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The Modernization Potential of the Professional Structure of the Employed Population of Russia

Research on employment and labor mobility in Russia shows that a more competitive and modern economy will require greater opportunities for continuing education for workers, for the elimination of low-skilled/low-wage jobs, and for more upward mobility of workers into skilled occupations.

Will the Russian economy be able to achieve a breakthrough in modernization now? This depends largely on the quality of the country's labor potential and its professional structure, and how well they match this task. Such a match is the institutional prerequisite for successful economic development. An analysis of the professional structure¹ should reveal what reserves exist for improving the quality of the structure. And this will require clarifying the characteristics of the sociodemographic processes of the structure's development. Another goal must consist of taking account of and making rational use of the age and gender characteristics of workers and their educational potential. Up to now, however,

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not enough attention has been paid in Russia to stating the problem in this way, although the professional structure, taking account of the sociodemographic characteristics of the various professional groups, has been the object of management in a number of countries worldwide, and in fact for quite a long time.

Unless the professional structure is made into an independent object of management, it is hardly likely that the task of modernization can be successfully accomplished. In Russian economic policy, however, the importance of the professional structure of the population as a special object of state management has so far been badly underrated.

The dynamic of the professional structure in today's Russia

Since the end of the 1960s in Russia, the development of the broad segment of workers engaged in mental work has begun to slow down, and this has led to the massive spread of blue-collar jobs of midlevel qualification in Russia's economy. Judging from the data of sample sociological surveys, this tendency has become firmly established in recent years,² although this somewhat conflicts with the data of official Russian statistics.³ An analysis of these differences undertaken on the basis of surveys in the Russian Longitudinal Monitoring Survey [RLMS] from 1994 through 2008,⁴ led to the development of a method for recoding the items of the International Classification of Occupations (ISCO-88⁵), which made it possible to obtain a set of data that describe the present professional structure of the population while minimizing distortions of that kind.⁶

In the course of the analysis it was found that in the period of the 1990s and 2000s, particular quantitative changes took place in the professional structure of the population (see Table 1). Chiefly these changes are seen in the following:

- an increase in the percentage of workers engaged in nonphysical labor of medium and low qualification;
- a decreased percentage of workers engaged in physical labor employed in positions as machinery and mechanism operators and installers of equipment in Russian enterprises;
- no increase or a decline in the number of workers engaged in nonphysical labor of high qualification;
- a rise in the number of managers along with high internal instability of this group against the background of the stabilization of the composition of the other professional groups.

Table 1

Professional Structure of the Population of Russia in 1994–2008, % of Employed People (representative RLMS samples, ISCO-88 after recoding)

	1994	1995	1996	1998	2000	2001	2002	2003	2004	2005	2006	2007	2008
Wave	5	6	7	8	9	10	11	12	13	14	15	16	17
Total, no.	4,724	4,403	4,073	3,706	3,554	3,699	3,660	3,615	3,730	3,485	4,654	4,608	4,464
0. Military service personnel	1.2	1.2	1.5	1.1	1.1	0.8	0.7	0.7	0.6	0.5	0.7	0.7	0.6
1. Public officials, directors, entrepreneurs (managers)	4.0	5.0	3.9	4.0	5.1	6.0	5.3	4.0	4.3	4.4	4.1	5.0	3.6
2. Professionals	13.6	11.5	12.4	12.6	12.0	12.4	11.8	12.6	12.9	12.2	12.7	13.5	12.5
3. Semiprofessionals	13.4	14.0	14.6	15.4	14.8	14.9	16.5	16.6	16.0	17.2	17.3	16.2	18.5

4. Office workers	6.9	7.6	7.4	8.0	7.3	7.5	8.1	7.8	6.9	6.7	7.3	7.1	7.3
5. Service and trade workers	8.2	9.0	9.3	9.4	10.3	10.2	9.8	10.7	10.5	10.7	10.5	11.5	11.3
6. Agricultural and fishing workers	0.6	0.4	0.5	0.5	0.7	0.6	0.7	0.5	0.5	0.6	0.5	0.3	0.3
7. Blue-collar workers employed in manual physical labor	16.7	16.6	16.1	14.4	15.2	15.3	14.9	14.8	15.0	14.7	13.9	14.5	13.4
8. Machine operators and drivers	20.9	21.0	19.3	19.9	19.7	19.3	19.0	18.0	19.2	18.4	17.9	16.5	16.9
9. Unskilled laborers (nonqualified blue-collar workers)	14.5	13.7	15.0	14.7	13.8	13.0	13.2	14.3	14.1	14.6	15.1	14.7	15.6

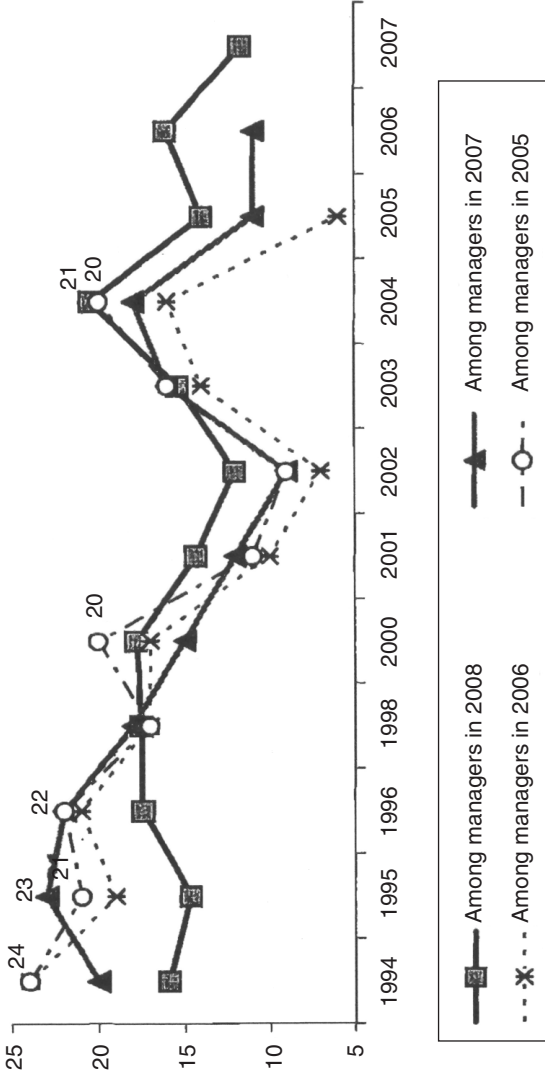
Notes: Left out of the calculations are missing numerical values whose average value over the years in question stands at 0.3 percent and does not exceed 0.5 percent over the entire period of observations. Since the data are presented for the representative samples, the indicators have been weighted for each year of observation. It is also useful to point out that owing to the special importance of this table, the data of the indicators are cited without being rounded to whole numbers.

These quantitative indicators indicate the deindustrialization of Russia's economy along with the simultaneous dequalification of the country's workforce.⁷ In other words, judging by the type of professional structure of the population, the model of development of the Russian economy cannot be assigned either to the late industrial or the early industrial type. Russia's economy is at an intermediate stage between the two; this is attested to by the unfinished character of the formation of the professional structure of the population, which is reflected not only in the intensive dynamic of the numbers of certain professional groups but also in the unstable character of the internal composition of a number of groups, in particular, the group of managers, as well as the varied nature of workers engaged in physical labor of medium and low qualification.

Let us take a more detailed look at the group of managers, which in today's Russia is only at the beginning stage of its emergence. This group is internally unstable (the type of activity was retained by 63 percent of the managers in 2007–8, by 57 percent over two years, by just half over three years, by 38 percent in 2004–8, by 44 percent from 2002, by 46 percent from 2001, by 28 percent from 1998, and by only 23 percent of the group in 1994–2008). In other words, from the beginning of the 1990s the segment of public officials, directors, and entrepreneurs was almost totally renovated, and it seems apparent that this process has not yet been completed.⁸ And even though the structure of managers, public officials, and major entrepreneurs went through major changes in the post-Soviet years, the level of participation by qualified workers engaged in mental labor in the transformation of that professional group was not very high. For example, it is clear from Figure 1, which shows the percentage of professionals in the different years in the composition of managers in 2005–8, that in general the movement of professionals into management positions had little effect on the portrait of the professional group of managers, with the exception of a few points in time, when the filling of management positions with professionals was considerable and was reflected in the portrait of the group. For example, the composition of managers in 2005 and 2008 shows a significant percentage of workers (not less than a fifth of the composition of managers in the relevant years) who in 2004 were employed in jobs of specialists with a higher education.

Figure 1 shows the increase in the demand for specialists with a higher education starting in the 2000s, and the satisfaction of that demand at the peak of the economy's growth in the mid-2000s. It is important to

Figure 1. Workers Employed in Professional Jobs in Different Years, Among Directors and Public Officials in 2005, 2006, 2007, and 2008 (%; RLMS panel samples)



Notes: Figure 1 shows the statistically significant figures on the proportions of workers employed in management positions and in the corresponding year occupy professional jobs ($p < 0.05$). Data on significance levels were obtained based on the numerical values of the z-statistic ("Adjusted Residual" in the SPSS), which is used when deriving the data of contingency tables based on the χ^2 test. More detailed explanations about the selection of the boundaries of significance levels in the course of this type of statistical analysis are presented below.

note, at the same time, that this demand was met not so much as a result of any extensive increase in management positions but as a result of organizations' internal need to fill already existing jobs that involve the management of personnel and processes. This is indicated by what were actually not very significant changes in the percentage of managers and supervisors in the overall system of employment in the economy, starting in 2003, a fact that is supported by official statistics on the dynamic of the corresponding jobs during that period.

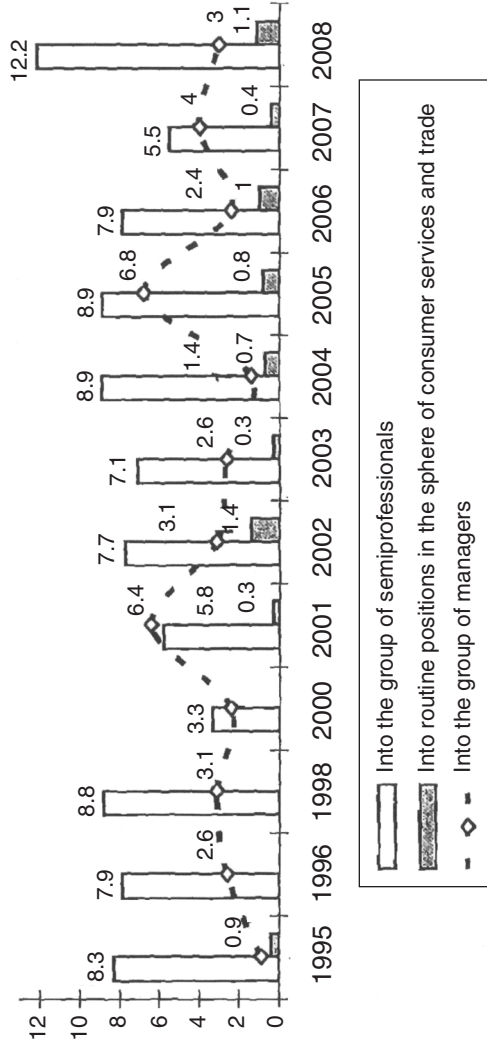
If we keep in mind, at the same time, that professionals are the only ones among the representatives of the other professions who are in some way making their way into positions of management (and this tendency has persisted since the beginning of the 1990s), we can conclude that the probability of becoming a manager is more likely to depend not on the professionals themselves but on structural changes in the organizations and their internal needs, which are closely linked to their type of activity.

At the same time, the professionals themselves show stability in their internal group composition. For example, in the composition of workers engaged in mental labor in 2008, the professionals of 2007 account for 86 percent; the counterpart figures are 80 percent for 2006, 74 percent for 2005, and 65 percent for 1994. The other percentages are distributed mainly among managers, semiprofessionals, office workers, and people employed in routine positions in the sphere of trade and consumer services (see Figure 2).⁹ Moreover, the ratios did not change during 1994–2008.

Despite the overall decline in the number of structural positions of professionals in Russia's economy, which was mentioned earlier, about 10 percent of the representatives of this group were forced into downward social mobility in the period in question. As will be shown below, this took place as a result of the "attrition" of men from the positions of professionals, and this tendency, paradoxical and quite specific to Russia, compels us to think about the degree of attractiveness of the jobs of professionals in our country. . . .

The dynamic of the number of Russians employed in physical labor, as was pointed out above, attests to the deindustrialization of Russia's economy. At the same time, the "blue collars" (primarily industrial workers who consist mainly of machinery operators and drivers, as well as blue-collar workers who are employed in manual labor) remain the most stable group in terms of the retention of their internal composition

Figure 2. Annual Mobility of Professionals into the Group of Directors and Semiprofessionals and into Routine Positions in the Sphere of Trade and Consumer Services in 1994–2008, % of the Number of Professionals in the Preceding Period (RLMS panel samples)



(79 percent of industrial blue-collar workers remained in their type of occupation in 2007–8). At the same time, among the workers employed in physical labor, we also observe a clearly pronounced inner diversity, which is manifested upon analyzing the sectoral breakdown of these types of occupation. For example, it is not industry that represents the typical sector of the occupation of unskilled general purpose workers, it is branches of the tertiary sector (where 47 percent of all unskilled laborers are employed) such as the sphere of intellectual services, as well as trade and consumer services, management and security, where the character of the activity of the unskilled laborers differs significantly from the situation of such workers in industry, construction, or agriculture.

It is worth noting that as the years go by, the interpenetration of the statuses of industrial blue-collar workers and unskilled laborers declines (from 23 percent of the number of unskilled laborers in 2008, who in 1994 were industrial blue-collar workers, to the level of 5 percent of the number of unskilled laborers in 2008, who were working in positions of industrial blue-collar workers in 2007). Moreover, while in the 1990s the movement of industrial blue-collar workers into the ranks of unskilled laborers was in no way linked to the specific character of the jobs involving nonqualified physical labor (any statistical connection was lacking at the level of significance of $p < 0.05$), starting in 2003 the mobility of machinery operators and drivers into positions of unskilled laborers became an extremely uncharacteristic phenomenon for the former. This indicates that the basic statuses among those employed in nonphysical labor are becoming more clear cut, and moreover, this tendency is true even for those linked to extremely low qualificational and educational requirements: to some extent this has been brought about, as well, by measures to bring into Russia certain industries that require blue-collar workers to have a high technological culture. Practice has shown that it is easier for such factories to fill the jobs of assemblers and machinery operators by hiring specialists who have an at least a secondary specialized level of education than to invest in the retraining of blue-collar workers whose level of qualification is not high. Furthermore, to some extent the presence of such industries (which also include those of the military industrial complex) makes it possible to account for the fact that specialists with a higher education are working in blue-collar positions. It is quite possible that precisely this rather small group of highly qualified blue-collar workers will be in demand by Russian industry, especially

if the tendency to transfer the assembly lines of world corporations into Russia persists.

From the point of view of forecasting changes in the professional structure, this can lead to two consequences. The first one involves the negative dynamic of the number of qualified industrial blue-collar workers. It is clear from Table 1 that since 2001 the percentage of unskilled laborers has increased along with a simultaneous decline in the percentage of machinery operators and drivers, which may be linked to a devaluation of the work of traditional industrial blue-collar workers, followed by their dequalification.¹⁰ The second consequence involves the decline in status of some of the “white collars” down to the status of workers in physical labor. It is likely that the most effective source of filling the group of future qualified blue-collar workers consists of today’s office workers, clerks, and line personnel who do not measure up to the requirements of the jobs that they hold, which demand close attention to detail and meticulousness in routine work. However, a decline in the professional status of a portion of the “white collars” (where they move into the ranks of representatives of physical labor) may also take place on perfectly objective grounds, linked to the level of demand in the real [i.e., industrial] sector and are reflected in the comparatively high incomes in certain branches of Russian industry (and not just in the raw materials sector).

The qualitative characteristics of the Russian professional structure: The educational aspect

In consideration of the quantitative changes in the professional structure as mentioned above, it is cause for concern that the survey was not able to pinpoint the prerequisites for a transition to the next phase of economic development in Russia. As was shown by the results, some of which were presented above, in Russia today we observe substantial limitations on the population’s upward professional mobility, and this reduces workers’ incentives to raise their educational level and to acquire additional competencies, even though it is the qualitative labor potential that constitutes an important infrastructural prerequisite for any transition onto the innovative trajectory of development. At the same time, for the working population of Russia, education at the present time represents not so much, and not only, a form of investment, as a mechanism by which to change their way of life.¹¹

For example, today a majority of Russians who intend to continue their education are motivated not solely by a desire to increase their earnings but also by a desire to acquire a new profession and to expand their intellectual horizon, to find a new kind of work and raise their qualifications.¹² At the same time, a person's intention to continue his education is determined not primarily by the level of the education he has acquired but by the specific character of the structural position he holds, which is determined by his type of professional activities. Meanwhile, even Russians' readiness to boost their intellectual potential today is not always carried out in their actual actions, and this is most apparent in the case of blue-collar workers (see Table 2).

While professionals, at least partially, are involved in the process of acquiring new competencies in the framework of their old specialty, blue-collar workers begin looking at the possibility of continuing their education if they decide to change their professional status for a different one (see Table 3). The lack of clearly expressed dispositions to acquire new knowledge and skills and raise their educational level and qualifications, on the part of Russia's blue-collar workers, casts doubt on the validity of the thesis that the enterprises of Russia's industry have a real need (real and, more important, one backed up by effective demand) for a qualified workforce, which might serve to foster the spread of such dispositions among blue-collar workers.¹³

Therefore, right now it would not be correct to speak of any competitiveness of the labor resources of today's Russia from the standpoint of their qualitative characteristics, if we compare them with representatives of the same professional groups in countries that make up the nucleus of the postindustrial world that is forming. Moreover, this is not determined by Russians' intentions with regard to their human capital alone. As can be seen in Table 4, it may also be linked to the devaluation of higher education in today's Russia. At the same time, we are struck by the comparatively low level of the quality of Russia's labor resources (a minimum of one-third of workers in 2008 did not have an education higher than the general secondary level). Moreover, the distribution of people with a higher education relative to various professional statuses is an indication of the irrational use of the work potential of many of them, since even having a higher education does not always enable Russians to work in positions that correspond to their educational level (see the data in Table 4). Only 46 percent of Russians with a higher education occupy positions that require a person to have a higher education as a

Table 2

Training of Blue-Collar Workers in Specialized Professional Courses in 2008, % of the Number of Employed (RLMS panel sample)

Training	Were trained for twelve months in professional courses	In their old specialty	In a new specialty	Funded by the enterprise	Funded by their own resources	Funded from other sources
Total, %	3.4	66	34	65	26	9
7. Manual physical labor workers	4.2	67	33	69	19	12
8.1. Assemblers and machine operators	5.5**	64	36	84*	8	8
8.2. Drivers and operators of mobile machines	3.3	67	33	62	29	9
9. Unskilled laborers	1.7	44	56	31	63***	6

Notes: * the null hypothesis is rejected that there is no connection where the significance level is $\alpha < 0.05$, that is, in 95 percent of cases we can say that our variables are statistically interconnected; ** significance at $\alpha < 0.01$, meaning 99 percent probability; *** significance at $\alpha < 0.001$, meaning 99.9 percent probability. A χ^2 test was used to measure the existence of a statistically significant connection between nominal features, so that it is necessary to emphasize that these data do not refer to the power of the connection but to the reliability of the result.

necessary condition for working in those positions (in 1994 this figure was much higher, 62 percent). At the same time, in 2008, 7.5 percent of Russians with a higher education were working as managers and supervisors (compared to 10 percent in 1994), and 29 percent were working as assistants to professionals (compared to 13 percent in 1994). All of these things show that the Russian labor market is oversaturated with specialists who have a higher education, and moreover, the oversaturation began relatively recently.¹⁴

But what is causing specialists to work in jobs that are not in accord

Table 3

Preferences in the Field of Accumulation of Knowledge and Skills in Various Professional Groups, 2006, 2008, % of Employed (RLMS representative samples)

	Want to change jobs (2006)		Were trained in professional courses, courses for upgrading qualifications, and so on, in the past twelve months (2006)			Plan to continue their training in the next three years (2008)			
	Total	In old specialty	In old specialty	In new specialty	Total	In professional courses	In a technicum	In a college or university	Total
Total, %, n	27, n = 3,304	5, n = 611	61, n = 369	39, n = 238	20, n = 731	27, n = 592	21, n = 444	61, n = 1,321	
1. Managers	16	9	76	24	23	36	0	82	
2. Professionals	19	17***	85***	15	24	68***	1	44	
3. Semiprofessionals	25	11***	74	26	31***	27	0.5	82***	

4. Office workers	26	6	45	55**	25	30	26***	68
5. Service and trade workers	34***	5*	51	49*	25*	26	17	70
7. Manual physical labor workers					16	32	21**	58
8. Machine operators and drivers					13	26	20*	64
9. Unskilled laborers	30***	4*	55	45***	15	23	25***	65

Notes: * the null hypothesis is rejected that there is no connection where the significance level is $\alpha < 0.05$, that is, in 95 percent of cases we can say that our variables are statistically interconnected; ** significance at $\alpha < 0.01$, meaning 99 percent probability; *** significance at $\alpha < 0.001$, meaning 99.9 percent probability. A χ^2 test was used to measure the existence of a statistically significant connection between nominal features, so that it is necessary to emphasize that these data do not refer to the power of the connection but to the reliability of the result. Here and henceforth the tables omit data on military service personnel because this professional group is too small for statistical analysis.

Table 4

Education of Representatives of Various Professional Groups in 2008, % of Employed People (RLMS representative sample)

	Educational level					
	Grades 0–6	ISGE (grades 7–8)	ISGE (grades 7–8) plus slightly more	CSGE	CSSE and/ or IHE	CHE and higher
Total, %, <i>n</i>	0.2, <i>n</i> = 11	3.1, <i>n</i> = 143	7.6, <i>n</i> = 345	33, <i>n</i> = 1,502	29.5, <i>n</i> = 1,342	26.6, <i>n</i> = 1,212
1. Managers				20	21	59*
2. Professionals					1	99* ^a
3. Semiprofessionals					59*	41*
4. Office workers		3	10	47*	30	10
5. Service and trade routine workers		1	6	54*	31	8

6. Agricultural workers				43	43	14
7. Manual physical labor workers	1	6	54*	31	8	
8. Machine operators and drivers	5*	13*	59*	19	4	
9. Unskilled laborers	1	12*	23*	38*	18	8

Notes: * corresponds to the level of significance where $\alpha < 0.001$, meaning 99.9 percent probability. A χ^2 was used to measure the existence of a statistically significant connection between nominal features, so that it is necessary to emphasize that these data do not refer to the power of the connection but to how reliable the result is. ISGE—incomplete secondary general education; CSGE—complete secondary general education; CSSE—complete secondary specialized education; CHE—complete higher education; IHE—incomplete higher education.

^aAccording to the logic of ISCO-88 recoding, the group of professionals is formed only by workers with a higher education. The only exceptions are workers employed in the so-called creative professions (ballet performers, artists, etc.), who, in the realities of Russia, have a secondary specialized education and the institutional ability to produce and relay knowledge through the educational system, that is, the content of their work characterizes them as professionals. The inclusion of these categories among the professionals explains why not 100 percent of professionals have a higher education.

with their education? This situation is accounted for primarily by the fact that the system of higher education is turning out a huge number of specialists whose qualifications are known to be capable of meeting the economy's demand only for jobs that do not involve creative intellectual work. For example, in the period from 2000 through 2006 (the database for 2008 does not include the corresponding question), only a small proportion of Russians with a higher education (6 percent) had to move into the kind of job that, in their own assessment, did not correspond to their qualifications, and when it did, in the majority of cases it was because of a reduction in force or the closing down of their former enterprise. This means that the qualifications of a major portion of the Russians with a higher education and not working in specialist positions actually correspond, according to their own opinion, to the requirements of the jobs that they occupy. In other words, Russians with a higher education are employed in the positions of semiprofessionals, office employees, and workers engaged in physical labor, and they are convinced that the work they are doing is fully consistent with their qualifications.

At the same time, the most characteristic level of education of Russians employed in the country's economy is a general secondary education. From the data presented in Table 4 it is clear that a secondary general education is the most predominant educational level not only for people employed in physical labor (blue-collar workers engaged in manual labor [54 percent], operators of machine tools and equipment [59 percent], and unskilled laborers [38 percent]), but also for office employees (47 percent) as well as people employed in routine positions in the sphere of trade and consumer services (54 percent). It is important to keep in mind in this regard, however, that people employed in physical labor do not represent a homogeneous group based on that feature (i.e., their level of education). For example, 35 percent of unskilled laborers and 18 percent of operators of machine tools and equipment have an incomplete secondary education, whereas representatives of manual labor are not characterized at all by that type of education (7 percent). This means it is not only that in terms of their educational level Russian managers and supervisors do not meet the requirements demanded by a late industrial-type economy (not to mention the postindustrial type), but also that most Russian blue-collar workers do not match these requirements.

It turns out that the prospects for modernization of the professional structure of the Russian population are significantly limited by the quality of the dynamic of that structure. In this connection it is especially necessary to note the workers who presently occupy relatively routine jobs in the sphere of consumer services, trade, and agency services, the percentage of which, as was shown above, has been rising steadily over all of these years. Many researchers, especially those who rely on state statistical data, joyfully welcome that fact and interpret it as a kind of evidence of the expansion of the tertiary sector in the Russian economy. However, when we look at the data from sample statistics, causes for joy become much fewer in number. This is primarily because of the following factors.

First, in the past few years, there has been a decline in the proportion of workers in the group with a secondary general education, which has been the classic type for routine workers in the sphere of services and trade (from 67 percent in 1998 to 54 percent in 2008), which was partly replaced (especially in the 2000s) by workers with a higher education (from 3 percent in 2000 to 9.5 percent in 2008), who very definitely did not come from professional positions (the proportion of professionals in the different years among Russians employed today in routine positions in the tertiary sector and in trade does not exceed 2.1 percent). That is, even the relatively few people with human capital of “better quality” who are represented in the group, have entered the group from “related” positions, for example, from among those employed in the lowest level “white-collar” positions—in other words from positions as clerks and office employees.

Second, employment in the sphere of services and trade is positively linked to workers’ extremely negative assessments of their own opportunities for professional growth (along with their rather low level of satisfaction with their lives, which, by the way, does not characterize office personnel, and thereby illustrating that the ranks of routine workers in the sphere of trade are being filled by the country’s human resources that are not of the best quality). Moreover, considering the steady rise in employment levels in the sphere of services and trade, all of this attests to the persisting “crisis” nature of this employment and the fact that moving into the corresponding jobs has been “forced” upon them.

Third, any optimism in regard to the modernization potential of the country’s economy becomes even lower when we consider that trade

and the sector of routine services are especially popular specifically among Russia's youth today. For example, 43 percent of employees in rank-and-file positions in the sphere of trade and consumer services are members of the younger generation of Russian workers, age thirty and below, which exceeds the percentage of Russians of that age in the country's working population by a factor of 1.5.¹⁵

What prompts young people to go into routine jobs in the sphere of trade and services (which would have been difficult to imagine, for example, thirty or forty years ago¹⁶)? According to our surveys,¹⁷ a comparison of the monetary payback for the education acquired by blue-collar workers and rank-and-file employees in the sphere of consumer services and trade did not yield any significant differences. It turns out that young people are not going into this sector because of money. It is also not that blue-collar positions are popular among young people because the level of human capital of the representatives of that group does not meet the qualification requirements of jobs in industry (especially considering that today many enterprises offer free courses for raising qualifications). The educational level of young people employed in rank-and-file positions in the sphere of trade is, in fact, not very high, but it is higher than for young blue-collar workers (66 percent have a secondary specialized or incomplete higher education, whereas in regard to young blue-collar workers the predominant type of education is secondary general or lower: 53 percent, if the youth limit is set at age twenty-six or younger, and 45 percent if it is set at thirty).

As has been shown by surveys in which the present author has participated, sociological logic may be at work here. In contrast to being included in the working class, being employed in trade makes it possible for young people to maintain the hope and expectation of career prospects and entry into the middle class.¹⁸ For example, more than half of the "children's generation" employed in rank-and-file positions in the sphere of trade and consumer services are quite confident in their chances of getting a good education in the future. And the same can be said about their confidence that they will also have opportunities to get a prestigious and interesting job in the future. This definitely sets them apart against the background of blue-collar workers, who do not hold such hopes.

All of this indicates that the Russian economy today has no need of highly qualified cadres even in the numbers that are already available, which, of course, does not rule out the possibility of disproportions

Table 5

Coefficients of the Kruskal–Wallis Test to Determine Differences of Composition Between Professional Groups Depending on Gender, Age, and Type of Community, 2008 (RLMS representative sample)

Variables	Gender	Age	Type of community
χ^2 criterion	1,082.368	137.427	120.650
Degree of freedom	9	9	9
Significance level (Asymp. Sig.)	0	0	0

due to a higher level of demand in particular labor markets or their segments.¹⁹

The qualitative characteristics of the Russian professional structure: The demographic and community settlement aspect

To a large extent, such disproportions emerge as a result of the demographic and community settlement characteristics of the workers. It is clear from Table 5, which generalizes the results of the H test using the Kruskal and Wallis method,²⁰ that gender, age, and type of community, when examined simultaneously, have a statistically significant influence on structuring of the space of professional positions in today's Russian economy.

At the same time, estimating the depth of this pattern makes it possible to conduct a more detailed analysis that examines the role of each of these features separately. In talking about age as a characteristic of the person that is inalienable but changes over time, we can say the following as it applies to professional structure. As was pointed out above, it would be possible in 2008 to number among the occupations of “the young” the kinds of activity, above all, of workers employed in routine positions in the sphere of services and trade, the work of semiprofessionals, military service personnel, and clerks (the median age in the fifth professional group is thirty-five; for semiprofessionals, thirty-six; for military service personnel, thirty-seven; for clerks, thirty-eight); the most “aged” professional group today consists of workers in the primary sector and managers (see Table 6).

Table 6

Characteristics of the Age Composition of Main Professional Groups in Russia, 2008, Number of Employed (FLMS representative sample)

Statistical indicators	Average (SE)	95% confidence interval for average		Me	S	Min	Max	IQR	Bias (SE)	Excess (SE)
		Lower boundary	Upper boundary							
Total number of job holders in the set	39.2 (0.187)	38.8	39.5	38	12.6	15	79	20	0.297 (0.036)	-0.684 (0.073)
By professional groups										
1. Managers	43.8 (0.827)	42.2	45.5	43	10	22	70	16	0.073 (0.192)	-0.689 (0.382)
2. Professionals	41.7 (0.554)	40.7	42.8	40	13	21	79	21	0.428 (0.103)	-0.688 (0.206)
3. Semiprofessionals	37.2 (0.418)	36.4	38.1	36	12	18	77	20	0.480 (0.085)	-0.629 (0.170)

4. Office workers	38.3 (0.683)	37.0	39.7	38	12	16	75	21	0.294 (0.135)	-0.628 (0.268)
5. Service and trade workers	35.4 (0.501)	34.4	36.3	35	11	16	70	19	0.342 (0.109)	-0.637 (0.217)
6. Agricultural workers	43.1 (3.104)	36.4	49.8	48	12	21	55	20	-0.795 (0.600)	-0.861 (1.159)
7. Manual physical labor workers	39.7 (0.499)	38.7	40.6	41	12	17	71	20	0.072 (0.100)	-0.953 (0.200)
8. Machine operators and drivers	39.9 (0.423)	39.1	40.8	39	12	17	76	18	0.093 (0.089)	-0.785 (0.178)
9. Unskilled laborers	40.9 (0.557)	39.9	42.0	40	15	15	77	23	0.198 (0.093)	-0.920 (0.185)

Notes: Me—median; S—standard deviation; IQR—interquartile range; SE—standard error.

Table 7

Result of the Paired Comparison of the Composition of Professional Groups Depending on Age, 2008 (RLMS representative sample)

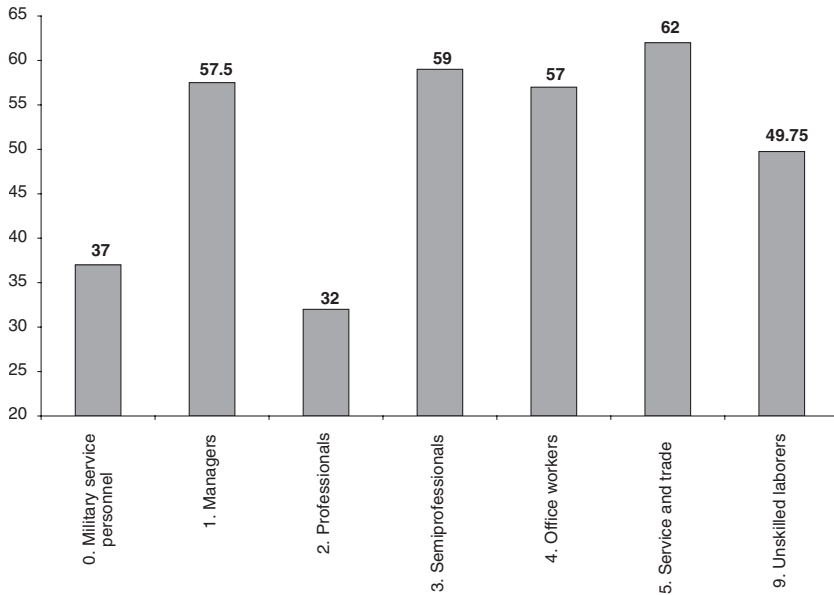
	Professional groups									
	0.	1.	2.	3.	4.	5.	6.	7.	8.	9.
0. Military service personnel										
1. Managers	■									
2. Professionals	■	■								
3. Semi-professionals		■	■							
4. Clerks		■	■							
5. Service and trade workers		■	■	■	■					
6. Agricultural workers	■			■		■				
7. Manual labor workers	■	■	■	■		■				
8. Industrial workers	■	■	■	■		■				
9. Unskilled laborers	■			■	■	■		■		

Notes: shading indicates significant results (p -value ≤ 0.05).

However, are these differences really substantial? As can be seen from Table 7, which contains the results of a paired comparison of professional groups relative to age, and was carried out on the basis of a U test using the Mann and Whitney method,²¹ in and of itself age does not influence differences between the professional statuses that entail physical labor, but it does set them apart from jobs classified as nonphysical labor. The only exception here consists of positions in the sphere of manual labor, which are distinguished by age from jobs intended for unskilled laborers. At the same time, we observe a high degree of variation in terms of age between positions of nonphysical labor.

The data in Table 7 make it possible to discern the following patterns among the differences in professional statuses, broken down by age. For example, it is likely that unskilled laborers constitute the only mass professional group that does not differ from managers and professionals in terms of age. In other words, from the standpoint of age, there are

Figure 3. Age Boundary Beyond Which There Is Less Likelihood of Occupying Professional Positions, Compared to Industrial Blue-Collar Worker Jobs, 2008 (RLMS representative sample)



definitely relatively equal chances of the employment of these essentially polar opposite professional statuses, if we look at them in terms of each other. Special attention should also be paid to another mass professional group—clerks. In terms of age they are not different from semiprofessionals, military service personnel, agricultural workers, and blue-collar workers engaged in manual labor. Moreover this pattern, with a few small variations, is also observed in regard to clerks in relation to two other variables of the sociodemographic bloc being examined (see the data in Table 10 later in the article). It turns out that the positions of clerks are the most open positions from the standpoint of obstacles not based on class to which sociodemographic criteria are applied.

At the same time, the most inaccessible professional group for older workers is that of the professionals (see Figure 3). Consequently, the potential of a number of social groups is being sufficiently used, in particular representatives of the older age cohorts and also, as will be shown further below, the inhabitants of particular types of communities. The assessments presented in Figure 3 were obtained through regression analysis.²²

Essentially, the results indicate a different level of efforts that workers will have to exert in order to hold on to various types of jobs (other things being equal). In order to increase the likelihood of remaining in the group of professionals, a person has to lay the basic career groundwork before reaching age thirty-two, whereas workers of medium qualification who are engaged in physical labor can afford to remain comfortably in their jobs (other things being equal) until the age of fifty or sixty. Obviously, in the former case it is a matter of fiercer competition, which is linked not only to age (and other sociodemographic factors) but also, clearly, to other types of resources, such as human capital, whereas in regard to jobs involving physical labor as well as medium and low qualification nonphysical labor, it is more a matter of the ability to do routine work. If this is so, it is reasonable to suggest that for people engaged in physical labor human capital should be quite insignificant as an asset, whereas for professionals the reverse is true: it should represent a greater value. The analysis undertaken above essentially confirms this assumption.

As was mentioned earlier (see Table 5), added to the age phase limitations on professional activity are the gender characteristics of workers. Gender-related changes in the professional structure have been found and have been observed over the entire period in question (1990s through 2000s) and are reflected in the fact that already existing tendencies have grown stronger, namely: a decline in the percentage of men among workers engaged in nonphysical labor of a high level of qualification, and an increase in the percentage of women employed in routine positions in the spheres of services and trade; also a decline in the percentage of women employed in specialist positions of medium qualifications and office personnel (see Table 8).

Table 8 makes possible a conclusion in regard to the typical characteristics of the change in professional structure in the past few years as these are related to polarization based on gender: (1) starting in the 2000s, management activity, even on the medium and lower levels, has become the prerogative primarily of men; and (2) the group of unskilled laborers has also begun to be dominated by men, even though up to the 2000s, nonqualified physical labor traditionally remained primarily a female occupation.

In fact, the Russian professional structure today is not homogeneous in terms of gender, and this has long been a specific feature of our country. As has been shown, in this country's economy a major portion of jobs that involve nonphysical labor have been occupied by women. Men work

Table 8

Relation Between Gender and Professional Statuses, 1994–2008, % of Employed People (RLMS represented samples)

Gender	1994		1996		2001		2006		2008	
	M	F	M	F	M	F	M	F	M	F
Total, %, n	52, n = 2,477	48, n = 2,249	49, n = 2,203	51, n = 2,085	51, n = 1,899	49, n = 1,798	50, n = 2,341	50, n = 2,313	49, n = 2,253	51, n = 2,306
1. Managers	67	33	57	43	58	42	63	37	61	39
2. Professionals	42	58	36	64	35	65	31	69	29	71
3. Semiprofessionals	24	76	29	71	28	72	29	71	31	69
4. Office workers	13	87	13	87	16	84	22	78	23	77
5. Service and trade workers	34	66	26	74	21	79	22	78	24	76
6. Agricultural workers	81	19	82	18	83	17	70	30	79	21
7. Manual physical labor workers	82	18	81	19	85	15	85	15	85	15
8. Machine operators and drivers	81	19	80	20	79	21	81	19	81	19
9. Unskilled laborers	40	60	41	59	51	49	52	48	55	45

Notes: The figures in boldface represent statistically significant results obtained based on Fisher's evaluations of differences between observed and theoretical frequencies (i.e., frequencies subject to the theoretical law of distribution) at a significance level of 95 percent or more (p -value ≤ 0.05). Because an intergroup comparison is being done, the data are weighted in accordance with the variable that equalizes the respondents' chances in the course of setting quotas.

Table 9

Relation Between Type of Community and Professional Statuses, 1994–2008, % of Employed People (RLMS representative samples)

TC	1994			1996			2001			2008						
	OC	C	UTC	V	OC	C	UTC	V	OC	C	UTC	V				
Total, %	43	28	6	23	43	28	6	23	46	29	5	20	45	30	5	20
N	2,061	1,326	270	1,066	1,736	1,220	264	889	1,681	1,070	204	743	2,041	1,363	233	920
1. Managers	55	18	3	24	30	48	3	19	49	26	6	19	52	25	6	17
2. Professionals	64	22	4	10	63	23	4	10	64	21	5	10	57	25	6	12
3. Semiprofessionals	47	30	7	16	46	32	6	16	50	29	7	14	50	30	4	16
4. Office workers	43	27	6	24	40	30	8	22	46	28	6	20	47	26	7	20
5. Service and trade workers	50	26	7	17	45	30	7	18	48	29	5	18	44	27	7	22
6. Agricultural workers	19	3	5	73	23	9	0	68	13	13	4	70	7	7	0	86
7. Manual physical labor workers	44	33	5	18	43	34	6	17	48	34	4	14	42	37	4	17
8. Machine operators and drivers	31	31	8	30	28	33	9	30	32	33	8	27	35	34	5	26
9. Unskilled laborers	33	25	4	38	34	25	6	35	36	26	5	33	39	27	5	29

Notes: The figures in boldface designate statistically significant results (p -value ≤ 0.05). TC—type of community; OC—oblast center; C—city; UTC—urban-type community; V—village.

Table 10

Result of Paired Comparison of the Composition of Professional Groups Depending on Gender and Type of Community, 2006 (RLMS representative sample)

		Professional groups									
		0.	1.	2.	3.	4.	5.	6.	7.	8.	9.
0.	Military service personnel	*									
1.	Managers										
2.	Professionals										
3.	Semiprofessionals										
4.	Clerks										
5.	Service and trade workers										
6.	Agricultural workers										
7.	Manual labor workers										
8.	Industrial workers										
9.	Unskilled laborers		**								

Notes: shading indicates significant results (p -value ≤ 0.05). * since paired comparison is symmetrical in this type of analysis, we can place the result of the comparison of the groups in accordance with the variables “gender” and “TC” in the same table (the diagonal line designates the dividing line: the lower portion is assigned to the type of community, while the upper portion is assigned to gender). ** as we can see, the type of community plays an important role in distinguishing unskilled laborers and managers only on the relatively “weak” level of significance: Asymp. Sig. (two-tailed) = 0.065.

primarily in blue-collar specialties. Another “male” profession today is management.

In addition to gender, the type of community in which the person lives is also linked to his professional activity. It is clear from Table 9 that a relative “equality of chances” in this regard is assured for only two professional statuses: office workers and employees in routine jobs in the sphere of trade and consumer services.

Furthermore, Table 10, which has been constructed by analogy with Table 7,²³ shows that it is necessary to add to these two professional groups that form the basis of the medium- and low-qualification workforce engaged in nonphysical labor, the unskilled laborers who are the basis of the nonqualified workforce engaged in physical labor.

The type of community (and without regard to specific numerical

values [!]) is not a significant factor in structuring differences between these professional positions. As Table 10 and Table 7 show, the filling of these professional positions with labor is structured from the sociodemographic factors that have been examined only by gender (primarily along the line of “physical vs. nonphysical labor”) and age (both along the line of “physical vs. nonphysical labor” [for routine positions in the sphere of services and trade] and along the line of “qualified vs. nonqualified labor” [for clerks]). In other words, it is reasonable to say, with some reservation, that the market for low qualification and nonqualified labor is, so to speak, scattered all over the country and does not show any principal differences based on the type of community (in contrast to the market for qualified labor). These data on the infrastructural aspects of Russia’s development as a socioeconomic system add significantly to the picture of the localization of our country’s workforce.

In the other cases, however, one cannot say that there is an observable polarization, for example, between “the city” and “the country,” which is traditional (polarization) for the early industrial stage of development, even though it follows from Table 9 that the unevenness of the distribution of the various statuses broken down by the types of communities is reflected quite clearly, and it has persisted for years. On the whole, for example, 45 percent of working Russians are living in oblast centers today, and, moreover, this refers primarily to qualified workers engaged in mental and nonphysical labor (managers, professionals, and semiprofessionals). From all appearances, it was with these proportions that the professional structure of our country’s workforce entered the reform phase in the 1990s, when a major portion of the qualified workforce engaged in mental labor was concentrated in the big cities and the megalopolises.

Physical labor (including that of unskilled laborers) is also distributed unevenly over the various types of communities. The fewest numbers of blue-collar workers live in the oblast centers. The main places of residence of industrial blue-collar workers today are in the cities, although quite a few live in the villages as well. This enables us to say that the entire space of the professional statuses of Russian society today is structured not so much by the dichotomy of “city versus countryside” as by a three-part system of “big city–small town–village.” It can be seen from Table 9, moreover, that any fierce competition for qualified workers engaged in physical labor can take on real proportions only between the labor markets of the small towns and villages. This is not the classical urban–rural opposition, within which the opposition between cultures

is at work primarily (urban vs. rural way of life). Considering the nature of urbanization in Russia, there is no good reason to speak of the urban way of life in small towns. If we attempt to predict the outcome of this opposition and its consequences for the professional structure of the Russian population, it is reasonable to say that the line of demarcation will run along the level of qualification. Today the countryside is the type of locality that concentrates low-qualified and nonqualified labor employed in physical labor (on average, 28 percent of machinery operators and drivers and 33 percent of unskilled laborers work in the villages of Russia), and this situation has been in place for many years. This unequivocally determines the socioeconomic status of the countryside and its role in the coming years, provided that no reforms are carried out for the purpose of creating attractive jobs oriented primarily toward labor from the cities. And although the proportion of unskilled laborers in the countryside has been falling over the years (from 38 percent in 1994 to 29 percent in 2008), the presence of this category of workers in the villages of Russia remains substantial (and statistically significant), and this influences the formation of both the economic portrait and the corresponding sociocultural portrait of the Russian countryside. Considering that at the same time, unskilled laborers are settled relatively uniformly throughout the other types of communities, we can speak of the homogeneity of the labor markets in Russia for the portion of the workforce employed in nonqualified labor.

The creation of attractive jobs in the countryside oriented toward industrial blue-collar workers in the cities is not only a completely realistic matter but also the only possible way to preserve the quality of the labor resources of the Russian countryside. This is because the group consisting of machinery operators and drivers is historically the only category of workers that has coexisted successfully with unskilled laborers and other agricultural workers over the past fifteen years.

As we can see, differentiation based on the type of community is increasingly complicated in comparison with the differentiating role of gender. In addition, the connection between the professional structure and the type of community is more flexible than the connection with the worker's gender. While in the latter case we are dealing with primarily the classical differentiation of professions into physical and nonphysical labor, in terms of the type of community we are observing the community-related isolation of mental work, along with simultaneous community-related differentiation of the various groups of blue-collar workers, which

is partly linked to differences in their qualification levels and partly to their conditions of residence.

Therefore, we have to note an ever increasing concentration in the big cities of workers engaged in nonphysical labor who possess high qualifications, along with a simultaneous concentration of workers in the small towns and villages engaged in physical labor but with low and medium qualifications. This polarization of the workforce in terms of the nature and content of the labor, categorized by types of communities, creates additional obstacles to economic development. In other words, unless a number of special measures are taken, the degradation of the intellectual potential of the country's pattern of population settlement and the worsening quality of its labor resources overall can adversely affect not only individual sectors and professions but also particular types of communities.

All of these factors create disproportions in the economy. The dominant pattern sets rather low standards, which is attested to by the requirements imposed on workers' human capital by most of the jobs. At the same time, we find in the economy so-called clusters of effectiveness concentrated primarily in the big cities. Sociological theory suggests that the city is associated not only with greater flows and reserves of resources and a diversity of employment forms and specializations but also with particular working and living conditions. After all, as the data of alternative studies have shown,²⁴ human capital yields greater effectiveness when it operates in tandem with other types of capital, for example, cultural capital. All of this illustrates a rather lamentable picture, since the most stagnant jobs turn out to be linked to the set of sociodemographic indicators. That is, unless a number of measures are taken, deprivation may have an adverse effect not only on whole sectors and professions but also on entire social strata.

The analysis of basic dynamic tendencies of the professional structure in Russia in the period of the 1990s and 2000s, as well as changes in the sociodemographic characteristics and differentiation by types of communities of people in various professional statuses, makes it possible to substantiate the significance of the professional structure as a special object of state socioeconomic policy, and to formulate, in connection with this, a number of practical recommendations:

1. To improve the professional structure of the employed population in terms of community location it is necessary, in the small towns, to increase the proportion of industrial blue-collar workers

of medium and high qualification on the basis of industrial development, getting blue-collar workers involved in the system of continuous secondary specialized professional education, and to create the conditions necessary for the socioprofessional mobility of young workers in the framework of sectors and enterprises²⁵; in the big cities, to raise the proportion of highly qualified specialists in the professional structure by expanding the sphere of intellectual services and creating the conditions necessary for the continuous education of specialists.

2. To improve the professional structure in terms of qualification it is necessary first and foremost to limit the inflow of low-qualification labor from other countries. This will slow the decline of wages paid for these jobs and will improve their attractiveness for this country's own workers. The rising cost of labor will lead to the replacement of manual labor by machine labor. On the one hand, this will boost labor productivity, and on the other hand, under the conditions of the decline in the inflow of labor into the economy as a result of the effect of the "demographic slump," it will make it possible to find additional workers among the portion of the workforce made available. This will greatly alleviate the labor shortage that is anticipated in the coming years, although it will require additional measures on a mass scale to raise the qualifications of many categories of Russia's workers.²⁶
3. To stimulate professional mobility it will be necessary to ensure the creation of a system of supplementary education, including education financed by the state (at least the education of workers who have been laid off) for blue-collar workers of various qualifications, and, moreover, the stimulating character of this education should be differentiated based on the type of community. Along with developing the system of supplementary education and requalification, these measures should include economic and other benefits to families in rural areas whose members participate in the category C system of education (training in a vocational technical school) and, in the small towns, category B (training in secondary specialized educational institutions). This should be accompanied simultaneously by a stiffening of the qualification requirements demanded of managers of all levels and the development of structures of supplementary

education oriented specifically toward them. This will stimulate not only a rise in the qualifications of management cadres but also a “transfer” of professionals (rather than semiprofessionals, technical employees, etc.), who have been forced to move out of their professional group (due to a decline in the number of corresponding structural positions), primarily into the jobs of managers.

4. To obtain more accurate information about the professional structure of the population as an object of management, it is essential to improve the statistical accounting system in terms of the quality and character of available jobs in the economy. This information will make possible timely decisions on the direction of labor flows and will alleviate sectoral disproportions that already exist.

Notes

1. More detail about the nature and prerequisites for the formation of Russia’s professional structure as measured according to different methods for classifying kinds of occupation can be found in the following works: O.I. Shkaratan and G.A. Iastrebov, “Sotsial’no-professional’naia struktura naseleniia Rossii. Teoreticheskie predposylki, metody i nekotorye rezul’taty povtornykh oprosov 1994, 2002, 2006 gg.” *Mir Rossii*, vol. 16, 2007, no. 3; V.A. Anikin, “Sotsial’no-professional’naia struktura Rossii: metodologiia i tendentsii,” in *Professional’nye gruppy v sovremennom obshchestve: dinamika i transformatsiia* (Moscow: In-t sotsiologii RAN, 2009).

2. See Shkaratan and Iastrebov, “Sotsial’no-professional’naia struktura naseleniia Rossii.”

3. From the methodological aspect, today the issue of the professional structure is juxtaposed with the issue of how to measure a worker’s professional status. No one in Russia was involved in any systematic study of the issue of the discrepancy in the measurements of the professional structure obtained in the context of sample studies and official statistics; therefore, it seems perfectly appropriate to refer to the present author’s work mentioned above, Anikin, “Sotsial’no-professional’naia struktura Rossii.” The main thing is that the discrepancy between the data reflecting the professional structure of the population (primarily in the aspects of the dynamic of the proportion of managers, professionals, and workers engaged in nonphysical labor of medium and low qualification) is not an accident. It is largely due to the fact that a number of professional statuses in Russia have a different meaning from the one invested in them in the formulation of the International Classification of Occupations (ISCO-88) and the Russian National Classification of Occupations based on it, which is the official instrument of the country’s Federal State Statistics Service for measuring the professional structure.

4. The analysis was carried out based on RLMS data for 1994–2007. The RLMS data contain a representative sample of more than 10,000 respondents, representing

a base that brings together the results of a survey in seventeen rounds. It should be noted that the very first survey was carried out in 1990, and it marked the beginning of the first stage of the RLMS study. The second stage of the study started in 1994 (the fifth wave), when the set of variables and the sample of respondents had changed considerably. Today the data of the first stage are not generally used in analysis (and they are not commonly prevalent among professionals), since the first four waves were primarily of a technical nature, and their purpose was to test the set of instruments and the sample and make them more precise. The present article is based on calculations made using data of the second stage of the study (rounds five through seventeen). The RLMS database is distributed by and freely accessible from the Institute of Sociology of the Russian Academy of Sciences and the Higher School of Economics.

5. In the RLMS, the ISCO-88 is used as the main classification list of professions. The RLMS database is disseminated with ready-made variables in which the professions have already been coded and aggregated according to the ISCO-88, based on the logic formulated in Geneva in 1988, without any kind of adaptation to fit the realities of Russia. Until recently there was no way to influence this process because the Russian side performed only the function of collecting data, while everything else, including the coding of the professions, took place in the United States.

6. The recoding was based on the logic of empirical structuralism (see P. Blau, *Inequality and Heterogeneity: A Primitive Theory of Social Structure* [New York: Free Press, 1977]), according to which the professional structure of a population is studied through the space of positions defined on the basis of characteristics of the most significant jobs in a modern economy. In this regard, the result that was obtained can be considered a step toward improving the model of coding of professional statuses. Based on the results of the recoding of ISCO-88, the professional structure of the population of Russia went through a number of rather serious shifts, chiefly in the direction of a decline in the proportion of managers and professionals as well as an increase in the proportion of semiprofessionals and unskilled laborers. More details about the chief principles of the recoding of ISCO-88, which is used both in statistics and in sample studies by RLMS, can currently be found only in the present author's articles: Anikin, "Sotsial'no-professional'naia struktura Rossii; V.A. Anikin, "Opyt perekodirovki mezhdunarodnogo klassifikatora zaniatii ISCO-88," in *Sotsiologiya 4M* (in press).

7. Indirect confirmation of this dynamic of the quality of the human capital of the workforce can be found in the following works: A.L. Luk'ianova, V.E. Gimpel'son, and R.I. Kapeliushnikov, *Rossiiskii rabotnik: obrazovanie, professiia, kvalifikatsiia* (Moscow: Izdatel'skii dom Vyshei shkoly ekonomiki, 2011); R.I. Kapeliushnikov, "Transformatsiia chelovecheskogo kapitala v rossiiskom obschestve (na baze 'Rossiiskogo monitoringa ekonomicheskogo polozheniia i zdorov'ia Rossiian')," in R.I. Kapeliushnikov and A.L. Luk'ianova [title missing in original] (Moscow: Fond "Liberal'naia missiia," 2010). This happens primarily because the structures of the workforce and the supply of jobs do not coincide, as a result of which many holders of a college degree certifying a professional education were forced to take jobs that clearly did not correspond to their formal qualifications. To some extent this has also been shown in the present article.

8. For more detail on this, see V.A. Anikin, "Tendentsii izmeneniia sotsial'no-professional'noi struktury v Rossii v 1994–2006 gg. (po dannym RLMS)." *Mir Rossii*, 2009, vol. 19, no. 3, pp. 114–31.

9. Figure 2 shows the annual mobility of professionals entering the group of managers, semiprofessionals, and workers in the sphere of trade and consumer services. For example, the time point of 1995 shows the percentage of professionals in 1994 who moved into the corresponding groups by 1995. The time point of 1996 shows how many professionals in 1995 moved into the corresponding groups by 1996. And so on.

10. This is confirmed based on the data of a survey carried out in the same period involving economic agents of a different type, enterprises of Russian industry. For example, according to surveys by REB [Russian Economic Barometer] in 1996–2005, the transfer of labor led to an improved quality of personnel at every tenth enterprise, but to a worsening quality at every third enterprise. In the opinion of R.I. Kapeliushnikov, during the years leading up to the financial and economic crisis of 2008–10, at any rate, this shows the progressive dequalification of industrial personnel. For more detail, see R.I. Kapeliushnikov, *Rossiiskii rynek truda skvoz' prizmu predprinimatel'skikh oprosov: retrospektivnyi analiz* (Moscow: IMEMO RAN, 2006), pp. 50–51.

11. For details, see V.A. Anikin and N.E. Tikhonova, "Sotsial'no-professional'nyi status kak faktor sotsial'nogo neravenstva," in *Sotsial'nye neravenstva i sotsial'naiia politika v sovremennoi Rossii* (In-t sotsiologii RAN, 2008), pp. 96–111.

12. This is confirmed by data from alternative surveys, some of which were accessible to the present author. For detail, see V.A. Anikin, "Rol' raboty v povsednevnoi zhizni naseleniia Rossii," in *Rossiiskaia povsednevnost' v usloviakh krizisa* (Moscow: AI'fa-M, 2009).

13. See, for example, M. Krasil'nikova, "Rabotodateli o sovremennom sostoianii rabochei sily i professional'nom obrazovanii," *Vestnik obshchestvennogo mneniia*, 2005, no. 3, pp. 59–69.

14. For details supporting this thesis, see the work, which has already been mentioned in the present article, by colleagues at the Center for Labor Research, Higher School of Economics National Research University: Luk'ianova, Gimpel'son, and Kapeliushnikov, *Rossiiskii robotnik: obrazovanie, professiia, kvalifikatsiia*.

15. The figures have been taken from a publication mentioned earlier and written on the basis of a different set of data: V.A. Anikin, *Perspektivy ekonomicheskoi modernizatsii strany. Gotovo li rossiiskoe obshchestvo k modernizatsii?* (Moscow: Izdatel'stvo Ves' mir, 2010).

16. For details see recent works by sociologists: D.L. Konstantinovskii, *Dinamika neravenstva. Rossiiskaia molodezh' v meniaiushchemsia obshchestve: orientatsiia i puti v sfere obrazovaniia (ot 1960-kh godov k 2000-mu)* (Moscow: Editorial URSS, 1999); D.L. Konstantinovskii, *Neravenstvo i obrazovanie: opyt sotsiologicheskikh issledovaniia zhiznennogo starta rossiiskoi molodezhi (1960-e–nachalo 2000-kh)* (Moscow: Tsentr sotsial'nogo prognozirovaniia, 2008); D.L. Konstantinovskii, "Samoopredelenie ili adaptatsiia?" *Mir Rossii*, 2003, no. 2; G.M. Mkrtchan, "Stratifikatsiia molodezhi v sferakh obrazovaniia, zaniatosti i potrebleniia." *Sotsiologicheskie issledovaniia*, 2005, no. 2; G.A. Cherednichenko, "Lichnye plany vypusknika srednei shkoly." *Sotsiologicheskie issledovaniia*, 2005, no. 7.

17. In this regard it is worth noting especially the section "Molodezh' v poreformennom obshchestve," in M.K. Gorshkov, *Rossiiskoe obshchestvo kak ono est' (opyt sotsiolog. diagnostiki)* (Moscow: Novyi khronograf, 2011).

18. For more detail, see discussions in the following works: V.A. Anikin and

K.A. Khromov, “Glava 4. Vosproizvodstvo chelovecheskogo kapitala srednego klassa,” in *Srednii klass v sovremennoi Rossii* (Institut sotsiologii RAN, 2008); N.E. Tikhonova and S.V. Mareeva, *Srednii klass: teoriia i real’nost’* (Moscow: AI’fa-M, 2009).

19. Professional practitioners are arriving at similar reasoning: G.A. Iavlinskii, *Periferiinyi kapitalizm. Lektsii ob ekonomicheskoi sisteme Rossii na rubezhe XX–XXI vekov* (Moscow: Integral-Inform, 2003).

20. Called the Kruskal–Wallis test in the original English. It makes it possible to conduct comparisons on particular features when the number of independent samples exceeds 2. In our case, there are ten such “samples,” based on the number of consolidated professional groups.

21. Mann–Whitney U test in the original English. It is based on the use of one general sequence of numerical values of both samples and is especially useful for “lengthy” series of data, which may include age. The shaded area means that between the professional groups (arranged on the third line from the top at the far right column of the table are the numbers designating the professional statuses that correspond to the list on the far left column of the table) there is a statistically significant difference with respect to the criterion being examined, namely age. The level of significance is Asymp. Sig. (two-tailed) ≤ 0.05 .

In this connection, an economic interpretation of Table 7 might go as follows (and this also applies to Table 10). The more areas left unshaded in the table the more cases in which professions are not differentiated as a function of sociodemographic factors. For the economy, especially under the conditions of high-technology industries and the dominance of intellectually complex services, the more favorable situation is one in which sociodemographic factors do not interfere in the process of supplying manpower to fill professional positions.

22. This is accomplished by having the model of the variable include the age squared. The resulting assessments of the coefficients indicate that in each professional group where age proves to be important we observe a change in the sign representing the influence of that variable. In mathematical terms, this means that it is possible to find the point of excess (the only maximum), which means the numerical value after which the next change in age will lead to a decline in the probability of falling into some professional group or other. In the present article it is not really possible to discuss the details of the model. Characterizing the end specification in both features, it must be noted that we are discussing primarily the multinomial logistical regression with professional status that consists of ten nominal values serving as the dependent variable. To serve as regressors, the model included age, age squared, gender, and type of community. The explanatory power of the model is about 60 percent (the numerical values of the coefficients of Cox and Snell, 0.596; Nagelkerke, 0.062). The comparison group consists of machinery operators and drivers.

23. At the same time, it is worth keeping in mind that to analyze differences between the professional groups based on the respondent’s gender and type of community in which the individual was living at the time of the survey (and at the time of the identification of his professional membership), a measure of nonparametric comparison was used that was different than in the case of age, namely, the Kolmogorov–Smirnov test. The literature firmly establishes the position that the Kolmogorov–Smirnov test is preferred when the number of categories of variables that have been selected for

analysis is very limited (to two categories in regard to gender and to four for type of community).

24. N.E. Tikhonova, "Resursnyi podkhod kak novaia teoreticheskaia paradigma v stratifikatsionnykh issledovaniakh," *Sotsiologicheskie issledovaniia*, 2006, no. 9; Iu.V. Ovchinnikova, "Dinamika nakopleniia chelovecheskogo kapitala na fone drugikh resursov," *Narodonaselenie*, 2010, no.1.

25. M.K. Gorshkov and G.A. Kliucharev, *Nepreryvnoe obrazovanie v kontekste modernizatsii* (Moscow: IS RAN, FGNU TsSI, 2011).

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