

SOCIAL DEVELOPMENT

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On the Issue of Economic Cost of Disability*



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Abstract. The goal of our paper is to determine the extent of economic damage caused by the extent and rate of disability in Russia. The study is based on the analysis of the works of domestic and foreign authors, official documents of international organizations, and state statistics data. We propose a conceptual scheme revealing the system links between disabled population and other socio-economic problems. We prove that one of the crucial factors in reducing economic losses from disability is appropriate social policy that would stimulate the implementation of labor potential of disabled people. We give recommendations concerning the choice of priority indicators to be used in the implementation of programs to promote employment of disabled people and their professional rehabilitation. We consider the consequences of disability associated with declining public health and the economic losses it causes. We divide economic losses into two groups: the first one includes the expenditures on social support that is provided to the

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disabled and their families, the second one includes the expenditures associated with unemployment of the disabled. The losses in the form of underproduction of GDP by unemployed disabled people amounted to 11.3 trillion rubles in 2015. It is shown that part of the losses can be compensated by improving the system for promoting the employment of disabled people. We confirm the expediency of differentiation of social policy concerning disabled people depending on their age and state of health. Among the disabled, 39 percent are over 60 years of age. The number of disabled people of working age is greater among men. The age structure of the group of employed persons with disabilities and persons with disabilities who are not part of the labor force is shifted toward senior groups, while the distribution among the unemployed is more uniform. This feature indicates that the factor that hampers the employment of persons with disabilities is not their age, but their health and willingness to work in the conditions offered by employers. This conclusion is confirmed by the fact that the highest employment rate is registered among people with disability group 3 (25% among men and 19% among women) and also by a low prevalence of flexible forms of employment contract (in 2016, 88% of employed people with disabilities worked full time). The findings presented in our paper may be of interest to specialists conducting research on the impact of disability on economic development of territories, as well as to specialists in the field of social management. In the future, we are planning to study in more detail the impact of disability on economic development at the regional level.

Key words: population quality, disabled people, economic consequences of disability, social management.

Relevance of the research

The growth in disability rate among the population is a complex issue that affects all spheres of society: spiritual, social, economic and political. Poverty and inequality, inadequate working conditions, poor medical care, and injuries are among the sources of disability. In developed countries, long-term (chronic) diseases cause the majority of cases of primary disability. This is due to the epidemiological transition and demographic ageing. Poverty and inequality in access to health care are the drivers of disability in poor and developing countries, where the social protection system is still in its infancy. It is in the context of poor development of the welfare state that the problems related to disability and organization of social support for people with disabilities become particularly acute.

The appeal to the social component of disability construction is legally recorded for the first time in the text of the UN Convention on the Rights of Persons with Disabilities,

adopted by the General Assembly resolution on December 13, 2006¹. At present, civil society and the government focus their efforts on overcoming social exclusion of persons with disabilities. It should be noted that conceptual changes in disability theory happened alongside historical events. After the social model of disability was formed as an independent theoretical construct, it served as an impetus to the development of research on the issues that would help solve the problems related to social protection of disabled people, providing them with accessible environment and equal opportunities [1]. Having analyzed the topics of 1,048 papers on disability from the Russian Scientific Electronic Library (e-library.ru) in 2008–2017, we see that in the framework of demography and economic disciplines disability was considered mainly in the context

¹ UN Convention on the Rights of Persons with Disabilities. Available at: http://www.un.org/ru/documents/decl_conv/conventions/disability

of people's health deterioration. Studies of inclusive education, accessible environment, rehabilitation technology, employment of disabled people, and protection of their rights have also become popular trends. The present paper summarizes and analyzes the accumulated theoretical material, defines approaches to the study of disability, determines its place among the problems considered in the framework of population economics.

The connection between disability, as one of the parameters of the quality of the population, and the indicators of national economic development is illustrated in the applied section of the work that determines the extent of economic damage caused by growing disability rates among Russian population. In order to achieve the goal of the study, we solve the following research tasks:

- 1) we review basic concepts concerning population quality;
- 2) we determine the place of disability among the concepts that characterize population quality;
- 3) we consider the place of disability among social issues;
- 4) we analyze trends in disability indicators;
- 5) we assess the economic cost of disability in Russia;
- 6) we formulate recommendations to reduce economic losses from population disability.

The information base of the research includes state statistics data, and the works of Russian and foreign authors. The final part of the article presents a discussion of its findings and the prospects of their practical use.

Results

1. An overview of major concepts that deal with population quality, preservation of its potential, and development.

The works of the first economists already contained an appeal to the population as an

object of scientific research. Scientists were interested in population size, age and gender structure, birth and death rate. Demography was developing alongside the system of state statistical accounting. The main regularities in population dynamics and structure were identified back in the 19th century. In the future, there was a deepening of understanding of the causes and factors that determine population features in specific territories. The first conceptual generalizations of the relationship between the economic development of countries and the specifics of their population belong to such outstanding scientists as A. Smith, D. Ricardo, T. Malthus, and K. Marx. Many of the ideas they put forward are still relevant.

In addition to studying the impact of economic factors on the population reproduction, scientists were interested in the impact of demographic factors on economic development. The idea that the development of human qualities is a driver of economic prosperity was expressed by T. Schultz [2] and G. Becker [3] – the founders of the theory of human capital. Subsequently, the understanding of the role of the human factor in economic development was expanded. The abilities of individuals that cannot be directly applied in production at the moment, but can be activated in the future, began to be considered within the framework of the concept of human potential [4]. In the works of A. Sen, the connection between economic prosperity and the formation of civil society was understood in a new way. The concept of human development he proposed has gained wide recognition among sociologists and economists [5].

In Russia, regular studies of interrelations between economic development and demographic processes are conducted at RAS Institute of Socio-Economic Studies of

Population. The scope of work covers the issues related to the quality of social management, human potential of territories, population quality, analysis of social inequality, quality of life and standard of living. The findings of the studies confirm the presence of a strong connection between economic and social processes, at the regional level, as well [6]. For instance, A.Yu. Shevyakov and A.Ya. Kiruta prove that reducing excessive inequality in Russia will not only stop depopulation, but also provide significantly higher rates of economic growth [7]. Similar studies are carried out at VolRC RAS [8; 9; 10].

2. *Determining the place of disability among the concepts that characterize population quality.*

Population economics provides an opportunity to study those characteristics of society, which form the basis of human potential. One of these basic components is human health [11]. All the cases of its deterioration have a negative impact on labor productivity, resulting in financial losses for employers and the economy as a whole. The health of individuals serves as a driver of economic development of society and provides its reproduction.

Growing disability rates among the population represent the most severe manifestation of ill health. The notions of the complex nature of disability formed the basis of the Convention on the Rights of Persons with Disabilities. The document states that in addition to the health factor, it is environmental and attitude barriers that lead to the formation of disability. This interpretation, in contrast to alternative approaches, allows us to consider the increase of social participation of disabled people through the elimination of such barriers as one of the ways to reduce the losses of society caused by growing disability rates. In particular, social inclusion of persons with disabilities can partially compensate for the decline in population quality caused by disability. Such an understanding of the nature and consequences of disability is more in line with an integrated approach to its study, which understands disability as a problem of activity in conditions of limited freedom of choice. This interpretation makes it possible to discuss the individuality of socio-economic effects of disability, which need to be taken into consideration, for example, when developing rehabilitation programs (*Tab. 1*).

Table 1. Approaches to research on disability and some examples of definitions of this term

Approach	Definition and sources
Medical	The term “disabled person” means any person unable to ensure by himself or herself, wholly or partly, the necessities of a normal individual and/or social life, as a result of deficiency, either congenital or not, in his or her physical or mental capabilities (UN Declaration on the Rights of Disabled Persons, 1975).
Legal	Disability is a certain “degree of restriction of life activity due to health issues with persistent disorder of body functions, causing the need for social protection” (On social protection of disabled persons in the Russian Federation: Federal Law No. 181-FZ of November 24, 1995 (as amended on February 2, 2012); On the procedure and conditions for recognizing a person as a disabled person: RF Government Resolution No. 95 of February 20, 2006).
Sociological	Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others (United Nations Convention on the Rights of Persons with Disabilities).
Politological	Disability is a state of human capacity limitations, which is caused not so much by physiological indicators as by socio-political conditions that are formed at the level of the state and directly depend on governmental policy on the one hand and on the activity of the individual to meet their needs in the structures of civil society on the other hand [12].
Comprehensive	Disability is a problem of human activity in the conditions of limited freedom of choice, which includes several aspects: legal, social, psychological, socio-ideological, economic, anatomical and functional [13].

Source: our own compilation.

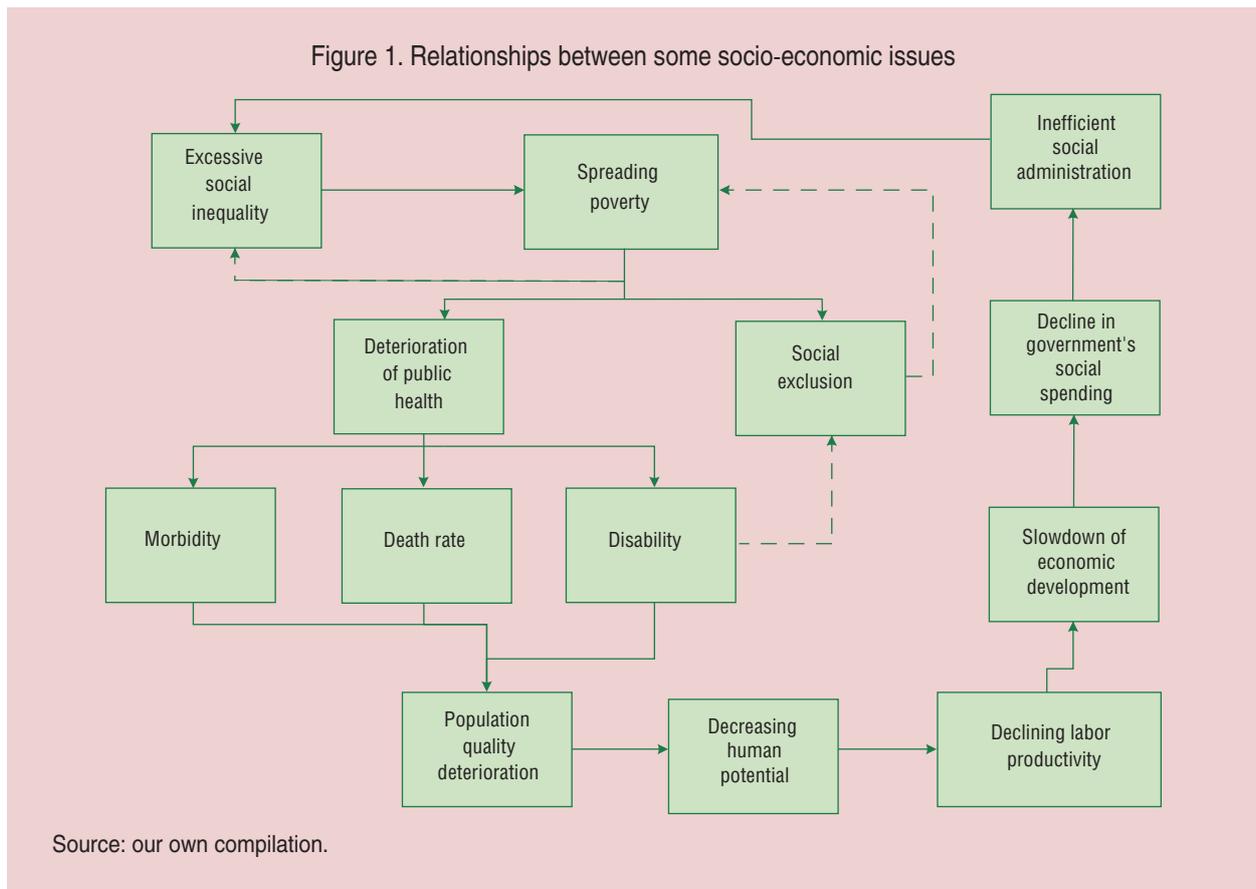
We agree with domestic scientists who note the key role of sociological research in the formation of a deeper understanding of disability. According to E.V. Voevodina and D.S. Raidugin [14], since the UN Convention On the Rights of Persons with Disabilities (2008) entered into force, in Russia in the period up to 2013, more than 500 theses were defended on the topics related to disability, and 200 theses were prepared in the field of social sciences. Studying the social aspects of disability from different aspects has greatly enhanced the understanding of its nature and implications for society. Thus, considering the concept of social exclusion allows us to take a fresh look at the understanding of the quality of life. At the same time, studying the human potential of disabled people and the impact of disability on economic development requires the application of economic approach. In particular, funding the policy in the sphere of social protection of disabled people in the light of the concept of human capital appears not as governmental costs, but as investments [15]. To investigate their effect seems to be of paramount importance for the practice of social administration. It is most appropriate to consider this issue scientifically in the framework of population economics.

Modern international agreements and development plans adhere to an integrated approach to overcoming negative consequences of disability. For example, the WHO draft global disability action plan 2014–2021 points out that disability and poverty “reinforce and perpetuate one another”, facilitating the spread of disability in poor countries [16]. The document also focuses on the fact that “WHO recognizes disability as a global public health issue, a human rights issue and a development priority” and that “disability may lead to a lower standard of living and poverty through

lack of access to education and employment, and through increased expenditure related to disability”.

All of the above suggests the need to combine different approaches when studying disability. Moreover, in such a case the concept of population quality becomes related to the concept of social exclusion through the concept of quality of life. A wide range of issues related to disability can be described as follows: spreading poverty causes a decrease in public health, including the spread of disability; this entails a decrease in human potential, labor productivity and economic development. In response to the slowdown in economic development, government cuts its social spending, which leads to poor social management, since the allocated resources are insufficient to implement system-wide solutions. As a result, social inequality is increasing, and poverty is spreading further. Disability in a society that is unprepared for integration leads to social exclusion of disabled people. As a result, poverty is spreading among the representatives of this category of citizens, and their position becomes even more vulnerable. At the level of the entire society, the spread of disability means an increase in the proportion of the population in need of special support from the state and, consequently, an increase in the number of those in need of social benefits. If social policies aimed to maintaining public health and create equal opportunities for all citizens are not financed sufficiently, then the provision of state guarantees for the payment of benefits does not help mitigate negative economic consequences of disability (*Fig. 1*).

On the one hand, disability reflects negative changes in public health; on the other hand, its extent and the amount of economic damage it causes indicate the degree of socio-economic well-being of the territory and characterize the quality of social management.



3. Analysis of trends in the indicators that reflect the rate of disability.

According to the data for 2017, the number of disabled people living in Russia amounted to 12.259 million, of which 3.651 million are disabled people of working age. During the period from 2011 to 2017, the total number of disabled people in the country increased by 1.6 million or in 1.15 times. The level of population disability, which reached 8.4% in 2017, increased by 1% compared to 2001. In 2016, the number of persons who were registered as disabled for the first time was 666 thousand, or 56.8 cases per 10,000 population. The dynamics of the indicator in 2001–2016 was uneven: its growth was observed in 2003–2005, and its decline – in 2001–2003 and in 2005–2016. (Fig. 2).

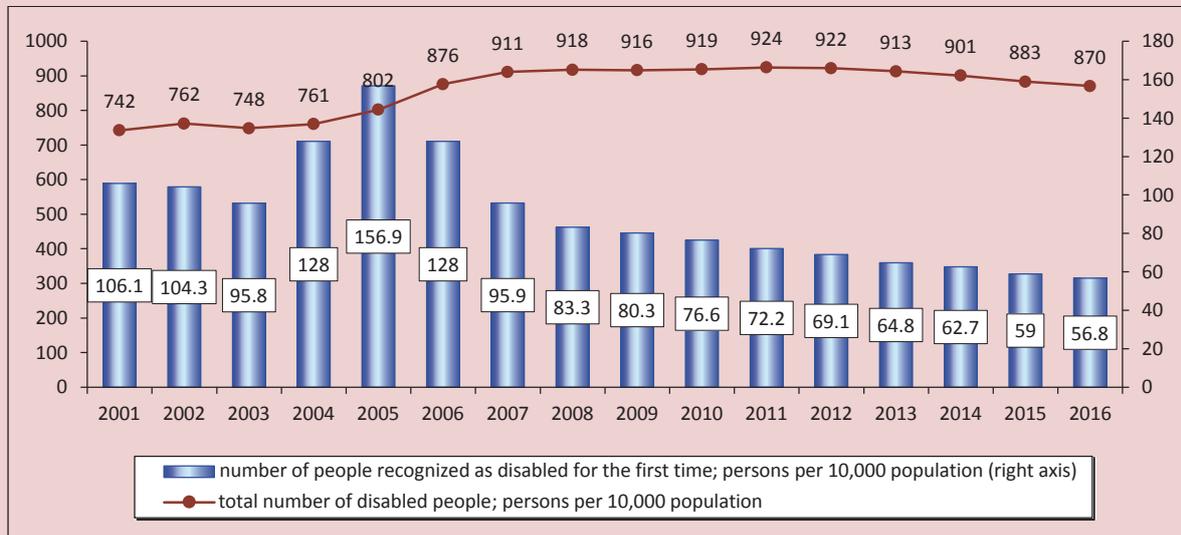
The most rapid growth of disability rate is registered in the North Caucasian Federal

District: the proportion of disabled people increased from 6% in 2004 to 10% in 2017. As for other federal districts, the disability rate is less volatile there. In 2017, its highest values were registered in the Central (9%) and Northwestern (10%) federal districts and the lowest values – in the Far Eastern (6%) and Ural (6%) federal districts.

In 2017, among the regions of the Northwestern Federal District, the highest disability rate was recorded in the Republic of Karelia (11%), the Novgorod (11%) and Leningrad oblasts with the federal city of Saint Petersburg (11%; Tab. 2).

Cardiovascular diseases and neoplasms are major causes of disability in Russia. Besides, in 2000–2016, there was a gradual increase in the number of cases of disability associated with neoplasms, and a decrease in the number of

Figure 2. Total number of disabled persons and the number of persons who were registered as disabled for the first time in 2001–2016 (per 10,000 population)



Sources: Total number of disabled persons. Central statistical database. Available at: <http://www.gks.ru/dbscripts/cbsd/DBInet.cgi?pl=9000005>; Population. Rosstat. Available at: http://www.gks.ru/free_doc/new_site/population/demo/demo11.xls; Number of persons recognized as disabled for the first time. Rosstat. Available at: http://www.gks.ru/free_doc/new_site/population/zdrav/zdr4-1.xls

Table 2. Disability rate, broken down by federal districts of the Russian Federation (percentage of resident population)

Territory	2004	2006	2008	2010	2012	2014	2016	2017
Russian Federation	8	9	9	9	9	9	9	8
Central Federal District	9	10	10	10	10	10	9	9
Northwestern Federal District	10	11	12	12	11	11	10	10
<i>Republic of Karelia</i>	10	12	13	12	12	12	12	11
<i>Republic of Komi</i>	6	7	8	8	9	9	8	8
<i>Arkhangelsk Oblast</i>	7	9	9	9	9	9	9	8
<i>Vologda Oblast</i>	10	11	11	11	11	11	10	9
<i>Kaliningrad Oblast</i>	7	8	9	9	9	9	9	8
<i>Saint-Petersburg and the Leningrad Oblast</i>	12	13	14	14	14	13	12	11
<i>Murmansk Oblast</i>	3	5	5	5	5	5	4	4
<i>Novgorod Oblast</i>	11	13	13	13	12	12	12	11
<i>Pskov Oblast</i>	10	11	10	10	9	9	9	8
Southern Federal District	7	8						
North-Caucasian Federal District	6	7	8	9	10	10	10	10
Volga Federal District	7	9	9	9	9	9	9	8
Ural Federal District	6	7	7	7	7	7	7	6
Siberian Federal District	7	8						
Far Eastern Federal District	5	6	7	7	7	7	7	6
Crimean Federal District							7	8

Sources: our own calculations based on official statistics; Total number of disabled persons. Rosstat. Available at: <http://www.gks.ru/dbscripts/cbsd/DBInet.cgi?pl=9000005>; Number of resident population as of January 1 of year. Rosstat. Available at: <http://www.gks.ru/dbscripts/cbsd/DBInet.cgi?pl=2403012>

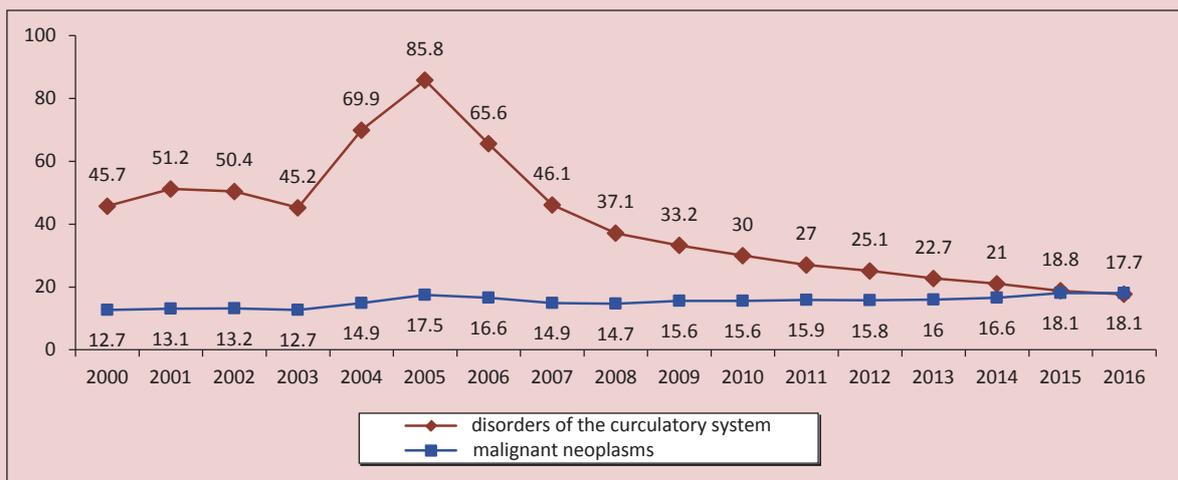
such cases associated with cardiovascular diseases. As a result, by 2016, it was neoplasms that became the main factor causing the increase in disability rate among adults (Fig. 3).

An increase in disability rate among children in Russia is due to other reasons: major factors include mental and behavioral disorders, congenital anomalies, deformations, and chromosomal abnormalities. Besides, the prevalence of the first two causes in absolute terms increased in 2006–2016. However, it should be noted that in general for the same period, the proportion of children whose disability was due to the above reasons

remained virtually unchanged and did not exceed 0.06% of the total child population (Tab. 3). Therefore, we can say that the situation concerning the growing disability rate among children remains stable.

Among the disabled, the proportion of people over 60 years of age is about 39%. The number of people in this age group is higher among those who are not part of the labor force – 43% and much lower among disabled workers – 18% and unemployed persons with disabilities – 6% (Fig. 4). These features reflect the relationship between economic activity of an individual and their age.

Figure 3. Number of persons 18 years of age and older, who were registered as disabled for the first time (per 10,000 population)



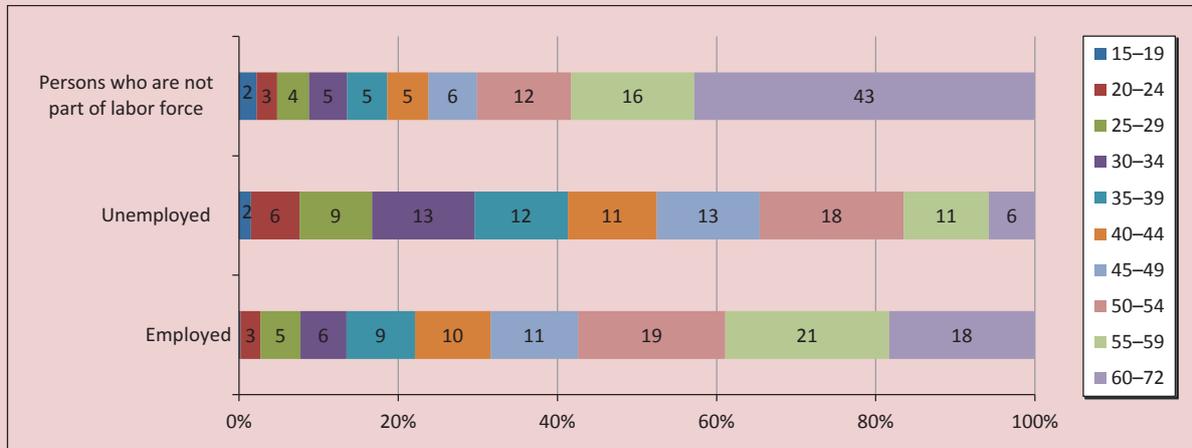
Source: Health Care. Rosstat. Available at: http://www.gks.ru/free_doc/new_site/population/zdrav/zdr4-2.xls

Table 3. Distribution of children under the age of 18 who were registered as disabled for the first time, broken down by types of disorders (person/percentage of the total number of children aged 0–17)

Disorders	2006	2008	2010	2012	2014	2016
Mental and behavioral disorders	16231/ 0.06	12800/ 0.05	14409/ 0.05	14249/ 0.05	16575/ 0.06	17825/ 0.06
Diseases of the nervous system	13465/ 0.05	11853/ 0.04	13143/ 0.05	13925/ 0.05	14566/ 0.05	14465/ 0.05
Congenital anomalies, deformations, and chromosomal abnormalities	17012/ 0.06	15271/ 0.06	16974/ 0.06	15725/ 0.06	14969/ 0.05	13108/ 0.05

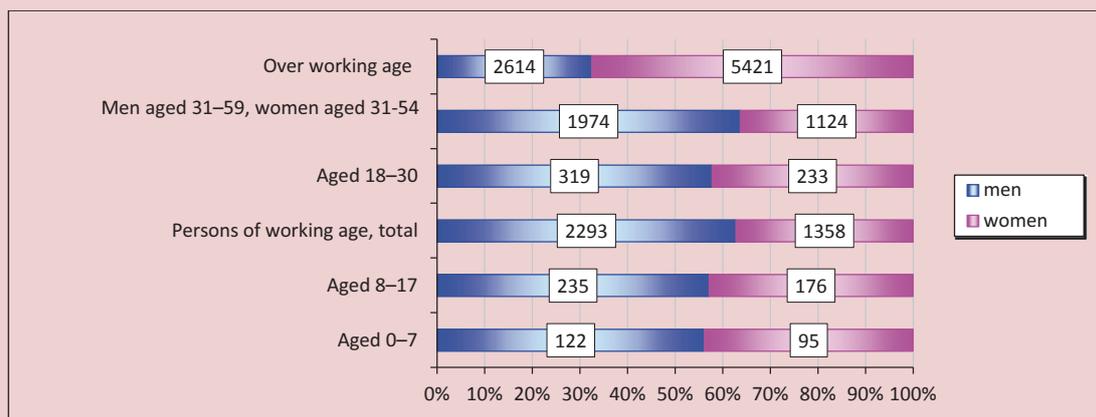
Source: Distribution of children under the age of 18 who are recognized as disabled for the first time, according to the forms of diseases. Rosstat. Available at: http://www.gks.ru/free_doc/new_site/population/zdrav/zdr4-3.xls

Figure 4. Distribution of persons with disabilities aged 15–72, broken down by age groups in 2016 (percentage of the number of the groups allocated)



Source: Situation of persons with disabilities. Rosstat. Available at: http://www.gks.ru/free_doc/new_site/population/invalid/tab4-8.htm

Figure 5. Sex and age distribution of disabled people (thousand people)



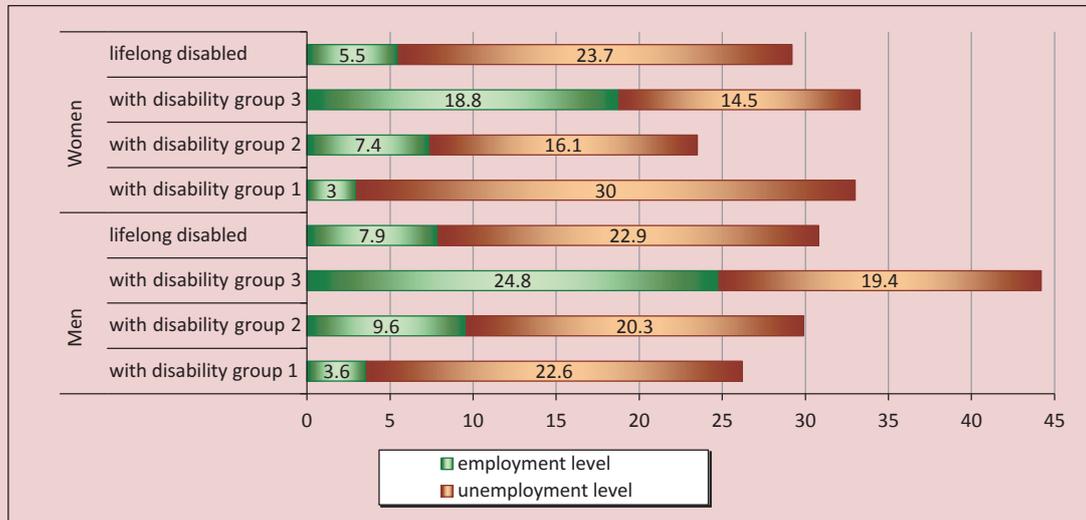
Source: Situation of persons with disabilities. Rosstat. Available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/disabilities/#

In the gender perspective, the number of disabled persons is higher among boys and men of working age. Men account for 63% of disabled persons of working age and 58% of disabled persons aged 18–30 (Fig. 5). In the older age groups, the situation is opposite: 67% of the disabled are women.

The gender-related specifics lead to the fact that among persons with disabilities the economic activity of men is higher than that of

women. In 2016, the difference was 4.3% in favor of men. For example, employment rate is 25% among men with disability group 3, and 19% among women with the same disability group (Fig. 6). Since there are no gender-specific statistics on the causes of disability, it is difficult to identify the causes of the identified gender-specific characteristics reliably. However, we can assume that the higher level of disability among men in childhood and working

Figure 6. Employment and unemployment rate among disabled persons in 2016 (percentage of the population in each of the selected categories by sex and disability group)



Source: Situation of persons with disabilities. Rosstat. Available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/disabilities/#

age can be associated with the fact that men are more prone to risky behavior, more sensitive to stress, and they are more exposed to extreme adverse effects in the workplace.

Since different health disorders lead to different life limitations, it is customary to distinguish three groups of disability, among which disability group 1 is the “gravest” and disability group 3 – the “mildest”. Children with disabilities are taken into account separately. The structure of disability has changed over the period of 2011–2017: the share of persons with disability group 3 has increased from 29 to 36%, and the share of persons with disability group 2 has decreased from 55 to 48% and group 1 – from 12 to 11% (Fig. 7). The share of disabled children has increased by 1% (by 95 thousand people) during this period.

The degree of readiness of the labor market to accept workers with disabilities can be assessed by analyzing the prevalence of different forms of employment. During 2014–2016,

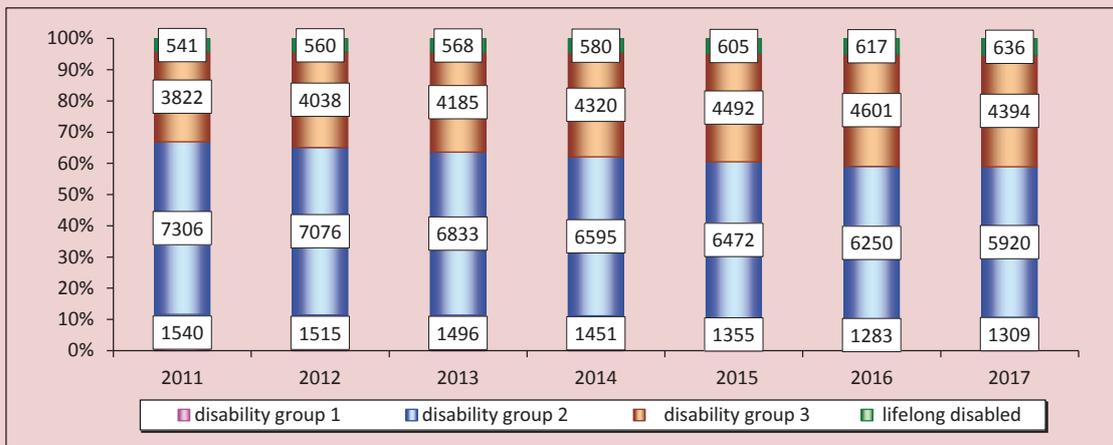
full-time employment of disabled persons on a permanent basis (87% of the total number of employed persons with disabilities) was dominant. Such forms of employment as flexible schedule (4–5%), part-time working day (7%) or week (7%), working under the civil contract (1.3%; Fig. 8) are used much less frequently.

The above distribution indicates a lack of diversity in the jobs that can be offered to workers with disabilities. In order to promote the employment of unemployed disabled persons it is necessary to provide incentives for employers to create jobs that will suit the individual characteristics of workers with disabilities to a greater degree.

Discussion

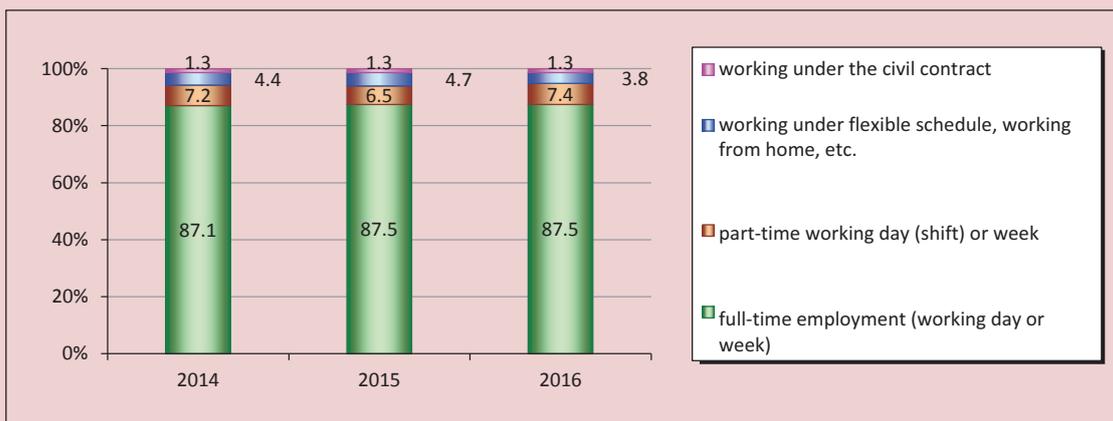
The increase in the number of disabled people and the low demand for their labor in society trigger negative demographic and socio-economic consequences. These challenges require policy strategies to address them.

Figure 7. Distribution of disabled persons by disability groups (thousand people)



Source: Situation of persons with disabilities. Rosstat. Available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/disabilities/#

Figure 8. Distribution of employed persons with disabilities by type of employment contract (percentage of employed persons with disabilities)



Source: Situation of persons with disabilities. Rosstat. Available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/disabilities/#

There are two types of current disability-related policies: paternalistic and innovative. And researchers point out fundamental differences between them [17]. The work of E.A. Tarasenko (2004) demonstrates the expediency of differentiated application of these concepts on the basis of allocation of groups with different needs among disabled people [18]. At the same time, regardless of what concept is chosen, it is

necessary to use the tools that can evaluate the effectiveness of the measures taken. One such tool can be the calculation of economic losses and missed opportunities due to disability. Of course, this approach does not provide a comprehensive analysis of the economic impact of a social policy. For example, the return on investment in education for persons with disabilities deserves special attention.

However, we consider it important to assess the structure of economic damage caused by the growing disability rate in order to formulate the priorities of social management more precisely.

Speaking about the *economic cost of disability*, we should note that it includes direct and indirect losses. The WHO report on disability states that the direct losses include the additional costs that people with disabilities and their families have to bear to maintain an acceptable standard of living, and disability benefits in cash and in kind, paid by governments. Indirect damage caused by disability includes economic and non-economic losses: low labor productivity due to low investment in the education of children with disabilities; loss of a job or reduction of working hours; loss of taxes, social isolation and stress [19]. WHO experts point out that due to significant differences in the methods of registering disabled persons, in the volume of social benefits, and due to other differences in calculations, it is very difficult to carry out cross-country comparisons of disability-related damage. In addition, some of the losses are difficult to estimate due to the lack of relevant data. This is why separate indicators of direct and indirect losses, such as the cost of paying benefit to persons with disabilities as a percentage of GDP, are used most frequently. At the end of the 20th century, this indicator reached 3.4% in Norway and the UK and only 0.5% in Japan [20].

Despite the fact that we consider disability in the framework of the social concept, we find it more appropriate to focus on the economic losses caused by growing disability rate when we address the problems of social management. The calculations carried out on the basis of governmental statistics allow us, though approximately, but succinctly enough, to describe the effectiveness of social management

in the sphere of ensuring equal rights for persons with disabilities.

We can allocate two key impacts of growing disability rate on economic development. The first impact consists in an increase in the government's social spending; the second one – in reducing labor potential of the population. The economic expression of the impact of the first type is the amount of expenditure on social security, treatment and rehabilitation of disabled people, and on the wages of personnel performing the mentioned functions. These are essentially the direct economic losses due to disability. With regard to the second impact, we point out that the higher the level of development achieved by the country's economy, the more expensive is each additional case of loss of labor capacity due to disability. The economic expression of losses of this kind is the amount of lost economic benefits due to disability. Its components are as follows: GDP that has not been produced by persons with disabilities, the amount of forgone income tax, and the income foregone by persons with disabilities themselves.

The economic losses can be assessed more accurately if we group the persons with disabilities into those who are not part of the workforce, those who continue their labor activity, and those who are searching for a job. Thus, the value of GDP, which was not produced by economically inactive disabled people (they did not try to find a job), and which we estimate at 11.2 trillion rubles in 2015, expresses the losses of society from the growing disability rate (*Tab. 4*). In turn, the under-production of GDP, the lost income of unemployed persons with disabilities and the lost income tax demonstrate the economic consequences of the problems that persons with disabilities have to deal with in the labor market.

Table 4. Economic benefits lost due to the growing disability rate of Russian population

Year	GDP underproduced by unemployed disabled people, million rubles*	Lost income of unemployed disabled people, million rubles	Lost income tax, million rubles	GDP underproduced by economically inactive disabled people, million rubles **
2013	120265.4	28520.9	3707.7	10156609.7
2014	111807.9	26344.2	3424.7	10926485.3
2015	113044.2	26484.1	3442.9	11192923.8

* For the calculation we used the number of disabled people applying for assistance in finding a suitable job, but not employed, since the data on the number of unemployed persons of working age in 2013–2015 are not available.
** For the calculation we used the number of non-working disabled persons over 18 years, since there is no data on the number of non-working disabled persons of working age in 2013–2015.
Source: our own calculations based on Rosstat data.

The calculations show that the volume of GDP underproduced by unemployed disabled people is only the “top of the iceberg”, since it is no more than 1.2% of the losses caused by the economic inactivity of disabled people.

Conclusion

Speaking about the *necessity to overcome negative economic effects of population disability* we should not expect that the level of employment of disabled people will be the same as that of people without disabilities. However, it is advisable to work out measures to promote the employment of those citizens who have labor recommendations from medical and social examination agencies. This area of work involves, first of all, the direct interaction of specialists of employment centers with disabled persons themselves. The purpose of such communication is to find out whether a person has a desire to work and realize themselves in professional activities. The Ministry of Labor and Social Development promotes the employment of persons with disabilities works in this direction, as well. It is assumed that the work with each client will be more targeted, which will increase its effectiveness. The Ministry has set an ambitious goal – to raise the employment rate of disabled people of working

age twice by 2020². Of course, such a goal will require considerable effort. At the same time, the main task of social management remains the same: to ensure decent quality of life for the people [21]. Achieving this goal should be based on an interest in employment on the part of persons with disabilities themselves: they should be confident that professional activity will improve their life rather than make it more difficult.

In general, consideration of the economic damage caused by disability suggests it is necessary to undertake management measures to reduce it; for example, labor rehabilitation of disabled people, programs for prevention of the diseases which most often lead to disability, and the development of hi-tech medical care. When developing and implementing the measures under the first policy direction, it is necessary to conduct an in-depth study of accumulated world experience, in particular various models for promoting employment of disabled people [22; 23].

Thus, the key task in solving the problem of reducing losses from the growing disability rate is to ensure the effectiveness of social management. The parameters, the changes of which must be monitored, may be the proportion of employed persons with disabilities

² Deputy Minister Grigory Lekarev: “By 2020, the share of employed persons with disabilities in the total number of disabled people of working age will double”. Available at: <http://www.rosmintrud.ru/social/invalid-defence/335> (posted 11.08.2016).

who applied for employment assistance, the level of economic activity of persons with disabilities who have labor recommendations, the proportion of disabled people who found permanent employment, the ratio of average salary of disabled people to the subsistence level of working population, the duration of the working day, the compliance of working conditions with the standards recommended by socio-medical assessment agencies, the number of violations of the rights of persons with disabilities in the labor sphere.

Our study allows us to conclude that the growing disability rate brings significant economic damage to the Russian society. We calculated the volume of GDP that was

not produced by unemployed persons with disabilities and by the economically inactive persons with disabilities. Based on these calculations, it was found that the contribution of the latter indicator to the overall indirect economic losses from population disability is 98.7%. The parameters for the employment of disabled persons, observed at present, indicate flaws in the methods of promoting their employment. It is advisable to develop such methods to optimize the government's social spending. The recommendations presented in the final part of the present paper can be used to substantiate social programs in the field of prevention of disability and promotion of social integration of disabled people.

References

1. Murav'eva M.G. The crippled, the handicapped or the disabled? A review of disability history. *Zhurnal issledovaniy sotsial'noi politiki*=*The Journal of Social Policy Studies*, 2012, no. 2, pp 151–166. (In Russian).
2. Shultz T.W. Investment in human capital. *American Economic Review*, 1961, vol. 51, no. 1, pp. 1–17.
3. Becker G.S. *Human Capital: A Theoretical and Empirical Analysis*. New York: Columbia University Press for NBER, 1964. 465 p.
4. Doktorovich A.B. Reproduction of social and human potentials. *Trud i sotsial'nye otnosheniya*=*Labor and social relations*, 2010, no. 1, pp. 11–18. (In Russian).
5. Sen A. *Razvitie kak svoboda* [Development as Freedom]. Translated from English. Moscow: Novoe izdatel'stvo, 2004. 432 p.
6. Lokosov V.V., Ryumina E.V., Ul'yanov V.V. Population quality: connection with economic development of the region. *Narodonaselenie*=*Population*, 2016, no. 4, pp. 68–76. (In Russian).
7. Shevyakov A.Yu., Kiruta A.Ya. *Neravenstvo, ekonomicheskii rost i demografiya: neissledovannye vzaimosvyazi* [Inequality, economic growth and demography: unexplored interconnections]. Moscow: In-t sots.-ekonom. problem narodonaseleniya RAN: M-Studio, 2009. 192 p.
8. Ilyin V.A., Shabunova A.A. Sociological assessment of public administration efficiency. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz*=*Economic and Social Changes: Facts, Trends, Forecast*, 2014, no. 2 (32), pp. 18–35. (In Russian).
9. Ustinova K.A. Human capital as a factor of the regional innovative development: theoretical aspects. *Problemy sovremennoi ekonomiki*=*Problems of Modern Economics*, 2012, no. 3, pp. 252–257. (In Russian).
10. Shabunova A.A. Social development and modern demographic challenges. *Problemy razvitiya territorii*=*Problems of territory's development*, 2014, no. 2 (70), pp. 7–17. (In Russian).
11. Rimashevskaya N.M., Migranova L.A., Toksanbaeva M.S. Human and labor potential of Russian regions. *Narodonaselenie*=*Population*, 2014, no. 3, pp. 106–119. (In Russian).
12. Avtsinova G.I., Fursov S.A. International and Russian experience of integration of people with disabilities into society: political analysis. *Uchenye zapiski Rossiiskogo gosudarstvennogo sotsial'nogo universiteta*=*Scientific notes of the Russian State Social University*, 2009, no. 2, pp. 116–125. (In Russian).
13. Ruzaeva E.M. Correlation of the concept “disabled person” in Russian and international law. *Izvestiya Orenburgskogo gosudarstvennogo agrarnogo universiteta*=*Bulletin of Orenburg State Agrarian University*, 2014, no. 6 (50), pp. 242–244. (In Russian).

14. Voevodina E.V., Raidugin D.S. Disability as social problem and object of special branch of sociology. *Vestnik MGGEI=Vestnik of Moscow State Institute of Humanities and Economics*, 2013, no. 3, pp. 16–25.
15. Shabunova A.A. (Ed.), Morev M.V., Kalachikova O.N., Shmatova Yu.S., Fakhradova L.N., Kondakova N.A. *Problemy sotsial'noi konsolidatsii: invalidy v regional'nom soobshchestve: monografiya* [Problems of social cohesion: people with disability in regional communities: monograph]. Vologda: ISERT RAN, 2014. 134 p.
16. *Invalidnost'. Proekt Global'nogo plana VOZ po invalidnosti na 2014–2021 gg.: Luchshee zdorov'e dlya vseh lyudei s invalidnost'yu* [WHO global disability action plan 2014–2021 “Better health for all people with disability”]. Available at: http://apps.who.int/gb/ebwha/pdf_files/EB134/B134_16-ru.pdf?ua=1&ua=1
17. Waddington L., Diller M. *Tensions and Coherence in Disability policy: the Uneasy Relationships between Social welfare and Civil rights models of Disability in American, European and International employment law: from principles to practice*. Available at: <https://dredf.org/news/publications/disability-rights-law-and-policy/tensions-and-coherence-in-disability-policy/>
18. Tarasenko E.A. Social policy in the field of disability: cross-cultural analysis and a search for the optimal concept for Russia. *Zhurnal issledovaniy sotsial'noi politiki=The Journal of Social Policy Studies*, 2004, no.1, pp. 7–28. (In Russian).
19. *World Report on Disability 2011*. Available at: [file:///fs/usefold/Inf/Downloads/9789240685215_eng%20\(1\).pdf](file:///fs/usefold/Inf/Downloads/9789240685215_eng%20(1).pdf)
20. Rogov S.M. *Functions of a modern country: Russia and world experience*. Available at: www.iskran.ru/dacs/rogov_twzis.pdf. (In Russian).
21. Ivashinenko N.N., Migranova L.A., Teodorovich M.L. Studying the quality of life as the basis of social management. *Narodonaselenie=Population*, 2014, no.1, pp. 101–118. (In Russian).
22. Sainsbury R. Labour market participation of persons with disabilities – how can Europe close the disability employment gap? *The Right to Work of Persons with Disabilities – International Perspectives University of Kassel, 8-10 March 2017*. Available at: http://www.the-right-to-work.com/files/2017/plenum/Tag2/Sainsbury09_03_2017_Kassel.pdf
23. Shima I., Zylyomi E., Zaidi A. The Labour Market Situation of People with Disabilities in EU25. *European Centre. Policy Brief February. 2008*. Available at: http://www.euro.centre.org/data/1201610451_25081.pdf

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