Investment attractiveness of the forest sector in Russian Federation

A Panytin*, S Tereshchenko, O Polyanskaya, O Shaitarova and O Mushkarova

Department of Economics accounting and analysis of economic activity, Saint-Petersburg State Forest Technical University, 5 Institutskiy Lane, Saint-Petersburg, 194021, Russian Federation

*Corresponding email: alpanyutin@yandex.ru

Abstract. Forests are called the lungs of our planet, and most of the forest reserves are concentrated in Russia. Today, Russia has one-fourth of the world's timber reserves. At the same time, the country does not occupy the first place in the global market of wood products. The share of the forest industry in the country's entire industrial production is less than 4%. Russian forest industry enterprises are characterized by low efficiency, which in turn affects the economic performance of enterprises and does not generally meet the economic interests of the state. In modern business conditions, industry is interested in introducing new innovative technologies, products and, therefore, requires investments. The analysis of the situation in the Russian forest sector from investment attractiveness is made in the article. Conclusions about the investment attractiveness of the forest sector in Russia are formulated.

1. Introduction
The development of natural resources is accompanied by constantly increasing costs, which are growing both due to toughening environmental requirements and the introduction of tougher environmental standards, improving the living standards of the population and the growth of the social component in budget expenditures, and due to the increase in the cost of extraction of natural resources. This concerns a lot of the forest resources.

In regions that are rich in forest resources, the maintenance or increase in the volume of their development is due to significant investments and a significant increase in cost per unit of used forest resources. The involvement of new reserves, as a rule, is also associated with an increase in a unit cost, since the costs of equipping the newly developed territories are incurred, especially since these territories often do not have sufficient transport infrastructure. At the same time, the exploitation of forest resources, as a rule, is aimed at the initial development of the cheapest and least expensive resources with the gradual involvement of more expensive ones. So there is a need to invest money in forest harvesting and forestry in Russia to receive forest resources of bad availability.

Another problem related to the need for investment in the Russian forest sector is the need to ensure the competitiveness of woodworking and wood-related industries. To be able to successfully compete in the market, it is necessary to produce innovative products that meet the requirements of consumers. At present, the innovation component of the development of the forest sector in Russia can be assessed as underdeveloped. The efficiency of the forest sector development is also insufficient. This raises the question of the need to invest in the development of the forest sector to improve the
production base, to acquire new equipment that would allow the production of products that meet customer requirements.

However, investments in all sectors of the Russian forest sector are currently at a low level. The article will show the real situation with investment attractiveness in the forest sector of Russia and will propose directions for improving the investment attractiveness of the Russian forest sector.

2. Methods and Materials
In economics, there is a term "the economic availability of raw materials", which means the initial development of resources that bring the greatest economic effect. The involvement of resources in economic activity occurs as their economic availability decreases, leaving behind those resources that do not allow to build up a positive financial result, that is, do not bring profit.

The availability of resources is determined, first of all, by the solvent demand for products manufactured using those resources, and the volume of production, that is, the supply of these products. In market conditions, the ratio of supply and demand forms the price of finished products. The production costs correlated with the cost of finished products show the production and financial results of economic activity and stimulate either its maintenance at the same level, or its change in the direction of expansion or reduction. Therefore, in market conditions, the economic availability of resources is determined by the price level for finished products and the costs of their processing without taking into account the cost of these resources [1].

If resources are supplied by adjacent industries, then the costs of the development of these resources are also formed together with the results of production and economic activity, depending on the emerging price level. The resources being developed are heterogeneous due to differences in quality, concentration, transport and other conditions. Initially, the most “profitable” resources are developed, moving towards less economically accessible ones. The tendency to increase costs due to the development of less efficient resources is opposed by the introduction of new technical and technological solutions, and organizational schemes that increase labour productivity and the quality of goods. The criterion for the economic affordability of resources is the difference between the income from the sale of resources and the costs of their development, including their delivery to the consumer. A resource is considered economically affordable if this ratio has a positive sign. The degree of economic availability of resources is constantly changing and resources can “regroup” over time according to their availability. Sustainable business planning involves periodic calculations of the economic availability of resources, taking into account emerging trends in costs and product prices [2, 3].

Thus, the expansion of the volume of consumed resources by involving additional sources determines the path of extensive development, in which the expansion of the output of the final product occurs with the help of additional volumes of developed resources. At the same time, there is a tendency to a constant rise in the cost of raw materials and their share in the cost structure does not decrease but can increase significantly. The constant innovation that increases the efficiency of technological processes and improve the properties of the materials used allows not only to maintain the share of material costs in the total cost of the final product at the level reached, but also to reduce it. An innovative development path involves a decrease in the share of the cost of material resources in the cost of finished products, which occurs over a rather long period.

Innovative development involves the blossoming of the creative abilities of the labour resources involved in the production process and acting as the most significant factor in production. As innovative developments are applied, the structure of the distribution of the cost of finished products changes, so that there is a decrease in the share of costs of the extraction of raw materials, which is accompanied by an increase in the efficiency of the use of labour. The dynamics of the redistribution of the share of the cost of raw materials in the cost of finished products indicates the pace and scale of innovative development, which is especially noticeable in the industry context [4].

The application of innovative developments is based primarily on the end-user demand, and the degree of development of an innovative economy is observed along technological chains, from the
extraction of natural raw materials to the sale of finished products. In the innovative economy, there is
a constant search for more efficient types of raw materials, the level of labour organization is
increasing, and the means of production and technological processes are improving. These changes
can be tracked and analyse examples from various industries, including those that are part of the forest
sector.

The forest sector comprises, first of all, the industries that produce wood, process wood and
produce final products obtained from wood by mechanical or chemical processing, as well as
reproduce wood resources which are reproducible raw materials.

Forest areas are of great environmental and social importance, which so far has not yet received an
adequate economic assessment. The lands of the forest fund produce by-products: berries, mushrooms,
etc., which are mainly used by the local population and do not have a significant impact on indicators
reflecting the volume of gross regional product [5, 6].

The reproduction of wood as a raw material is characterized by a long cycle and a significant
influence of natural factors, which under the state ownership of the forest fund in Russia reduce the
economic importance of forestry activities and cause difficulties in organizing the financing of
forestry. The investment attractiveness development of the forest sector in Russia may show the
influence of these factors.

3. Results and Discussion

The investment attractiveness of the forest sector in Russia is the basis for improving the efficiency of
forest resources use. Statistical data of the Federal State Statistics Service of the Russian Federation
show the following indicators characterizing investment activity in Russia in general and in the forest
sector in particular [7-11]. The volume of investment in fixed assets of the forest sector and their
structure are presented in tables 1 and 2, respectively.

**Table 1.** Investments in fixed assets on the territory of the Russian Federation by main activities
that characterize the forest sector.

| Types of activities | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------|------|------|------|------|------|
| Investments, total, billion rubles | 139.6 | 138.9 | 147.5 | 160.2 | 175.9 |
| Including: |
| Forestry and forest harvesting billion rubles | 16.6 | 20.8 | 20.7 | 25.4 | 31.1 |
| Wood processing and manufacture of wood products, except furniture production, billion rubles | 49.4 | 58.1 | 66.0 | 71.6 | 65.0 |
| Furniture production, billion rubles | 28.5 | 8.9 | 18.0 | 11.8 | 13.4 |
| Production of paper and paper products, billion rubles | 40.5 | 39.9 | 51.7 | 69.5 | 86.4 |
| Share of investments in fixed assets by main activities characterizing forest sector from all investments, % | 0.97 | 0.92 | 1.06 | 1.11 | 1.11 |

**Table 2.** Growth rates of investments in fixed assets on the territory of the Russian Federation by main activities characterizing the forest sector, % [11].

| Types of activities | 2015/2014 | 2016/2015 | 2017/2016 | 2018/2017 |
|---------------------|-----------|-----------|-----------|-----------|
| Investments, total, billion rubles | 99.96 | 106.13 | 108.67 | 109.78 |
| Including: |
| Forestry and forest harvesting billion rubles | 125.30 | 99.52 | 122.71 | 122.44 |
Based on the analysis of the presented data it can be concluded that the forest sector of the Russian Federation is not attractive for investors, as the share of investments in fixed assets by main activities characterizing forest sector from all is insignificant. Even despite the upward trend in the share of investments in the forest sector in the total amount of investments in the Russian Federation industry, its value is only 1.1% in 2018.

The general trend has a growing dynamics, but the level achieved is not so significant as compared with the value of the available reproducible forest resources. The analysis of growth rates of investments in the forest sector shows that the total amount of investments in the forest sector is increasing by 8.5% on average over the last 2 years, which is undoubtedly a positive trend. But the growth rates differ a lot from year to year and it means that only exact projects are interesting to the investors and the trend of the development cannot be estimated as a real tendency in the development.

The structure of investments in the fixed assets of the Russian forest sector, concerning the branches of the forest sector is presented in table 3. The main part of investments in fixed assets is directed to wood processing and production of paper and paper products. Forestry and forest harvesting account for less than 1/6 of the investments made in the forest sector. However, their share in the period from 2014 to 2018 increased by 3.5 percentage points.

Table 3. Structure of investments in fixed assets of the forest sector on the territory of the Russian Federation by main types of activity, %.

| Investments, total, billion rubles | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------------|------|------|------|------|------|
| Wood processing and manufacture of wood products, except furniture production | 117.61 | 113.60 | 108.48 | 90.78 |
| Furniture production, billion rubles | 31.23 | 202.25 | 65.56 | 113.56 |
| Production of paper and paper products, billion rubles | 98.52 | 129.57 | 134.43 | 124.32 |

The share of investments in fixed assets by types of activity of the forest sector in the relative total volume of investments by sources of financing for 2017-2018 on the territory of the Russian Federation is presented in tables 4 and 5.

Table 4. The share of investments in fixed assets by types of activity of the forest sector in the relative total volume of investments by sources of financing for 2017-2018, %.

| Types of activities | Own funds | Attracted funds | From them budgetary funds, including from Federal budget | Regional budget |
|---------------------|-----------|-----------------|---------------------------------------------------------|----------------|
| Investments, total, billion rubles | 100.00 | 100.00 | 100.00 | 100.00 |
| Including: | | | | |
Table 5. Share of investments in fixed assets by types of activities in the forest sector in Russia relative to the total volume of investments by sources of financing for 2018, %.

| Types of activities                                      | Sources of financing | 2017        | 2018        | 2017        | 2018        | 2017        | 2018        | 2017        | 2018        |
|---------------------------------------------------------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                                                          | Own funds            | Attracted funds | From them | Including from | Federal | Regional | budgetary funds | budgetary funds |
| Investments, total                                       | 100.00               | 100.00      | 100.00      | 100.00      | 100.00     | 100.00     | 100.00     | 100.00     | 100.00     |
| Including:                                               |                      |             |             |             |            |            |             |             |             |
| Forestry and forest harvesting billion rubles            | 0.19                 | 0.10        | 0.06        | 0.03        | 0.10       |            |            |             |             |
| Wood processing and manufacture of wood products, except furniture production, billion rubles | 0.44                 | 0.33        | 0.00        | 0.00        | 0.00       |            |            |             |             |
| Furniture production, billion rubles                     | 0.06                 | 0.01        | 0.00        | 0.00        | 0.00       |            |            |             |             |
| Production of paper and paper products, billion rubles   | 0.86                 | 0.24        | 0.00        | 0.00        | 0.00       |            |            |             |             |

As can be seen from the data presented, the budget funds in small amounts are allocated to such activities as forestry and logging. Since forests are owned by the state, the bigger budget funds are allocated for forest management. The rest of the activities are mainly private investments.

The ratio of own funds to borrowed funds as a percentage, which developed in the sectors of the forest sector in 2017 and 2018, respectively, is presented in table 6.

Table 6. Ratio of own and attracted funds to finance activities of enterprises in the forest sector of the Russian Federation in 2017-2018, %.

| Types of activities                                      | 2017          | 2018          | 2017          | 2018          |
|---------------------------------------------------------|--------------|--------------|--------------|--------------|
|                                                          | Own funds    | Attracted funds | Own funds    | Attracted funds |
| Forestry and forest harvesting billion rubles            | 79.2         | 20.8         | 68.2         | 31.8         |
| Wood processing and manufacture of wood products, except furniture production, billion rubles | 38.8         | 61.2         | 59.8         | 40.2         |
As it can be seen from the presented data, the sources of investment financing are dominated by producers’ funds. The only exceptions are wood processing and production of wood products, except for furniture, which are attracting about 40% of all investments from external sources of finances.

The sources of investments divided into Russian and foreign investors in the forest sector of the Russian Federation are presented in Table 7.

Table 7. Structure of investments in fixed assets of the forest sector on the territory of the Russian Federation by sources of origin for 2017-2018, %.

| Types of activities                                      | 2017          | 2018          |
|----------------------------------------------------------|---------------|---------------|
|                                                          | Russian sources | Foreign sources | Joint Russian and foreign sources | Russian sources | Foreign sources | Joint Russian and foreign sources |
| Total                                                    | 83.8          | 7.4           | 8.8          | 85.6          | 6.2           | 8.2           |
| Including:                                               |               |               |             |               |               |               |
| Forestry and forest harvesting                          | 57.0          | 5.6           | 37.4         | 67.7          | 6.0           | 26.3          |
| Wood processing and manufacture of wood products, except | 65.6          | 30.3          | 4.1          | 73.4          | 21.6          | 5.0           |
| furniture production, billion rubles                    |               |               |             |               |               |               |
| Furniture production, billion rubles                    | 80.5          | 18.6          | 0.9          | 80.4          | 18.3          | 1.3           |
| Production of paper and paper products, billion rubles  | 47.4          | 20.1          | 32.5         | 38.4          | 26.2          | 35.4          |

The Russian origin of investments prevails in all activities of the forest sector. The share of Russian sources in the total sum of investments to the forest sector in Russia is more than 80% in 2017 and 2018. It means that the enterprises working in the forest sector should receive enough profit that can be used for the investments.

To resume the results of the analysis it should be mentioned that, capital concentration processes continue in the forest sector, and increasing production volumes are controlled by the largest companies such as Ilim Group, MONDI, Segezha Group, Sveza Group and others. However, as the data presented shows, the mechanism of attracting investments is not yet fully working.

4. Conclusions

Based on the conducted analysis we can state about insufficient inflow of investments into the fixed assets of the forest industry of the Russian Federation. Almost all industries are financed by own funds. At the same time, since the level of return on assets is low, therefore, the organizations do not have enough own funds to invest. The investment attractiveness of the forest sector is not so high as is necessary for the branch.
From an investor's point of view, Russian forests have a limited set of fundamental advantages that would be attractive for them. The fundamental advantage is the very fact that there are a large number of forest recourses in Russia and they have relatively high quality of species composition. However, all these advantages disappear when viewed in detail, linked to a particular location and investment project. It turns out that large volumes of high-quality raw materials are present where there is no even basic infrastructure for timber harvesting and transportation.

The list of fundamental minuses of forest sector in Russia is more extensive. On the first place it is lack of infrastructure, also the Russian climatic conditions, which affect the timing of tree regeneration and its productivity, should be mentioned. From the investment point of view, the disadvantage is large reserves of larch, so the development of extensive reserves of wood raw materials in eastern Siberia is strongly constrained by large reserves of larch, which does not have full application and processing technology.

Therefore, at present, there is a task to increase investors’ interest in financing the Russian forest sector. The following conditions may provide an increase in the investment attractiveness of the forest sector:

1) It should be recognized that the problem of forest infrastructure development requires substantial investments such as road construction, bridge construction, railways and electricity networks development etc., The forestry sector does not have sufficient economic potential to recoup such investments. Infrastructure development of territories should be carried out at the expense of implementation of complex target state programs. It may help to attract investments to the forest sector of the regions rich in forest recourses.

2) A higher level of transparency of business in the forest sector, its greater interest in the development and attraction of financial resources for this purpose should be provided. To this end, it is necessary to further develop a culture of corporate relations, business responsibility to society and the natural environment.

3) Due to the necessity to attract the money to forest sector in Russia, it should be created incentives to attract investments from abroad, using, in particular, the mechanisms of public-private partnerships that combine resources and efforts of both parties, which creates a more stable atmosphere compared to the action of only sufficiently volatile regulatory documents.

4) The domestic financial market and investment products should be developed with a wider use of financial resources of domestic origin, opening for them profitable placement with an acceptable level of risk.

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