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Where do Russia’s mobilized soldiers come from? Evidence from bank deposits

Abstract

Russia does not release information on the numbers of mobilized and recruited men or casualties of war in Ukraine. In this small note, I propose to use information from regional banking data as a proxy for analyzing the regional incidence of Russian mobilization. Some regions have seen rapid increases in household bank deposits not easily attributable to regional macroeconomic or institutional factors. Such regions coincide with the regions with proportionally large numbers of mobilized soldiers. It is plausible that the high salaries and hefty payments promised to contract soldiers, mobilized reservists and their families in the event of serious injury or death show up as spikes in regional bank deposits.

Keywords: Russia, regions, mobilization, war casualties, bank deposits
1. Introduction

As many as 190,000 Russian soldiers were reportedly stationed along the Ukrainian border in Belarus and neighboring Russian regions when Russia launched its invasion of Ukraine on 24 February 2022 (OSCE, 2022). Hundreds of thousands of new Russian servicemen have since joined the ranks. It is assumed that the first wave of mobilization in September 2022 resulted – at minimum – in 300,000 newly mobilized men joining the “special operation.” While the second round of mobilization has not been officially declared, social media channels provide abundant evidence of a renewed push in mobilization and recruiting efforts since autumn 2023. In his press conference on 14 December 2023, President Vladimir Putin mentioned that the armed forces had recruited 486,000 new contract soldiers in 2023, and that 617,000 Russian servicemen were currently in the war zone (Rossiskaya Gazeta, 2023).1 Taken together, these figures imply that nearly a million men having been sent to the war zone. There is additional analysis that points to significantly higher numbers of mobilized persons in September-October 2022 (Litavrin et al., 2022), implying potentially even higher total numbers.

These contract soldiers and mobilized reservists have been promised lucrative up-front payments and regular salaries. Moreover, President Putin in March 2022 signed a decree (Ukaz, 2022) stipulating a three-million-ruble payment to soldiers injured on the battlefield and a five million rubles payment to families in event of death. There is no official information on Russian casualties, but the figures mentioned by President Putin in December 2023 seen to imply a very high casualty ratio. Even if the lump sum payments stipulated by the March 2022 decree were not paid in full, the payout amounts involved would be considerable.

The use of bank accounts is widespread in Russia. Payments of state-sector wages and social benefits must by law be linked to a recipient’s bank account with a Russian MIR-payment card. One can therefore assume that all mobilization-related additional payments such as salaries and disability compensations for wounded soldiers must initially appear in recipient bank accounts.

It has been clear since the start of the invasion that mobilization burden in unevenly spread across Russian regions. The information collected by Savina and Bonch-Osmolovskaya (2022) on the first two weeks of mobilization revealed large regional variation in relative shares of mobilized population. The burden tended to fall heaviest on poorer regions far from Moscow. After the initial days of the invasion, regional officials ceased to publish any information on the numbers of mobilized men (information on Russian military casualties is in principle secret). Even so, the available evidence based on social media posts and probate registry data suggest that poorer regions have suffered disproportionately larger military casualty burdens (Asanova et al., 2022; Duvanova et al., 2023; Mediazona, 2023).

The allure of extremely high salaries and other benefits has been a major factor in attracting voluntary recruits, especially from relatively poor regions. Even if wages and promised compensation do not always seem to arrive on time, the advertised sums are significant. The Russian average wage in August 2022 was about 62,000 rubles a month, so the promise of 700,000 rubles as an immediate signing bonus for new contract soldiers represents a chunk of money larger than the national average annual salary. Moreover, average wages in the less wealthy regions tend to be significantly lower. In North Caucasus, for example, the average monthly wage in 2022 was just 35,000 rubles. In the relatively poor Siberian Federal District, it was 53,000 rubles.

Lacking any official information on the numbers of mobilized men, recruits or casualties, we are mainly left with evidence from social media posts on the regional incidence of Russia’s newly

1The Russian military is a combination of a traditional cadre-and-reserve conscript system and a contract-professional system (ISW 2022). Additionally, the figures may include personnel of Russian paramilitary forces (like the National Guard) and various mercenary groups employed in the war zone.
mobilized soldiers. Understanding this regional variation could enhance our understanding of the potential limits of mobilization. In this short note, I argue that bank deposits may provide a potentially useful proxy for regional incidence of the intensity of mobilization efforts.

2. Abnormally rapid growth in deposits since mobilization

The Central Bank of Russia (CBR) continues to release regional banking sector data at a monthly frequency, allowing us to follow monthly trends in total household deposits. On average, there seems to be clear break in trend overall household bank deposits in late 2022. Household deposits, which started to increase rapidly in October 2022, were supplemented with a large seasonal hike in December. (See Figure 1 for average growth rate and Figure 2 for value of aggregate stock of household deposits.) The beginning of this spike in deposits coincides with the first wave of mobilization, increased public spending and the turnaround of the Russian economy in 3Q2022. The increase in household deposits may also reflect capacity constraints in the economy (i.e. forced savings) as average wages started to rise. It is also possible that non-wage incomes have increased significantly in some regions of Russia.

Figure 1. Household ruble bank deposits.

Sources: CBR, author’s own calculations, not seasonally adjusted. Red line indicates September 2022.
As always in Russia, national averages mask huge regional variations. For a more granular look, I use regional-level data on household bank deposits (including funds in escrow accounts linked to mortgage projects) between January 2011 and August 2023. The data source is the CBR’s regional banking statistics. In August 2023, the 12-month change in household deposits varied from 3% in Magadan to 53% in Tuva (see Figure 3). In sixteen regions deposit growth rate was above 25%. The group of regions with exceptionally high deposit growth rates from September 2022 to August 2023 is surprisingly stable. The top-15 regions in terms of deposit growth mostly includes the same regions in this period. To illustrate the magnitude of regional differences, Figure 4 displays growth in bank deposits in Russia on average and in the Tuva Republic.

Figure 2. Household deposits in Russia 2020m1-2023m8.

Sources: CBR, author’s own calculations.

2 The raw data are available at https://www.cbr.ru/vfs/statistics/BankSector/Borrowings/02_06_Dep_ind.xlsx. Our data have been retrieved via CEIC.
Figure 3. Change in household bank deposits across regions in Russia, July 2023.

Figure 4. On-year growth in household bank deposits, %.

Source: CBR.
3. A closer look at a sub-group of regions

For illustrative purposes, I define regions with abnormally high growth in household deposits as those among the top-15 in terms of on-year growth in household deposits during June-August 2023. There is naturally some monthly variation in household deposit growth rates across regions, but this group of ten to fifteen regions ranks highly in any monthly ranking during 2023. The regions listed in Table 1 below include all of Russia’s wealthy hydrocarbon-producing regions (autonomous oblasts) in the Russian Arctic (Nenetsia, Yamalo-Nenets and Khanty-Mansia). One could easily argue that deposit growth in these regions coincides with increases in export prices of crude oil and natural gas, but for the sake of transparency I retain these oil & gas regions in the sub-sample.

For almost all these regions, annual change in household deposits was above 25 % in June-August 2023. Apart from the oil and gas regions, this group consists of poor regions where the share of population living with incomes below the minimum wage is well above the national average of 11 %. Most of these regions are non-Slavic in title and have sizable non-Slavic national minorities. Where data was available, these regions tended to contribute more than the targeted 1 % of eligible male population in the initial wave of mobilization (Savina and Bonch-Osmolovskaya, 2022). For brevity I call this group “mobilized regions”.

Table 1. Regions with highest growth in household deposits in August 2023.

<table>
<thead>
<tr>
<th>Region</th>
<th>Deposit growth, 3mma, July 2023, yoy %</th>
<th>Deposit growth in August 2023 yoy %</th>
<th>Share of population below min wage, end-2021, %</th>
<th>Share of mobilized in Sept 2022, %*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuva</td>
<td>51</td>
<td>53</td>
<td>28</td>
<td>1.3</td>
</tr>
<tr>
<td>Nenets AO</td>
<td>45</td>
<td>40</td>
<td>9</td>
<td>na</td>
</tr>
<tr>
<td>Chechenia</td>
<td>41</td>
<td>30</td>
<td>20</td>
<td>na</td>
</tr>
<tr>
<td>Buryatia</td>
<td>32</td>
<td>33</td>
<td>20</td>
<td>3.7</td>
</tr>
<tr>
<td>Altay Republic</td>
<td>32</td>
<td>36</td>
<td>22</td>
<td>na</td>
</tr>
<tr>
<td>Adygea</td>
<td>29</td>
<td>32</td>
<td>12</td>
<td>1.1</td>
</tr>
<tr>
<td>Zabaikalsk</td>
<td>27</td>
<td>28</td>
<td>19</td>
<td>na</td>
</tr>
<tr>
<td>Dagestan</td>
<td>27</td>
<td>27</td>
<td>15</td>
<td>2.6</td>
</tr>
<tr>
<td>Yamalo-Nenets AO</td>
<td>26</td>
<td>26</td>
<td>5</td>
<td>0.8</td>
</tr>
<tr>
<td>Northern Ossetia</td>
<td>27</td>
<td>28</td>
<td>13</td>
<td>0.9</td>
</tr>
<tr>
<td>Kalmykia</td>
<td>26</td>
<td>28</td>
<td>23</td>
<td>2.2</td>
</tr>
<tr>
<td>Khanty-Mansia AO</td>
<td>28</td>
<td>30</td>
<td>8</td>
<td>1.2</td>
</tr>
<tr>
<td>Krasnodar</td>
<td>25</td>
<td>27</td>
<td>10</td>
<td>na</td>
</tr>
<tr>
<td>Karachevo-Cherkessia</td>
<td>24</td>
<td>24</td>
<td>22</td>
<td>na</td>
</tr>
<tr>
<td>Rostov</td>
<td>23</td>
<td>21</td>
<td>12</td>
<td>0.8</td>
</tr>
</tbody>
</table>

Sources: Rosstat, *Savina and Bonch-Osmolovskaya (2022), na indicates data not available.

Apart from Krasnodar and Rostov (home base for the Southern Military District), these are all small or very small regions far away from Moscow. Further, majority of these are among the poorest regions in Russia. As a consequence, the stocks of bank deposits in these regions are very small. Therefore, even moderate deposit inflows can generate large relative increases in these regions. As
on-month changes in deposits tend to be volatile, analyzing on-year changes seems a more fruitful approach. The first observation is that in the pre-war period deposit growth rates in these regions were similar to the national average (see Figure 5). Starting in autumn 2022, the trends in household deposits for these two groups have diverged, with growth being especially strong in these fifteen “mobilized” regions.3

Figure 5. Growth in bank deposits, %, mobilized regions vs. all other regions.

4. Testing for drivers of deposit growth

The existing literature on bank deposit growth typically looks at cross-country data, highlighting the importance of institutional variables in addition to macroeconomic fluctuations and bank-specific variables (e.g. Nguyen, 2022). Similar variables presumably shape deposit growth in Russia. As we are most interested in developments over the past twelve months, institutional factors such as banking supervision, use of formal banking services and trust in banks are unlikely to have changed dramatically.

These regions are mainly serviced by the large nation-wide commercial banks. Of the 360 banks operating in Russian in October 2023, only 18 are headquartered in the “mobilized” regions (seven in Rostov, five in Krasnodar, two in Dagestan, three in Khanty-Mansia and one in Altay).4 All the rest continue to be serviced only by national banks, mainly the state-owned former Soviet Savings bank – Sberbank. Therefore, the reason for the rapid growth in bank deposits should primarily be related to macroeconomic fluctuations or external shocks in the regions in question – not to institutional factors.

Russia’s national statistics office Rosstat publishes a large set of variables at the regional level, but only a handful are available at monthly frequency. To proxy for macroeconomic developments,

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3 The finding remains similar if the three autonomous oblasts, Krasnodar and Rostov are excluded from the grouping.
4 Data available at CBR website: DivisionsPerRegion_011123.xlsx (live.com)
one can complement the data on bank deposits with region-level average wages, industrial production index and retail trade turnover. To shed light on the drivers of the deposit increases, I investigate whether the increase in deposits is correlated with increases in wages or production, or with declines in retail trade turnover.

One would expect bank deposit growth to correlate positively with average wage growth in any region, and this is the case. As reported in Table 2, for the period of 2011m1-2021m12, the correlation with on-year change in nominal wages and household bank deposits is a positive 0.3. Since the start of the invasion, the correlation has loosened and declined to 0.1. The change is driven by the small group of regions with very high deposit growth. The correlation has remained broadly unchanged for other regions. For mobilized regions, the relation between deposits and wages has turned negative (-0.03).

<table>
<thead>
<tr>
<th>Table 2. Correlation between on-year change in household bank deposits and on-year change in regional average wage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-war (2011-2021m12)</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>All regions together</td>
</tr>
<tr>
<td>High-deposit growth regions</td>
</tr>
<tr>
<td>Other regions</td>
</tr>
</tbody>
</table>

Sources: Rosstat, Author’s calculations using Stata’s pwcorr.

Something quite similar happens for correlation with retail trade turnover and regional industrial production. Growth in retail trade turnover in mobilized regions does not differ markedly from the national average (see Figure 6). Correlation between growth in bank deposits and retail trade turnover is positive in all regions before the war. For mobilized regions, this correlation between bank deposits and retail trade turns negative after 2022m1. Industrial production in these small regions tends to be extremely volatile, as production troubles or shutdowns for maintenance in one plant may affect the monthly figures for the whole region. It is therefore not surprising that correlation between bank deposits and industrial production tends to be small. But even here, the correlation in the mobilized regions has turned negative during the war. Visual inspection reveals no clearly diverging trend in growth between mobilized regions and all other regions (see Figure 7).

Based on these simple observations and the limited economic data available, the rapid growth in household bank deposits observed in mobilized regions seems to be driven by factors other than macroeconomic fluctuations or institutional innovations.5

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5 We also ran simple panel fixed effect regression explaining household deposit growth with average wages, retail trade, regional inflation and industrial production. For the pre-invasion period, the model produces expected results. Results are available upon request.
**Figure 6.** Retail trade in the mobilized regions vs all other regions.

Sources: CBR, BOFIT.

**Figure 7.** Industrial production.

Sources: CBR, BOFIT.
5. High rates of mobilization and deposit growth

One potential explanation for high growth in household deposits is salary and compensation payments wired from the federal budget to bank accounts of the mobilized, recruits or to their families. As there is no public information on number of mobilized at the regional level, it is not possible to directly test whether changes in bank deposits may reflect increases in payments to voluntary recruits and mobilized persons and their family members. Anecdotal and analytical evidence, however, seems to suggest that the regions listed in Table 1 are among those that have contributed most men to the armed forces in relative terms and have suffered the highest casualties.

Savina and Bonch-Osmolovskaya (2022) collect information on the first two weeks of Russia’s mobilization in September 2022. Their data cover a subset of regions, but still highlight many of the regions experiencing high deposit growth by summer 2023. Based on abnormally high numbers of marriages across 75 Russian regions, Litavrin et al. (2023) estimate that by mid-October 2022, almost half a million men had been drafted. This would imply almost 1.6% of men in the 18-49 age cohort were drafted during the first wave of mobilization. The national target was 1% of the male population in this age bracket. The data in Litavrin et al. (2023) unfortunately does not cover potentially interesting regions such as North Ossetia, Chechenia and Dagestan.

Asanova et al. (2022) use fiscal data on federal expenditure related to amounts of compensation wired in March-May 2022 to estimate initial battlefield losses by region. As of June 2022, slightly over 110 billion rubles had been allocated to such payments. In June 2022, the authorities ceased publishing this federal expenditure data. The largest recipient regions were Rostov oblast and Zabaikalski krai, followed by Buryatia, Primorsky and Stavropol. The geography of initial casualties probably reflects the pre-war location of the military formations used in the invasion. Dunanova et al (2023) use data collected from local news and social media posts of military funerals during the first months of the war to show positive correlation between announced military deaths and political protests. Interestingly, they find that the obituaries of non-Slavic names are uncorrelated with protests in their home regions.

Mediazona (2024) together with BBC Russian News continues to update the news-based data almost weekly. On 15 January 2024 the Mediazona database includes over 42 000 confirmed military deaths across Russian regions. Largest numbers of casualties are currently reported in Sverdlovsk, Rostov, Krasnodar and Moscow Oblast, probably due to larger numbers of volunteers documenting military burials in those regions.

Establishing correlation (let alone causality) is impossible with the patchy data available, but the available estimates of mobilization and casualties by regions seem to coincide with regions experiencing high deposit growth rates. Visual inspection of regional deposit data and those of Savina et al. (2022) seems to support the existence of a connection between household deposit growth and the share of mobilized in a region (see Maps 1 and 2.)
Map 1. Household bank deposits, on-year growth in August 2023, %.

Map 2. Share of mobilized in the relevant age cohort, % in September 2022.

Sources: CBR, BOFIT.

Source: Savina and Bonch-Osmolovskaya (2022).
6. To conclude

The existing analysis of regional aspects of Russia’s war on Ukraine is severely constrained by the availability of data. The analysis focusing on the first wave of mobilization in September 2022 indicates that mobilization was significantly more widespread than the official target of 300,000 men. At this stage, no one seems to have a good estimate of the outcomes of the 2023 recruiting campaigns. Moreover, there is scant analysis on regional incidence of casualties. The only constantly updated data records military deaths, not serious battlefield injuries.

At the same time, the dramatic increase in household bank deposits in certain regions is hard to ignore as it does not seem to be driven by macroeconomic or institutional factors. The payments to mobilized and recruited soldiers seem to be a potential driver of the deposits. To sum up, it seems that household deposits may provide an additional proxy in examining where Russian soldiers fighting in Ukraine come from and which regions have borne the most casualties in relative terms.
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