

Regional Fund for Investment in Innovation*

Konstantin Getmantsev

Department of Organization and Planning of Local
Development
Kuban State University
Krasnodar, Russia
E-mail: kot34@mail.ru

Alexander Rodin

Department of Organization and Planning of Local
Development
Kuban State University
Krasnodar, Russia

Vladimir Ermolenko

Department of Overall, Strategic, Information Management
and Business Processes
Kuban State University
Krasnodar, Russia

Daria Lanskaya

Department of Overall, Strategic, Information Management
and Business Processes
Kuban State University
Krasnodar, Russia

Abstract—The article discusses the solution of an urgent scientific and practical problem related to the targeted investment of innovations based on the development of new financial institutions by means of financial engineering. Financial institutions development in relation to the specifics of the development of the region's economy is necessary for comprehensive investment support of the process of strategic planning of the regional economy and the region's innovative ecosystem. The mechanisms for forming the assets of a regional innovation and investment fund using tax and non-traditional financial mechanisms are proposed.

Keywords—*new industrialization; project funding; strategic directions of the region's development; strategic project; strategy; financial institutions; financial infrastructure; financial technologies and processes; financial engineering*

I. INTRODUCTION

The era of globalization is replete with contradictions: the rivalry of countries leads to attempts to launch various kinds of restrictions, despite the prevailing international labor division. However, the integration of the world community is replaced by processes that undermine it, these processes are accumulating force that should be directed to the positive area.

The weakening of economic connections plays a two-fold role: at the same time, on the one hand, it launches self-preservation, self-survival and self-reliance mechanisms, and on the other hand, it creates additional risks for development that must be overcome by a whole complex of balanced and well-thought-out measures for launching new development points.

All countries are concerned with the search of and bringing into action a new quality growth points. Creating an innovative economy and a knowledge economy is a global development trend. Lord Jacob Rothschild, in a traditional

message to investors of the RIT CapitalPartners Fund, says "about the potential for the development of innovations and technologies" and that "we don't really have to worry about what short-term returns investments may bring ...". The Rothschild Foundation relies on the digital economy through information technology, biotechnology and traditional energy (the RIT CapitalPartners portfolio has many indirect investments in oil companies) - this is a good set of priorities in order to survive and even thrive in the face of global uncertainty and turbulence. It is noteworthy that among the fund's investments, the weight of investments in PJSC SBERBANK amounted to 3.05%, in PJSC NOVOTEK - 2.19% [1].

In the innovation field, only long investments ensure the successful development of a new growth points. It is necessary to reorient business to increase the share of financial resources invested in fixed assets, in research and innovations. It is necessary to overcome the long-established trend of traditionalism in the orientation of business towards extensive development [2].

Strategic planning in the regions of the Russian Federation for the foreseeable future until 2030–2035 gives additional impulses for development and has become a zone of close attention of the authorities, regional communities, scientific, expert and consulting organizations. The need for resource support "of innovative development, and at the same time new industrialization, and the formation of a smart economy" is an extremely important, obvious and ambitious task of a regional and national scale that meets the imperative of the time [3]. Financial investments in conjunction with human and intellectual capital have a self-growing value in socio-economic development [4]. And its balanced configuration in the course of strategic planning forms the necessary resource base for development. The need to form effective regional investment institutions with developed mechanisms for the accumulation of financial resources in the face of imposed restrictions on the reception of the foreign investment is an urgent problem.

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The aim of the article is to develop a model of a regional innovation investment fund, as well as the mechanisms for the formation of such fund assets to finance strategic regional projects.

II. THE CONCEPT OF RESEARCH

International experience indicates that the authorities of economically developed foreign countries pursue a focused policy in the field of innovation with the formation of target vectors, sources of funding and criteria for assessing the effectiveness of innovative companies. [6].

The main direction of creating an innovative environment is the creation of innovative and technological centers, budgetary and non-budgetary funds, which in turn help innovative corporations to develop and to facilitate the launch of finished scientific products on the market [5].

The main reason for slow innovation process in the region's economy is the low level of investment in innovations. For this reason, technological renewal of production, the share of competitive products is represented insignificantly in the world markets. [7].

Limited budget resources play an insufficient role in the investment process. At the same time, government participation in large investment projects always creates conditions for the attractiveness and participation of private capital in such projects on the basis of public-private partnerships [8]. The key point in solving innovative problems is the active government participation in the implementation of innovative policies through direct and indirect support of economic sectors.

Non-budgetary funding of the innovation sphere is implemented through networks of extrabudgetary funds. Due to the limited budget funds, the role of additional sources - extrabudgetary funds - is growing.

The venture funding mechanism is increasingly being used as a tool to stimulate innovative activity. Moreover, the model of its organization in the United States is based on stock market instruments, and in Europe - on bank lending. [9].

The priority direction of government policy of advanced countries is an economy built on innovative growth incentives.

The role of the government in directly stimulating and even forcing small, medium and large businesses to intensify innovation and investment activities remains necessary. Systematic motivation and stimulation through indicative planning of innovative activity is the main content of its public policy. The inefficiencies of indirect financial incentive instruments can only be confronted with the direct participation of the government in stimulating economic entities to intensify innovation activities.

III. THE NEEDS IN INVESTMENTS OF INNOVATION ENTITIES AND MEANS TO SATISFY THEM

The development of Russian regions is planned on the basis of global imperatives and the specifics of their refraction to the peculiarities of traditions and mentality of the country as a whole and as its regions [6]. The peculiarities of the strategic planning of the Subjects of the Russian Federation are the wide inclusion of government, business and the regional community in the discussions at the stages of analyzing the status and dynamics of the development regarding the relevance of certain problems, as well as in the mutual generation of the strategic development directions and the designing of the strategic projects.

In 2000, a Venture Investment Fund was created in the Russian Federation, one of the functions of which is to mobilize investments for high-tech innovative projects with a high level of risk. In the period 2004-2009, the government of the Russian Federation has begun to form the infrastructure of an innovative economy and is creating several state development institutions, including RVC - the Russian venture company, a non-profit organization with government participation, that launches an innovative ecosystem, creating a systematic mechanism for its functioning, and acts as a "fund of funds" in Russia [10]. In various regions of the country, with the general role of RVC in 2017, 20 public-private venture funds were created and this process continues. And by the end of 2017, a total of 194 funds were operating, which manage total assets in the amount of over 4 billion US dollars, 70% of which is a called-up capital. The participation of the government as a fund investor creates confidence among private investors and allows diversification of risks. The activities of RVC play a boosting role for the regions. The state of the regional economy, in the context of the main types of economic activity, is that the share of innovative industrial production organizations in Russia implementing technological innovations over the past decade is no more than 10%. The investment flow into fixed assets remains in the range of 955 to 579 billion rubles. The proportion of long-term financial investments in fixed assets in the period of 2010-2016 years in the total volume of the investments, is small and keeps at the level of 10-13%, although the degree of depreciation of fixed capital for the same period is 47.1-48.1%. Small and medium-sized businesses, as an important component of the economy, giving 20% of Russia's GDP, invest in fixed capital according to 2016 statistics only 20.6%. The share of the funds allocated into innovations in Russia is one of the lowest in the world. [11] [12].

The Krasnodar Region, entering the TOP-7 regions in terms of general indicators, however shows extremely low values of the Russian regional innovation index and sub-indexes. The Krasnodar Region on a broader plane, taking the TOP-20 regions, looks relievably dissonantly: on the one hand, its socio-economic indicators are growing due to the development of traditional industries, and on the other, it "lives on" with the old approaches that have taken shape in the industrial era. The innovative component in regional development is not brought into action as a growth point. The investment problem develops into a set of potential

development opportunities for all of the components of the diversified regional economy of the Krasnodar Region.

The main sources for satisfying subjects of innovation needs in investments include: net profit of commercial corporations; credit resources; State support: grant support, government projects, various mechanisms of redistribution of financial flows in the form of overflow of a part of profit from the sphere of hydrocarbon resources to innovation, etc.

In investment practice, along with the specified above sources, another sources could be find too. So, today more than half of households in the United States invest in different investment funds. Given that in Russia, the volume and composition of accumulated monetary savings of the population is over 32.3 trillion rubles, not counting deposits in foreign currency accounts and cash in foreign currency [11]. These resources are poorly involved in the reproduction process, although under the conditions of sanctions they are a good reserve for the accumulation and subsequent formation of investment resources.

Almost 200 years have passed since the establishment of the first investment fund in the world. Depending on the mechanism of accumulation of investment resources allocated to the innovations, the fund may be mutual, state or even hedge. Although the share of funds with government participation decreased from 44% in 2012 to 22% in 2017, and therefore government capital ceases to be decisive in innovative development. And the share and viability of another significant institutional type of funds, corporate, is increasing. Market principles begin to timidly dominate in the investment sphere [5].

However, it is important to note that the period of motivation for the growth of the focus of business attention on innovations in the context of sanctions against Russia ends. And the state needs additional incentive measures. This is proven by statistic of participation of private co-financing in innovative projects: since 2014, its volume has not increased and the share has stabilized [5]. Further expectations of private and corporate investors depend on increase of government share in innovation investments. Thus role of government institutions in innovation activity remains stably high.

With all the sad experience of the voucher privatization period of the early 1990s, the experience of accumulating financial resources can be used in the innovation and investment sphere.

The strategic development plan of the Krasnodar Region for the period until 2030 contains seven strategic development directions: markets, institutions, human capital, innovation and information, natural resources and sustainable development, spatial and real capital, investment and financial capital, each of which is meaningfully filled with a complex measures taking into account zoning of the region's space [13]. It is still necessary to form regional state programs in each of seven areas, as a complex of interrelated projects and activities, united by strategic goals and strategic directions. Their implementation is coordinated by the project office in order to increase overall manageability,

achieve the effectiveness and efficiency of the implementation of the strategy of the region.

The development strategy of the Krasnodar Region determines the systematic actions of government and business to solve the following key problems: low global competitiveness of key economic complexes; inertia of the institutional system; systemic problems in the field of human capital development; lack of an ecosystem of innovation; high dependence on external financial institutions with insufficient quality of the internal system of financial management and investment involvement. [8]. The strategy has yet to be saturated with a systematic set of projects and programs aimed at achieving unique results in the face of limitations of a temporary and resource nature. The region's investment needs in connection with an ambitious development strategy are estimated at 4.5 trillion rubles level. [14]. However, the domestic venture capital market is developing in separate parts, the venture capital market needs are blurred and not harmonized at the system level.

Investment institutions in the region rarely use form of stimulating innovative activity such as an innovation voucher - a certificate that gives its holder the opportunity to receive scientific or consulting support during the implementation of his project. [15]. The fund, who issued an innovative voucher, finances research, technical work, design, testing with the involvement of external consultants (experts). The work of an expert organization is paid by the innovative voucher, the cost of which is covered by the "issuing" agency of the voucher. [16].

The region, having a competitive advantage in the form of high investment attractiveness and in the form of developed credit and financial infrastructure, is at the same time highly dependent on external financial institutions with insufficient quality of the internal financial management and investment attraction system. This contradiction can be resolved by systematic work aimed to improve the credit and financial infrastructure of the region. The most relatively simple approaches can be:

- ensuring the transfer of a portion of revenues from regional economic sectors of services to the sphere of, for example, the "smart" economy (through the process of replacing natural rent with intellectual). Therefore, an additional and not less urgent problem at the regional level is the harmonization of intersectorial reproductive proportions in order to detect the optimal combination of reproduction factors and search for parameters for the development of a multistructural economy in the light of the theory of technological structures;
- the formation in the regional budget (in its expenditure part) a special focused and protected development budget. [17].

The Russian venture capital company, developing the venture capital investment market and introducing the world's best fund management practices, purposefully attracts private investors and participants of the innovation ecosystem to priority segments of the Russian economy

through the creation of funds based on public-private partnerships. The Russian venture capital company pays special attention to high-tech sectors with a low presence of private capital, which are important for the balanced innovative development of the country. The product portfolio of RVC JSC consists of classic venture capital funds; funds for young managers; late stage funds; STI support funds; corporate funds; foreign venture capital funds. Until the end of 2020, RVC plans to create up to 10 new funds with the investment participation in their capital. RVC's investment proposal defines unified requirements for asset management companies and fund categories. RVC participates in the capital of young RVC managers funds with investments up to 250 million rubles, with a share of not more than 25%, corporate funds participation is up to 1 billion rubles, and 25% share. For late-stage funds and STI support funds, the volume of RVC participation will amount to 1.5 billion with shares of 20% and 50%, respectively. Mandatory condition is the presence of commercial co-investors in the fund. Their minimum share in the fund's capital varies from 30% for classical funds and NTI funds, up to 50% share in funds for young managers, and the management company itself must participate in the fund's capital with a share of at least 1%, and for young teams this indicator increases to 5 -10%. [10].

The management company JSC Savings and Investments (Moscow), the venture capital fund of the Krasnodar Region (and five other funds of the Subjects of the Russian Federation), has total assets of more than 2.5 billion rubles. The main priority of Krasnodar Region fund investment in 2014-2015 was considered the only industry of "Biotechnologies and agricultural technologies: "Honey technologies". This is all that the venture fund has been able to do in terms of investing in innovations in accordance with the development strategy of the Subject of the Russian Federation, which is in the top 5 regions. But the agreement of the trust management has expired. [18]. The fate of the venture capital fund of the Krasnodar Region is unknown, and the activity turned out to be de- jure and de- facto frozen. The practice when management companies are removed from the venture capital fund of the Subject of the Russian Federation does not justify itself. Regional approaches to innovations are not visible for them due to their remoteness from regional authorities, executive bodies and the business community. It is advisable to choose a management company of the innovation and investment fund within at least the federal district or a Subject of the Russian Federation.

The creation of a corporate finance system, in particular, corporate venture funds, as an element of the institution of the corporate development budget, has the following functions:

- the accumulation of mandatory contributions by companies not involved in innovations, as well as by accumulating the savings of citizens through the sale of securities (shares) of the fund;
- management of accumulated investment assets by investing in regional strategic and innovative projects;

- risk diversification by managing a portfolio of regional strategic and innovative projects;
- operations in the securities market. [17].

IV. SOURCES OF INNOVATION INVESTMENT

Multi-channel funding of innovations can potentially be organized from the following sources:

- corporate budget with the development budget;
- self-financing, which is carried out for accumulated profits, depreciation and reserve funds;
- borrowed funds, including bank loans, enterprise's securities placement on the stock market, commercial credit lines and leasing of specially ordered equipment with its deferred repurchase;
- raise additional funds from founders and funds from additional issues of shares/ securities;
- mixed or non-traditional sources of funding, consisting of the issuance and placement of convertible shares and bonds, an innovative loans, obtaining forward contracts for the supply of mastered products with a significantly delayed delivery time;
- grant sources;
- state targeted programs;
- federal and regional budgets;
- foreign investments for innovative projects funding related to the development of advanced foreign technologies;
- financial leasing;
- project funding;
- extraordinary methods: franchising, factoring, crowdfunding, bootstrapping, etc .;
- mixed financing.

"Fig. 1" shows the sources of investments in innovation.

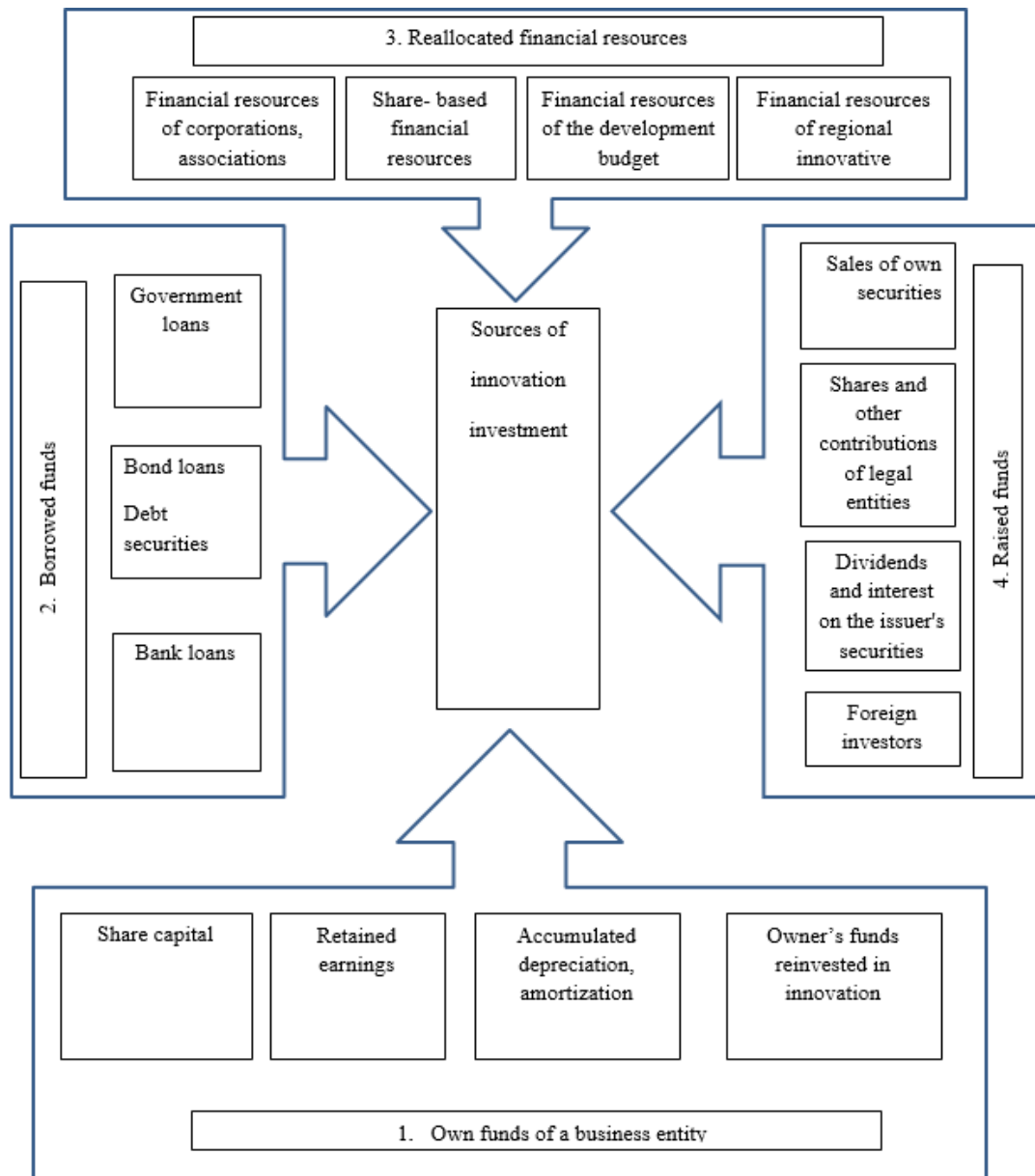


Fig. 1. The classification model of investments in fixed assets.

An enterprise may also, in proportion to turnover, include R&D costs in the cost of production.

The use of the mechanism of public-private partnership (PPP) has a great influence on the investment climate. Examples of this mechanism are the creation of venture funds that invest in securities or shares of enterprises. Currently, in Russia there are 7 venture funds under PPPs with a total volume of funds about 19 billion rubles. The shares of the Russian venture company and private investors in each fund are approximately equal.

An innovative form of funding for Russian practice is disinvestment. It allows you to reduce the volume of assets, giving them an acceptable structure, thereby not reducing the volume of sales and profits. [19].

A number of problems in the innovation sphere are associated with the absence of special legislation regulating specific innovative activity. [20]. The Codex of Innovation and Investment Activity in the Russian Federation could become a legal accelerator for the formation of a stream of innovations and innovations.

V. MECHANISMS FOR THE FORMATION OF ASSETS OF A REGIONAL INNOVATION AND INVESTMENT FUND

The effectiveness of the financial instruments for the development of innovative activities of various business entities is associated with the need for direct financial participation of government institutions in motivating them, on the one hand, and in stimulating and persistently activating innovative activities, on the other hand. So, the oncoming movement of the government and business entities

in the innovation and investment process: either productive and active participation in it, or adoption of tax incentives or new methods proposed by financial engineering. [21].

The sale of securities of the fund to the population at the initial stage at their nominal value could become the mechanism of accumulation of free monetary resources of the population.

The mechanism of accumulation of financial resources of a business in the early stages may be coercive. If a company, for various reasons, does not invest established standard amount of the net profit in innovations after a calendar period, then it is obliged to purchase the shares of the innovative fund at the face value in the amount that it is obliged to invest in innovative development. Subsequently, shares of the innovation and investment fund may be placed on the market. And the fund, taking into account their capitalization, would allocate financial resources to strategic regional innovation projects.

One of the directions for improving investment activity could be the inclusion of corporate venture activity in profit tax. If the corporation is engaged in innovative activities, then the amount of taxes is the same as that of business entities, if not, the tax rises by the amount established by law.

The need has ripened from calls for innovation to move on to real mechanisms of innovation stimulation by the government.

G.B. Kleiner and Pirogov N.L. believe that owners of enterprises (mainly large ones) have practically unlimited rights and very limited liability for the results of the work of their enterprises. This situation holds back the development of the productive forces of society. [22].

The concentration of innovation policy on the following areas is impossible without the support of its powerful investment practice:

- secure the special status of innovation and investment activity in the legal field and make innovation activity mandatory for all business entities regardless of their legal status;
- finalize the reporting statements, that should be submitted to the governing bodies and the tax authorities including the information regarding the fulfillment of indicators of innovation and investment activity;
- put into effect the criteria and indicators characterizing the innovative and investment activities of business entities for the reporting calendar periods;
- reformat the activities of existing innovation and investment funds and direct their activities to funding on a competitive basis regional strategic projects that are essential for bringing into action points a new quality for growth and development;

- expand the scope and institutional status of financial engineering instruments by describing them in the derivatives atlas;
- develop complexes of variable tax regimes used by business entities in a declarative manner, depending on the degree of innovation activity;
- non-financial measures to stimulate innovation and investment include the increasing role of corporations engaged in innovative activities as participants in the financial market (venture capital market). Also non-financial measures include amendments to corporate legislation, in particular, the Law on Public Joint-Stock Companies and Limited Liability Companies, requirements to create a corporate venture fund in corporations as an element of the development budget.

VI. CONCLUSION

The priority direction of government policy in avant-garde countries is an economy built on innovative growth incentives.

The role of the government in directly stimulating business to intensify innovation and investment activities is increasing. The main content of the government economic policy is systemic motivation and stimulation of innovative activity through indicative planning.

Government authorities of economically developed foreign countries pursue a focused policy in the innovation sphere with the formation of target vectors, sources of funding and criteria for evaluating the effectiveness of innovative companies.

The stimulation of innovative activity through the venture financing mechanism in Russia is based on a combination of bank lending, government budget participation and the introduction of financial burdens for business entities that do not conduct innovative activities

The direction of further research is the development and justification of models for funding a portfolio of regional strategic projects from a regional innovation and investment non-budgetary fund.

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