Resumen
El artículo señala que la función funcional principal del sistema bancario para garantizar los requisitos totales para financiar inversiones para una reproducción ampliada se complica por el problema de la disponibilidad de préstamos a largo plazo. Esto se debe en gran parte a la creciente práctica de otorgar préstamos a entidades relacionadas. Se propone crear activamente una nueva tecnología bancaria utilizando los principios de blockchain, usar los desarrollos modernos en el campo de la inteligencia artificial basada en redes neuronales y proporcionar medidas organizativas y de gestión para la futura aparición de empresas de alta tecnología para negocios bancarios.

Palabras clave: el sistema bancario, reproducción ampliada, financiamiento de inversiones, préstamos a entidades relacionadas, tecnología digital.

Abstract
The article notes that the main functional role of the banking system to ensure total requirements funding investment for expanded reproduction is complicated by the problem of availability of long-term loans. This is due largely to the increasing practice of lending to related entities. It is proposed to actively create a new banking technology using the principles of the blockchain, to use the modern developments in the field of artificial intelligence based on neural networks and provide organizational and managerial measures for future occurrence of high-tech companies to the banking business.

Keywords: the banking system, expanded reproduction, investment financing, related entities, digital technology.
INTRODUCTION
The main role of banking system is to respond to the modern economy's needs for investment in the expanded reproduction. But there are increasing difficulties in implementing this task emerging due to the complexity of obtaining long-term loans from banks. Absolutely and relatively high interest rates along with a fairly complex mechanism of obtaining loans for implementation of investment projects make it necessary to search for ways to address the contradictions in bank assets consolidation.

The issue of bank risks restriction was widely discussed during the financial crisis of 2008-2009, since this problem was at the basis of bankruptcy and resolution of a number of large banks. The related-parties lending, especially during the periods of economic turmoil, is the area of high risk arising either from non-market terms of lending or from providing knowingly non-performing loans (Lokshina, 2016). In our opinion, it is necessary to take into account that this type of lending destroys the market bases of banking activity and its direct connection with effective decisions on the use of limited financial resources in national economy. Not to mention the formation of collusion and corruption factors immanent in banking system.

RESULTS
Taking into account these circumstances, the Central Bank of the Russian Federation planned to introduce in 2015 a new mandatory standard of «maximum risk for a person related to the bank (a group of persons related to the bank) » N25, which would limit related-parties lending. However, due to worsening of economic situation, this procedure was deferred to 2017. At the same time, it was suggested to include a number of concessions in the procedure of calculating the introduced norm. The general idea of these relaxations was to differentiate the assets for the purposes of calculating risk standards: to include fully the assets with increased risk (for example, loans to the enterprises associated with the bank owner, showing no real signs of activity); to reduce to some extent the risk of lending to actually operating affiliated enterprises, etc. Finally, the Bank of Russia decided to include in the calculation of the N25 standard some assets with a 50% discount to their value. Among these assets were loans to strategic and defense enterprises; loans to companies with a good investment rating (not lower than B); loans to companies -good faith taxpayers. And the participation of the State Corporation in the borrower's capital was proposed to be accepted as a ground for abolishing the status of related party. It is planned that this kind of concessions will operate until 2019.

The banking experts believe that the introduction of a new standard (N25) by the Central Bank of the Russian Federation restricting lending to persons related to the bank is an absolutely rational measure under current circumstances. Nevertheless, the practice of lending to shareholders has become quite widespread among Russian banking organizations. According to various estimates, it is common for one-fifth to one-third of Russian banks (Borisyak, 2016). For some private small banks, this kind of activity is, in general, the basis of their business models. Therefore, the tightening of the rules of banking activities may even lead to the destruction of such banks.

However, despite the Central Bank’s efforts to strengthen control over the process...
of lending to related parties, it can be stated that credit organizations are inventing new and new ways to circumvent restrictive regulations. In particular, the shareholders structure becomes more complicated in order to complicate the identification of affiliated persons and hide them from the Central Bank. Banks also employ the intermediary companies and fiduciary schemes with other banks (Bank A places a deposit in Bank B, and Bank B issues a loan to this amount to an affiliated person of Bank A). Other ways of concealing the facts of lending to related persons were widespread in order to comply with N25. In this regard, experts argue that in modern conditions, almost any bank that is interested in concealing the facts of lending to affiliated persons can do so. And do it in such a way that it will be almost impossible for the Central Bank of Russia to prove the fact of lending to related persons. In this connection, the expert’s express concerns that the new requirements will be met only formally - on paper - and in fact the situation with related parties lending will not considerably change (Borisyak, 2015). Therefore, we should not expect a reduction of Russian banking system risks, related to the specifics of its credit institutions assets structure. At the same time, there is an increase in banks' interest in lending to the real sector of the economy in order to provide financial support for expanded reproduction. In fact, this is a contradictory reality of national banking sector (Coetzee & Mammen, 2017).

Such risks of the Russian banking system have wider macroeconomic consequences, in particular, financial assets are widely used to preserve and strengthen the leadership of the energy producing sectors in national reproduction. It turns out that the desire of the Russian government to shift away of the excessive energy dependence will be actively blocked by the banks practice of lending to affiliated persons.

For example, the largest banks such as Gazprombank, Promsvyazbank, SMP Bank, MDM Bank, Moscow Industrial Bank, Novikombank have demonstrated quite a high level of lending to related parties (Figure 1). In particular, it was clear from the IFRS reporting for the Gazprombank group that in 2014 bank issued loans to related parties amounting to 120 billion rubles, at the shareholders equity of 439 billion rubles. The main loan-related debtors of the bank were Gazprom, non-state pension fund Gazfond and ZAO Leader with their subsidiaries. In 2013, the portfolio of such loans was estimated at 83 billion rubles, with the equity of 403 billion rubles.

According to IFRS financial statements, at the end of 2014, the Promsvyazbank volume of loans issued to related parties was at 9.4 billion rubles. And in the first quarter of 2015, the volume of such loans increased to 32.4 billion rubles, with the bank’s equity capital of 67.4 billion rubles. Such a rapid increase in lending to related parties was explained by the management of the bank, as a reorientation of the business model for lending to shareholders and their businesses in order to reduce uncontrolled risks in the context of economic crisis. The situation was similar in Novikombank, where loans to related parties representing about 80% of bank’s shareholders equity in 2015, were provided mainly to one borrower-shareholder - Rostekh. The volume of loans to related parties issued by SMP Bank amounted to 6.8 billion rubles in 2014 with the equity of 15.9 billion rubles. Although in 2013, such loans were more than two times less - 3.2 billion rubles with a capital of 12.8 billion rubles. In 2014, MDM Bank provided to related parties about 18.3 billion rubles of loans at the equity of 33.6 billion rubles.
Fig. 1. The share of loans to related parties in % of bank's equity

<table>
<thead>
<tr>
<th>Bank</th>
<th>2013</th>
<th>2014</th>
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<tbody>
<tr>
<td>FC Otkritiye</td>
<td>9</td>
<td>85</td>
</tr>
<tr>
<td>Novikombank</td>
<td>57</td>
<td>78</td>
</tr>
<tr>
<td>Avangard</td>
<td>50</td>
<td>69</td>
</tr>
<tr>
<td>Tatfondbank</td>
<td>35</td>
<td>33</td>
</tr>
<tr>
<td>Rosgosstrakh bank</td>
<td>1</td>
<td>31</td>
</tr>
<tr>
<td>Asian-Pacific Bank</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>Russian International Bank</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>Metallinvestbank</td>
<td>28</td>
<td>32</td>
</tr>
<tr>
<td>Nota-bank</td>
<td>25</td>
<td>28</td>
</tr>
<tr>
<td>Finprombank</td>
<td>0</td>
<td>21</td>
</tr>
</tbody>
</table>

Source: Authors (2019).

Mezhprombank, Bank of Moscow, Mosoblbank were also characterized by a high level of lending to related parties. As can be seen, most of the above-listed banking organizations had licenses revoked by the Central Bank of the Russian Federation and were subjected to bankruptcy and rehabilitation procedures (Mostafaei et al, 2014).

In general, the problems of key banks, caused by the risk of lending to related parties are extrapolated by many analysts to the entire banking sector of Russia. It is understood that the volumes of credits to related parties issued by small banks may be even higher. For the first time this assessment appeared at the end of 2013 - the Central Bank of the Russian Federation has identified 300 banks, which had the ratio of related-parties lending to the size of their equity exceeding 25%. Although formally these banks complied to the N6 standard (the risk per borrower or a group of related borrowers should not be more than 25% of the bank's equity),
however, their risks were substantially higher than those of banks with a lower level of related-parties lending. Moreover, most of these banks were represented mainly by small regional organizations. But this list included a number of banking organizations from the top 100 with risks exceeding the optimal level by 2-3 times (Aleshkina, 2015).

**Figure 2. The banks' compliance with the requirements of the Central Bank of the Russian**

![Pie chart showing compliance with the requirements of the Central Bank of the Russian](source: Authors (2019)).

**DISCUSSION**

According to analysts of the rating agency Standard & Poor's, about one third of Russian banks are lending substantial amounts of funds to their shareholders. At the same time, about 20% of organizations would not be able to meet the requirements of the maximum risk limit for a person related to the bank (a group of persons related to the bank) (N25), which established a 20% of the bank’s equity limit for the amount of loans issued by the bank to related persons (Figure 2). Thus, by the end of 2016 about 9% of credit institutions were practicing lending to related persons within 20-30% of equity. Another 5% of organizations lent to related persons about 30-50% of their equity. And 4% provided loans exceeding the bank's equity by 50% or more (Vergbitsky, 2017).

Thus, the raw material orientation of the Russian economy stimulated by the negative banking practice of related parties lending remains one of the reproduction priorities and becomes the most pronounced negative factors affecting economic growth. This applies above all to the exhausting potential of effective expanded reproduction in the area of innovation. As indicated in academic literature (Manevich, 2017), the oil and gas sector accumulate most of the profits of other sectors of the national economy through undervalued ruble and monopoly pricing. At the same time, about half of all foreign currencies earnings from oil and...
gas are exported or transformed in net income of non-residents.

All this adversely affects the formation of real investment priorities in specific sectors of the economy (Galasova, 2013; Rokotyanskaya, 2013) and leads to the inevitable adjustment of investment component in budget planning (Tatuev, Shash and Borodin, 2014) including at the regional level (Shanin, 2012; Rokotyanskaya and Bondarenko, 2012).

Consequently, shrinking of related parties lending in the banking system will allow for formation of new parameters and centers for economic development. But in order to do this, it is necessary to develop the appropriate tools and management priorities.

CONCLUSIONS

The process of developing these new economic tools should have three main tracks. First, it is necessary to develop more actively new digital banking technologies using the principles of block-chain, allowing to strictly follow the movement of all types of assets and control the credibility of all related decisions.

Secondly, the use of modern developments in the field of artificial intelligence based on neural networks will facilitate a permanent monitoring and identification of unusual operations, which will serve as the basis for additional thorough examination.

Thirdly, some organizational and managerial measures should be undertaken in order to promote the entry of high-tech companies into the banking business, as financial experts have considered in recent years. This will significantly increase competition and reduce availability of unprofitable credits.

Together, these tools will significantly enhance the functional role of the banking system in modern Russian reproduction.

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