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TÍTULO: Política laboral en las condiciones de la revolución digital.

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RESUMEN: La sociedad contemporánea está experimentando profundos cambios sociales relacionados con la revolución digital. La transformación digital abarca no sólo las actividades de producción y la modificación de las estructuras de organización de empresas y patrones de negocio, sino también transforma considerablemente la realidad social, dinamiza los procesos de cambios sociales, afecta las conexiones sociales, el mercado de trabajo y la estructura de empleo de la población. La adaptación a las condiciones sociales en vías de la modificación es dolorosa, con graves expensas económicas, políticas y sociales. La revolución digital es capaz convertirse en un controlador de la economía rusa, creando, con todo y esto, riesgos para el mercado de trabajo. Estos aspectos se abordan en el artículo.

PALABRAS CLAVES: transformación digital, política laboral, capital humano, asimetría digital, tecnologías digitales.

TITLE: Employment policy in the conditions of digital revolution.

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ABSTRACT: The contemporary society is undergoing profound social changes associated with digital revolution. Not only does digital transformation cover the production activity itself and the change of organizational structures of companies and business-models, but it transforms social reality considerably, boosts the processes of social changes, and influences social relations, the labor market and the population employment structure, too. Adaptation to the changing social conditions is painful and it involves serious economic, political and social costs. With regard to this, digital revolution can become a growth driver for the Russian economy while creating risks for the labor market, too. These aspects are developed in the article.

KEY WORDS: digital transformation, employment policy, human capital, digital inequality, digital technologies.

INTRODUCTION.

Globalization and digital revolution act as the major factors of social transformations being in progress. Globalization shapes the global community and turns the world into a single integral system.

Another factor of social changes in progress that transform the social reality utterly is digital revolution. This is an important focus area for improving the global competitiveness of the national economy, which is becoming a necessary condition for succeeding in conditions of aggravated

global competition. Moreover, digitization is the process of transferring the functions and activities (business processes) that used to be performed by people and organizations into the digital environment. Digitization implies implementing information technologies into every separate aspect of activity; for example, in production, this is the case of cybernetic systems and robotization, which means the transition to the new technological patterns.

The "digital transition" or "digital transformation" involves profound and comprehensive changes to production and social processes that are associated with total replacement of analog technical systems with digital ones and the broad use of digital technologies. Not only does digital transformation cover the production activity itself and the change of organizational structures of companies and business-models, but it also transforms social reality considerably and boosts the processes of social changes.

Currently, it seems impossible to forecast the scale thereof. However, it is beyond doubt that digital revolution is to produce an impressive impact both on the labor market and the population employment policy of the state.

The outlines of the Fourth Industrial Revolution, or the "digital revolution", were presented at Hannover Messe back in 2011 (Sizova & Khusyainov, 2017), but since then, they have kept elaborating its description (Was die Industrie 4.0 den Beschäftigten bringt, 2015). While initially the creation of the Internet was compared to the invention of steam engine, nowadays, the question is about production methods based on the use of cloud technologies, collecting and analyzing the Big Data (Smart Data) being a sort of "raw materials" and contributing to emergence of the world economy based on the perfect robotic engineering, self-learning algorithms, the Internet of things, and 3D methods of creating physical objects, and other technologies.

In particular, when speaking at the World Economic Forum (WEF) "The Future of Jobs" (2016) in Davos, the German economist, professor Klaus Schwab (2016) noted that the oncoming fourth industrial revolution is a combination of technologies of the physical, digital and biological world that creates new opportunities and affects political, social and economic systems.

In the 2010, the majority of industrially developed countries and many developing ones (the total of about 140 countries) made decisions about the "digital transformation" and building the "digital economy" on the basis of Industry 4.0 or the Internet of things (the Industrial Internet, the Internet of Everything etc.) and adopted national plans of development of ICT. Among the states that have developed and are implementing programs having become drivers of profound technological transformations, for example, there are Germany (the Industry 4.0 plan) or China (the Made in China 2025 strategy implying the dynamic automation of industry and implementation of innovations).

DEVELOPMENT.

Literature review.

One of important focus areas of digital revolution is robotic automation of production processes. As K. Schwab (2016) points out, "for many people, it will change irreversibly what their work, environment, family life, and the very identity look like".

The contemporary robots united into "intelligent factories" with the help of the Internet technologies can completely or partially replace workers of mass occupations almost in all sectors of the economy: motor industry, other branches of processing industry, in the spheres of transport, warehousing logistics, the Internet sales.

Robotization is a process having controversial social consequences, as it displaces workers from the active work efforts and thus aggravates the problem of unemployment. So, according to the data of Boston Consulting Group, 9 to 50% of all currently existing occupations can vanish due to digitization within the nearest decade, and it is possible to replace 19% of all workers with robots by 81% (Russia 2025: from Personnel to Talents, 2017). With the speed of implementing innovations into the production and economic activity of organizations in the contemporary global world making the structure of the labor market services supply lag behind the changes in the structure of the labor demand, even greater aggravation of this problem should be expected; however, it has to be admitted that for Russia robotization still remains exotic: in 2017, there was only one industrial robot per 10 thousand workers of enterprises (with 531 in South Korea, 323 in Japan, 282 in Germany, 176 in the USA, and 49 in China) (Robots do not take root in Russian factories, 2016).

After transition to post-industrial society, in the era of digitization particularly, there comes the realization of the fact that expenses for human development, for social policy are far not only an expense item of costs. The statement according to which human capital is the most important resource of the contemporary society gets increasingly more recognized both in the scientific theory and in the daily practice.

The founder of human capital theory who was awarded the Nobel prize for it, G. Becker (1964) believed that "human capital is formed by means of investments into man: general and professional education, expenses for bringing up the children, for health care, searching for information, changing jobs, migration, and other investments that one way or another contribute to the development of productive force of people, its cultural and intellectual growth". G. Becker's colleague at Chicago University, also a Nobel prize winner, T. Schultz (1962) mainly considered education as the principal constituent of human capital. In particular, he believed that "if education

affects production, which is important for the economy, then, therefore, this is exactly a form of capital".

Nevertheless, the particular feature of human capital consists in its having to be continuously augmented in order for it to "work" efficiently in the labor market or in the public recognition sphere, i.e. to be convertible successfully into the economic and other kinds of capital. That is, one has to learn and improve oneself continuously, investing one's time, material resources and intellectual efforts into increasing human capital.

Meanwhile, far not everyone possesses such opportunities. And it is in this respect that social inequality manifests itself in the most evident way. So, according to the data of surveys conducted by the RAS Institute of Sociology in 2006 and in 2013, the inequality in access to obtaining education is considered as extremely painful for the society by almost a third of the respondents. With regard to this, the inequality of opportunities for one to get a job ensuring a decent level of life is becoming an increasingly important factor, particularly under crisis: 32% of the Russians believe this kind of inequality to be painful for the society (Gorshkov, 2014). What they face here is another serious problem for the contemporary Russia – the accessibility of high-quality higher education of all others.

As some researchers point out quite fairly, to date, two subsystems have formed within the Russia's system of higher education – one of them being the elite, top-quality education system which is virtually inaccessible for the greater part of the population, and the other being the mass higher education one of poor quality which can be called relatively accessible (Shishkin, 2005).

Materials and Methods.

The objective of the research was to find out the impact of digital revolution on transformation of the labor market, the population employment structure, and the role of the state in these processes.

Secondary analysis of the data of sociological surveys conducted by the RAS Institute of Sociology (Gorshkov, 2014) and the NRU HSE (Shishkin, 2005) and dedicated to the contemporary Russia's accessibility and quality of education was used as the method of obtaining the empirical information. The authors also considered the empirical data contained in the report "Russia 2025: from personnel to talents" prepared by Boston Consulting Group and dealing with the change of employment structure in conditions of digital transition and the economy of knowledge (Boston Consulting Group, 2017). A considerable part of the empirical basis of the research is made by the statistical data: the ones of Rosstat (Russian Federal State Statistics Service, 2018), and the ones contained in the Program "Digital economy of the Russian Federation" adopted in 2017.

During the analysis of empirical data, several problems were solved in the research. First, parameters of the population employment structure were identified depending on the level (stage) of economic development in the country. Second, the specific features of employment in conditions of digital transformation, the consequences and risks of this transformation for the entire bulk of public relations were found out. Third, the situation in the labor market of today's Russia was analyzed, promising focus areas for developing the employment and state policy in this sphere were considered.

Results and Discussion.

The structure of the employed depending on the economic development level (stage) in various countries is representative. So, for example, the share of the employed in the sphere conventionally designated as "knowledge" and incorporating highly-skilled intellectual work and cognitive non-routine tasks in countries that can be referred to the resource economies (Ethiopia, Uganda, Zimbabwe etc.) amounts to 1-2% (these are such occupations as teachers, doctors, scientists, highly-skilled engineer, manager). Meanwhile, in countries belonging to the transition type

economy (from that of resources to that of knowledge), the percentage of highly-skilled specialists ranges from 8% in Malaysia and Saudi Arabia to 17% in Russia.

In the countries that have already achieved the level of knowledge economy, the share reaches from 24-25% (Japan, the USA) to 34% in Singapore and 45% in Great Britain. Respectively, the percentage of ones employed in the spheres requiring the basic skills level only (cleaners, sales assistants, drivers, handlers, security guards), ranges within 67% in Ethiopia and 57% in Uganda for the resource economy countries, while in the transition type countries, it makes from 51% in Malaysia to 35% in Russia, with the knowledge economy countries having from 30% in Japan to 15-17% in Germany and the USA (Boston Consulting Group, 2017).

According to Rasmussen methodology, the indicator of whether an economy can be referred to the economy of knowledge is, on the one hand, the demand for high-quality human capital in the country's economy, and on the other hand, the supply provided by industries generating it. It has to be stated that currently Russia has no critical mass of demand for knowledge. In its level of attractiveness for talents, Russia's labor market lags behind not only the developed countries, but many developing ones too, and goes on losing its talents. This is largely associated with the fact that the Russian economy remains mainly raw-material based and oriented to exporting natural resources.

The demand for labor in general is still primitive; it is the state that prevails in the structure of employers (Boston Consulting Group, 2017). The country's current reality is such that it is a lot of highly-skilled professionals, e.g. in the area of high technologies or knowledge-intensive productions, who are not sought for in the labor market, while vacancies associated with unskilled low-paid work are always available. The Russian labor market having formed has a clearly pronounced slant to trade and finance and does not act as the momentum for shaping the new workforce potential.

Anyway, on balance, the vector of development is such that innovations contribute to improving the opportunities for education, the growth of quality of labor resources, changing the workers' profiles and requirements for them.

Work is becoming autonomous, mobile and performance of labor functions is getting associated with mastering numerous competencies, with lifelong learning and digital literacy gaining special importance among them in the digital era. With regard to this, the main burden of responsibility for further training and lifelong learning has to be borne not only and not so much by individual households but by the state and business, too; their being the main beneficiaries. It is against the majority of households in today's Russia being poorly provided with resources that the role of the state and business increases particularly. According to the experts' data, it is so few as 30% of households that have the so-called development budget at present (Ovcharova, 2017).

Nevertheless, Russia's average expenses of employers for training the employees are 10 times as low as they are in Europe. In the country, 15% of the employable population and 1% of the retired ones take part in educational programs – to compare, these are 40% and 5%, respectively, in the developed countries (Boston Consulting Group, 2017).

A number of experts share the opinion that regrettably, no environment required for development and self-fulfillment of people has been created in the contemporary Russia. All kinds of work in the country are paid approximately the same (for example, the difference in wages of a driver and a doctor is 20% in the RF, while it is 174% in Germany, 261% in the USA and 172% in Brazil), which curtails people's motivation for choosing highly-skilled occupations. As a result, 98% of the country's population prefer security and stability and not the values of growth (Russia 2025: from Personnel to Talents, 2017). The said factors cannot but affect Russia's competitive positions in the global economy of knowledge.

However, dynamic implementation of digital technologies leads to slashing the quantity of personnel, which is confirmed by the experience of large Russian companies – digitization leaders, Sberbank in particular. So, head of Sberbank, G. Gref stated the following in one of his recent interviews: "Six years ago, in Sberbank, 59 thousand people worked in the back office. Today, 12 thousand people work there.

According to our estimates, three years later, it is one thousand at the best who will work in the back office" (Sberbank to Cut Down the Quantity of Accountants to a Third, 2017). Evidently, not all employees made redundant joined the ranks of the unemployed. A part of them were re-employed in the banking structures, but many had to look for a new job.

While speaking about the prospects of the labor market in Russia, there are forecasts of some 6,5 million of jobs to be displaced within the nearest decade. With regard to this, 20–25 million of the remaining ones will require new knowledge and competencies from the potential applicants. In fact, it is the question of profound qualitative transformations in the structure of employment of the Russian population (Varlamov, 2019). Other experts take a more optimistic stance in estimating the future; "The major technological shift having begun in industry today will have been completed by 2025. The technologies of Industry 4.0 will lead to slashing some 610000 jobs, but about 960000 new vacancies will be available in the same time span" (Polevanov, 2017). It is not unlikely that the "optimistic" forecasts are quite realistic. The authors associate this first of all with the so-called "low basis" effect.

In the authors' viewpoint, digital transformation will yield no shock negative changes in the Russian labor market. In no small part, this is due to the fact that many digital technologies have not yet been integrated into business processes and infrastructure of the Russian companies to the sufficient extent, which imposes a number of limitations for using them. However, serious changes in the

structure of employment are inevitable; so the state, business and the public have to be prepared for them.

When considering the situation with the development of self-employment in the world, the creation of platform solutions (Uber, Airbnb, YouDo, Profi.ru etc.) allows connecting providers and consumers of services without intermediary parties. Taking Europe alone, the volume of transactions via the platforms providing services upon request (cleaning, hairdresser's and barber's, learning), car and housing sharing will have enjoyed a 20-fold growth by the year 2025, having increased the employment in this segment by 17% at least (Russia 2025: from Personnel to Talents, 2017).

Russia is also seeing the expansion of new, more flexible and non-standard forms of employment. Currently, 33% of the Russians are prepared for remote or distance work, and 41% - under temporary employment contracts. 43% are ready to work for themselves, with the value being clearly higher in the young people aged 18-29 – 54%, and lower in the older generation representatives (aged 50-59) – so low as 23%. In particular, experts point out that it is first of all people having a high education level who are ready to become entrepreneurs and self-employed ones (Zabelina et al., 2018). This means the majority of the young Russians realize the changes expected in the national labor market in the foreseeable future are inevitable; they do not count on any support on the part of the state and they are ready for changes in their professional activity.

The development of new, distance forms of employment, its "Internet-penetration" makes relevant the problem of informal employment which is beyond the control of the state. According to estimates of the Russian Federal State Statistics Service, 15,4 million people were employed in the informal sector of the economy in Russia in 2018, which was over 21% of the total quantity of the employed in the country's economy. There is an opinion, though, that these data are far not exhaustive. Some experts believe the indicator amounts to 25 million people, or 30% of the

employed, with such jobs being the only opportunity for over 90% of the employed to maintain an acceptable income level for their households (Safonov & Nekipelova, 2018).

Certainly, it is not for all those employed in the informal sector that their work is associated with using the Internet technologies. Not all of them are high-class highly-paid professionals.

Informal employment and being beyond the state control sphere create for the state additional risks of reduction of budgetary incomes, failure to fulfill its social obligations to its own citizens, and criminalization of the social life. 2019 has seen the first earnest attempt made to bring the self-employed ones away from the "shadow". Since January 1, a new taxation system, "Professional income tax", has been introduced in the country's four regions – Moscow, the Republic of Tatarstan, Moscow and Kaluga regions – within the long-term experiment that is to last until December 31, 2018, for the purposes of legalizing the incomes of the self-employed.

The tax is charged on the income of professional activity producing goods (providing works, services, or property rights). The tax period has been set at one calendar month. The tax rate is provided for at 4% in relation to the incomes obtained from selling goods and services to individuals and at 6% - to entities and individual entrepreneurs. The maximum income for which the use of this taxation system is permitted shall not exceed 2,4 million rubles per year. Moreover, the taxpayer is not obliged to pay insurance installments to the state non-budgetary funds (Federal law dated 27/11/2018 No. 422-FZ, 2018).

Curiously enough, it is owing to digitization that the system could be implemented. In particular, taxpayers are registered via the "My tax" mobile application without having to visit the relevant tax authorities in person. It is expected to control the incomes of the self-employed ones using digital technologies, in particular, the Big Data one. The results of the experiment are difficult to predict.

The Russians do not like paying taxes. Many of them do not trust the authorities and suppose what is to come next will be a surge of tax load on the self-employed who have officially established their relations with the state. However, among the Russian public, the modern legal and tax culture is gradually shaping. Its bearers are first of all representatives of a new social class – the educated and success-minded professionals. If the Russian state is to move toward enhancing its legal and social stance, if the power and the civic society are to set up efficient communications, then this tax innovation can be a success.

With regard to this, serious social risks digital revolution is fraught with should be emphasized one more time. Hence, it is training and retraining of personnel for digital economy that has to become a major focus area of policy of the Russian state in conditions of digital revolution. It is no mere chance that the State program "Digital economy of Russia" stresses education and personnel as the paramount condition for its successful fulfillment. It is emphasized that for this purpose, it is necessary to "create key conditions for training the personnel for digital economy; improve the system of education that has to provide digital economy with the competent personnel; set up the labor market to rely on the requirements for digital economy; create a system of motivation for mastering the required competencies and the personnel's participating in the development of Russia's digital economy" (Program "Digital economy of the Russian Federation", 2017).

CONCLUSIONS.

Digitization, alongside with globalization, makes relevant the problems of social inequality and social justice that are inseparably associated with the sphere of social and labor relations. It is no secret for anyone that the most highly paid jobs deal with the digital economy and integration into the global chains of shaping the consumer values.

Globalization and digitization change the nature of social inequality dramatically and add a new quality to it. As N. G. Osipova (2014) notes, it intensifies and renders social processes more complicated while also giving a new dimension to inequality. Digital revolution creates the so-called digital inequality which manifests itself in the unequal access to the Internet, digital technologies, educational services and the information in this sphere. So, it is the task of the state to ensure digital equality, i.e. the equal access to the digital knowledge. The point is that digital inequality is becoming an independent factor of material and social inequality, poverty, exclusion and aggravation of strife among the public.

The contemporary Russia is characterized by the clearly pronounced digital inequality. In order to measure digital inequality, the index of "Digital Russia" (2019) developed by Skolkovo business school for assessing the digitization level of the country and of its individual regions is used. In general, this indicator reflects the level of use of digital technologies in people's daily life, in the activity of the state authorities and local self-government agencies, in business practices and products. On the one hand, the results of the research confirm the profound digital inequality of the Russian regions; on the other hand, they show a trend for gradually overcoming that.

According to the 100-point scale, the index ranged from 39,74 points (the Republic of Tyva) to 77,03 points (Moscow) in 2018, while in 2017, the score range was 26,06 – 70,01. The authors note both the interest of the state authorities and local self-government agencies for digitizing the state services and the motivation of private business to develop digital technologies. With regard to this, it is stated that as of the end of 2018, 25% of Russia's population had no access to the Internet (Digital Russia, 2019). Without the access to the Internet network, one gets excluded from the system of the contemporary social relations. One partially loses the opportunity of using the state, medical and educational services, of getting a highly-paid interesting job, improving one's

professional skills, and buying a high-quality product at an accessible price. So, one is reduced to low-income working, a social reality which is full of difficulties, poverty and exclusion.

It is no mere chance that against the average Russian level of unemployment being 5,2%, it is Moscow that is the most flourishing region (1,4%) while the Republic of Tyva belongs to regions having the highest unemployment level (18,3%) (Russian Federal State Statistics Service, 2018). Thus, digital revolution manifesting itself in accumulation and processing of the information, structuring and analyzing it by means of computers, in automation and robotization of the increasing quantity of business processes is a controversial phenomenon. It can become a growth driver for the Russian economy while creating risks for the labor market, too. There is the short-term and long-term threat of displacement for many mass occupations.

Digital technologies alter the nature of work and competencies required from workers. Certainly, coal will go on to be mined by miners, metal – to be made by metallurgists, and bread – to be baked by bakers. Anyway, influenced by digital transformation, the requirements for workers in these occupations, admittedly, just like in others, will see fundamental changes. New knowledge, skills, and abilities will be required. So, there arises the threat of large-scale structural unemployment. In these conditions, the state policy has to be focused on developing the system of education, training and retraining of workers who are able to adapt to the mass implementation of the digital technologies. Another important focus area of the state policy has to be digital leveling off, ensuring the access to achievements of digitization for all Russian citizens.

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