

# The Russian labor market: Long-term trends and short-term fluctuations<sup>☆</sup>

Rostislav I. Kapeliushnikov<sup>a,b,\*</sup>

<sup>a</sup> *Primakov National Research Institute of World Economy and International Relations, RAS, Moscow, Russia*  
<sup>b</sup> *HSE University, Moscow, Russia*

---

## Abstract

This paper provides a statistical portrait of the Russian labor market during the latest period of 2010–2022. The analysis delves into both the long-term trends in its evolution and short-term fluctuations associated with its adjustment to economic downturns. The most noteworthy among the long-term changes are a gradual shrinkage of the labor force and employment, the transition to record low unemployment, a sharp acceleration in worker turnover, and the emergence of an extensive overhang of unfilled job vacancies. During the period under review, the Russian economy experienced three strong adverse macroeconomic shocks—the first sanctions crisis in 2014–2015, the corona crisis in 2000–2021, and the second sanctions crisis, which began in 2022 and is still far from over. The paper provides the evidence that the Russian labor market has retained the same algorithm for accommodation to economic downturns, which it developed back in the 1990s. A distinctive feature of this specific model is that the negative shocks are absorbed predominantly through declines in wages and reductions in working hours, rather than through contraction of employment and surge in unemployment. The general conclusion is that the Russian labor market is undergoing a transition from a functional regime marked by tight labor demand to another characterized by tight labor supply.

*Keywords:* labor market, Russia, employment, unemployment, Beveridge curve, crises

*JEL classification:* E24, E26, E32, J21, J23, J31.

---

## 1. Introduction

Our analysis explores the evolution of the Russian labor market over the 2010–2022 period trying to deconstruct its major elements as long as we examine changes in its key characteristics—both on price (wages), intensive (working hours) and extensive (labor force, employment, unemployment, etc.)

---

<sup>☆</sup> The updated English version of the article published in Russian in *Voprosy Ekonomiki*, 2023, No. 8, pp. 5–37.

\* E-mail address: rostis@hse.ru

margins. In some cases, we extend the dataset back to the year 2005, encompassing the global financial crisis of 2008–2009, which serves as a reference point for comparison against subsequent economic downturns. It is worth noting that this paper extends our previous analysis covering the earlier period 2000 to 2012 (Kapeliushnikov and Oshchepkov, 2014).

A serious difficulty for investigation is that during the last one-and-a-half decades the Russian economy experienced three strong adverse macroeconomic shocks—the first sanctions crisis in 2014–2015, the COVID-19 crisis in 2000–2021, and the second sanctions crisis in 2022 that still remains ongoing. Though these shocks were different in their nature and strength they had common causes since their triggers were not falls in aggregate demand (as in 2008–2009), but rather declines in aggregate supply driven by abruptly worsening terms of trade and severance of economic relations with the global market in the first and third cases, or the mandated shutdown of a significant part of the economy during the COVID-19 pandemic in the second case.<sup>1</sup> In this sense, all these crises can be qualified as “man-made”—having either external (as in the case of two sanctions crises) or internal (as in the case of the COVID-19 crisis) roots.

It is not surprising that these economic fallouts inevitably generated sharp short-term fluctuations in the labor market performance, which were overlaid on long-term trends in its evolution. Thus, another aim of our analysis is to determine how the labor market reacted and adapted to these shocks. How different or how similar was its behavior in the crises of the past decade?

In our previous studies, we put forward a hypothesis and provided empirical evidence that after the collapse of the centrally-planned system there spontaneously emerged a specific “Russian” model of the labor market (Kapeliushnikov, 2002, 2009; Gimpelson and Kapeliushnikov, 2015). The distinctive feature of that is the labor market accommodates adverse economic shocks not so much through large losses in employment and drastic increases in unemployment but rather through reductions in the duration of working time and decline in real wages. Employment and unemployment demonstrate only minor changes (at least in relative terms), whereas the main blow fell on working hours and workers’ earnings. Time and price adjustments prevailed over quantitative ones: first, employees start to work fewer hours (due to short-time work or furloughs), and, second, receive lower pay, which allows firms to adjust labor costs and thus avoid mass layoffs. This approach contrasts with a standard textbook view on labor market adjustments when confronted with economic downturns, firms promptly resort to labor shedding, resulting in steep declines in employment and sharp rises in unemployment. Hence, *inter alia*, we will be interested whether the specific algorithm of how the Russian labor market accommodated negative macroeconomic shocks has persisted or seriously changed during the period under review, bringing it closer to the conventional story.

It is worth mentioning here that we should be careful while dealing with the official Rosstat statistics on the dynamics of key labor market indicators because of methodological changes that it introduced recently in their measuring. Firstly, since 2015 Rosstat started to add in its Labor Force Surveys (LFS) data for

---

<sup>1</sup> In the case of the COVID-19 crisis and the second sanctions crisis, an additional shock was provided by substantial changes in consumption patterns.

the Republic of Crimea and Sevastopol. Secondly, since 2017, the upper age limit was removed, and all estimates cover now population aged 15 years and older, rather than population aged 15–72 years as in previous years. As a consequence, the official Rosstat figures before and after these breaks are not fully comparable. In Table 1, we present adjusted estimates for the whole period under consideration, cleared from these methodological corrections.

Table 1 shows that the inclusion of data for the Republic of Crimea and Sevastopol increased the Russian labor force by approximately 1.1–1.2 million people, of which 1–1.1 million were employed and 60,000–80,000 unemployed. However, the effect of this addition on relative indicators was negligible, due to more or less similar workers' behavior on both “new” and “old” territories. Consequently, the gap between adjusted and unadjusted (official) estimates for labor force participation rates, employment–population ratios, and unemployment rates remains under 0.1 percentage points (p.p.).

**Table 1**

Key indicators of the Russian labor market: adjusted and unadjusted (official) estimates, 2005–2022.

Year	Population, million				Levels, %		
	Labor force	Employed	Unemployed	Inactive	Labor force participation rate	Employment–population ratio	Unemployment rate
2005	73.6	68.3	5.2	37.9	66.0	61.3	7.1
2006	74.4	69.2	5.3	37.8	66.3	61.7	7.1
2007	75.3	70.8	4.5	36.9	67.1	63.1	6.0
2008	75.7	71.0	4.7	36.6	67.4	63.2	6.2
2009	75.7	69.4	6.3	36.2	67.6	62.0	8.3
2010	75.5	69.9	5.5	36.0	67.7	62.7	7.3
2011	75.8	70.9	4.9	35.1	68.3	63.9	6.5
2012	75.7	71.5	4.1	34.5	68.7	64.9	5.5
2013	75.5	71.4	4.1	34.7	68.5	64.8	5.5
2014	75.4	71.5	3.9	34.1	68.9	65.3	5.2
2015	75.4	71.2	4.2	33.6	69.2	65.4	5.5
	(76.6)	(72.3)	(4.3)	(34.2)	(69.1)	(65.3)	(5.6)
2016	75.5	71.4	4.2	33.0	69.6	65.8	5.5
	(76.6)	(72.4)	(4.2)	(33.6)	(69.5)	(65.7)	(5.5)
2017	75.0	71.1	3.9	33.4	69.2	65.6	5.2
	(76.3)	(72.3)	(4.0)	(45.3)	(62.8)	(59.5)	(5.2)
2018	74.9	71.3	3.6	33.7	69.0	65.7	4.8
	(76.2)	(72.5)	(3.7)	(45.1)	(62.8)	(59.8)	(4.8)
2019	74.1	70.7	3.4	34.7	68.1	65.0	4.6
	(75.4)	(71.9)	(3.5)	(45.7)	(62.3)	(59.4)	(4.6)
2020	73.6	69.4	4.2	35.2	67.7	63.8	5.8
	(74.9)	(70.6)	(4.3)	(45.9)	(62.0)	(58.4)	(5.8)
2021	74.1	70.5	3.6	34.5	68.2	64.9	4.8
	(75.3)	(71.7)	(3.6)	(45.5)	(62.4)	(59.4)	(4.8)
2022	73.6	70.7	2.9	34.3	68.2	65.5	3.9
	(74.9)	(72.0)	(3.0)	(45.4)	(62.3)	(59.8)	(3.9)

Note: The estimates for 2015–2022 have been adjusted (population aged 15–72, without data for the Republic of Crimea and Sevastopol). Official (unadjusted) figures for the period are given in parentheses: for 2015–2016—population aged 15–72, including data for the Republic of Crimea and Sevastopol; for 2017–2022—population aged 15 and older, including data for the Republic of Crimea and Sevastopol.

Sources: Rosstat LFS estimates; author's calculations.

In contrast, Rosstat's transition from surveying just the 15–72 age group to surveying all individuals aged 15 years and older barely had any effect on the absolute indicators of labor force, employment, and unemployment. This is because individuals over 72 exhibit extremely low economic activity. Thus, their inclusion only marginally increases the economically active population by 130,000–180,000, including 120,000–170,000 employed, while the number of unemployed rises by less than 5,000. Unemployment rates also remain virtually the same, since they are computed as a proportion of population in the labor force (as shown in Table 1). At the same time, labor force participation rates and employment–population ratios, both of which are computed relative to the whole adult population, drop about 5–6 p.p. The former come down from approximately 70% to just above 60%, while the latter descends from 65% to below 60%. This is due to the inclusion of individuals older than 72, which significantly augmented the population not in the labor force (by over 10 million individuals in absolute terms, or roughly one-third in relative terms). As the consequence, the overall population surveyed rises by nearly 10%, leading to a substantial reduction in both labor force participation rates and employment–population ratios. Further, we will utilize both unadjusted (official) and adjusted (based on the “old” LFS methodology) estimates,<sup>2</sup> contingent on the nature of the issues under discussion.

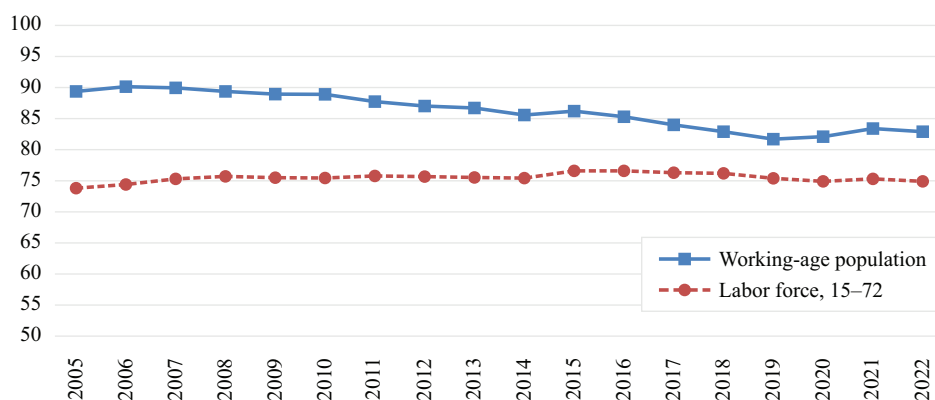
## 2. Labor supply: At the crossroads of multiple forces

The most significant change in the dynamics of labor supply was its transition from an upward to a downward long-term trend. During the analyzed period, the labor force shifted towards a gradual but consistent decline, driven by demographic factors such as a decrease in the overall population and its gradual aging. A counteracting factor was the started pension reform, which envisages raising the retirement age by five years.

Fig. 1 illustrates the changes in the working-age population<sup>3</sup> and the economically active population (e.g. labor force). The former exhibited a consistent downward trend throughout most of the period under review, with the exception of a slight increase in 2015. This resulted in an annual reduction by 0.5–1 million persons, before reversing in 2020. In 2020, there was an increase by approximately 0.4 million, followed by an additional increase by 1.2 million in 2021 and then by 0.7 million in 2022. The turning point can be attributed to the impact of the pension reform, which stipulates a gradual raising of the retirement age to 60 years for women and 65 years for men. This implies that women who reached the age of 55 and men who reached 60 lost their eligibility for old-age pensions in 2020. In 2021–2022, women who reached ages 56–56.5 and men who reached ages 61–61.5 joined this group. Without this effects of the pension reform, the working-age population would continue to decline. Using the previous retirement age bounds (55/60), it would be equal to 80.9 million instead of the actual 82.1 million in 2020, and 80.7 million instead of the actual

<sup>2</sup> Absolute LFS estimates for 2022 should be interpreted with caution, as they fail to adequately reflect the new processes occurring this year, such as partial mobilization (shrinkage of the civilian labor force), sharp increase in emigration (so-called “relocation”), and the inflow of immigrants from Ukraine.

<sup>3</sup> Before the pension reform, the official working-age bounds were defined in Russia as 16–54 for women and 16–59 for men.



**Fig. 1.** Working-age population (official estimates) and labor force (aged 15–72), 2005–2022 (million people).

Sources: Rosstat LFS estimates; author’s calculations.

83.4 million in 2021. In other words, the changes in retirement age contributed to an increase of 1.2 million persons in the working-age population in 2020, and 2.7 million in 2021.<sup>4</sup>

At first glance, this might look like a substantial increase (especially considering that the process of raising the retirement age is not yet complete). However, paradoxically, it had a relatively weak impact on the dynamics of the economically active population. The reason for this lies in the fact that “young” retirees, according to the old definitions (women aged 55–56 and men aged 60–61), already had high labor force participation rates even before any changes in pension legislation. The withdrawal of the elderly from the labor market has always been a gradual process, extending over the initial few years of retirement. As a result, the rise in the retirement age did not lead to a significant change in the labor behavior of these age groups (ages 55–56/60–61).

Indeed, as we look at the labor force dynamics, we observe a different trend (see Fig. 1). It reached a peak of about 75.8 million in 2011, and remained stable for several years afterwards, around 75.5 million. Then a decline by 0.5 million people in 2017–2018 followed, and then another decrease by 1.3 million in 2019–2022, essentially bringing the labor force back to the 2005 level. The total losses over the past decade amounted to 2.2 million. While the dynamics of the economically active population did follow the dynamics of the working-age population (with some lag), it did not mirror it exactly. Firstly, unlike the working-age population, the economically active population did not experience an upswing in the 2000s. Secondly, the average annual decline for the labor force was much lower, around 0.2 million people compared to 0.8 million for the working-age population. Thirdly, from 2020 to 2022, the size of the labor force showed no signs of growth, despite the ongoing increase in the retirement age.

This requires a closer examination of the effects of changes in pension arrangements on the labor market. We used labor force participation rates for women aged 55–56 and men aged 60–61 in 2018 as a starting point, when these

<sup>4</sup> In 2022, the working age bounds remained the same as in 2021: 16–61.5 years for men and 16–56.5 years for women.

**Table 2**

Labor force participation rates for the population aged 60–61/55–56, 2018, 2020, and 2021 (%).

Year	Men, 60	Men, 61	Women, 55	Women, 56
2018	53.0	47.5	68.4	62.3
2020	60.8	–	79.0	–
2021	68.9	59.3	82.2	74.7

*Note:* For 2020, we do not provide estimates for men at age 61 and women at age 56 who were still eligible to retire under the previous rules in that year.

*Sources:* Rosstat LFS estimates; author’s calculations.

groups were still eligible for old-age pensions, and compared them to the same rates in 2020 and 2021, when they have already lost this opportunity. As shown in Table 2, the increase in the retirement age led to a 10–15 p.p. increase in the labor force participation rate for these age groups. According to our estimates, this contributed to a rise in the economically active population by nearly 200,000 people in 2020 and slightly over 500,000 in 2021. However, the fact that the labor force in 2021 was still lower than in 2018 (see Table 1) indicates that these gains were offset by negative effects related to the “demographic pitfall” that the Russian economy was slipping into. Considering that by the end of 2021, the retirement age increase process had only been completed halfway, 0.5 million people (less than 1%) can be seen as a notable but not crucial addition. It is evident already that the pension reform will be able to compensate only a small portion of the labor force losses expected in the upcoming decades due to population decline and aging.

The data from Table 1, which presents labor force participation rates for the years 2005–2022, reveals a consistent growth in the economic activity of the Russian population (aged 15–72) during the initial phase of this period, peaking at 69.6% in 2016. This upward trend can be attributed to two concurrent processes: first, improvements in the social and demographic composition of the economically active population, characterized by growing shares of groups with higher labor force participation rates and diminishing shares in those with lower rates; and second, the robust economic growth observed throughout a significant part of this period, which improved the prospects for employment and motivated many economically inactive individuals to enter the labor market. However, subsequent shifts in the age composition of the labor force took a negative direction,<sup>5</sup> while the economy went into semi-stagnation. A gradual decline in the labor force participation rate commenced, resulting in its reduction by 1.5 p.p. from the peak by the year 2022. This trend seems to continue, given the deteriorating demographic landscape. (Notably, even as raising the retirement age was underway, the labor force participation rate remained lower in 2021–2022 compared to 2018.)

Fig. 2 provides insights into the reaction of economic activity to adverse macroeconomic shocks. Based on seasonally adjusted monthly estimates, the 2008–2009 financial crisis coincided with a modest rise in the labor force participation rate, by a range of 0.1–0.2 p.p. A similar gain of 0.2 p.p. was also

<sup>5</sup> Indeed, our analysis indicates that during the sub-period of 2011–2016, changes in the age composition of the labor force contributed to a 0.2 p.p. increase in the level of economic activity. However, in the subsequent sub-period of 2016–2021, these same shifts led to its reduction by 0.27 p.p.

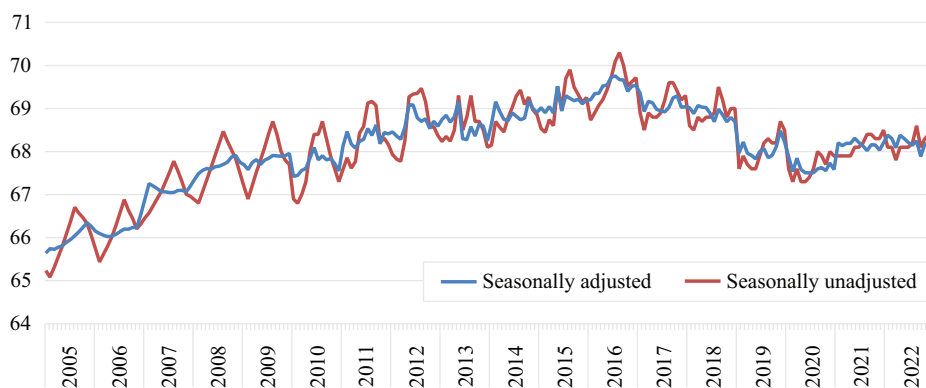


Fig. 2. Labor force participation rate, monthly actual and seasonally adjusted data, population aged 15–72, 2005–2022 (%).

Sources: Rosstat LFS estimates; author's calculations.

evident during the first sanctions crisis. In contrast, the COVID-19 crisis resulted in a fall of around 0.4 p.p., while the second sanctions crisis did not, surprisingly, lead to any visible movements. In other words, this indicator was only weakly responsive to any major macroeconomic shocks. This implies that when confronted with economic fallouts, the resultant changes in the labor market are largely confined to workers transitions between states of employment and unemployment, exerting only minimal influence on flows in and outflows from the economically inactive population.

### 3. Employment: Downward reversal

As previously mentioned, the comparability of official estimates for employment before and after 2015 is limited. A more accurate portrayal of the employment dynamics comes from adjusted estimates that account for the changes in the Rosstat methodology (see Table 1).

The adjusted data indicates that the rise in employment, albeit with some fluctuations, continued until 2014, reaching a peak of 71.5 million. During this sub-period, employment growth was fueled by a general expansion of the labor force and a reduction in the number of unemployed, who were successfully transitioning into employment. However, employment subsequently entered a decline, dropping by approximately 1 million people (or 1.5% in relative terms) by 2022. In this sub-period, the employment growth was no longer supported by the increase in the labor force, and if it had not been for the ongoing flows from unemployment to employment, losses in employed population would have been even more dramatic.

To assess the potential impact of raising the retirement age on employment, we used a similar approach as with the labor force. Fig. 3 illustrates the employment rates for men aged 60 and 61 and women aged 55 and 56 in the pre-reform year of 2018, when these groups were still eligible for old-age pensions, and in the post-reform year of 2021, when they lost this opportunity. The gap between pre-reform and post-reform levels is about 11–14 p.p. This suggests that by 2021, due to changes in pension rules the number of employed individuals increased by around 470,000. If we assume that the employment gains for the remaining one-

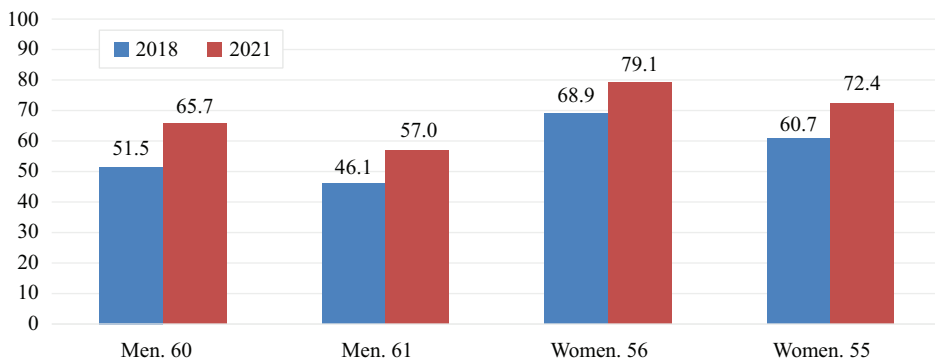


Fig. 3. Employment rates for men aged 60/61 and women aged 55/56, 2018 and 2021 (%).

Sources: Rosstat LFS estimates; author's calculations.

year groups (men aged 62, 63, and 64, and women aged 57, 58, and 59) mirror those for the two first groups, the overall employment increase after the completion of the pension reform would be approximately 1.2 million in absolute terms (or 1.7% in relative terms). This gain is markedly lower than all preliminary forecasts, including our own, predicted (Kapeliushnikov and Oshchepkov, 2014; Gimpelson and Kapeliushnikov, 2018). The rationale for such modest increment was previously discussed: even before the pension reform started, a considerable portion of the Russian “young” (according to the old criteria) pensioners had relatively high employment rates. As a result, raising the retirement age impacted the labor market behavior of only a small portion of this group, rendering the associated employment increment very modest.

Besides the long-term dynamics, the short-term fluctuations in employment hold significant interest. Fig. 4 illustrates how fluctuations in employment were associated with fluctuations in output. Two conclusions can be drawn from this data: 1) fluctuations in employment and output were tightly synchronous (as expected); 2) the magnitude of fluctuations in the former was considerably smaller compared to the latter. When focusing on crisis periods, it follows that

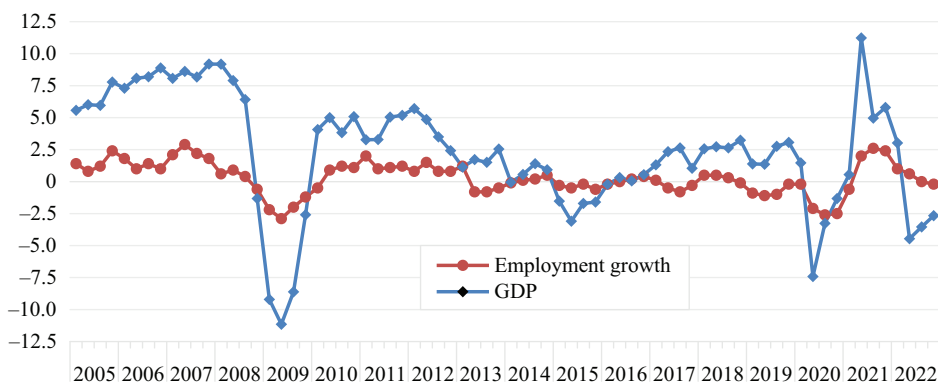


Fig. 4. Growth rates of GDP and total employment (15–72 years), 2005–2022 (percentage change in comparison to the same quarter of the previous year).

Sources: Rosstat; author's calculations.



each percentage point of GDP reduction caused employment decline of only 0.27 p.p. during the 2008–2009 financial crisis, 0.16 p.p. during the first sanctions crisis of 2014–2015, and 0.28 p.p. during the COVID-19 crisis. Thus, throughout the examined period, the elasticity of employment with respect to output remained relatively stable, ranging from approximately 0.2 to 0.3, despite the varying strength and nature of the adverse shocks encountered by the Russian economy. So low elasticity suggests a strong employment stability: regardless of the depth of output fallouts, the associated employment losses remained minimal, signaling that the adjustment to negative shocks was brought about primarily through alternative channels.

The second sanctions crisis presents a unique case: even though GDP contracted by 2.1% in 2022, it was not accompanied by any discernible reduction in employment. While the crisis is still ongoing, it is already evident that Russian employment has proven to be robust against worsening economic conditions.

The dynamics in employment–population ratio can be reconstructed from the data presented in Table 1. We observe a pattern similar to that for the labor force participation rate: a gradual increase until 2016, peaking at 65.8%, then dropping slightly to 65.5%. This decrease was driven by the factors mentioned earlier—negative shifts in the age composition of population and an unfavorable economic situation. This process is likely to accelerate in the upcoming years. Up until recently, it was mitigated by an active transition of many workers from unemployment to employment. However, now when the unemployment rate has decreased so much, its further reductions might hardly be significant.

What lies ahead for Russian employment in the near future? Based on various scenarios from Rosstat’s official demographic projection, we have estimated the possible dynamics of the employed population for the period 2022–2035. The calculations were performed for one-year age gender groups, assuming that the employment rates for them would remain the same as those observed in the pre-COVID year of 2019. Adjustments for expected impact of the pension reform were made for men aged 60–64 and women aged 55–59, based on the previously received estimates. The results are presented in Fig. 5.

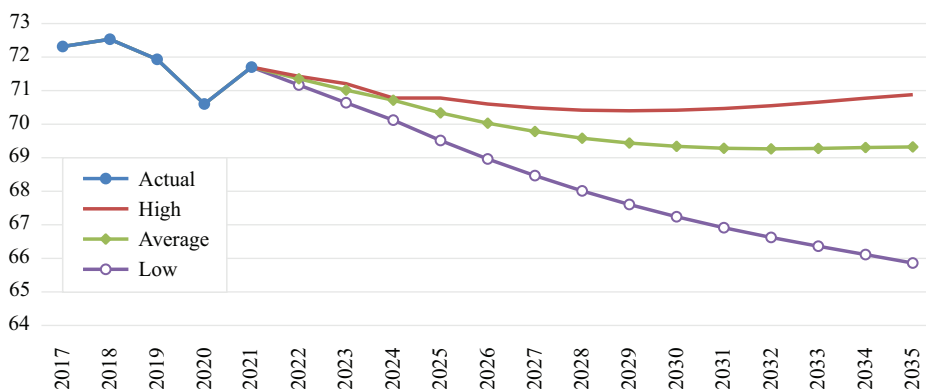


Fig. 5. Actual and expected employed population according to alternative scenarios of Rosstat official demographic forecast, 2017–2035 (million people).

Note: 2017–2021 — actual data, 2022–2035 — projections.

Sources: Rosstat demographic projection; author’s calculations.

According to our estimations, if the *low* demographic scenario unfolds, employment will experience a steady decline throughout the forecasted period, resulting in a reduction by around 6 million individuals in absolute terms, or roughly 8% in relative terms by 2035. In the *medium* scenario, employment will gradually decrease until 2030 before stabilizing at a lower level of around 69.3 million in subsequent years. Cumulatively, this would result in a loss of approximately 2.5 million jobs. In the *high* demographic scenario, employment would reach its minimum value by 2030 (70.4 million), followed by a slow increase by 0.5 million by 2035. Consequently, cumulative losses would be negligible, at less than 1 million. In all scenarios, the increase in the retirement age would contribute to approximately 1 million more people being employed in 2035 than if the retirement age had remained unchanged.

The high demographic scenario seems the least likely. The actual figures will probably fall somewhere between the estimates for the low and medium scenarios. This suggests that employment losses could amount to approximately 3–5 million people by 2035.

#### 4. Unemployment: at historical lows

Like many other countries, Russia uses two alternative measures of unemployment—the general unemployment rate (by the ILO definition) and the registered unemployment rate (by registrations with the Public Employment Service, PES). Over the period of greatest interest to us, the number of “ILO” unemployed individuals decreased from 5.5 million in 2010 to 2.9 million in 2022 (see Table 1), while the number of registered unemployed fell from 1.6 million to 0.6 million. Two general conclusions can be drawn from these trends: firstly, both measures were on a decline, and secondly, there always was a significant “wedge” between them, as the general unemployment rate was consistently several times higher than the registered one.

This substantial and persistent gap is a distinctive feature of the “Russian” model of the labor market (Kapeliushnikov, 2009). Fig. 6 visually depicts the substantial difference in favor of “ILO” unemployment, which ranged from two-fold to seven-fold depending on the particular time period. While the general unemployment rate fluctuated from 3.9% to 13.3%, the registered rate varied

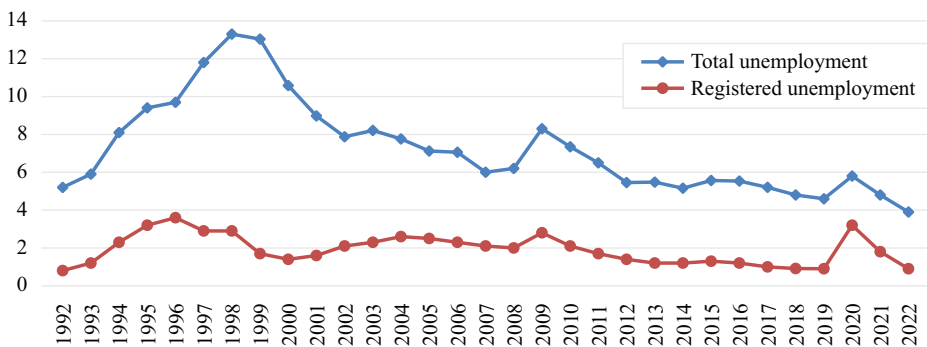


Fig. 6. General and registered unemployment rates, 1992–2022 (%).

between 0.9% and 3.6%. The reasons for this substantial disparity have been extensively discussed in the literature. The main reason is limited support provided by the Russian state to unemployed persons: low unemployment benefits, restricted duration of their payments, stringent eligibility criteria, selectivity in registration, and skewness of the PES bank of vacancies in favor of low-skilled occupations. Consequently, most unemployed in Russia choose to search for a job independently, without registering with PES.

Over 2005–2022, the general unemployment rate gradually decreased, nearly halving from 7% in 2005 to less than 4% in 2022. Notably, the unemployment rate of 3.9% in 2022 is an all-time historical low; such a low level of unemployment had never been observed before in the Russian labor market (and by mid-2023, it edged down even further, to an astonishing 3%!).

Similar to employment, unemployment displayed a moderate sensitivity to economic downturns. During the 2008–2009 financial crisis, when GDP dropped by 7.8 p.p., the general unemployment rate went up 2.1 p.p. The first sanctions crisis of 2014–2015, with a 2 p.p. drop in output, increased unemployment rate by 0.4 p.p. And the COVID-19 crisis, with a 3 p.p. drop in GDP, drove unemployment up by 1.2 p.p. However, during the second sanctions crisis, the unemployment rate paradoxically reached a historic low, decreasing by almost 1 p.p. in 2022 compared to 2021.

How did the Russian economy achieve such low unemployment despite facing severe negative shocks during this period? This can be largely attributed to favorable changes in the age and educational composition of the labor force. Over the last 10–15 years, the shares of groups with a high risk of unemployment (such as young people and individuals with basic education or below) significantly decreased, while that of groups with a lower risk of unemployment (prime-age individuals and those with university degrees) increased substantially. This structural shift contributed to a downward drift in the “natural” (equilibrium) unemployment rate. An empirical confirmation of such a drift for the 2008–2012 period was provided in our earlier paper (Kapeliushnikov and Oshchepkov, 2014).

We conducted a similar analysis for the 2011–2021 period, for one-year age gender groups, distinguishing five levels of education (higher, secondary professional, vocational, secondary general, basic and below). Our focus was on determining what the unemployment rate would have been in 2021 if the socio-demographic composition of the labor force had remained the same as it was a decade earlier in 2011, while the unemployment rates of these groups corresponded to their actual values in 2021. As a reminder, the general unemployment rate in 2011 was 6.5%, decreasing to 4.8% by 2021 (a reduction of 1.7 p.p.).

Our calculations indicate that if the socio-demographic composition of the labor force had not changed, the general unemployment rate in 2021 would have been almost a full percentage point higher than the actual rate—at 5.7%. This suggests that approximately half of the observed downward drift in the general unemployment can be attributed to structural factors. However, it is likely that other forces of economic origin were also at play. It can be hypothesized that changes occurred on both the labor supply side, which gradually contracted (as discussed earlier), and the labor demand side, which could have either become more active or changed its structure. A downward shift in the labor supply curve

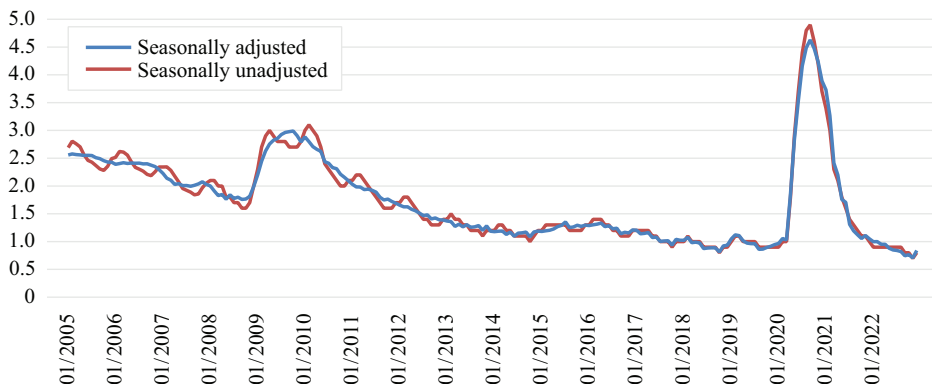


Fig. 7. Registered unemployment rate, monthly actual and seasonally adjusted data, 2005–2022 (%).

Sources: Rosstat; author's calculations.

accompanied by upward shift in the labor demand curve might have led to an additional downward drift in the “natural” unemployment rate.

As previously noted, in the period 2005–2022 registered unemployment also gradually decreased, although with occasional rebounds that were triggered by adverse economic shocks. Fig. 7 provides a general picture of the dynamics in monthly registered unemployment rate over this period. From seasonally adjusted estimates it follows that it increased by 1.2 p.p. during the peak of the 2008–2009 financial crisis. During the peak of the first sanctions crisis in 2014–2015, it increased by 0.2 p.p., but under the second sanctions crisis, it continued to decrease, losing 0.2 p.p. by the end of 2022 compared to the end of 2021.

However, the behavior of the registered unemployment rate during the COVID-19 crisis was surprising. If for the second sanctions crisis we observe an “abnormally” *low* general unemployment rate, for the COVID-19 crisis we find out an equally “abnormally” *high* registered unemployment rate. During the height of this crisis it increased by a factor of five (!)—from 1% at the beginning of 2020 to 4.9% in mid-year. This led to an unprecedented convergence between the registered and general unemployment rates. Prior to the pandemic of coronavirus, a proportion between them was about 1:5 (1% vs. 4.7%), but at its peak, the gap narrowed significantly, to just 1:1.3 (4.9% vs. 6.4%). What could explain such a sharp rise in the number of registered unemployed, against the background of, as always, a modest increase in the “ILO” unemployment?

Two primary channels exist through which the government can support workers whose services are no longer in demand due to economic downturns (Kapeliushnikov, 2022). The direct one is an unemployment insurance system that provides benefits to those who have lost their jobs. The indirect one operates through firms by providing them financial resources to compensate their costs associated with “hoarding” of partially employed workers (those on reduced working hours or placed on forced leave), whose services are not required temporarily. In the first case, connections between workers and their jobs are severed, while in the second, they are retained.

Historically, the Russian government was more oriented towards utilizing the second mechanism of social support of unemployed people. In hard times,

it preferred to subsidize underemployment through firms, partially covering their expenses on compensation of underutilized workers. Meanwhile, unemployment benefits increased insignificantly, and access to such benefits continued to be greatly constrained by administrative barriers. However, with the advent of the COVID-19 pandemic, the government opted to switch to the first support channel—via benefit payments provided by PES (of course, programs to subsidize part-time employment at enterprises, which were aimed at minimizing labor shedding, were not forgotten as well). Several measures were implemented that substantially expanded the generosity of the Russian unemployment insurance system:

- the minimum amount of benefits was tripled (from 1,500 to 4,500 rubles), and the maximum amount was increased by one-and-a-half times (from 8,000 to 12,150 rubles); with regional allowances and additional payments from regional authorities, the total sums could reach up to 20,000 rubles per month in some cases;
- all individuals registered after March 1, 2020 were entitled to maximum benefits, regardless of their previous wage;
- unemployed individuals with children began receiving supplement payments of 3,000 rubles per child. As a result, those who had children but were not necessarily looking for a job rushed to PES to receive these payments;
- the maximum period for receiving benefits was extended from 6 to 9 months;
- individual entrepreneurs who were compelled to halt their activities began to receive benefits at the maximum rate. Previously, they could only claim minimum benefits at best;
- an electronic registration system was introduced;
- following the implementation of quarantine measures, the unemployed were no longer required to check in at PES in person every two weeks.

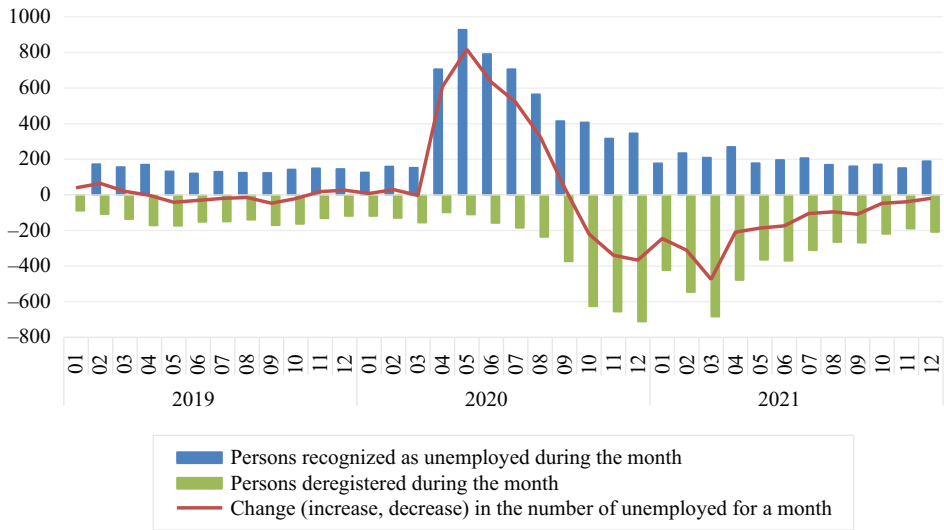
Unsurprisingly, a significant inflow of people eager to register with PES occurred. This influx included not only individuals who lost their jobs but also those who previously were economically inactive.<sup>6</sup> As a result, the trajectory of registered unemployment began to rise rapidly.

Most of these policy changes were introduced during the initial months of the COVID-19 crisis, specifically in March–April 2020. All of them were intended to be temporary, enacted for six months. In other words, after six months, the original, more stringent (pre-pandemic) regulations applied to those unemployed individuals who had registered during the pandemic. This determined the subsequent developments.

As shown in Fig. 8, by April 2020, in response to such a significant increase in benefits, the monthly new registrations surged nearly fivefold, from 150,000 to 700,000 individuals. The growth continued in May, reaching almost 1 million people monthly. Concurrently, the outflow decreased by approximately 1.5 times. As a result, in mid-2020, the monthly net increase in the number of registered unemployed individuals ranged from 300,000 to 800,000. It was culminated

---

<sup>6</sup> By estimates, in the years before COVID-19, the share of those who had a prolonged break (more than one year) in their employment history or had never worked at all was about  $\frac{1}{4}$  of the total number of the registered unemployed. However, in 2020 the share was closer to  $\frac{1}{2}$  (for more details, see: Kopytok and Kuzmina, 2021).



**Fig. 8.** Number of unemployed people registered with the Public Employment Service, 2019–2021 (thousand people).

Source: Rosstat.

in a record-high registered unemployment rate of 4.9% in September 2022. However, already next month the outflow surpassed the inflow. This could be attributed to the end of the six-month grace period for the first individuals who registered at the PES in March 2020 under the new rules. After that the number of such people began to decline rapidly, at a rate of 200,000–400,000 per month. This trend continued throughout 2021, eventually returning to “normal” (pre-pandemic) levels of registered unemployment by early 2022.

This entire episode, from the initial rapid increase in registered unemployment to the equally swift decline, is not so much illustrative of the economic turmoil stemming from the COVID-19 crisis as it is demonstrative of the rational behavior of the Russian population, which is keen to respond to new incentives generated by the government policies.

## 5. Working time: A dampener of negative shocks

Figs. 9 and 11 present changes in two basic measures of working time: average number of hours worked per employee per year (estimated from administrative data for the large and medium-sized enterprise sector, LME), and average number of hours worked per week at the primary job (estimated from the Rosstat’s LFS data).

The first fluctuated around the 1,750-hour per year without any visible trend, except two small hikes in 2007 and 2019, when it approached the 1,770-hour mark. Furthermore, three distinct drops are noticeable in the years of economic crises: a reduction by 2.5% in 2009, 0.5% in 2015, and 1.7% in 2020. When we turn to manufacturing, the decreases in working hours in these crisis episodes become even more pronounced: a remarkable –7.2%(!) in 2009, –0.7% in 2015, and –3.4% in 2020. Curiously, the second sanctions crisis stands as the only instance when the annual duration of working hours remained nearly unchanged.

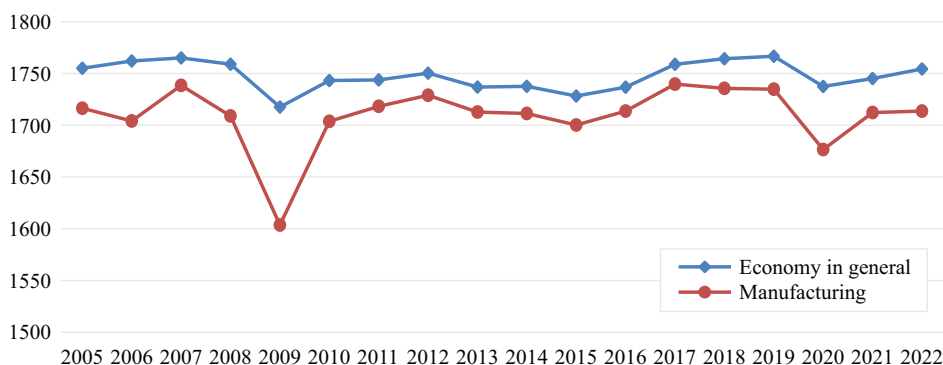


Fig. 9. Number of average hours worked per employee, 2005–2022 (large and medium-sized enterprises sector).

Source: Rosstat.

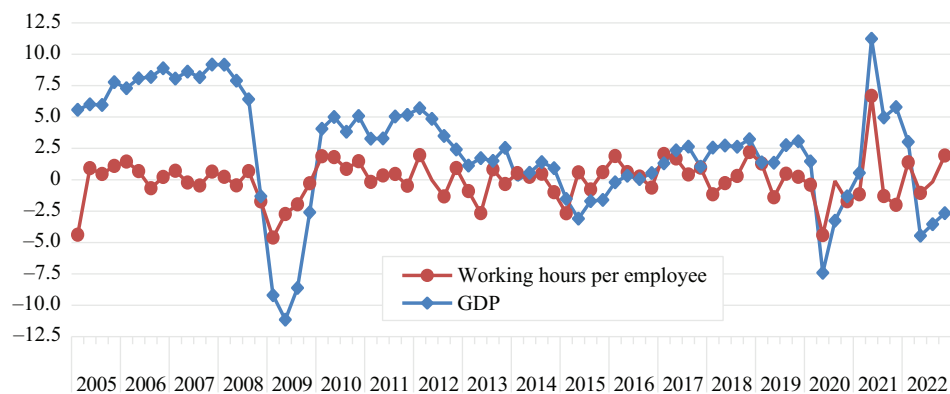
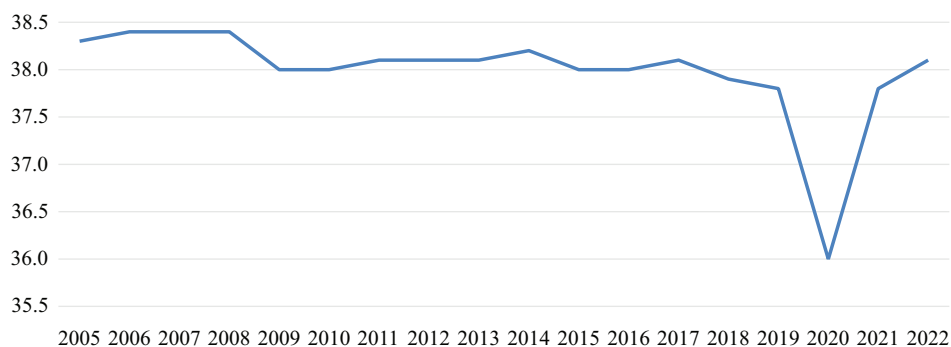


Fig. 10. Growth rates of GDP and annual hours worked per employee, 2005–2022 (percentage change in comparison to the corresponding quarter of the previous year).

Sources: Rosstat; author's calculations.

A more detailed data of how changes in working time were connected to changes in GDP is presented in Fig. 10, depicting four-quarter growth rates (relative to the corresponding periods of the previous year) for both. These data show that during the 2008–2009 financial crisis, a 1 p.p. decrease in GDP was accompanied by a 0.35 p.p. reduction in hours worked. Similar but more pronounced effects were observed during the first sanctions crisis in 2014–2015 and the COVID-19 crisis in 2020, when elasticities of working time to output equaled to 0.45 and 0.6. It can be stated that it was working hours that bore the brunt of the COVID-19 crisis, while employment and wages (as discussed below) were affected much less. Finally, at the height of the second sanctions crisis (Q2 2022), a 4.1 p.p. decrease in GDP coincided with a 1 p.p. reduction in working hours. All this implies that fluctuations in the duration of working time associated with negative macroeconomic shocks were stronger than that in employment. It was this flexibility of working hours that helped mitigate potential crisis-driven decline in employment and the surge in unemployment.

The pattern was largely similar for the alternative measure, average working hours per week according to LFS data, as shown in Fig. 11. It oscillated around



**Fig. 11.** The average length of the working week per worker, 2005–2022 (hours).

Source: Rosstat LFS estimates.

the 38-hour mark without an obvious long-term trend. It was slightly higher in the early 2000s and slightly lower in the late 2010s, but returned to nearly its initial level by 2022.

The average number of working hours per week contracted by 1 p.p. in response to the 2008–2009 financial crisis, 0.5 p.p. to the first sanctions crisis of 2014–2015, and remarkably, by as much as 4.8 (!) p.p. to the COVID-19 crisis. However, it did not strangely show any visible reaction to the second sanctions crisis that began in 2022, testifying to the unique nature of that shock.

Thus, while administrative statistics indicates that the most significant losses in working hours were observed in 2009, survey-based estimates point to 2020. These discrepancies might be attributed to the fact that administrative statistics only cover the large and medium-sized enterprises (LME) sector, which now accounts for up to 40% of all employed individuals in the Russian economy. This sector appears to have been hit hard during the 2008–2009 financial crisis but relatively less affected during the COVID-19 crisis. In any case, both measures highlight that for the Russian labor market, reducing working hours has been and remains one of the main channels for adjusting to adverse economic shocks.

## 6. Inter-firm labor mobility: non-standard cyclic dynamics

The Russian statistics gather and publish information regarding worker turnover (hiring and separations) only for the LME sector. The respective estimates are shown in Figs. 12–14. The Russian economy has historically exhibited a high level of inter-firm labor mobility, a characteristic that dates back to the Soviet times. For instance, before the 2008–2009 financial crisis, the annual gross labor turnover (measured as the sum of hirings by firms and separations (by all reasons) from firms) made up 60–65% for the whole economy and between 65–70% for manufacturing (Gimpelson et al., 2012).

After the financial crisis of 2008–2009, the gross labor turnover rate decreased in the 2010s to approximately 55% for all industries, and around 50% for manufacturing. In the year 2020, during the COVID-19 pandemic, it dropped further, to 52% and 45%, respectively. These are record low levels in the entire history of the Russian labor market. Notably, the slowdown in labor turnover was attributed to a simultaneous deceleration in its both components—hiring and separations.



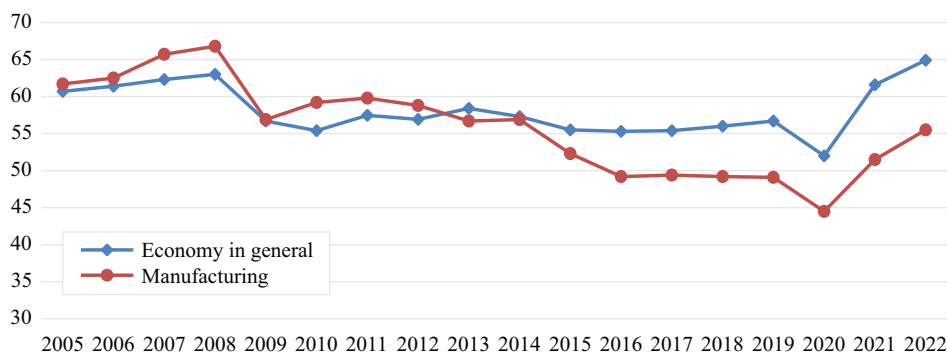


Fig. 12. Gross labor turnover, large and medium-sized enterprises sector, 2005–2022 (%).

Sources: Rosstat; author’s calculations.

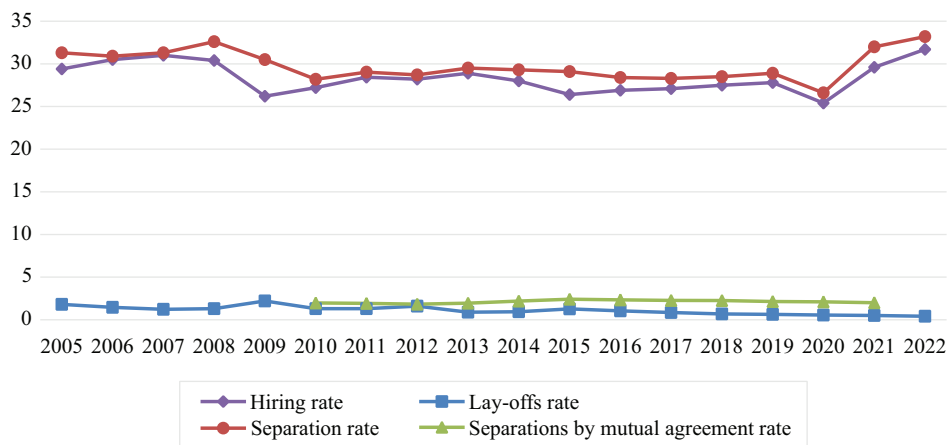


Fig. 13. Main characteristics of labor turnover, all industries, large and medium-sized enterprises sector, 2005–2022 (%).

Sources: Rosstat; author’s calculations.

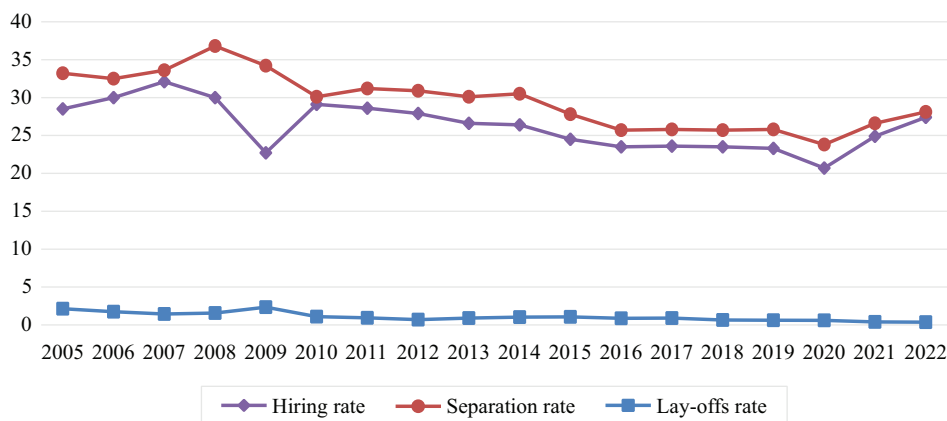


Fig. 14. Main characteristics of labor turnover, manufacturing, large and medium-sized enterprises sector, 2005–2022 (%).

Sources: Rosstat; author’s calculations.

However, a compensatory growth was observed in the post-crisis year of 2021, when inter-firm labor mobility sharply accelerated, approaching levels last observed 15 years ago.

Analyzing Fig. 12, it becomes evident that all economic downturns were accompanied by significant deceleration in gross worker turnover. For the whole economy, it lost 6 p.p. in 2009, 4 p.p. in 2014–2015, and almost 5 p.p. in 2020, compared to previous years. Manufacturing experienced even greater declines, with labor turnover dropping by 10 p.p. in 2009, 8 p.p. in 2014–2015, and 3 p.p. in 2020. This pattern indicates pro-cyclical dynamics, where inter-firm labor mobility accelerates during economic booms and decelerates during recessions.

Examining the behavior of its components—hiring and retirement rates (Figs. 13–14)—reveals noteworthy patterns. Hiring dynamics is pro-cyclical, with rates going higher during economic upturns and lower during economic downturns. For instance, hiring rate decreased by over 4 p.p. in response to the 2008–2009 financial crisis, by 2.5 p.p. during the first sanctions crisis of 2014–2015, and similarly by 2.5 p.p. during the 2020 COVID-19 crisis. Its drop for manufacturing was  $-7$  p.p.,  $-2$ , and  $-2.5$  p.p., respectively.

What is particularly surprising is the strictly pro-cyclical behavior of separation rates. They go up during booms and down during recessions. In other words, hiring and separation rates fluctuate in parallel, and not in opposition to each other, as could be expected. For example, in 2009, separation rate decreased by 2.5 p.p.; in 2015, fell by under 0.5 p.p.; and in 2020 its dropped by almost 2.5 p.p. Similar behavior of separations was observed in manufacturing, where they declined by  $-7$  p.p.,  $-2$ , and  $-2$  p.p. during these crisis episodes.

The data suggests that in the Russian context, employment adjustments during crisis conditions are achieved entirely by freezing the hiring of workers rather than by activating their dismissals. When the economy enters a recession, the outflow of employees from enterprises becomes smaller, not larger. This counterintuitive pattern can be easily explained by the absolute domination of quits in the Russian labor market, which constitute up to 75–80% of the total separations.

Conversely, lay-offs remain exceptionally low. Firings are highly rare even during the height of crises as Russian firms resort to them only in the most extreme cases. Moreover, the lay-off rate has steadily decreased, from approximately 1.5–2% in the 2000s, to just over 0.5% by the late 2010s (see Figs. 13–14). This can likely be attributed to the availability of a new and more convenient tool for personnel downsizing: separations by mutual agreement between employers and employees. Since usually such dismissals are initiated by employers, they can also be classified (with some reservations) as involuntary separations. However, even with this addition, the involuntary separations remain exceptionally low, under 2.5–3% which is highly atypical for the labor markets of developed countries. In such circumstances, freezing the hiring process rather than activating firings emerges as the primary mechanism through which Russian enterprises can easily downsize their personnel under crisis conditions.

The predominance of quits over lay-offs contributes to a synchronized behavior of hirings and separations: both of them demonstrate procyclical dynamics. In “good” times, when the labor market has a large pool of vacancies, workers begin to actively move from one enterprise to another, but in “bad” times, when the number of vacancies is depleted, they begin to hold on tighter to the jobs they have.

Predictably, involuntary separations display a reverse—countercyclical—dynamics. Their response to negative shocks corresponds to theoretical expectations: witnessing upward surges though of relatively modest magnitude. For instance, in 2009, the lay-off rate increased by almost 1 p.p., and in 2015 by nearly 0.5 p.p. (an approximately 1.5-fold relative rise). Within the same year, 2015, separations by agreement reached their peak at 2.4% (a rise by 0.5 p.p. compared to the pre-crisis 2013). However, involuntary separations rates demonstrated almost zero sensitivity to the COVID-19 crisis, remaining at pre-crisis 2019 levels.

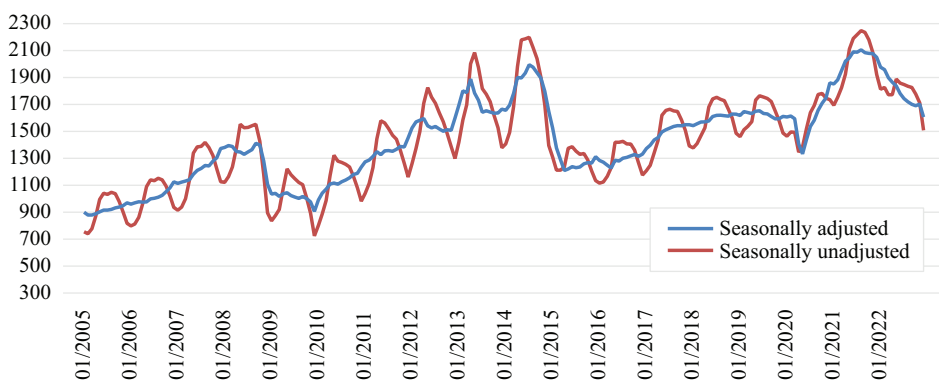
The second sanctions crisis has become an atypical case. In 2022, despite the economic recession, the gross worker turnover increased instead of diminishing, effectively reverting to the high 2020s levels (65% for the whole economy and 56% for manufacturing) (see Figs. 13–14). Furthermore, hirings also intensified (by 2.1 p.p. for the economy and even more 3.2 p.p. for manufacturing), reaching its highest levels for recent years. Even more notably, there was no dampening of voluntary separations or a surge in involuntary ones that might be associated with new processes such as mobilization and “relocation.” Beyond that, the Russian economy’s transition onto a semi-military footing likely served as a trigger for a new wave of its structural transformation, necessitating a large-scale labor reallocation across industries and individual firms (see below for more detail).

## 7. Job vacancies: Symptoms of a growing labor shortage?

There are two vacancy measures used in the Russian official statistics. The first relies on enterprise reporting as its source of information, while the second utilizes data from the Public Employment Service of the Russian Federation. The former covers all vacancies emerging within firms, while the latter includes only the subset of vacancies declared by enterprises to the PES. Both indicators have their merits and drawbacks: the first pertains exclusively to the LME sector, whereas the second is biased towards low-skilled and low-paid positions and can also fluctuate depending on efficiency of the PES (see Kapeliushnikov and Oshchepkov, 2014).

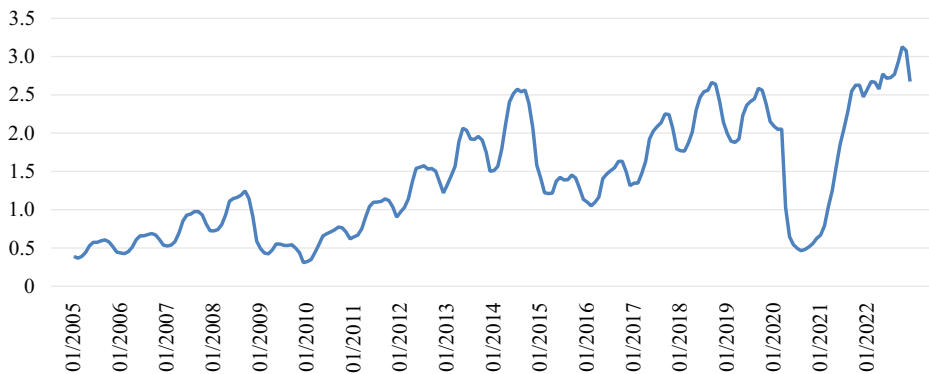
Throughout the period under our examination (2005–2022), a number of vacancies registered officially at the PES exhibited persistent growth: from 750,000 applications at the start to around 1.5–2 million at the end (Fig. 15). The peak was reached in mid-2021, following the relaxation of quarantine restrictions, as the economy rapidly made up for lost ground and enterprises’ demands for additional workers escalated to an all-time high of 2.2 million. Even with a minor decline in 2022, the pool of vacancies at the PES remained extremely large. However, this upward trend was not entirely uniform and was intermittently interrupted by negative shocks: during the peak of the financial crisis of 2008–2009, a number of vacancies registered by enterprises at the PES dwindled by 40%, at the height of the 2014 sanctions crisis—also by 40%, during the COVID-19 pandemic—by 20%, and again by 20% at the height of the second sanctions crisis. In other words, this indicator proved to have quite high cyclical sensitivity.

A more accurate picture of the real situation in the labor market could be obtained if we compare the dynamics of vacancy and unemployment (registered) rates. Fig. 16 illustrates how many vacancies at the PES were there per one officially registered unemployed for the period from 2005 to 2022. In the 2000s, the number of registered unemployed was two to three times the number of



**Fig. 15.** Enterprises' declared need for workers, according to Public Employment Service data, monthly actual and seasonally adjusted estimates, 2005–2022 (thousand people).

Sources: Rosstat; author's calculations.



**Fig. 16.** Number of vacancies per one registered unemployed person, 2005–2022 (units).

Sources: Rosstat; author's calculations.

vacancy announcements. A serious improvement dates back to 2011, from which point onward, there was approximately one vacancy for every registered unemployed person. By 2014, this proportion had risen even further, to 2–2.5 vacancies per one unemployed person. It receded to 1.5 during the first sanctions crisis, but promptly rebounded afterwards, returning to its normal level by 2018–2019. As expected, the COVID-19 crisis triggered a profound slump, with the number of registered vacancies reaching barely half the number of officially unemployed persons (a return to the 2000-s situation). This hiatus proved brief, however: by 2021, a substantial improvement transpired, and by mid-2022, despite the start of the second sanctions crisis, there were already more than 3 (!) vacancies per one registered unemployed person—an unequivocal historical record.

Fig. 17 illustrates the quarterly fluctuations in vacancy rates by information reported by enterprises within the LME sector. Starting from notably modest levels in mid-2000s (1.5%), this measure kept growing steadily until mid-2008, culminating at 2.7%. With the advent of the financial crisis of 2008–2009 it returned to the initial level (1.5%), where it remained until about 2012. This was followed by another rapid expansion phase, reaching a new high of 3% just before the 2014–2015 sanctions crisis. The ensuing adverse shock brought vacancy rate back to a lower plateau (2.5%),

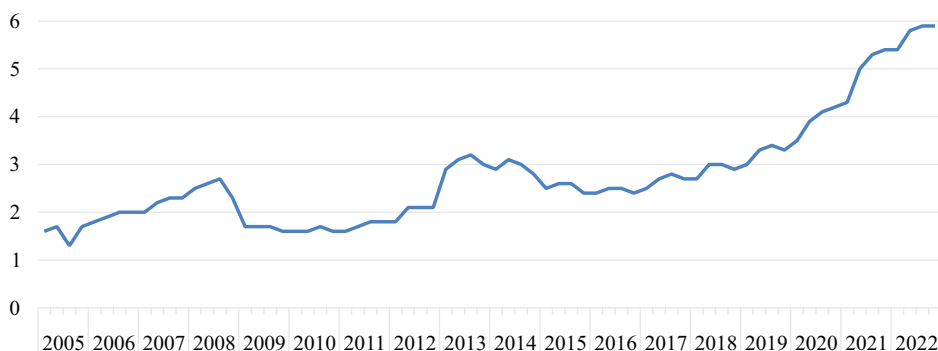


Fig. 17. Quarterly vacancy rates, large and medium-sized enterprises sector, 2005–2022 (%).

Source: Rosstat.

all the way until 2018. Once again, a consistent upward trajectory followed, bringing to the end of 2022 the proportion of vacant jobs in the LME sector to a remarkable 6%—an all-time high for the Russian labor market. Neither the COVID-19 crisis nor the second sanctions crisis managed to impede this upward trend, underscoring the emerging labor shortage in the Russian economy.

The underlying causes of these profound shifts are not entirely clear, although some tentative explanations can be offered. The first likely cause might be a structural mismatch between labor supply and demand: for instance, enterprises might need workers with relatively modest educational credentials for blue-collar occupations, while job-seekers are mainly individuals with tertiary education looking for white-collar high-skilled occupations. (Another suggestion is that Russian enterprises may prefer to hire relatively young workers, making it increasingly challenging due to a sizable reduction in the younger cohorts in recent years.)

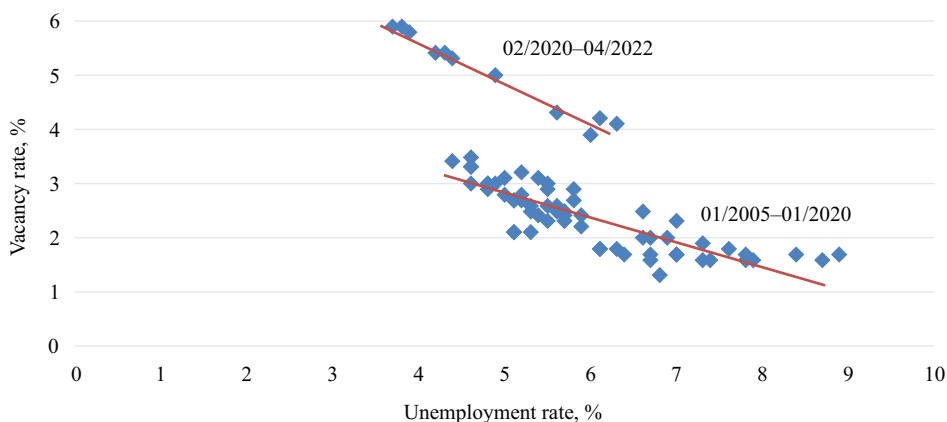
Second, one cannot dismiss the prospect that many firms persist in offering outdated low wages, which may fall short of workers' expectations. If we consider the possibility that the LME sector, or at least its substantial part, has begun to lose the competition for workforce to small and non-incorporated enterprises, this could potentially lead to a significant surge in vacancies that are hard to fill and take a long time to close.

Third, the experience of remote work during the pandemic of coronavirus might have transformed worker preferences, elevating their requirements for flexible work arrangements. It is likely that many individuals nowadays are inclined to accept employment solely under the condition of remote work, either partially or entirely. In such circumstances, businesses unable to provide such a work regime could encounter considerable recruitment challenges.<sup>7</sup>

The last factor is a reduction in the inflow of migrant workers, first due to the COVID-19 crisis in 2020 and then (albeit to a lesser extent) due to the second sanctions crisis in 2022.

The “demographic” explanation, which directly links the challenge of labor shortage to population decline, seems to be the most popular among Russian ob-

<sup>7</sup> It is interesting to note that in the context of the United States, which also faced record high vacancy rates after the COVID-19 crisis, this explanation is widely acknowledged by the majority of researchers as one of the most credible (Bauer et al., 2022; Blanchard et al., 2022).



**Fig. 18.** Beveridge curve: relationship between the general unemployment rate and the vacancy rate (LME), quarterly levels, 2005–2022 (%).

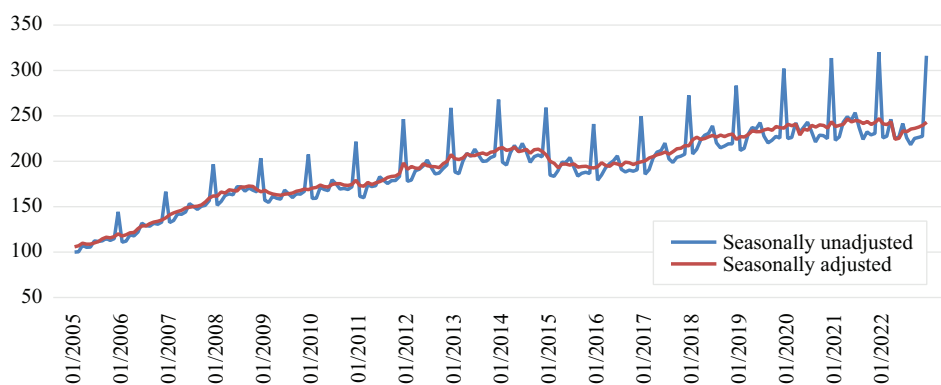
Sources: Rosstat; author's calculations.

servers. However, it might not be entirely convincing, as the process of the population decline is still in its nascent stages. Currently, the labor force participation rate and the employment-population ratio are just 3% and 1% lower than their historical peaks, respectively. It is unlikely that such a minor pullback could trigger an explosive growth in unfilled job positions.

Fig. 18 displays the Beveridge curve, illustrating the relationship between the unemployment rate and the vacancy rate. It clearly indicates two clouds of points, being far apart from each other: one refers to the period from Q1 2005 to Q1 2020, while the other corresponds to the period from Q2 2020 to Q4 2022. For the first period, the Beveridge curve is described by the equation  $y = 4.93 - 0.43x$ , and for the second, by the equation  $y = 8.69 - 0.76x$ , where  $y$  represents the vacancy rate and  $x$  the unemployment rate. Thus, while initially a 1 p.p. reduction in the unemployment rate was accompanied by a 0.4 p.p. increase in the vacancy rate, now it is already by 0.8 p.p. What is more important—the nearly twofold increase in the constant from 4.9 to 8.7, indicating a sharp upward shift of the Beveridge curve. Notably, this shift occurred at a specific moment in time—Q2 2020, precisely at the peak of the COVID-19 crisis. Soon after, for the first time in the history of the Russian labor market, the vacancy rate managed to surpass the general unemployment rate (see Fig. 18), presently by nearly 3 p.p.!

This suggests another (in our view, the most plausible) explanation. It appears that the COVID-19 crisis in 2020 triggered a large-scale structural transformation of the Russian economy necessitating a corresponding massive cross-sectoral labor reallocation, and then in 2022, an equally sizable labor reallocation was required by switching the economy into a semi-military regime under the second sanctions crisis. In this new situation some sectors (such as the military-industrial complex) experienced a sudden and significant improvement in profit opportunities, while others (such as the motor vehicle industry) faced sudden cutbacks. However, such a deep restructuring could not be executed swiftly, and as a result, a substantial number of vacancies appeared that were challenging to fill.

Vacancies could arise in sectors that, under the new more promising prospects, tried to attract additional workers, as well as in sectors that under the new



**Fig. 19.** Monthly real wage indices, actual and seasonally adjusted, 2005–2022 (%; January 2005 = 100%).

Sources: Rosstat; author's calculations.

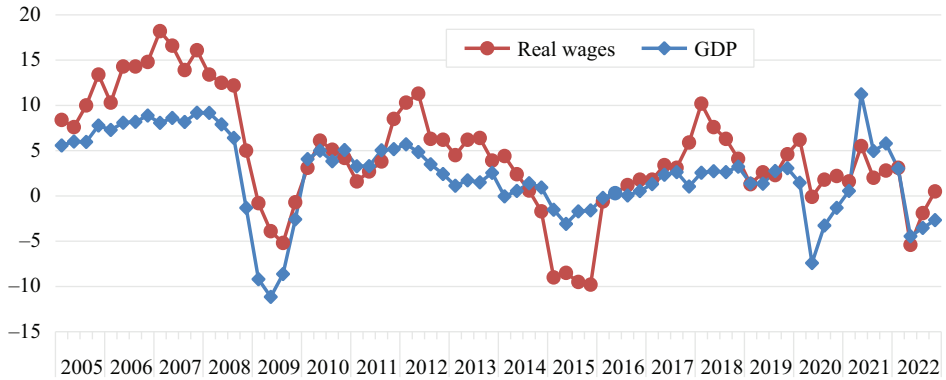
unfavorable conditions were losing workers and therefore needed new hires to replace them. The fact that worker turnover rates initially declined sharply due to the COVID-19 crisis and then rapidly increased aligns well with this scenario.<sup>8</sup>

## 8. Wage: Preserving flexibility

Fig. 19 reflects changes in the actual and seasonally adjusted real wage indices for the period from 2005 to 2022. Notably, real wages displayed vigorous growth, surging approximately 2.3 times over the span of 18 years when considering seasonally adjusted data. Translating this into annual growth rates implies an average annual increase by 4.8%. Nevertheless, this upward trajectory was extremely uneven: during the 2005–2008 sub-period, the average annual growth rate peaked at 13.7%; during the 2009–2013 sub-period, it receded to 3.5%; and in the 2014–2022 sub-period, it further diminished to 1.5%. The impact of economic fallouts on wage growth is evident in Fig. 19, displaying abrupt slowdowns in its dynamics: transitions from positive to negative dynamics were observed in 2008–2009, in 2014–2015, for a brief interval in 2020, and in mid-2022.

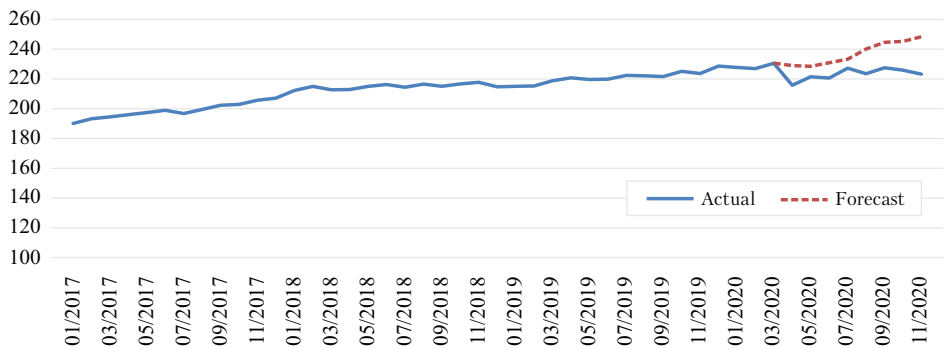
Fig. 20 illustrates how fluctuations in real wages are related to fluctuations in output. While the amplitude of fluctuations in employment was noted to be much smaller than that of GDP, the same cannot be said for real wages. They appear to be equally, if not more, volatile compared to GDP. Let's confine our analysis again to the recession episodes. During the 2008–2009 financial crisis, a 1 p.p. drop in GDP was accompanied by roughly 0.35 p.p. fall in real wage. In the context of the first sanctions crisis, this relationship was reversed: each percentage point decrease in GDP caused about 4.5 p.p. fall in real wage. Essentially, wages absorbed the full impact of this crisis, allowing employment and unemployment levels to remain largely unaffected. According to Fig. 20, however, the COVID-19 crisis brought only a short deceleration in real wage growth because by the end of 2020

<sup>8</sup> Partial mobilization and “relocation” could make a further significant contribution to vacancy rates growth in 2022. It is, however, necessary to take into account that after the second sanctions crisis the vacancy rate increased only by 0.5 p.p., with most of the surge occurring earlier in 2020–2021.



**Fig. 20.** Growth rates of GDP and real wages, 2005–2022 (percentage change in comparison to the same quarter of the previous year).

Sources: Rosstat; author's calculations.



**Fig. 21.** Actual and forecast monthly real wage indices, 2017–2020 (seasonally adjusted data, %, January 2005 = 100%).

Sources: Rosstat; author's calculations.

real wages seemed to have already returned to their level at the end of 2019, but actually losses in workers' earnings produced by the pandemic and lockdowns were much more dramatic.<sup>9</sup>

This can be verified with a simple calculation. We restricted the data on the real wage growth index to March 2020 and for the remainder of that year made a forecast of what its growth would have been in the absence of the pandemic, that is, if the government had not started imposing severe quarantine restrictions in April 2020. Fig. 21 shows the relationship between hypothetical and actual real wage growth trajectories. By our estimates without the effect of COVID-19 pandemic, real wages

<sup>9</sup> The downward wage flexibility during the transformational crisis of the 1990s was achieved in the Russian context through three main mechanisms. The first was via high inflation that eroded real wages in the absence of mandatory and automatic indexation of their nominal values to the CPI growth. The second was that in Russia a considerable fraction of total wage payments (up to 50% or even higher) is variable and not fixed in labor contracts. This part includes premiums and bonuses that can fluctuate within a wide range contingent upon general economic conditions and company performance. When faced with negative shocks, Russian enterprises can drastically reduce labor costs by cutting bonuses and additional payments to employees at their discretion. The third was the use of wage arrears which effectively contained labor costs. During the 1990s delays in wage payments grew explosively. In the recent decades, only the last of these three mechanisms actually went out of practice, while the first two fully retained their importance, still providing downward wage flexibility (Kapeliushnikov, 2014).



would be about 6% higher than their actually observed values for most of 2020. Thus, in that crisis episode adjustments on price margin played also an important role.

Finally, the real wages responded to the second sanctions crises with a decline no less severe than the contraction in GDP. At its peak, each percentage point decrease in GDP was mirrored by a corresponding one-percentage-point reduction in real wages. Undoubtedly, this helped to stabilize employment and prevent the rise in unemployment. In the crisis trough, an active wage adjustment downward made a quantitative adjustment redundant.

In the context of the second sanctions crisis, real wage growth again could not return to its pre-crisis trajectory. As our calculations suggest in a hypothetical scenario, without this negative shock, real wages would have been 5% higher than what was actually observed in 2022. In other words, losses in workers' earnings have been of the same order as in the COVID-19 crisis.

## 9. Conclusions

We have explored the most important long-term trends in the evolution of the Russian labor market, as well as its short-term responses to adverse economic shocks. We reconstructed the dynamics of its key indicators—both quantitative and price-related. The analysis suggests that the Russian labor market is seemingly entering a new functional regime.

A decline in the labor force and employment has started, and this downward trajectory will apparently gain momentum with time. Projections indicate that employment losses could potentially achieve 3–5 million in the coming decade. Unemployment has reached historical lows, thereby no longer serving as a potential reservoir for stabilizing employment, as it did in previous years. The improvement in the socio-demographic composition of the labor force has led to a downward shift in the “natural” unemployment rate. Furthermore, it can be assumed that an upward shift in the aggregate labor demand curve has contributed to this reduction as well. Working hours have stayed at a constant plateau throughout the analyzed period and are expected to remain stable in the future.

An unexpected reversal in the dynamics of worker turnover has occurred and it approached to record high levels observed earlier only in the mid 2000s. However, perhaps the most notable change with lasting implications pertains to vacancy dynamics. In recent years, unmatched labor demand has surged to record highs by the historical standards of the Russian labor market, resulting in a sharp upward shift of the Beveridge curve. Presently, the number of job vacancies significantly outnumbers the number of unemployed individuals, and this ratio is unlikely to change in the foreseeable future.

Unlike the quantitative characteristics of the labor market, no significant changes are observed on its price margin. Real wages continued to exhibit modest growth, punctuated by occasional setbacks during economic downturns. However, it is conceivable that the ongoing reduction in the labor supply will lead to heightened competition for workforce among enterprises, potentially resulting in an acceleration of real wage growth.

Meanwhile, a mechanism of adjustment of the Russian labor market to adverse economic shocks remained largely unchanged. Across all four crisis episodes—the 2008–2009 financial crisis, the first sanctions crisis of 2014–2015, the COVID-19

crisis of 2020, and the second sanctions crisis of 2022—a similar pattern emerges. In all these instances, negative shocks were absorbed primarily through reductions in real wages and shrinkage of working hours without serious declines in employment and upticks in unemployment. In recessions enterprises predominantly brought about downsizing of their personnel through hiring freezes, while separations declined.

It is worth acknowledging that the Russian labor market's adjustment to the second sanctions crisis diverged from prior experience in some key ways. On the one hand, real wages preserved downward flexibility, and various forms of part-time employment gained greater traction. On the other hand, in contrast to the previous recessions, employment increased, unemployment dropped substantially, working hours remained relatively stable, and hiring surged remarkably. Most importantly, the number of job vacancies soared to unprecedented heights instead of diminishing. The transition towards a semi-military economy triggered a large-scale labor reallocation across industries and individual firms that could not be executed instantaneously.

Evidently, the Russian labor market has been entering a deep structural transformation. This reshaping can be described as a shift from tight labor demand to tight labor supply. The future will show how successful the labor market would be in adapting to this new reality.

## Acknowledgements

Support from the Basic Research Program of the HSE University is gratefully acknowledged.

## References

- Bauer, L., Edelberg, W., & Estep, S. (2022). *A closer look at a hot labor market*. Washington, DC: The Hamilton Project; Brookings.
- Blanchard, O., Domash, A., & Summers, L. (2022). *Bad news for the Fed from the Beveridge space*. Washington, DC: Peterson Institute for International Economics.
- Gimpelson, V. E., Kapeliushnikov, R. I., & Ryzikova, Z. A. (2012). The movement of jobs in the Russian economy: In search of “creative destruction.” *Ekonomicheskaya Politika*, 3, 99–114 (in Russian).
- Gimpelson, V. E., & Kapeliushnikov, R. I. (2015). The Russian labor market model: Trial by recession. *Journal of the New Economic Association*, 2, 249–254 (in Russian).
- Gimpelson, V., & Kapeliushnikov, R. (2018). Age and education in the Russian labour market. In: T. Becker, S. Oxenstierna (eds.). *The Russian economy under Putin* (pp. 121–148). London: Routledge.
- Kapeliushnikov, R. I. (2002). The Russian labor market model: We are not like everybody else. In: R. I. Kapeliushnikov (ed.). *What kind of labor market does the Russian economy need (Prospects for reforming the system of labor relations)* (pp. 11–34). Moscow: OGI (in Russian).
- Kapeliushnikov, R. I. (2014). *The end of the Russian labor market model?* Moscow: Liberal Mission Foundation (in Russian).
- Kapeliushnikov, R. (2014). Labor productivity versus labor compensation: Some simple arithmetic. *Voprosy Ekonomiki*, No. 3, 36–61 (in Russian). <https://doi.org/10.32609/0042-8736-2014-3-36-61>
- Kapeliushnikov, R. I. (2022). The anatomy of the coronacrisis through the lens of the labor market adjustment. *Voprosy Ekonomiki*, 2, 33–68 (in Russian). <https://doi.org/10.32609/0042-8736-2022-2-33-68>
- Kapeliushnikov, R., & Oshchepkov, A. (2014). Russian labor market: Paradoxes of post-crisis development. *Voprosy Ekonomiki*, 7, 66–92 (in Russian). <https://doi.org/10.32609/0042-8736-2014-7-66-92>
- Kopytok, V. K., & Kuzmina, Y. V. (2021). *Unemployment during COVID-19: What can administrative data tell?* Moscow: Center for Advanced Governance (in Russian).