vocational education and training in developing countries", Published by the World Bank, Oxford University Press

Kapeliouchnikov R. (1999), "Russia's labour market: adjustment without restructuring", Paper for the economic colloquium of NATO in Brussels "Economic developments and

reforms in cooperation partner countries: the link between economics, security and stability", 6 p.

Kellermann P. (2002), "Acquired competencies and job requirements", draft version of publications on REFLEX study

Konstantinovski D. (2000), "La jeunesse de Russie dans le système éducatif : la dynamique de l'inégalité", Education et société № 5, 1, pp. 117 – 137

Kovaleva N. (1998), "The intellectual elite and the population of Russia: problems of education and personnel training" in Leitner E. "Educational research and higher education reform in Eastern and Central Europe", Francfort, Peter Lang, pp. 183-194

Kwok M. (2004), "Disciplinary differencies in the development of employability skills of recent university graduates: Some initial findings", hep.oise.utoronto.ca , vol. 1, issue 1, p. 60 – 77

Lassibille G., Gomez L.N., Ramos I.A., O Sanchez C. (2001), "Youth transition from school to work in Spain", Economics of Education Review, Vol. 20, n.2, pp. 139 – 149

Le Boterf G. (1998), "De la competence à la navigation professionnalle", Paris, "Les Editions"

Leclercq J.-M. (1995), "La loi sur l'éducation de la Fédération de Russie et les problèmes de son application", Savoir Education/Formation №1, pp. 83-99

Leplat J. (1993), "Competence et ergonomie", in Amalberti R., Montmollin M., Theureau J., "Modèles en analyses du travail", Paris, Madraga, pp. 263 - 278

Leskov S. (2003), "The census results: migration as Russia's main hope", Izvestia Science, June 2004

Levy F. and Murnane R.J. (2001), "Key competencies critical to economic success", in Rychen D.S. and Salganik L.H. (2001), "Defining and selecting key competencies", Hogrefe and Huber Publishers, Germany, pp. 151 – 174

Linn J. F. (2001) , Keynote Speech, 6th Berlin Financing Conference, Berlin, Germany, July 21-22, 2001, http://www.worldbank.org/

Little B. (2005), "Policies towards work-focused higher education – are they meeting employers' needs?", Tertiary Education and Management, Springer 2005
Lundvall and Johnson (1994)

Lokshin M. (2004), "Household childrcare choices and women's work behaivour in Russia", The Journal of Human Resources, Vol. 39, n. 4, Fall 2004, The university of Wisconsin Press

Lugachyov M., A. Markov, N. Tipenko, S. Belyakov (1997), "Structure and Financing of Higher Education in Russia", Hare P.G., "Structure and financing of higher education in Russia, Ukraine and the EU", GB Jessica Kingsley Publishers, p. 144 - 175
Mincer (1958)

Murdock J. (2002), "The effect of the reputation and the teaching quality of higher education departments on graduate employment – A comparison across 7 countries and Japan", Ph.D. thesis, University of Burgundy

Nesporova A. (2003), "Unemployment in the transition economies", Employment Strategy Department, International Labour Office, Geneva

OCDE (1996), "The Knowledge-based Economy", Paris 1996

OCDE (1998), "Examens des politiques nationales d'éducation: Fédération de la Russie", Paris

OCDE (1999), "Examens des politiques nationales d'éducation: Enseignement tertiaire et recherche en Fédération de la Russie", Paris

Oiry E. and D'Iribarne A. (2001), "La notion de competence: continuities et changements par rapport à la notion de qualification", Sociologie du travail, n. 43, 49 – 66, Paris, Editions scientifiques et médicales Elsevier SAS

Paul J.-J. and Murdoch J. (2000), "Higher education and graduate employment in France" in European Journal of Education, Vol. 35, n. 2, Blackwall Publishers Ltd. 2000, USA

Paul J.-J. and Murdoch J. (2002), "Links between knowledge and work and appropriateness of employment", Draft version of publications on REFLEX study

Postlewaite A. and Silverman D. (2006), "Non-Cognitive Skills, Social Success, and Labor Market Outcomes"

Prokhoroff G. (2000), "La démographie: structure et flux" in A. Vinokur, collection of articles "Les transformations du système éducatif de la Fédération de Russie", Paris, UNESCO : Institut international de planification de l'éducation, p. 131

Reich R. (1991), "The work of nations", A. Knopf, New York

REFLEX (2003), "The Flexible professional in the knowledge society. New demands on Higher education in Europe", Specific Targeted Research Project (STREP) proposal

Reynaud J.-D. (2001), "Le management par compétences : un essai d'analyse », Sociologie du travail, Editions scientifiques et médicales Elsenier SAS, p. 7 – 31

Psacharopoulos G. (1975), "Earnings and education in O.E.C.D. countries", Edition: Paris, OCDE, 1975

Rychen D.S. and Salganik L.H. (2001), "Defining and selecting key competencies", Hogrefe and Huber Publishers, Germany

Rychen S. (2001), Introduction to Rychen D.S. and Salganik L.H. (2001), "Defining and selecting key competencies", Hogrefe and Huber Publishers, Germany, pp. 1 – 16

Sattinger M. (1975), "Comparative advantage and the distribution of earnings and abilities", Econometrica, Vol. 43, n. 3, Maio, pp. 455 – 469

Salganik L.H. (2001), "Competencies for life: a conceptual and empirical challenge", in Rychen D.S. and Salganik L.H. (2001), "Defining and selecting key competencies", Hogrefe and Huber Publishers, Germany, pp. 17 – 32

SAS/STAT User's guide (1990), Vol. 1, Version 6, Fourth edition, SAS Institute Inc., Cary, NC, USA

SAS/STAT User's guide (1990), Vol. 2, Version 6, Fourth edition, SAS Institute Inc., Cary, NC, USA

Suleman F. (2004), "La production et la valorisation des compétences sur le marché du travail: des approches néo-classiques à l'économie des conventions », Thèse pour le Doctorat en Economie, ISCTE, Lisbonne- Portugal et Université de Bourgogne, Dijon

Suleman F. and Paul J.-J. (2004), "Rewarding human capital and competencies: an analysis of the banking sector in Portugal", paper presented at 9th SPIE Conference, Lisbon, October 8 – 9 2004.

Suleman F. and Paul J.-J. (2006), "What did we learn from the introduction of competencies into earnings models?", paper presented at International Jean-Claude Eicher Conference "How do recent advances in economic thinking contribute to the major challenges faced by education?", Dijon, June 21 – 23, 2006

Selz M. and Thélot C. (2003), "La rentabilité salariale de la formation et de l'experience en France depuis 35 ans", Cahier du Lasmas-Idl (mars, 2003)

Tchetvernina T., Moscovskaya A., Soboleva I., Stepantchikova N. (2001), "Labour market flexibility and employment security. Russian Federation, Employment sector" Employment paper 2001/31, International Labour Office, Geneve, 110 p.

Teichler U. (2002), "Graduate employment and work: varied issues in comparative perspective", Draft version of publications on REFLEX study

Thoirain D. (1997), "La transformation du système éducatif en Russie. Désengagement de l'Etat et émergence d'un système diversifié", Les sciences de l'éducation 30,1, pp. 73 – 88

Tkachenko E.V. (1994), "Educational reform in the Russian Federation" in Groof J. Educational Policy in Russia and its Constitutional Aspects, Belgium, Acco, pp.46-56

UNDP (1996), United Nations Development Program, Regional Bureau for Europe and the Commonwealth of Independent States, "Human development report 1996", http://rbec.undp.org/

UNDP (2003), "Rapport mondial sur le développement humain 2003. Les objectifs du Millénaire pour le développement : Un pacte entre les pays pour vaincre la pauvreté humaine", Programme des Nations Unies pour le développement (PNUD), Economica, Paris 2003

UNDP, Moscow (2004), "Report on human development in the Russian Federation", 2004"

UNESCO (2004), "Educational system in Russia. The national report of the Russian Federation", Moscow 2004, p.3, 47th session of the International conference on education

"Quality education for all youth: challenges, trends, and priorities", Geneva, 8 – 11 September 2004, UNESCO, The International bureau of education.

UNESCO (2005), "Education for all. International report 2005", http://portal.unesco.org/education/en/file_download.php/7e0cfd50b96400fe73a17f863c707ddetable14_privateenrolment.pdf

UNESCO-CEPES (2001 – 2002), "Statistical information on higher education in Central and Eastern Europe", 2001 – 2002 (www. cepes.ro/information_services/statistics.htm)

Vinokour A. (2001), "Les transformations du système éducatif de la Fédération de Russie", Paris, UNESCO

Weinert F.E. (2001), "Concept of competence: a conceptual clarification", in Rychen D.S. and Salganik L.H. (2001), "Defining and selecting key competencies", Hogrefe and Huber Publishers, Germany, pp. 45 – 67

Wichmann J. (2000), "The Russian educational discourse in the 1990s between global, regional and national driving forces" in O'Dowd M. and Fagerlind I. Mapping European comparative education perspectives: the PRESTIGE TMR Network Stockolm, Stockolm University, pp. 169–182

World Bank (2003), "Russian economic report, August 2003", n. 6, (www.worldbank.org.ru)

Wonnacott and Wonnacott (1991), "Statistique. Economie, gestion, sciences, medicine", Economica, 1991

Gateway to Russia (2003), "Russian higher education inconsistent with demands of labour market", November 2003, http://www.gateway2russia.com/st/art_170390.php

Literature in Russian:

Antipin P. (1996), "Four types of adaptation to the labour market and perspectives of the social stratification in Russia", Journal of sociology science, n. ¾, p. 218 – 226

Antonenko V. (2004), "Transformation of human capital into a commetitive form", Ph.D. in Economics, Volgograd

Beketov N. (2004), "The perspectives of the development of the Russian national innovation system" (Бекетов Н. Перспективы развития национальной инновационной системы // Вопросы экономики М. 2004. №7).

Beregovaya D. (2002), "Professional career guidance for graduates of HEIs", Information and analytical survey, Human resources, Federal Employment Agency of the Russian Federation

Bessonova L.A., etc. (2002), "Education, employment, career: strategy and tactics", Materials of scientific conference, 19 – 21 December 2002, Kazan

Birdsall N. (2006), "Rising inequality in the new global economy" (Бердсолл Н. Усиление неравенства в новой глобальной экономике// Вопросы экономики М. 2006. №4).

Bobrov A., Papenov K. (2005), "The role of a state in archiving the steady dynamics" (Бобров А.Л., Папенов К.В. Роль государства в достижении устойчивого развития // Вестник Московского университета. Серия Экономика. 2005. №1)

Bobylev S. (2005), "Development of human potential in Russia" (Бобылев С.Н. Развитие человеческого потенциала в России // Вестник Московского университета. Серия Экономика. 2005. №1).

Bogdanovskiy V. (2005), "Labour and employment in Agricultural sector", Voprosy ekonomiki, Serie 6. Economy, n.6, June 2005, p. 72-85

Bondarenko N., Krasilnikova M., Kharlamov K. (2005), "Monitor economics of education. Demand for labour force – view of employers. Issue 2005, 1", High School of economics, Moscow

Bragin V., Osakovsky V. (2004), "Estimation of the natural rate of unemployment in Russia in 1994-2003: empirical analysis" (Брагин В., Осаковский В. Оценка естественного

уровня безработицы в России в 1994-2003 г.г.: эмпирический анализ // Вопросы экономики М. 2004. №3)

Bulanov V., Volgina N. (2000), "Labour market", Moscow, "Ekzamen", 448 p.

Buzgalin A., Kolganov A. (2006), "Human being, market and capital in the XXI century economy" (Бузгалин А., Колганов А. Человек, рынок и капитал в экономике XXI века ()// Вопросы экономики М. 2006. №3).

Caresin V. (2000), "Jobs for young specialists? (Higher education institutions and the labour market)", Personnel management, n. 2, p. 63 – 65

Centre of political and economic research (1997), "The youth in Russia", Report, Social policy in Russia, n. 5, November – December

Dodunova G. (2003), "Lessons from transformation, labour market and problems of the youth in the modern Russia", Moscow

Dyachenko A. (2005), "Determination of effective economy", Volgograd State University, Volgograd

Ereomina T., Matyatina V., Plushchevskaya Yu. (2004), Problems in the Russian economy sectors development (Еремина Е., Матятина В., Плущевская Ю. Проблемы развития секторов российской экономики// Вопросы экономики М. 2004. №7).

Fedotova N. (2002), "Social and professional status of graduates in the labour market", Human resources, Federal Employment Agency of the Russian Federation

Foundation "Public opinion" (2003), "Survey: Internet in Russia", Spring 2003, issue 3, Moscow

Gerasimova L., etc. (2003), "Employment of graduates of professional schools: problems and solutions", Materials of the regional scientific conference, 17 – 18 December 2002, Blagovecshensk, the Amur State University

Gimpelson V. (2004), Shortage of skills in the labor market (Гимпельсон В. Дефицит квалификации и навыков на рынке труда// Вопросы экономики М. 2004. №3).

Gimpelson V., Kapelyushnikov R. (2006), Non-standard employment and the Russian labor market (Гимпельсон В., Каплюшников Р. Нестандартная занятость и российский рынок труда // Вопросы экономики М. 2006. №1).

Gorisov S. (2004), Scales and structure of informal employment (Горисов С. Масштабы и структура неформальной занятости // Вопросы экономики М. 2004. №3).

Gricshenko N. (1998), "Professional training and employment of graduates of HEIs. Regional aspect. Analysis of the situation in Altai region", the Ph.D. thesis, Barnaul Institute for economy in transition.- Russian economy in 2004 (Институт экономики переходного периода. Российская экономика в 2004 году: тенденции и перспективы ()// Вопросы экономики М. 2005. №6).

Gradiate KMS group (2003), "Report on assession of graduate recruitement market in 2002/2003", October 2003, Moscow

Institute of system analysis on social problems of big cities (ISA SPAM) (2002), "University graduates: problem of first job search", Report; Moscow

Kadomtceva S. (2003), "Human potential development and state social policy" (Кадомцева С.В. Развитие человеческого потенциала и социальная политика государства // Вестник Московского университета. Серия Экономика. 2004. №3).

Kapelyushnikov R.(2005), "Employment in Russian households" (Капелюшников Р. Занятость в домашних хозяйствах населения // Вопросы экономики М. 2005. №7).

Karezin V. (2000), "Where a young graduate can go? Higher education establishments and the labour market", Human Developpment Management, n. 2, pp. 63 - 65

Kudrov V. (2006), "Central and eastern Europe countries: experience of system transformation", Кудров В. (Страны центральной и восточной Европы: опыт системной трансформации // Вопросы экономики М. 2006. №5).

Leskov S. (2003), "The census results: migration as Russia's main hope", Izvestia Science, June 2004

Liukhto K. (2005), "Russia's way towards information society", Economic issues, April, 2005, n. 4, pp. 121 – 130.

Lomovceva O.A. (2004), “Quality of higher education: to assure, to evaluate, to manage”, Problems of social and market transformation in Russia and Bulgary”, Volgograd State University, 2004

Lubeckiy M. (2004), “Determinant modelling of post-industrial transformation of economic systems”, Ph.D. theses in Economics, Volgograd

Merenkov A.V. (1998), «Reference points of student on the labour market”, Socis, n. 12, p. 97 – 100

Moscow University Journal (2003), “Brain drain among graduates of the Moscow State University by Lomonosov”, n. 19, May 2003

National Statistics Office (1999) (a), “Labour and employment in Russia, 1999”, Moscow, 1999.

National Statistics Office (1999) (b), “Socio-economic situation in Russia in 1998”, Rosstat, Moscow

National Statistics Office (2001), “Higher education in Russia”, Rosstat, Moscow

National Statistics Office (2003) (a), “Education in Russia, 2003", Moscow

National Statistics Office (2003) (b), "Labour and Employment in Russia, 2003", Rosstat, Moscow

National Statistics Office (2003) (c), “Regions of Russia. Social and Economic Indicators, 2003”, Rosstat, Moscow

National Statistics Office (2004), “Regions of Russia. Main Characteristics of Subjects of the Russian Federation, 2003”, February 2004**,** Rosstat, Moscow

National Statistics Office (2005), “Russia in figures, 2005”, Rosstat, Moscou

Obukhovich N.V. (2000), “Youth employment in the conditions of comprehensive economic transforming”, the Ph.D. thesis, Tyumen

Odegov Yu., Rudenko G. (2004), “Internal labor market in the system of social and labor relations” (Олегов Ю., Руденко Г. Внутренний рынок труда в системе социально-трудовых отношений // Вопросы экономики М. 2004. №3).

Pankov B. (2004), “Development of rural territories: one step forward, two steps backwards”, People and labour, n. 10, p. 17 - 25

Pletnyeva T.V. **(2003)**, “Development of regional labour market of graduates”, Abstract of the Ph.D. thesis, All Russia Centre for life standards, Moscow

Popov G. (2004), “Exiting socialism challenges” (Попов Г. Проблемы выхода из социализма // Вопросы экономики М. 2006. №4)

“**Report on monitoring of the market of Graduate Recruitment in 2002/2003**” (2003), consulting company “Graduate”, Moscow, www.e-graduate.ru

Reznik S.D., Reznik G.A., Reznik V.S., etc. (2002), “Comprehensive system of non-stop training and employment of students during their studies in HEIs: Elaboration and realisation of innovative educational projects”, Academy of architecture and construction of Penza, Penza

“Reitor”, Russian Independent Agency in Education Research (2005), “Which universities prepare best graduates?”, Moscow, http://www.reitor.ru/ru/analitic/job/index.php?id19=106

Riazatsev S. (2005), “Internal migration of the Russian population: tendencies and social and economic consequences” (Рязанцев С. Внутрироссийская миграция населения: тенденции и социально-экономические последствия ()// Вопросы экономики М. 2005. №7).

Rozanova N., Savitskaya E. (2006), “Universities in XXI century: challenge of research” (Розанова Н., Савицкая Е. Вузы в XXI веке: вызов со стороны исследовательской работы // Вопросы экономики М. 2006. №7).

Rudakova I.E. (2004), “About new quality of students own work” (Рудакова И.Е. О новом качестве самостоятельной работы студентов // Вестник Московского университета. Серия Экономика. 2004. №3.)

Ryabtsun V. (2005), "Electronic market for public purchases in Russia", in "Economic issues", April, 2005, n. 4, pp. 121 – 130.

Schevchenko D.A. (2002), "Marketing of the Moscow youth labour market", Report for the workshop in the Moscow State University of Economy, Statistics and Information

Seregina I. I. (1999), "Professional career", Socis, n. 4, p. 78 – 81

Shahovskaya L.S. (2002), "The youth and economy: new points of view and new solutions"**, C**ollection of research articles of Open scientific conference of 39th annual conference in Volgograd Polytechnic University, Volgograd, 28 – 30 January 2002

Shevchenko D.A., etc. (2002), "Employment of graduates and students of HEIs in Moscow", Methodical recommendations, Department of Federal Employment Service in Moscow, Scientific and analytic centre of municipal management problems of the Academy of labour and social relations, Moscow

Starostin A.M., Ignatov V.G., Ignatova T.V., etc. (2002), "Employment of graduates and personnel policy", Academy of public service, Department of Federal Employment Service in Rostov region, Rostov-on-Don

Suetin A. (2006), "The world today and tomorrow" (Суэтин А. 2006 год: мир сегодня и завтра (обзор основных положений доклада «Состояние планеты - 2006)// Вопросы экономики М. 2006. №4).

Surinov A.E. (2000), "Official Statistics in Russia: Problems of Reforming"**,** National Statistics Office, Moscow

Tsapenko I. (2005), "International migration of professional and tertiary students" (Цапенко И. Международная миграция специалистов и студентов// Вопросы экономики М. 2005. №7).

Tsymbal V., Kardashevskiy N. (2006), "Multi-level analysis of conscription in Russia" (Цымбал В., Кардашевский Н. Многоуровневый анализ проблем призыва на военную службу в России // Вопросы экономики М. 2006. №1).

Upatov A., (2006), "Young specialists: returns to initiative and good professional knowledge", Elite personnel, May 2006

Volgograd Committee of Statistics (2004), “Statistics on Volgograd region”, 2003, Volgograd

“Vedomosti” (2006), “Salaries in public and private sectors”, n. 78, May 3, 2006

Yasin E., Yakovlev A. (2004), “Competitive capacity and modernization of the Russian economy” (Ясин Е., Яковлев А. Конкурентоспособность и модернизация российской экономики ()// Вопросы экономики М. 2004. №7).

Yemtsov R., Loshin M. (2006), “Distributional and welfare implication of the military draft in Russia: micro-level evidance” (Емцов Р., Локшин М. Экономическое бремя призыва на военную службу в России: результаты микроэкономического анализа // Вопросы экономики М. 2006. №1).

ANNEX

- Original “REFLEX” project questionnaire for graduates (2005)
- Russian questionnaire for graduates (2005), adapted from “REFLEX” project questionnaire
- List of variables, obtained through the Russian questionnaire in Volgograd and the Moscow region
- ISCO-88 international standard classification of occupations
- Details of calculations used for the analysis

Reflex

Master questionnaire

- This questionnaire is about the study programme that you finished in 1999/2000. Unless explicitly indicated otherwise, the term 'study programme' refers to this study programme.
- If you finished more than one study programme in 1999/2000, we would like you to refer to the study programme you consider the most important for your professional development.
- Please use a black or blue pen to fill in the questionnaire.
- Please mark your answer by placing a cross ☒ in the relevant box. Some questions allow multiple answers. Where this is the case, this is clearly indicated.
- If you would like to correct your answer, completely blacken the box, and mark the right answer.
- If the question requires you to fill in a number, please fill in only one digit per box.
- If the question requires you to fill in text, please use capital letters.
- If you are unsure of the exact answer to some questions, please estimate the answer to the best of your ability.

A Study programme you graduated from in 1999/2000

A1 What was the name of the study programme?

Study programme *(e.g. economics, civil engineering)*:

.....

Major or specialisation:

.....

What was the type of qualification?

☐ Bachelors *(please specify, e.g. BA, BSc Hons)*

.....

☐ Masters *(please specify, e.g. MA, MEd)*

.....

☐ Other *(please specify)*

.....

What was the name of the institution from which you graduated?

Name of the institution:

.....

A2 What was the start and end date of this study programme?

Start: ⌊_⌋⌊_⌋ (month) ⌊_⌋⌊_⌋⌊_⌋⌊_⌋ (year)

End: ⌊_⌋⌊_⌋ (month) ⌊_⌋⌊_⌋⌊_⌋⌊_⌋ (year)

If your study programme was a masters programme, what was the start and end date of your preceding bachelors programme?

Start: ⌊_⌋⌊_⌋ (month) ⌊_⌋⌊_⌋⌊_⌋⌊_⌋ (year)

End: ⌊_⌋⌊_⌋ (month) ⌊_⌋⌊_⌋⌊_⌋⌊_⌋ (year)

☐ not applicable

Did you at any time interrupt this study programme (including, if applicable, the preceding bachelors programme) for 4 or more months? If so, for how many months?

- *Do not count interruptions related to your study, such as internships or study abroad*
- *Do not count interruptions between bachelors and masters programmes*

☐ yes, for ⌊_⌋⌊_⌋ (months

☐ no

A3 What was your average grade when you finished this study?

6	6.5	7	7.5	8	8.5	9 or higher
☐	☐	☐	☐	☐	☐	☐

How do you rate this grade compared to other students that graduated from your study programme?

much lower than average	1	2	3	4	5	much higher than average	cannot tell
	☐	☐	☐	☐	☐		☐

A4 How would you describe your situation in the last one to two years of your study?

☐ fulltime student *(study was my main activity)*

☐ part-time student *(study was not my main activity)*

A5 Which of the following were used as selection criteria for your entry to the study programme?

diploma in secondary education	☐ yes	☐ no
grades achieved in secondary education	☐ yes	☐ no
prior qualification in higher education	☐ yes	☐ no
grades achieved in prior higher education	☐ yes	☐ no
results of special entry exams	☐ yes	☐ no
other selection *(please specify)*:	☐ yes	☐ no

.....

B3 Did you acquire any ***study-related*** work experience:
- *Either fulltime or part-time*
- *Not work placements/internships already reported in A8*

before higher education? ☐ yes, for approximately ⌊_⌋⌊_⌋⌊_⌋ months ☐ no

during higher education? ☐ yes, for approximately ⌊_⌋⌊_⌋⌊_⌋ months ☐ no

B4 Did you acquire any ***non study-related*** work experience:
- *Either fulltime or part-time*

before higher education? ☐ yes, for approximately ⌊_⌋⌊_⌋⌊_⌋ months ☐ no

during higher education? ☐ yes, for approximately ⌊_⌋⌊_⌋⌊_⌋ months ☐ no

B5 During your time in higher education, did you hold a position in student or other voluntary organizations? *(e.g. chair, committee member)*

☐ yes, for approximately ⌊_⌋⌊_⌋⌊_⌋ months ☐ no

B6 In addition to the study programme described in block A, have you ever enrolled in any of the following types of study/training programme?
- *Include only study/training programmes of at least one academic year or equivalent. Multiple reply possible*

☐ (additional) bachelor or master level programmes
☐ PhD programme
☐ other postgraduate qualifications *(including professional qualifications pursued in combination with work)*
☐ no → ***go to C1***

B7 Please provide information on these study/training programmes
- *If more than 2, select the 2 programmes you regard as most important for your professional development*

	Study/training programme 1	*Study/training programme 2*
Name of study/training programme	.....	.....
Type of study/training programme	☐ bachelor ☐ master ☐ PhD ☐ other postgraduate qualification ☐ other *(please specify)*	☐ bachelor ☐ master ☐ PhD ☐ other postgraduate qualification ☐ other *(please specify)* .....
When did you start?	⌊_⌋⌊_⌋ (month) ⌊_⌋⌊_⌋⌊_⌋⌊_⌋ (year)	⌊_⌋⌊_⌋ (month) ⌊_⌋⌊_⌋⌊_⌋⌊_⌋ (year)
Did you gain the qualification?	☐ yes, on ⌊_⌋⌊_⌋ (month) ⌊_⌋⌊_⌋⌊_⌋⌊_⌋ (year) ☐ no, left without qualification ☐ no, still enrolled	☐ yes, on ⌊_⌋⌊_⌋ (month) ⌊_⌋⌊_⌋⌊_⌋⌊_⌋ (year) ☐ no, left without qualification ☐ no, still enrolled

C Transition from study to work

C1 Have you ever had ***paid*** work since graduation in 1999/2000?
- *Exclude jobs that you left within 6 months of graduation*
- *Include self-employment*
- *Include trainee jobs*

☐ yes, I continued (for more than 6 months) the work I already had during study → ***go to C5***
☐ yes, I have started to work
☐ no → ***go to E3***

C2 When did you start being employed after graduation in 1999/2000?

⌊_⌋⌊_⌋ (month) ⌊_⌋⌊_⌋⌊_⌋⌊_⌋ (year)

C3 When did you begin looking for work?

☐ Prior to graduation in 1999/2000
☐ Around the time of graduation
☐ After graduation in 1999/2000
☐ Got work without searching → ***go to C5***

A6 **To what extent did the following descriptions apply to your study programme?**

	not at all 1	2	3	4	5 to a very high extent
The programme was generally regarded as demanding	☐	☐	☐	☐	☐
Employers are familiar with the content of the programme	☐	☐	☐	☐	☐
There was freedom in composing your own programme	☐	☐	☐	☐	☐
The programme had a broad focus	☐	☐	☐	☐	☐
The programme was vocationally orientated	☐	☐	☐	☐	☐
The programme was academically prestigious	☐	☐	☐	☐	☐

A7 **To what extent were the following modes of teaching and learning emphasized in your study programme?**

	not at all 1	2	3	4	5 to a very high extent
Lectures	☐	☐	☐	☐	☐
Group assignments	☐	☐	☐	☐	☐
Participation in research projects	☐	☐	☐	☐	☐
Internships, work placement	☐	☐	☐	☐	☐
Facts and practical knowledge	☐	☐	☐	☐	☐
Theories and paradigms	☐	☐	☐	☐	☐
Teacher as the main source of information	☐	☐	☐	☐	☐
Project and/or problem-based learning	☐	☐	☐	☐	☐
Written assignments	☐	☐	☐	☐	☐
Oral presentations by students	☐	☐	☐	☐	☐
Multiple choice exams	☐	☐	☐	☐	☐

A8 **Did you take part in one or more work placements/internships as part of your study programme?**

☐ yes, for approximately ☐☐ months in total
☐ no

A9 **To what extent do the following descriptions apply to your study behaviour?**

	not at all 1	2	3	4	5 to a very high extent
I did extra work above what was required to pass my exams	☐	☐	☐	☐	☐
I strived for the highest possible marks	☐	☐	☐	☐	☐

A10 **Altogether, approximately how many hours did you spend on your study?**

- *Please refer to a typical semester week during the last one to two years of the programme*
- *Include activities such as lectures, self-study, internships etc.*

☐☐ hours per **week**

B Other educational and related experiences

B1 **What was your highest qualification before you entered higher education for the first time?**

☐ academic secondary education
☐ non-academic general secondary education
☐ vocational secondary education
☐ other *(please specify)*

.....

B2 **What was your average final examination grade when you finished secondary education?**

6	6.5	7	7.5	8	8.5	9 or higher
☐	☐	☐	☐	☐	☐	☐

C4 How many months did you search before you obtained this employment:

before graduation: ⌊__⌋ months

after graduation: ⌊__⌋ months

C5 How did you find this work?
· *Single answer only*

- ☐ through advertisement in newspaper
- ☐ through public employment agency
- ☐ through private employment agency
- ☐ through internet
- ☐ contacted employer on own initiative
- ☐ approached by employer
- ☐ through work placement during higher education
- ☐ through family, friends or acquaintances
- ☐ through help of higher education institution
- ☐ set up my own business
- ☐ other *(please specify)*

.....

D First job after graduation

The following questions refer to your situation as it was when you *first started* (self)employment after graduation in 1999/2000.
· *Exclude jobs you left within 6 months after graduation*
· *If you continued (for more than 6 months) in (self)employment you already had before graduation, please refer to the situation as it was* ***immediately after graduation***
· *Include trainee jobs*

D1 What was your occupation or job title at that time?
(e.g. civil engineer, lawyer, assistant accountant, nurse)

.....

.....

D2 Please describe your main tasks or activities at that time.
(e.g. analysing test results, making diagnoses, teaching classes, developing a marketing plan)

.....

.....

D3 In what economic sector did you work?
(e.g. car manufacturing, primary school, hospital)

.....

What kind of product or service did the organization or – if you were self-employed – you provide?
(e.g. nursing patients, computer components, legal advice, scientific research)

.....

.....

D4 Were you self-employed?

- ☐ yes → ***go to D6***
- ☐ no

D5 What type of contract did you have when you started/at the time of graduation?

- ☐ unlimited term
- ☐ fixed-term, for ⌊__⌋ months
- ☐ other *(please specify)*:

.....

D6 What was the number of regular/contract hours?

⌊__⌋ Hours **per week**

D7 What were your ***gross monthly*** earnings when you started this work *or* at the time of graduation, if you were already in this job?

Approximately ⌊__⌋ Euros **per month**

or ⌊__⌋ DM **per month**

D8 Did this work involve an initial training period?
· *Multiple reply possible*

- ☐ yes, through training or courses for ⌊__⌋ months
- ☐ yes, through informal learning for ⌊__⌋ months
- ☐ no

D9 What type of education do you feel was most appropriate for this work?

- ☐ PhD
- ☐ other postgraduate qualification
- ☐ master
- ☐ bachelor
- ☐ lower than higher education

D10 What field of study do you feel was most appropriate for this work?

- ☐ exclusively own field
- ☐ own or a related field
- ☐ a completely different field
- ☐ no particular field

D11 To what extent were your knowledge and skills utilized in this work?

not at all 1 2 3 4 5 to a very high extent

D12 To what extent did this work demand more knowledge and skills than you could actually offer?

not at all 1 2 3 4 5 to a very high extent

D13 Are you still in your first employment?

- ☐ yes
- ☐ no, I left that employment in:

└┘└┘ (month) └┘└┘└┘└┘ (year)

E Employment history and current situation

E1 How many employers have you had altogether since graduation in 1999/2000?
- *Including yourself if you have been self- employed*
- *Including current employer*

└┘└┘ employers

E2 How long in total have you been employed since graduation in 1999/2000?

approximately └┘└┘ months

E3 Have you ever been unemployed (that is, not employed ***and*** seeking employment) since graduation in 1999/2000?

- ☐ yes, └┘└┘ times,
  for a total of approximately └┘└┘ months
- ☐ no

E4 In the past 4 weeks, were you engaged in:

further education or other training related to your professional development?	☐ yes, for approximately └┘└┘ hours per week ☐ no
child rearing or family care?	☐ yes, for approximately └┘└┘ hours per week ☐ no
unpaid/voluntary work?	☐ yes, for approximately └┘└┘ hours per week ☐ no

E5 Have you actively tried to obtain (other) paid work in the past 4 weeks?

- ☐ yes
- ☐ no
- ☐ no, but I am awaiting the results of earlier job applications

E6 How useful do you consider your social network (friends, relatives, colleagues, former teachers etc.) would be if you:

	not very useful 1	2	3	4	5 very useful
needed information on job opportunities?	☐	☐	☐	☐	☐
needed help in directly obtaining work?	☐	☐	☐	☐	☐
needed help in setting up your own business?	☐	☐	☐	☐	☐

E7 Are you currently in paid employment?
- *Include self-employment*

- ☐ yes, I have one job
- ☐ yes, I have more than one job
- ☐ no → ***go to H1***

F Current work

Please answer these questions about your ***current (self)employment situation***

- *If you are still in the job you first held after graduation in 1999/2000, please answer these questions for the situation as it is* ***now***
- *If you have more than one job, please answer the questions for the job in which you work the* ***highest number of hours***

F1 What is your current occupation or job title?
(e.g. civil engineer, lawyer, assistant accountant, nurse)

☐ the same as listed above for first job
☐ other *(please specify)*:
.....

F2 Please describe your current main tasks or activities.
(e.g. analysing test results, making diagnoses, teaching classes, developing a marketing plan)

☐ the same as listed above for first job
☐ other *(please specify)*:
.....

F3 Are you self-employed?

☐ yes
☐ no → ***go to F5***

F4 Are you mainly dependent on one client or several clients?

☐ mainly one client → ***go to F6***
☐ several clients → ***go to F6***

F5 What is your current type of contract?

☐ unlimited term
☐ fixed-term, for ⌊_⌋⌊_⌋ months
☐ other *(please specify)*:
.....

F6 What are your average working hours?

Regular/contract hours in main employment	⌊_⌋⌊_⌋ **per week**
Paid or unpaid average overtime in main employment	⌊_⌋⌊_⌋ **per week**
Average hours in other paid work	⌊_⌋⌊_⌋ **per week**

F7 What are your gross monthly earnings?

From contract hours in main employment	about ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ EURO **per month**
From overtime or extras in main employment	about ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ EURO **per month**
From other work	about ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ EURO **per month**

F8 What type of education do you feel is most appropriate for this work?

☐ PhD
☐ other postgraduate qualification
☐ master
☐ bachelor
☐ lower than higher education

F9 What field of study do you feel is most appropriate for this work?

☐ exclusively own field
☐ own or a related field
☐ a completely different field
☐ no particular field

F10 How much time would it take for an average graduate with the relevant educational background to become an expert in this kind of work?

☐ 6 months or less
☐ 7 to 12 months
☐ 1 to 2 years
☐ 3 to 5 years
☐ 6 to 10 years
☐ more than 10 years

F11 To what extent are your knowledge and skills utilized in your current work?

not at all ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 to a very high extent

F12 To what extent does your current work demand more knowledge and skills than you can actually offer?

not at all ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 to a very high extent

F13 How satisfied are you with your current work?

very dissatisfied 1 2 3 4 5 very satisfied

☐ ☐ ☐ ☐ ☐

F14 Did you follow any work-related course/training in the past 12 months?
· *Not the ones you already mentioned previously in block B*

☐ yes
☐ no → ***go to G1***

F15 What was the **most important** reason you had for following this course?
· *If more than one course, please refer to the most important one*
· *One answer only*

☐ to update my knowledge for my present work
☐ to enhance my career
☐ to prepare myself for working in another field
☐ to prepare myself for self-employment
☐ other *(please specify)*:

.....

G Work organization

The following questions refer to the organization in which you are currently employed
· *If you are self-employed, these questions apply to yourself or, if applicable, to the organization you run*

G1 When did you start working with your current employer/ start your self-employment?

└─┴─┘ months └─┴─┴─┴─┘ (year)

G2 In what economic sector do you work?
(e.g. car manufacturing, primary school, hospital)

☐ the same as listed above for first job
☐ other *(please specify)*:

.....

What kind of product or service does the organization provide?
(e.g. nursing patients, computer components, legal advice, scientific research)

☐ the same as listed above for first job
☐ other *(please specify)*:

.....

G3 Do you work in the public or private sector?

☐ public sector
☐ private non-profit sector
☐ private profit sector
☐ other *(please specify)*:

.....

G4 Where do you work?

Town/city .....

Country: ☐ UK ☐ other *(please specify)*:

.....

G5 How strong is the competition in the market in which your organization operates?

very weak 1 2 3 4 5 very strong question not applicable

☐ ☐ ☐ ☐ ☐ ☐

G6 Does your organization compete mainly by price or by quality?

mainly price 1 2 3 4 5 mainly quality question not applicable

☐ ☐ ☐ ☐ ☐ ☐

G7 How stable is demand in the market in which your organization operates?

highly stable 1 2 3 4 5 highly unstable question not applicable

☐ ☐ ☐ ☐ ☐ ☐

G8 What is the scope of operations of your organization?

☐ local
☐ regional
☐ national
☐ international

G9 Which of the following changes have taken place in your organization since you started working there?

Major change in my own work tasks	☐ yes	☐ no
Reorganization	☐ yes	☐ no
Merger or takeover by another firm	☐ yes	☐ no
Large-scale layoffs of personnel	☐ yes	☐ no
Relocation to another region	☐ yes	☐ no

All kinds of organizations may be confronted with a need to innovate. This applies not only to industrial or commercially- based service organizations, but also to, for example, public service organizations.

G10 How would you characterize the ***extent of innovation*** in your organization or your work, with respect to the following aspects?

	very low 1	2	3	4	5 very high
product or service	☐	☐	☐	☐	☐
technology, tools or instruments	☐	☐	☐	☐	☐
knowledge or methods	☐	☐	☐	☐	☐

G11 Do you play a role in ***introducing*** these innovations in your organisation?

product or service	☐ yes	☐ no	☐ not applicable, no innovations
technology, tools or instruments	☐ yes	☐ no	☐ not applicable, no innovations
knowledge or methods	☐ yes	☐ no	☐ not applicable, no innovations

G12 Is your organization normally at the forefront when it comes to adopting innovations, new knowledge or new methods, or is it more a follower?

mainly at the forefront 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ mainly a folower

G13 How are higher positions usually obtained in your organization?

by internal appointments 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ by external appointments ☐ question not applicable

G14 How many people work in your organization and, if applicable, your own location?

total organization	**location**
☐ 1-9	☐ 1-9
☐ 10-49	☐ 10-49
☐ 50-99	☐ 50-99
☐ 100-249	☐ 100-249
☐ 250-999	☐ 250-999
☐ 1000 or more	☐ 1000 or more
	☐ not applicable, only one location

G15 Do you directly or indirectly supervise other members of staff?

☐ yes, I supervise ⌊__⌋ staff members
☐ no

G16 To what extent are you responsible for:

	not at all 1	2	3	4	5 to a very high extent
setting goals for the organization?	☐	☐	☐	☐	☐
setting goals for your own work?	☐	☐	☐	☐	☐
deciding work strategies for the organization?	☐	☐	☐	☐	☐
deciding how you do your own job?	☐	☐	☐	☐	☐

G17 **To what extent do the following statements apply to your professional role?**

	not at all	1	2	3	4	5	to a very high extent
Professional colleagues rely on me as an authoritative source of advice		☐	☐	☐	☐	☐	
I keep my professional colleagues informed about new developments in my field of work		☐	☐	☐	☐	☐	
I take the initiative in establishing professional contacts with experts outside the organization		☐	☐	☐	☐	☐	
Taking account of professional ethics is part of my work		☐	☐	☐	☐	☐	

G18 **To what extent:**

	not at all	1	2	3	4	5	to a very high extent	Not applicable, there are no others
are the results of your work dependent on the performance of others in the organization?		☐	☐	☐	☐	☐		☐
are the results of the work of others in the organization dependent on your performance?		☐	☐	☐	☐	☐		☐
are you responsible for assessing the quality of the work of others in the organisation?		☐	☐	☐	☐	☐		☐

G19 **To what extent can your individual performance be objectively assessed by others** *(e.g. supervisor, colleagues)*?

not at all	1	2	3	4	5	to a very high extent	Not applicable, I have no supervisor or colleagues
	☐	☐	☐	☐	☐		☐

G20 **How closely is your performance monitored by your own supervisor?**

not very closely	1	2	3	4	5	very closely	Not applicable, I have no supervisor
	☐	☐	☐	☐	☐		☐

G21 **How damaging would it be for the organization if you made major mistakes or omissions in the performance of your work?**

hardly damaging	1	2	3	4	5	extremely damaging
	☐	☐	☐	☐	☐	

H Competencies

H1 **Below is a list of competencies. Please provide the following information:**
- **How do you rate your own level of competence?**
- **What is the required level of competence in your current work?**

If you are not currently employed, only fill in column A

	A Own level (Very low 1 2 3 4 5 6 7 very high)	B Required level in current work (Very low 1 2 3 4 5 6 7 very high)
a Mastery of your own field or discipline	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
b Knowledge of other fields or disciplines	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
c Analytical thinking	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
d Ability to rapidly acquire new knowledge	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
e Ability to negotiate effectively	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
f Ability to perform well under pressure	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
g Alertness to new opportunities	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
h Ability to coordinate activities	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
i Ability to use time efficiently	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
j Ability to work productively with others	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
k Ability to mobilize the capacities of others	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
l Ability to make your meaning clear to others	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
m Ability to assert your authority	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
n Ability to use computers and the internet	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
o Ability to come up with new ideas and solutions	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
p Willingness to question your own and others' ideas	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
q Ability to present products, ideas or reports to an audience	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
r Ability to write reports, memos or documents	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
s Ability to write and speak in a foreign language	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐

H2 **Name a maximum of 3 competencies from the list above that you regard as *strong* points, and a maximum of three competencies that you regard as *weak* points of your study programme.**

- fill in letters corresponding to the relevant competencies

Strong points: 1 ☐ 2 ☐ 3 ☐

Weak points: 1 ☐ 2 ☐ 3 ☐

I Evaluation of study programme

I1 **To what extent has your *study programme* been a good basis for:** (not at all 1 2 3 4 5 to a very high extent)

Starting work?	☐ ☐ ☐ ☐ ☐
Further learning on the job?	☐ ☐ ☐ ☐ ☐
Performing your current work tasks?	☐ ☐ ☐ ☐ ☐
Future career?	☐ ☐ ☐ ☐ ☐
Your personal development?	☐ ☐ ☐ ☐ ☐
Development of entrepreneurial skills?	☐ ☐ ☐ ☐ ☐

I2 Looking back, if you were free to choose again would you choose the same study programme at the same institute of higher education?

- ☐ Yes
- ☐ No, a different study programme at the same institute
- ☐ No, the same study programme at a different institute
- ☐ No, a different study programme at a different institute
- ☐ No, I would decide not to study at all

J Values and orientations

J1 Please indicate how important the following job characteristics are to you personally, and to what extent they actually apply to your current work situation

· *If you are not currently employed, only fill in column A*

	A Importance (not at all 1 2 3 4 5 very important)	B Apply to current work (not at all 1 2 3 4 5 to a very high extent)
Work autonomy	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
Job security	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
Opportunity to learn new things	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
High earnings	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
New challenges	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
Good career prospects	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
Enough time for leisure activities	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
Social status	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
Chance of doing something useful for society	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
Good chance to combine work with family tasks	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐

K About yourself

K1 Gender

- ☐ male
- ☐ female

K2 Year of birth

19 ☐☐

K3 Country of birth of:

Yourself ☐ UK ☐ other *(please specify)* .....

Mother ☐ UK ☐ other *(please specify)* .....

Father ☐ UK ☐ other *(please specify)* .....

Optional ethnicity question

K4 Where did/do you mainly live:

At age 16?

Town/city: .....

Country: ☐ UK ☐ other *(please specify)* .....

During your study programme?

Town/city: .....

Country: ☐ UK ☐ other *(please specify)* .....

When starting first employment after graduation in 1999/2000?

Town/city: .....

Country: ☐ UK ☐ other *(please specify)*

.....

At present?

Town/city: .....

Country: ☐ UK ☐ other *(please specify)*

.....

K5 **Did you spend any time abroad *during* higher education for study or work?**
· *Multiple reply possible*

☐ yes, ⌊__⌋ months for study
☐ yes, ⌊__⌋ months for work-related reasons
☐ no

K6 **Have you spent any time abroad *since* graduating from higher education for study or work?**
· *Multiple reply possible*

☐ yes, ⌊__⌋ months for study
☐ yes, ⌊__⌋ months for work-related reasons
☐ no

K7 **How did you live during the last year of your study programme?**

☐ Alone (incl. single parent)
☐ With a partner
☐ With parents
☐ Other, please specify

.....

K8 **How do you live at present?**

☐ Alone (incl. single parent)
☐ With a partner
☐ With parents
☐ Other, please specify

.....

K9 **Do you have children?**

☐ yes, 1 child
☐ yes, 2 children
☐ yes, 3 or more children
☐ no → ***go to K11***

K10 **What is the age of the oldest and (in case of more than 1) the youngest?**

Age of oldest child ⌊__⌋ years

Age of youngest child ⌊__⌋ years

K11 **What is your parent's and, if applicable, partner's highest education?**

Father	**Mother**	**Partner**
☐ ISCED 1+2	☐ ISCED 1+2	☐ ISCED 1+2
☐ ISCED 3+4	☐ ISCED 3+4	☐ ISCED 5+6
☐ ISCED 5+6	☐ ISCED 3+4	☐ ISCED 5+6
		☐ not applicable

K12 **Date of completion of questionnaire**

Day: ⌊__⌋ Month: ⌊__⌋

Comments or suggestions

Thank you very much for your cooperation!

Feedback of results:

The results of this project will be made available through the project's website.
If you would like to receive a summary of the results, please fill in your e-mail address below:

☐ Yes I would like to receive a summary of the results.

My e-mail address is: .....

Follow-up survey:

It is possible that this study will be repeated in a few years from now. Would you be willing to participate in such a follow-up study? If so, please provide us with your name and current address.

☐ Yes, you can approach me for future research.

Name: .....

Address: .....

.....

Postal code: .....

Town: .....

Country: .....

☐ No, I don't want to participate in future research

Уважаемый(ая) Елена Александровна !

Лаборатория «Маркетинговые технологии» и кафедра маркетинга ВолГУ принимает участие в исследовании качества образовательных услуг вузов г. Волгограда, которое проводят *Волгоградский государственный университет и Исследовательский Институт социологии и экономики образования (IREDU) Бургундского университета (Франция)*, в рамках программы ECO-NET *«Трудоустройство выпускников вузов 2000-2002 г.г. стран Центральной и Восточной Европы».*

Мы надеемся, что Вы дадите оценку качества образования, которое Вы получили в вузе, в соответствии с вопросами анкеты, прилагаемой к письму. За Вами остается право указывать или не указывать свой домашний адрес и телефон.

Пожалуйста, вложите заполненную анкету в прилагаемый почтовый конверт и опустите его в почтовый ящик.

Если окончательные выводы по результатам исследования представляют интерес для Вас, Вы сможете с ними ознакомиться, по завершении проекта в 2006 г.

Искренне Вам признательны за Вашу помощь в реализации исследовательского проекта.

По всем интересующим вопросам Вы можете обращаться на кафедру маркетинга Волгоградского государственного университета к доценту кафедры, к.э.н. Мушкетовой Наталье Сергеевне.

Телефон кафедры маркетинга 40-55-26
E-mail: marketech@volsu.ru

Пожалуйста, при заполнении анкеты используйте следующие рекомендации
➢ *Для ответов на вопросы анкеты используйте, пожалуйста, синие или черные чернила.* ➢ *Пожалуйста, помечайте правильный ответ «крестиком» (в соответствующей ячейке).* ➢ *Некоторые вопросы допускают несколько ответов.* ➢ *Если Вы хотите исправить свой ответ, полностью закрасьте ячейку с неправильным ответом и пометьте правильный, по Вашему мнению, ответ.* ➢ *В вопросах, ответы на которые даются в форме текста, используйте, пожалуйста, печатные заглавные буквы.* ➢ *Если вопрос требует ответа в цифрах, пишите, пожалуйста, в ячейке только одно число.*

Анкета № 165

А. Образование

А1 Укажите название Вашей квалификации, специальности, форму обучения

Квалификация: ЮРИСТ

Специальность: ЮРИСПРУДЕНЦИЯ

Форма обучения:

- [x] Дневная
- [ ] Заочная
- [ ] Вечерняя

Название вуза: ВолГУ

А2 Укажите дату зачисления в вуз и дату получения диплома

Дата зачисления: 09/1995 (месяц/год)

Дата получения диплома: 06/2000 (месяц/год)

Прерывали ли Вы учебу на 10 или более месяцев? Если да, то насколько месяцев и по какой причине?

- *Исключите стажировки и учебу за границей*

- [x] Нет
- [ ] Да, на ☐☐ месяцев; укажите причину

А3 Каковы, на Ваш взгляд, ваши оценки в дипломе по сравнению с другими студентами?

Ниже среднего		Средние		Выше среднего	Затрудняюсь ответить
1	2	3	4	5	
☐	☒	☐	☐	☐	☐

А 4 Какой отбор Вы проходили при поступлении в вуз?
Возможны несколько ответов

• отбор по школьному аттестату/ по диплому о среднем образовании (лицей, колледж, училище);	☐ Да	☐ Нет
• отбор по результатам вступительных экзаменов;	☐ Да	☐ Нет
• отбор по результатам собеседования;	☒ Да	☐ Нет
• другое (уточните)		

А5 В какой степени к Вашей учебной программе относятся следующие высказывания?

	Не относится 1	2	3	4	Относится в значительной степени 5
☒ Программа была сложной и требовала много времени на подготовку	☐	☒	☐	☐	☐
☒ Работодатели хорошо знакомы с содержанием программы	☒	☐	☐	☐	☐
☒ Я мог сам выбирать учебные курсы	☐	☐	☒	☐	☐
☒ Программа была общей направленности	☐	☐	☐	☒	☐
☒ Программа имела практическую направленность	☒	☐	☐	☐	☐
☒ Программа имела академическую направленность	☐	☐	☐	☒	☐

А6 В какой степени следующие виды обучения использовались в Вашей учебной программе?

	Практически не использовались 1	2	3	4	Использовались очень часто 5
• Лекции	☐	☐	☐	☐	☒
• Групповые задания	☐	☐	☐	☐	☒
• Участие в исследовательских проектах	☒	☐	☐	☐	☐
• Стажировки на предприятиях, фирмах, организациях	☒	☐	☐	☐	☐
• Практические занятия	☒	☐	☐	☐	☐
• Упор делался на теоретические знания	☐	☐	☐	☒	☐
• Преподаватель был основным источником информации	☒	☐	☐	☐	☐
• Реализация проектов, решение проблем, case study	☒	☐	☐	☐	☐
• Письменные задания	☒	☐	☐	☐	☐
• Усные выступления	☐	☐	☒	☐	☐
• Опрос знаний проходил в виде тестов	☐	☐	☒	☐	☐

A7 Проходили ли Вы стажировку/стажировки во время учебы в вузе?
☒ Да, всего приблизительно 12 месяца(-ев)
☐ Нет

A8 В какой степени к Вам относятся следующие высказывания :

	Обо мне нельзя этого сказать 1	2	3	4	Да, обо мне можно так сказать 5
А. Я занимался больше, чем этого требовали экзамены	☐	☐	☒	☐	☐
Б. Я пытался получить наилучшие оценки	☐	☐	☒	☐	☐

A9 Как много времени Вы посвящали учебе ?
В среднем в течении семестра за последние два года Вашей учебы, включите также самостоятельную работу
40 часов в неделю

B. Дополнительное образование

B1 Какое образование у Вас было до поступления в вуз?
☐ Высшее образование
☐ Неполное высшее образование
☒ Среднее (полное) образование (11-летняя школа)
☐ Среднее профессиональное (колледж, лицей)
☐ Начальное профессиональное (училище)
☐ Другое (уточните)

B2 С каким средним баллом Вы окончили среднее образование?/
5 балла(-ов)

Каковы были Ваши оценки по сравнению с другими учениками из Вашего класса или других классов с такой же специализацией ?

ниже среднего 1	2	средние 3	4	выше среднего 5	затрудняюсь ответить
☐	☐	☐	☐	☒	☐

B3 Приобрели ли Вы опыт работы*, связанный с вашей специальностью, ...
... до учебы в вузе?
☐ Да, я работал приблизительно ☐☐ месяца(-ев)
☒ Нет

... во время учебы в вузе?
☐ Да, я работал приблизительно ☐☐ месяца(-ев)
☒ Нет

**При полной или неполной рабочей нагрузке; не включайте учебные стажировки*

B4 Приобрели ли Вы опыт работы*, не связанный с Вашей специальностью, ...
... до учебы в вузе?
☐ Да, я работал приблизительно ☐☐ месяца(-ев)
☒ Нет

... во время учебы в вузе?
☐ Да, я работал приблизительно ☐☐ месяца(-ев)
☒ Нет

**При полной или неполной рабочей нагрузке*

B5 Занимали ли Вы какую-либо должность в студенческой организации или занимались ли какой-либо добровольной деятельностью во время учебы в вузе ?
☐ Да, приблизительно ☐☐ месяца(-ев)
☒ Нет

B6 Кроме учебной программы, описанной в части А, обучались ли Вы ранее или обучаетесь на данный момент по другой программе?
Включайте только те учебные программы, на которых Вы обучались более года
☐ Да,
☒ Нет, → перейдите к С1

B7 Предоставьте информацию об этой или этих программах *(если Вы закончили более двух программ, выберите из них две наиболее важные для Вас в профессиональном плане)*

	Программа 1	Программа 2
Квалификация и специальность		
Тип диплома/учебной программы	☐ Специалист ☐ Магистр ☐ Бакалавр ☐ Аспирантура	☐ Специалист ☐ Магистр ☐ Бакалавр ☐ Аспирантура
Когда Вы начали учиться по этой программе?	☐☐/☐☐☐☐ (месяц/год)	☐☐/☐☐☐☐ (месяц/год)
Получили ли Вы диплом по этой программе?	☐ Нет, я бросил учебу ☐ Я все еще учусь ☐ Я получил диплом в ... ☐☐/☐☐☐☐ (месяц/год)	☐ Нет, я бросил учебу ☐ Я все еще учусь ☐ Я получил диплом в ... ☐☐/☐☐☐☐ (месяц/год)

C. Выход на рынок труда

C1 С момента окончания вуза работали ли Вы?
Не включайте работу, на которой Вы проработали менее 6 месяцев с момента окончания вуза
Если у Вас было собственное дело, включите опыт работы в Вашей организации. Включите стажировки.

- ☐ Да, я продолжил работать там, где работал до окончания вуза → перейдите к вопросу C5
- ☒ Да, я начал работать
- ☐ Нет → ответьте на вопрос E1 и перейдите к вопросу E4

C2 Когда Вы начали работать после окончания вуза?
05/2001 (месяц/год)

C3 Когда Вы начали искать работу?

- ☐ До окончания вуза
- ☒ Примерно во время окончания вуза
- ☐ После окончания вуза
- ☐ Нашел работу без особых поисков → перейдите к вопросу C5

C4 Сколько месяцев Вы искали эту работу?

До окончания вуза: 06 месяца(-ев)
После окончания вуза: 12 месяца(-ев)

C5 Каким образом Вы нашли эту работу?

- ☐ Через объявление в газете
- ☐ Через биржу труда
- ☐ Через частное кадровое агентство
- ☐ По интернету
- ☐ Я сам обратился к работодателю
- ☐ Работодатель сам связался со мной
- ☒ Мне помогла стажировка во время учебы в вузе
- ☐ Личные контакты (семья, друзья, знакомства)
- ☐ При помощи вуза
- ☐ По распределению в вузе
- ☐ Я открыл свое собственное дело
- ☐ Другим образом (уточните)

D. Первая работа по окончании вуза

Следующий блок вопросов касается Вашей ситуации на рынке труда сразу же по окончанию вуза
Не включайте работу, на которой Вы проработали менее 6 месяцев с момента окончания вуза. Включите стажировки

D1 Кем Вы работали?
(Например, инженер, адвокат, помощник бухгалтера, медсестра)
ЮРИСТ

D2 Опишите функции, которые Вы выполняли, род Ваших обязанностей
(Например, преподавание, составление бизнес-плана, проведение диагностики, т.д.)
ПРАВОВОЕ ОБЕСПЕЧЕНИЕ ДЕЯТЕЛЬНОСТИ ОРГАНИЗАЦИИ

D3 В каком экономическом секторе Вы работали?
(например, машиностроение, образование, медицина, торговля, автоматизация и т.д.)
НАЛОГООБЛОЖЕНИЕ

D4 У Вас было собственное дело?

- ☐ Да → перейдите к вопросу D 6
- ☒ Нет

D5 По контракту какого типа Вы работали?

- ☐ Постоянный контракт
- ☐ Временный контракт, на ☐☐ месяцев
- ☐ Другое (уточните)

D6 Сколько часов Вы должны были работать по контракту?
☐☐40 часов в неделю

D7 Сколько Вы зарабатывали?

- ☒ Менее 3 000 руб.
- ☐ 3 000 - 6 500 руб.
- ☐ 6 500 - 10 500 руб.
- ☐ более 10 500 руб.

D8 Какой уровень образования был необходим для этой работы?

- ☐ Аспирантура
- ☒ Диплом специалиста/ бакалавра/ магистра
- ☐ Среднее образование было бы достаточным

D9 Знания из какои области необходимы были для работы?

- [x] Знания по моей специальности
- [ ] Знания по моей специальности или из близких областей
- [ ] Знания из других областей
- [ ] Никаких специализированных знаний не требовалось

D10 В какой степени Ваши знания и умения использовались на рабочем месте?

Практически не использовались — Использовались в значительной степени

1	2	3	4	5
☐	☐	☒	☐	☐

D11 В какой степени Ваша работа требовала больше знаний и навыков, чем Вы могли бы предложить?

Моих знаний достаточно — Требуются дополнительные знания и умения

1	2	3	4	5
☐	☐	☐	☐	☒

D12 Вы продолжаете работать на этом рабочем месте?

- [x] Да,
- [ ] Нет, я ушел с этой работы в ☐☐/☐☐☐☐ (месяц/год)

E. Ваша ситуация на сегодняшний день

E1 Чем вы занимаетесь на сегодняшний день?

- [x] Работаю
- [ ] У меня собственный бизнес
- [ ] Я безработный и ищу работу→Заполните часть E и перейдите к части H
- [ ] Я безработный и не ищу работу→Заполните часть E и перейдите к части H
- [ ] Я домохозяйка(-ин) →Заполните часть E и перейдите к части H
- [ ] Другое (уточните)

E2 Сколько работодателей у Вас было с момента окончания вуза?
Включите себя, если у Вас было собственное дело
Включите Вашего работодателя на данный момент

☐☒ работодателей

E3 Сколько времени Вы работали с момента окончания вуза?

Приблизительно ☐☐☐ месяцев/или ☐☒ года (лет)

E4 Были ли Вы безработным с момента окончания вуза?

- [x] Да, ☐☒ раз, всего ☐☒☒ месяцев
- [ ] Нет

E5 Сколько у Вас рабочих мест на сегодняшний день *(включая, если есть, собственный бизнес)* ?

- [x] Я работаю на одном рабочем месте
- [ ] Я работаю на нескольких работах
- [ ] Я не работаю→ перейдите к вопросу H1

E6 Предпринимали ли Вы активные попытки найти работу за последние 4 недели?

- [ ] Да
- [x] Нет
- [ ] Нет, но я жду результатов собеседований, которые я прошел(-а) за последнее время

F. Работа на данный момент

Если Вы работаете на том же месте, что и по окончании вуза, отвечайте на вопросы, касательно Вашей ситуации на данный момент
Если Вы работаете на нескольких рабочих местах, выберите то рабочее место, где Вы работаете наибольшее количество часов.

F1 Кем Вы работаете?
(Например, инженер, адвокат, помощник бухгалтера, медсестра)

- [x] тот же самый род деятельности, что и на первой работе
- [ ] другое, уточните

F2 Опишите функции, которые Вы выполняете, род ваших обязанностей

- [x] тот же самый род деятельности, что и на первой работе
- [ ] другое, уточните

F3 У Вас свое предприятие, организация, фирма?

- [ ] Да
- [x] Нет

F4 По какому контракту Вы работаете на данный момент?

- [x] Постоянный контракт
- [ ] Временный контракт, на ☐☐ месяцев
- [ ] Другое (уточните)

F5 Сколько в среднем часов Вы работаете ... ?

... по контракту ☐☒☒ часов в неделю

.... дополнительные часы работы ☐☐☐ часов в неделю

... часы работы на другом рабочем месте ☐☐☐ часов в неделю

F6 Сколько Вы зарабатываете (в месяц)?

За часы работы, выполненные по контракту	*За дополнительные часы на основном месте работы*	*На другом рабочем месте*
	☐ Эти часы не оплачиваются	
☐ Менее 3 000 руб.	☐ Менее 3 000 руб.	☐ Менее 3 000 руб.
☒ 3 000 - 6 500 руб.	☐ 3 000 - 6 500 руб.	☐ 3 000 - 6 500 руб.
☐ 6 500 - 10 500 руб.	☐ 6 500 - 10 500 руб.	☐ 6 500 - 10 500 руб.
☐ более 10 500 руб.	☐ более 10 500 руб.	☐ Более 10 500 руб.

F7 Какой уровень образования необходим для Вашей работы?

☐ Аспирантура
☒ Диплом специалиста/ бакалавра/ магистра
☐ Среднее образование было бы достаточным

F8 Знания из какой области необходимы для выполнения Вашей работы ?

☒ Знания по моей специальности
☐ Знания по моей специальности или из близких областей
☐ Знания из других областей
☐ Никаких специализированных знаний не требуется

F9 В какой степени вы используете в работе Ваши знания и профессиональные качества ?

Практически не использую — Использую в значительной степени

1	2	3	4	5
☐	☐	☒	☐	☐

F10 Насколько, по Вашему мнению, эта работа требует более высокого уровня знаний и навыков?

Моих знаний достаточно — Требуются дополнительные знания и умения

1	2	3	4	5
☐	☐	☐	☐	☒

F11 Насколько Вы довольны Вашей работой?

Очень недоволен — Доволен

1	2	3	4	5
☐	☐	☒	☐	☐

F12 Последние 12 месяцев посещали ли Вы какие-либо учебные курсы, связанные с Вашей работой ? *Это не касается учебных программ, которые указаны в части B*

☐ Да
☒ Нет → перейдите к вопросу G1

F13 Какова была цель этих курсов?
Если Вы прошли более 1 курса, выбирите наиболее важный
Возможен только один ответ

☐ Обновить знания, необходимые для моей работы
☐ Для карьерного продвижения
☐ Подготовиться к работе в другой области, на другой работе
☐ Подготовиться к организации собственного бизнеса
☐ Другое (уточните)

G. Организация, в которой вы работаете

G1 Когда Вы начали работать с тем работодателем, с которым Вы работаете на данный момент? (*Когда Вы открыли собственное дело, если есть?*)

☐☐/☒☐☐☒ (месяц/год)

G2 В каком секторе экономики работает Ваша организация ?
(например, машиностроение, образование, медицина, торговля, автоматизация и т.д.)

☒ Я работаю в том же секторе, что и на первой работе
☐ Другое (уточните)

G3 Вы работаете в частном или государственном секторе?

☒ Государственном секторе
☐ Частном секторе
☐ Частном благотворительном секторе
☐ Другое (уточните)

G4 Где Вы работаете?

Город, область	Страна
Волгоград	Россия

G4 Сколько всего человек работает в Вашей организации и, если относится, в Вашем филиале?

Всего в Вашей организации	В Вашем филиале
☐ 1 – 9 человек	☐ 1 – 9 человек
☐ 10 – 49 человек	☐ 10 – 49 человек
☐ 50 – 99 человек	☐ 50 – 99 человек
☒ 100 – 249 человек	☐ 100 – 249 человек
☐ 250 – 999 чел.	☐ 250 – 999 чел.
☐ 1 000 и более	☐ 1 000 и более
	☐ не относится к моему случаю

G5 Управляете ли Вы персоналом? (напрямую или косвенным путем)

☒ Да, в моем подчинении находятся ☐☐☒ человек

☐ Я не управляю персоналом

H. Оценка ваших профессиональных качеств

H1. Ниже приведен перечень профессиональных качеств. Укажите :

- Как Вы оцениваете Ваши профессиональные качества на сегодняшний день?

Оцените между « слабо развиты» и «сильно развиты »

- Отметьте, насколько те или иные знания востребованы на Вашей работе?

Оцените между «не востребованы» и «востребованы в значительной степени»

Если Вы не работаете на данный момент, заполните только колонку А

	А. Ваш уровень Слабо развиты — Сильно развиты							**В. Уровень, требуемый на Вашей работе** Не востребованы - Востребованы в значительной степени						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
a. Ваши знания по специальности	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐
b. Общие знания в других областях	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐
c. Аналитическое мышление	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐
d. Способность быстро осваивать новые знания	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐
e. Умение проводить переговоры	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐
f. Способность работать под давлением, в стрессовой ситуации	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐
g. Видение новых возможностей (коммерческих, производственных)	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐
h. Способность управлять работой других	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐
i. Способность эффективно использовать рабочее время	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐
j. Способность работать в группе	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐
k. Способность мотивировать других к работе	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐
l. Способность ясно выражать свои идеи	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐
m. Способность сохранять свой авторитет	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐
n. Умение работать на компьютере и в Интернете	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐
o. Способность находить новые идеи	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐
p. Мотивированность оспаривать существующие идеи и мнения	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐
q. Умение представить широкой публике производимый продукт, услугу	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐
r. Умение составлять отчеты, доклады, другие документы	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒
s. Знание иностранного языка	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐

H2. Укажите, какие три качества из вышеуказанного списка помог Вам развить вуз?

1. a 2. b 3. d

Укажите, какие три качества в наименьшей степени помогла Вам развить учеба в вузе?

1. c 2. n 3. s

Впишите соответствующие буквы

I. Ваше мнение об учебе в вузе

I1. Насколько учеба в вузе была для Вас полезной, чтобы:	Совершенно не помогла 1	2	3	4	Помогла в значительной степени 5
a. Начать работать?	☐	☐	☒	☐	☐
b. Продолжать обучаться на рабочем месте?	☐	☐	☒	☐	☐
c. Успешно выполнять свои обязанности на Вашей работе на данный момент?	☐	☐	☒	☐	☐
d. Для Вашей будущей карьеры?	☐	☐	☒	☐	☐
e. Для Вашего личностного развития?	☐	☐	☒	☐	☐
f. Для развития предпринимательских навыков?	☐	☒	☐	☐	☐

I2. Оглядываясь назад, если бы у Вас снова был выбор, Вы бы выбрали учебу по этой же программе в том же университете?

☒ Да

☐ По такой же программе, но в другом университете

☐ По другой программе, в другом вузе

☐ Я бы не пошел учиться в вуз

Личная информация

K1. Ваш пол
- ☐ Мужской
- ☒ Женский

K2. Год рождения: 1978

K3. Страна, в которой родились :
- Вы: Россия
- Ваш отец: Россия
- Ваша мать: Россия

K4. Где Вы жили:

	Город, область	Страна
a. В возрасте 16 лет	Волгоград	Россия
в. Во время Вашей учебы	Волгоград	Россия
c. Когда Вы начали работать	Волгоград	Россия
d. Где Вы живете сейчас	Волгоград	Россия

K5. Есть ли у Вас дети?
- ☐ Да, 1 ребенок
- ☐ Да, 2 детей
- ☐ Да, 3 и более детей
- ☒ Нет, перейдите к вопросу K7

K6. Сколько лет Вашему самому старшему ребенку и самому младшему?
- Возраст старшего: ☐☐ лет
- Возраст младшего: ☐☐ лет

K7. Какое образование у Ваших родителей и у Вашего партнера (друга/ подруги, супруга/ супруги)

Мать	Отец	Партнер
☐Среднее общее	☐Среднее общее	☐Среднее общее
☐Начальное профессиональное	☐Начальное профессиональное	☐Начальное профессиональное
☐Среднее профессиональное	☐Среднее профессиональное	☒Среднее профессиональное
☒Высшее	☒Высшее	☐Высшее

Хотели бы Вы получить результаты данного исследования? ☒ Да ☐ Нет

Укажите Ваши ФИО, домашний телефон и адрес (по желанию) Пушкарёва Елена Александровна
400026, г. Волгоград, ул. Гражданская 14-43 т. 691-271

INTERNATIONAL STANDARD CLASSIFICATION

OF OCCUPATIONS

ISCO-88

MAJOR, SUBMAJOR AND MINOR GROUPS

Major group 1: Legislators, senior officials and managers

11 Legislators and senior officials

111 Legislators

112 Senior government officials

113 Traditional chiefs and heads of villages

114 Senior officials of special interest organizations

12 Corporate managers

121 Directors and chief executives

122 Production and operations department managers

123 Other departmental managers

13 General managers

131 General managers

Major group 2: Professionals

21 Physical, mathematical and engineering science professionals

211 Physicists, chemists and related professionals

212 Mathematicians, statisticians and related professionals

213 Computing professionals

214 Architects, engineers and related professionals

22 Life science and health professionals

221 Life science professionals

222 Health professionals (except nursing)

223 Nursing and midwifery professionals

23 Teaching professionals

231 College, university and higher education teaching professionals

232 Secondary education teaching professionals

233 Primary and pre-primary education teaching professionals

234 Special education teaching professionals

235 Other teaching professionals

24 Other professionals

241 Business professionals

242 Legal professionals

243 Archivists, librarians and related information professionals

244 Social sciences and related professionals

245 Writers and creative or performing artists

246 Religious professionals

Major group 3: Technicians and associate professionals

31 Physical and engineering science associate professionals

311 Physical and engineering science technicians

312 Computer associate professionals

313 Optical and electronic equipment operators

314 Ship and aircraft controllers and technicians

315 Safety and quality inspectors

32 Life science and health associate professionals

321 Life science technicians and related associate professionals

322 Modern health associate professionals (except nursing)

323 Nursing and midwifery associate professionals

324 Traditional medicine practitioners and faith-healers

33 Teaching associate professionals

331 Primary education teaching associate professionals

332 Pre-primary education teaching associate professionals

333 Special education teaching associate professionals

334 Other teaching associate professionals

34 Other associate professionals

341 Finance and sales associate professionals

342 Business services agents and trade brokers

343 Administrative associate professionals

344 Customs, tax and related government associate professionals

345 Police inspectors and detectives

346 Social work associate professionals

347 Artistic, entertainment and sports associate professionals

348 Religious associate professionals

Major group 4: Clerks

41 Office clerks

411 Secretaries and keyboard-operating clerks

412 Numerical clerks

413 Material-recording and transport clerks

414 Library, mail and related clerks

419 Other office clerks

42 Customer service clerks

421 Cashiers, tellers and related clerks

422 Client information clerks

Major group 5: Service workers and shop and market sales workers

51 Personal and protective services workers

511 Travel attendants and related workers

512 Housekeeping and restaurant services workers

513 Personal care and related workers

514 Other personal service workers

515 Astrologers, fortune-tellers and related workers

516 Protective services workers

52 Models, salespersons and demonstrators

521 Fashion and other models

522 Shop salespersons and demonstrators

523 Stall and market salespersons

Major group 6: Skilled agricultural and fishery workers

61 Market-oriented skilled agricultural and fishery workers

611 Market gardeners and crop growers

612 Market-oriented animal producers and related workers

613 Market-oriented crop and animal producers

614 Forestry and related workers

615 Fishery workers, hunters and trappers

62 Subsistence agricultural and fishery workers

621 Subsistence agricultural and fishery workers

Major group 7: Craft and related trades workers

71 Extraction and building trade workers

711 Miners, shot-firers, stonecutters and carvers

712 Building frame and related trades workers

713 Building finishers and related trades workers

714 Painters, building structure cleaners and related trade workers

72 Metal, machinery and related trades workers

721 Metal moulders, welders, sheet-metalworkers, structural-metal preparers and related trades

workers

722 Blacksmiths, toolmakers and related trades workers

723 Machinery mechanics and fitters

724 Electrical and electronic equipment mechanics and fitters

73 Precision, handicraft, printing and related trades workers

731 Precision workers in metal and related materials

732 Potters, glass-makers and related trades workers

733 Handicraft workers in wood, textile, leather and related materials

734 Printing and related trades workers

74 Other craft and related trades workers

741 Food processing and related trades workers

742 Wood treaters, cabinet-makers and related trades workers

743 Textile, garment and related trades workers

744 Felt, leather and shoemaking trades workers

Major group 8: Plant and machine operators and assemblers

81 Stationary plant and related operators

811 Mining and mineral-processing plant operators

812 Metal-processing plant operators

813 Glass, ceramics and related plant operators

814 Wood processing and papermaking plant operators

815 Chemical processing plant operators

816 Power production and related plant operators

817 Automated assembly-line and industrial robot operators

82 Machine operators and assemblers

821 Metal and mineral products machine operators

822 Chemical products machine operators

823 Rubber and plastic products machine operators

824 Wood products machine operators

825 Printing, binding and paper products machine operators

826 Textile, fur and leather products machine operators

827 Food and related products machine operators

828 Assemblers

829 Other machine operators and assemblers

83 Drivers and mobile plant operators

831 Locomotive engine-drivers and related workers

832 Motor vehicle drivers

833 Agricultural and other mobile plant operators

834 Ships' deck crews and related workers

Major group 9: Elementary occupations

91 Sales and services elementary occupations

911 Street vendors and related workers

912 Shoe cleaning and other street services' elementary occupations

913 Domestic and related helpers, cleaners and launderers

914 Building caretakers, window and related cleaners

915 Messengers, porters, doorkeepers and related workers

916 Garbage collectors and related labourers

92 Agricultural, fishery and related labourers

921 Agricultural, fishery and related labourers

93 Labourers in mining, construction, manufacturing and transport

931 Mining and construction labourers

932 Manufacturing labourers

933 Transport labourers and freight handlers

Major group 0: Armed forces

01 Armed forces

011 Armed forces

Required competencies

Competencies required by employers (all graduates' assessment)

Variable	Nb	Mean	St.d.	Minimum	Maximum
KSDEM	249	4,7991968	1.9509715	1.0000000	7.0000000
GKDEM	248	4,6935484	1.5903424	1.0000000	7.0000000
ATHDEM	247	5,4898785	1.5897598	1.0000000	7.0000000
ANKDEM	247	5,7935223	1.4120124	1.0000000	7.0000000
NDEM	245	5,1714286	1.9064171	1.0000000	7.0000000
STDEM	244	5,4631148	1.7077264	1.0000000	7.0000000
NPDEM	242	4,3884298	2.0160020	1.0000000	7.0000000
MDEM	245	4,6734694	2.0644111	1.0000000	7.0000000
MTDEM	244	6,0368852	1.3031586	1.0000000	7.0000000
WGDEM	244	5,3647541	1.8442848	1.0000000	7.0000000
MODEM	242	4,8347107	1.9868744	1.0000000	7.0000000
EYDEM	246	5,6585366	1.5899135	1.0000000	7.0000000
ADEM	245	5,6938776	1.5311530	1.0000000	7.0000000
ILDEM	245	5,722449	1.7071769	1.0000000	7.0000000
NIDEM	247	4,902834	1.8888505	1.0000000	7.0000000
QIDEM	243	4,6378601	2.0001360	1.0000000	7.0000000
PPDEM	245	4,0857143	2.3234373	1.0000000	7.0000000
WRDEM	247	5,8502024	1.5610314	1.0000000	7.0000000
FLDEM	247	2,465587	1.9831172	1.0000000	7.0000000

Competencies required by employers from 'Managers' (graduates' assessment)

Variable	Nb	Mean	St.d.	Minimum	Maximum
KSDEM	32	4,59375	1.8466950	1.0000000	7.0000000
GKDEM	32	4,84375	1.8158687	1.0000000	7.0000000
ATHDEM	31	5,7741935	1.6270562	2.0000000	7.0000000
ANKDEM	32	5,6875	1.6152000	1.0000000	7.0000000
NDEM	32	5,46875	1.9173970	1.0000000	7.0000000
STDEM	32	5,6875	1.8740589	1.0000000	7.0000000
NPDEM	31	5,1935484	1.8514743	1.0000000	7.0000000
MDEM	32	5,65625	1.6773515	1.0000000	7.0000000
MTDEM	32	6,03125	1.4252193	1.0000000	7.0000000
WGDEM	32	5,4375	1.8997029	1.0000000	7.0000000
MODEM	31	5,4516129	1.8590089	1.0000000	7.0000000
EYDEM	32	5,9375	1.5644746	1.0000000	7.0000000
ADEM	32	6,09375	1.1738928	3.0000000	7.0000000
ILDEM	32	5,90625	1.4670439	1.0000000	7.0000000
NIDEM	32	5,46875	1.6260852	1.0000000	7.0000000
QIDEM	31	5,2258065	1.8745609	1.0000000	7.0000000
PPDEM	32	4,90625	2.1606357	1.0000000	7.0000000
WRDEM	32	6,03125	1.4252193	1.0000000	7.0000000
FLDEM	32	2,46875	2.3277343	1.0000000	7.0000000

Competencies required by employers from ‘Experts’ (graduates’ assessment)

Variable	Nb	Mean	St.d.	Minimum	Maximum
KSDEM	103	5,2524272	1.7133756	1.0000000	7.0000000
GKDEM	103	4,6504854	1.6902763	1.0000000	7.0000000
ATHDEM	103	5,6213592	1.6034063	1.0000000	7.0000000
ANKDEM	102	5,8431373	1.3697228	1.0000000	7.0000000
NDEM	101	5,049505	1.9410113	1.0000000	7.0000000
STDEM	101	5,3663366	1.6292500	1.0000000	7.0000000
NPDEM	99	4,1212121	1.8966820	1.0000000	7.0000000
MDEM	100	4,27	2.1595688	1.0000000	7.0000000
MTDEM	100	6	1.3026779	1.0000000	7.0000000
WGDEM	99	5,2222222	1.9407318	1.0000000	7.0000000
MODEM	99	4,4848485	2.1206643	1.0000000	7.0000000
EYDEM	101	5,7326733	1.4892353	1.0000000	7.0000000
ADEM	101	5,7029703	1.5201615	1.0000000	7.0000000
ILDEM	101	5,8910891	1.5485541	1.0000000	7.0000000
NIDEM	102	4,9607843	1.9084054	1.0000000	7.0000000
QIDEM	99	4,7070707	1.9496338	1.0000000	7.0000000
PPDEM	99	3,8989899	2.3883003	1.0000000	7.0000000
WRDEM	101	5,9207921	1.5012206	1.0000000	7.0000000
FLDEM	101	2,5049505	1.9678606	1.0000000	7.0000000

Competencies required by employers from ‘Technicians’ (graduates’ assessment)

Variable	Nb	Mean	St.d.	Minimum	Maximum
KSDEM	38	4,4736842	1.8993148	1.0000000	7.0000000
GKDEM	38	4,4473684	1.2454755	2.0000000	6.0000000
ATHDEM	38	5,5526316	1.4274788	1.0000000	7.0000000
ANKDEM	38	5,7631579	1.3642979	2.0000000	7.0000000
NDEM	38	5,1842105	1.9009992	1.0000000	7.0000000
STDEM	37	5,4324324	1.8339475	1.0000000	7.0000000
NPDEM	38	4,3947368	2.2961716	1.0000000	7.0000000
MDEM	38	4,6052632	2.1752847	1.0000000	7.0000000
MTDEM	37	6,2162162	1.2049697	2.0000000	7.0000000
WGDEM	38	5,7105263	1.5405842	2.0000000	7.0000000
MODEM	38	5	1.8599622	1.0000000	7.0000000
EYDEM	38	5,3947368	1.7788468	1.0000000	7.0000000
ADEM	38	5,4210526	1.5876479	1.0000000	7.0000000
ILDEM	38	5,6578947	1.7128499	1.0000000	7.0000000
NIDEM	38	4,7894737	2.0021326	1.0000000	7.0000000
QIDEM	37	4,6216216	2.0863492	1.0000000	7.0000000
PPDEM	38	3,9210526	2.2706301	1.0000000	7.0000000
WRDEM	38	5,8947368	1.7977384	1.0000000	7.0000000
FLDEM	38	2,1315789	1.6631304	1.0000000	7.0000000

Competencies required by employers from ‘Other occupations’ (graduates’ assessment)

Variable	Nb	Mean	St.d.	Minimum	Maximum
KSDEM	12	2,25	1.7645499	1.0000000	6.0000000
GKDEM	12	4,9166667	2.0207259	1.0000000	7.0000000
ATHDEM	12	4,9166667	1.8809250	1.0000000	7.0000000
ANKDEM	12	5	2.2962420	1.0000000	7.0000000
NDEM	12	4,9166667	2.1514618	2.0000000	7.0000000
STDEM	12	5,75	1.9128750	1.0000000	7.0000000
NPDEM	12	4,8333333	2.4058011	1.0000000	7.0000000
MDEM	12	4,75	2.3403574	1.0000000	7.0000000
MTDEM	12	5,9166667	1.6764862	2.0000000	7.0000000
WGDEM	12	5,25	1.7122553	3.0000000	7.0000000
MODEM	12	4,3333333	2.1881222	1.0000000	7.0000000
EYDEM	12	5,5	1.6236883	3.0000000	7.0000000
ADEM	12	5,75	1.5447860	3.0000000	7.0000000
ILDEM	12	4,25	2.5980762	1.0000000	7.0000000
NIDEM	12	3,6666667	2.0150946	1.0000000	7.0000000
QIDEM	12	3,25	1.5447860	1.0000000	5.0000000
PPDEM	12	3,75	2.6328346	1.0000000	7.0000000
WRDEM	12	5,4166667	1.6764862	3.0000000	7.0000000
FLDEM	12	1,9166667	1.1645002	1.0000000	4.0000000

Acquired competencies

Competencies possessed by graduates working in the **private** sector

Variable	Nb	Moyenne	Écart-type	Minimum	Maximum
KS	116	5.0948276	1.2085093	1.0000000	7.0000000
GK	116	4.8965517	1.1600548	1.0000000	7.0000000
ATH	114	5.5789474	1.2185494	2.0000000	7.0000000
ANK	116	5.9741379	1.0991001	2.0000000	7.0000000
N	115	5.2434783	1.4545229	2.0000000	7.0000000
ST	115	5.2782609	1.5191631	1.0000000	7.0000000
NP	114	4.9736842	1.3201001	1.0000000	7.0000000
M	116	5.2413793	1.3680878	1.0000000	7.0000000
MT	116	5.6293103	1.3483012	1.0000000	7.0000000
WG	116	5.9137931	1.1387939	2.0000000	7.0000000
MO	113	5.3274336	1.3054999	1.0000000	7.0000000
EY	116	5.6982759	1.1129266	3.0000000	7.0000000
A	116	5.6465517	1.0236704	3.0000000	7.0000000
IL	115	6.0000000	1.4017533	1.0000000	7.0000000
NI	114	5.4385965	1.3306136	2.0000000	7.0000000
QI	114	5.2894737	1.3935609	1.0000000	7.0000000
PP	115	4.8608696	1.6430980	1.0000000	7.0000000
WR	116	5.7758621	1.4147435	1.0000000	7.0000000
FL	116	3.9827586	1.9200668	1.0000000	7.0000000

Competencies possessed by graduates working in the **public** sector

Variable	Nb	Moyenne	Écart-type	Minimum	Maximum
KS	139	5.2014388	1.1175793	1.0000000	7.0000000
GK	140	4.7500000	1.0257477	1.0000000	7.0000000
ATH	140	5.4714286	1.0825154	2.0000000	7.0000000
ANK	139	6.0000000	0.9705818	3.0000000	7.0000000
N	138	4.9565217	1.6114081	1.0000000	7.0000000
ST	138	5.0289855	1.5797165	1.0000000	7.0000000
NP	137	4.4890511	1.6184451	1.0000000	7.0000000
M	139	5.0071942	1.4963550	1.0000000	7.0000000
MT	138	5.7391304	1.3141806	1.0000000	7.0000000
WG	138	5.7246377	1.2716339	2.0000000	7.0000000
MO	137	5.1167883	1.4504852	1.0000000	7.0000000
EY	138	5.5362319	1.1970732	1.0000000	7.0000000
A	138	5.6884058	1.2130719	1.0000000	7.0000000
IL	140	5.4571429	1.4806737	1.0000000	7.0000000
NI	137	5.0218978	1.3199106	1.0000000	7.0000000
QI	135	4.9259259	1.4384363	1.0000000	7.0000000
PP	133	4.5037594	1.7906494	1.0000000	7.0000000
WR	139	5.9640288	1.1759059	2.0000000	7.0000000
FL	137	3.3941606	1.7079299	1.0000000	7.0000000

Volgograd data set

	Nb	**Corr. coef. of Pearson**	**ANOVA/GLM**
Variables related to work experience:			
- Time of employment since graduation	248	0.1358 *	-
- Total work experience	248	0.0687	-
- Work experience in field obtained before or during university studies	256	0.0442	-
- Work experience not related to the graduates' major acquired before or during university studies		0.0442	-
- Work experience with the current employer	252	- 0.1247 *	-
Salary in first employment	244		5.18 **
Variables related to the current work/works:			
Sector	252	-	**32.50 *****
Branch	233	-	5.52 ***
Occupation	192	-	8.0 ***
The current work demands knowledge in the graduate's university major or in a related field	256	-	0.03
The current work demands a Master's or PhD degree	251	-	0.69
Nb of the staff managed by a graduate	256	0.1464 *	-
Number of work hours	245	**0.3468 *****	-
The company/ institution's geographical situation: (1 – 5)	249		4.89 ***
Size of the company where the graduate work	252	0.0881	-
Have more than one job	250		**45.22 *****
Number of employers since graduation	246	**0.2486 *****	-
Being self-employed	249		**32.91 *****
Variables related to the graduate's education and acquired competencies			
Average grade in secondary education	248	0.1681 *	
Marks in higher education diploma	247	0.1639 **	
The graduate strived for highest possible marks during his/her university studies	244	0.0962	
The graduate did extra work above what was required to pass exams during his/her university studies	236	0.0601	
Time spent on study per week during last two years at the university	231	- 0.0203	
The graduates' university specialisation: Russian, translation, journalism, physics,	250		1.64
Type of university studies	254		6.76 **
Type of secondary school			

Coefficient of consistency of competencies possessed by the graduate to competencies demanded in current work	210	- 0.1066	
Variables with personal data of a graduate			
Gender: Male vs. female	254		**19.51 *****
Age	256	- 0.0287	
Children	251		0.80
Father's educational attainment	246		0.31
Mother's educational attainment	248		0.12
If one of the parents has higher education			
Partner's educational attainment	225		3.49 *

Moscow region data set

	Nb	**Corr. coef. of Pearson**	**ANOVA/GLM**
Variables related to work experience:			
- Time of employment since graduation	138	0.0172	-
- Worked in a non-profit organisation during university studies (yes, no)	137	-	2.27
- Work experience with the current employer	136	-0.1398	-
Variables related to the current work/works or employment status:			
Sector	129	-	**45.61 *****
The current work demands knowledge in the graduate's university major or in a related field	138	-	1.36
The current work demands lower than higher education	137	-	1.71
Number of work hours	135	**0.2985 *****	-
Place of work: (Moscow vs. Moscow region)	136	-	**20.28 *****
Have more than one job	138	-	0.45
Be self-employed	129	-	**12.53 *****
Number of employers since graduation		**0.22 ****	
Variables related to the graduate's education and acquired competencies			
Average grade in secondary education	123	-0.0628	-
Marks in higher education diploma	134	-0.1414	-
The graduate strived for highest possible marks during his/her university studies	134	-0.0045	-
The graduate did extra work above what was required to pass exams during his/her university studies	134	- 0.1200	-
Time spent on study per week during last two years at the university	121	- 0.0848	-
The graduates' university specialisation: Teacher	127	-	2.34 *

Type of secondary school (complete general education; medium professional education)	137	-	0.49
Educational institution	132	-	4.90 **
Variables with personal data of a graduate			
Gender: Male vs. female	138	-	1.84
Age	137	-0.0164	-
Children (1,2,0)	137	-	3.26*