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PRIVATE AND PUBLIC FINANCE IN REGIONAL DEVELOPMENT

Abstract: investment activity in the region is considered as a resulting indicator of investment potential and investment climate. The comparative assessment of investment activity in regions of the Far Eastern federal district of Russia is given. The problem of increase of investment activity and the role of public and private investments in regional development is studied on the example of one of the northern regions of the Far East of Russia – the Magadan Oblast. On the basis of investment projects of Magadan Oblast the investment capacity of the region is estimated and the contribution of these projects to social and economic development – in growth of a gross regional product and population is defined. The assessment of change of investment activity in Magadan Oblast depending on the scale of the investment project has been done. The measures of regional investment policy promoting realization of investment potential are offered. The calculations confirming their efficiency for the investor and the state are undertaken.

Keywords: investment activity, private and public (state) investments; investment capacity of the region, gross regional product; regional development.

1. Theoretical basis of determination of investment activity at the regional level.

Investments are a necessary condition of social and economic development of regions. Their inflow depends upon two main components – the investment potential of the territory and investment conditions. Investment potential mainly is defined by objective factors – the natural and resource potential, a geographical position, climatic features, and investment conditions

(legal base, degree of infrastructural development providing investment projects, assistance of the federal and regional authorities etc.).

The resulting indicator reflecting the balance of available investment potential and conditions, promoting its realization, in our opinion, is investment activity of the region. In treatment of this concept we adhere to the definition given by L.G. Pashtova (dynamics, the size and structure of investments [9] and I.V. Grishina (development and intensity of investment activity in the region, being characterized the volume and rates of attraction of investments into fixed capital of the region) [4. P. 107].

Existing techniques of the assessment of regional investment activity in Russia can conditionally be divided into two groups:

- 1) assessment of investment activity on separately taken indicators characterizing volumes, rates and structure of investments into fixed capital, in comparison with all-Russian indicators.
- 2) assessment of the integrated indicator in comparison with its average Russian level.

Advantage of the methodical approach referred to the first group, consists in availability of necessary statistical data and in simplicity of comparisons of level of indicators between regions and with the average Russian level. The shortcoming consists in impossibility to carry out a complex assessment.

Techniques of the integrated assessment of investment activity have a number of advantages: exclusion of calculation of investments into the fixed capital, financed from the federal budget, in view of their non-market nature; availability of necessary data; simplicity of creation of the ranged number of regions by results of a complex assessment of investment activity. We consider integrated approach as the best option. From techniques of the integrated assessment, allowing to compare regions among themselves not on separate components, but on their set, it is possible to allocate a technique of the Center of applied economy [8] and a technique developed by experts of the "Council for the study of productive forces" (SOPS) [4. Page 149]. We have chosen in further calculations for a basis a technique of SOPS where investment activity is considered as a function of its investment appeal. Such approach let us, having received the results, carry out the most efficient qualitative analysis of the reasons of this or that level of investment activity on the basis of analysis of investment potential and regional noncommercial risk of the region.

Deficiency of investment resources is the main problem of the last years in economic development of many regions of Russia, including Magadan Oblast – one of the first territorial regions of the Russian Federation (with Kamchatka territory, Chukotka Autonomous Area and the Amur Oblast) in which in 2011 the comprehensive regional program of improvement of

investment climate (The regional target program "Development of Investment Potential of the Magadan Oblast for 2011–2015.") was developed [13]. This measure is partly caused by small growth rates and the low volume of investment into fixed capital from 2000 to 2010. So, on the specified four regions of the Far Eastern federal district (DVFO) growth of the volume of investment in 10 years was 6–8 times whereas on other regions of the district the indicator increased at 10-50 time [6, 11, 12]. In figure 1 the map with the regions of DVFO is presented.



Fig. 1 The map of the Russian Federation
DVFO regions

The volume of investment into fixed capital per capita in all regions of DVFO in 2011 was above the average Russian level (fig. 2). However the average level on DVFO created at high level thanks to a situation in the Sakhalin Oblast, following the results of 2011 could surpass only three regions – Sakhalin Oblast, Chukotka Autonomous Okrug and Sakha Republic (Yakutia).

2. The analysis of investment activity and safety for Magadan Oblast.

For an assessment of investment activity on an integrated indicator it is necessary to consider the rates of growth/decrease in investments. Data on the current integrated assessment of investment activity in regions of DVFO executed by a technique of SOPS (fig. 3.) shows other rating order of regions – in comparison with the results received taking into account only average per capita indicators of the volumes of investment into fixed capital. Inclusion in calculation of the integrated assessment of average per capita indicators allows to consider degree of intensity of investment streams.

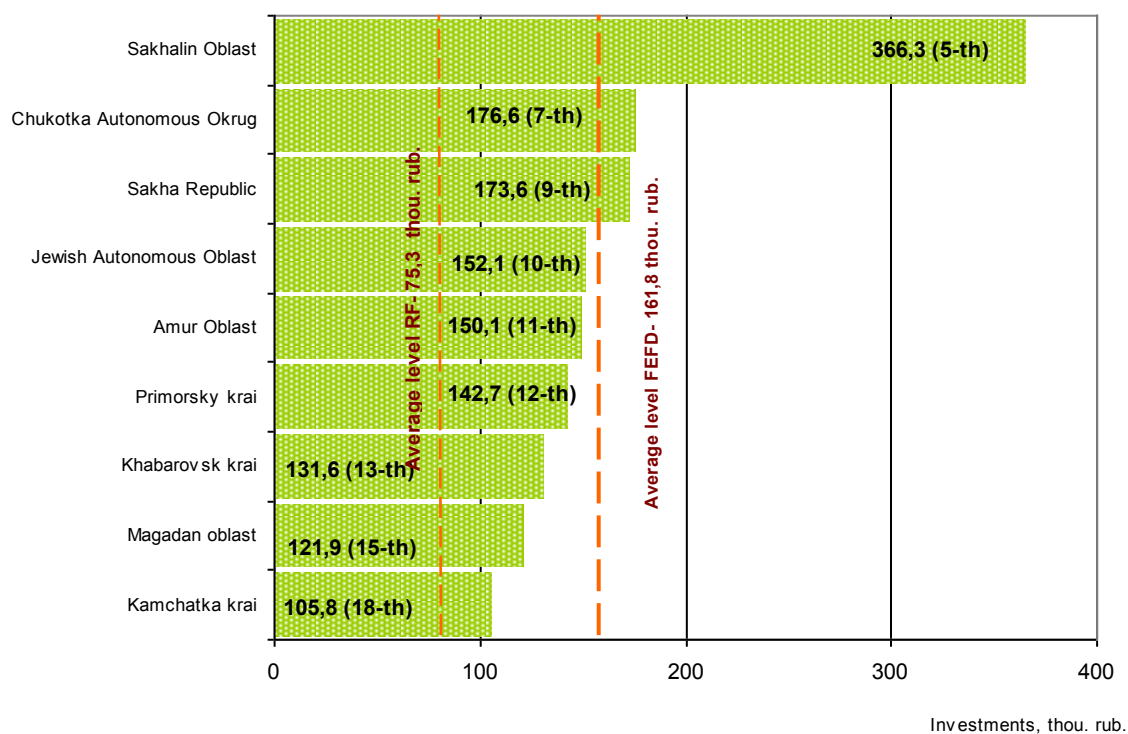


Fig. 2. Investments into fixed capital per person in regions of DVFO, 2011.
(in brackets – a place in the RF)

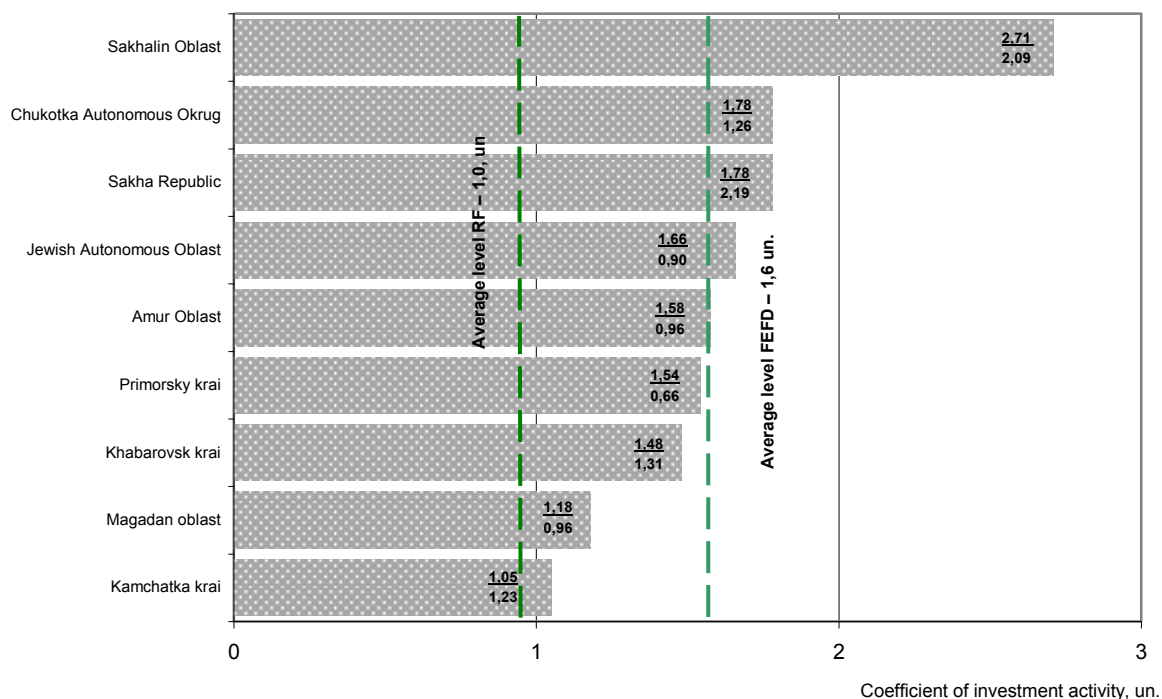


Fig.3. Investment activity in DVFO regions in 2011 (a denominator – 2010)

Dynamics of investment activity in Magadan Oblast for some years is reflected in figure 4. The period of 1999-2002 was favorable concerning inflow of considerable volume of foreign investments to economy of the region, directed mainly on development of the large-scale gold

deposit of Kubaka. The reason of long-term positive dynamics of investment activity is the increase in investments into fixed capital of the enterprises and the organizations. Sharp jump of an indicator in 2009 is caused by implementation of several state target programs accompanied by considerable volume of federal money in the regional economy. The major tendencies of investment activity in Magadan Oblast for 2000–2011 are: concentration of investment flows in the basic types of economic activity; preservation of considerable share of the state investments (from 27,6 to 55,5%; at the average Russian level from 19,5 to 22%); increase in the share of investments in active part of fixed assets; domination of own sources over the attracted resources in financing investments in the private companies; low share of foreign investments (0,1%), only since 2011 one can notice significant increase in volume of foreign investments generally owing to the credit received from foreign co-owners of these organizations.

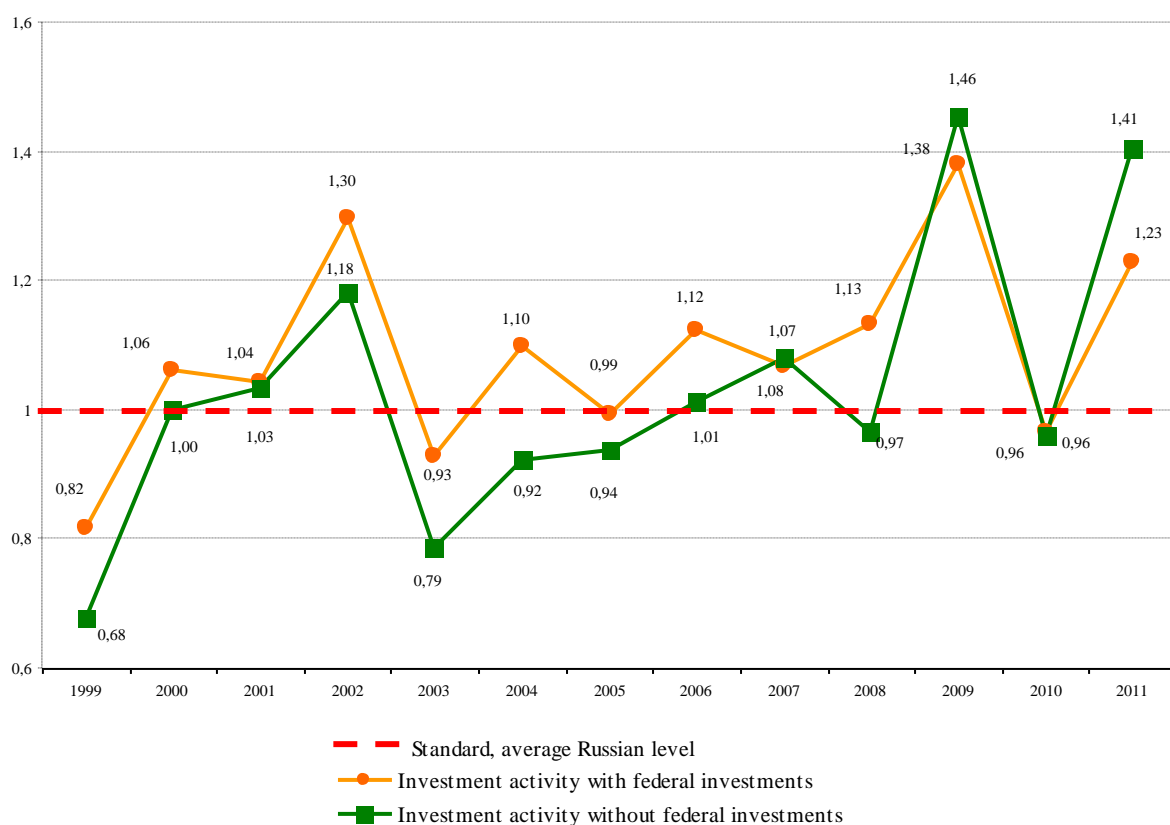


Fig. 4. Change of investment activity in Magadan Oblast for 1999–2011.

Comparing level of investment activity in the region with all-Russian, we estimate mainly a ratio of growth rates of the investments normalized to show volume in the region and Russia. At the same time we don't receive information on sufficiency of scale of investments for regional development. So, if a reference point of an assessment of investment activity is the year when in the region the large investment project was implemented, in the next years the volumes of

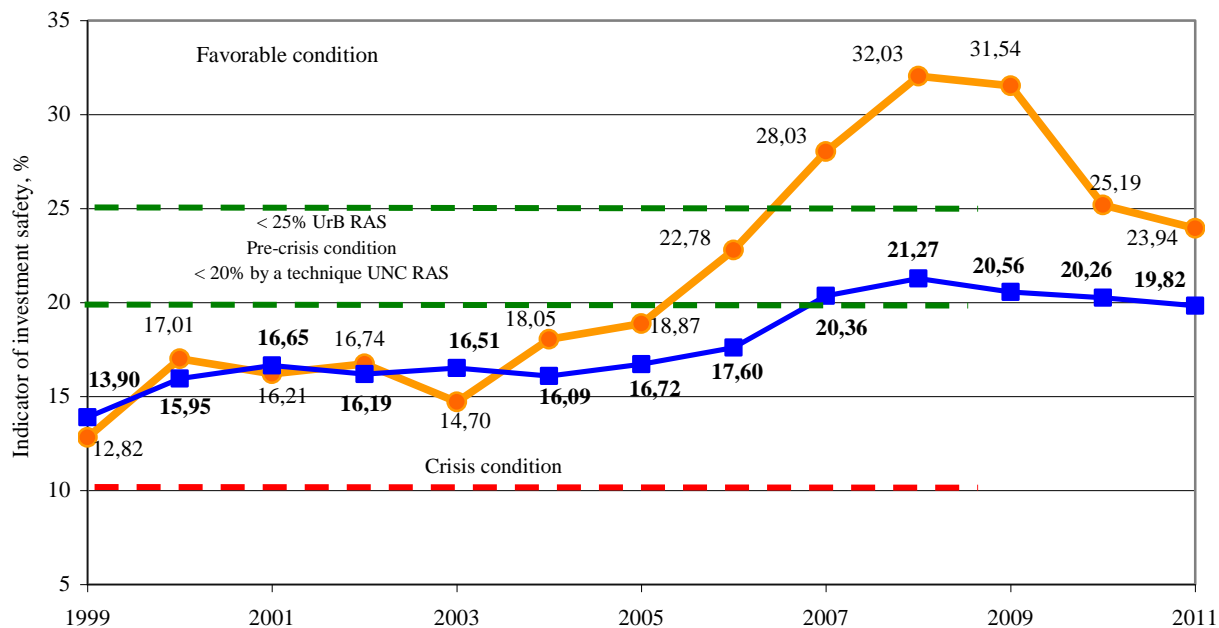
investment into regional economy could significantly fall, and the region will have negative indicators of investment activity though the scale of investment remains at decent level. Therefore along with consideration of investment activity of the region we consider necessary to estimate investment safety of the region which will show a ratio of the volume of investment and a gross product at regional and Russian levels and will allow to draw a conclusion, whether there is this ratio for the necessary level of positive development of the regional economy.

According to a complex technique of diagnostics of economic safety of territorial formations of the Russian Federation of Institute of economy of the Ural branch of the Russian Academy of Sciences (IE URb Russian Academy of Sciences), level of investment safety can be estimated using as the indicator the relation of the volume of investment into region economy to the gross regional product (GRP) [12]. In a technique of experts of IE URb Russian Academy of Sciences threshold value of the indicator of investment safety is defined by value of 25%. Because of deep regional differentiation, with high investment risks threshold value of investment safety in 25% is unattainable for a number of territorial regions of the Russian Federation. Specialists of Institute of social and economic research of the Ufa Russian Academy of Sciences scientific center (UNTs Russian Academy of Sciences) for the depressive regions remote from the center, with insufficiently developed infrastructure, suggest to reduce crisis threshold value to 10%, pre-crisis – to 20%. We consider these threshold values fair and proved for an assessment of level of investment safety in the Magadan Oblast, being characterized as high investment risks.

The calculated indicator of investment safety for Magadan Oblast taking into account the federal investments from 1999 to 2010 testifies positive tendency (fig. 5). So, till 2005 the value of level of investment safety was in the zone of pre-crisis condition. Since 2006 the share of investments of VRP exceeded pre-crisis threshold value and up to 2011 remains in a safety zone.

Values of the indicator of investment safety without the federal investments (fig. 5, b), throughout all estimated period, except for 2007–2009, are in a zone of "pre-crisis condition". The result of the assessment is insufficient for effective functioning of economy of the region.

a



b

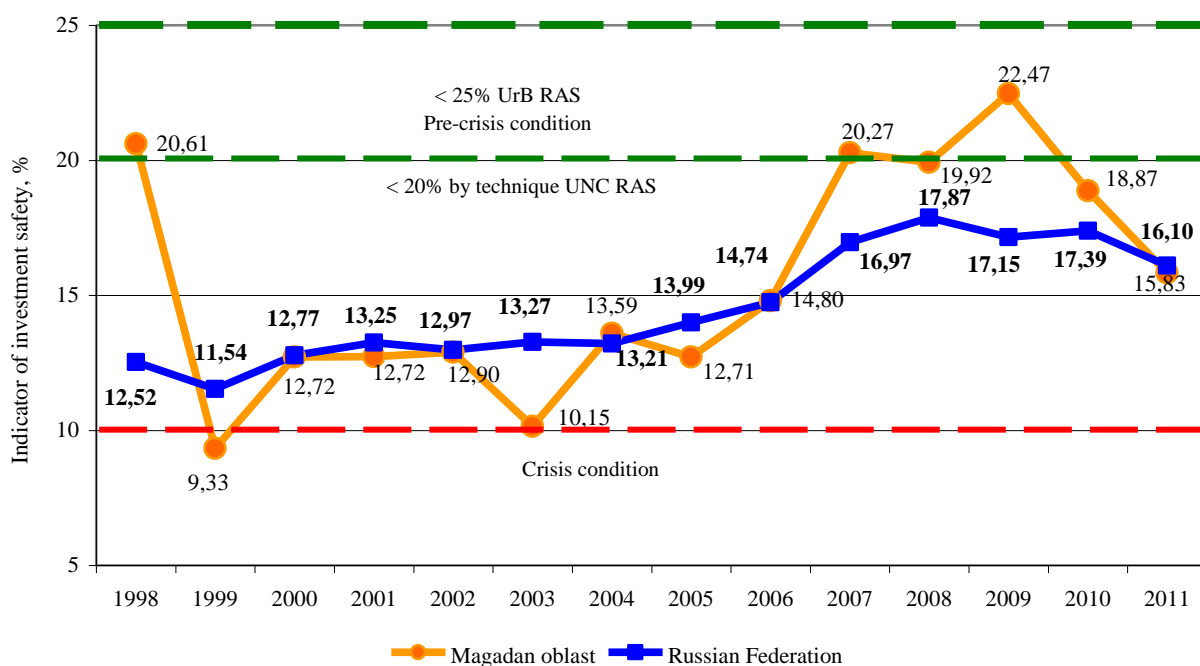


Fig.5 Indicators of investment safety in Magadan Oblast and in Russia:
taking into account (a) and without (b) taking into account federal investments

3 . Determination of investment capacity of Magadan Oblast.

Possibilities of inflow of investments into economy of the region are defined by the capacity of the territory, in particular – the resource potential which testifies that Magadan

Oblast is rich not only in gold, but also in other minerals. By the assessment executed by us for 01.01.2012 the greatest share in stocks and resources is occupied by hydrocarbons, then precious metals on which the region economy, coal, ferrous and non-ferrous metals (fig. 6) is now based.

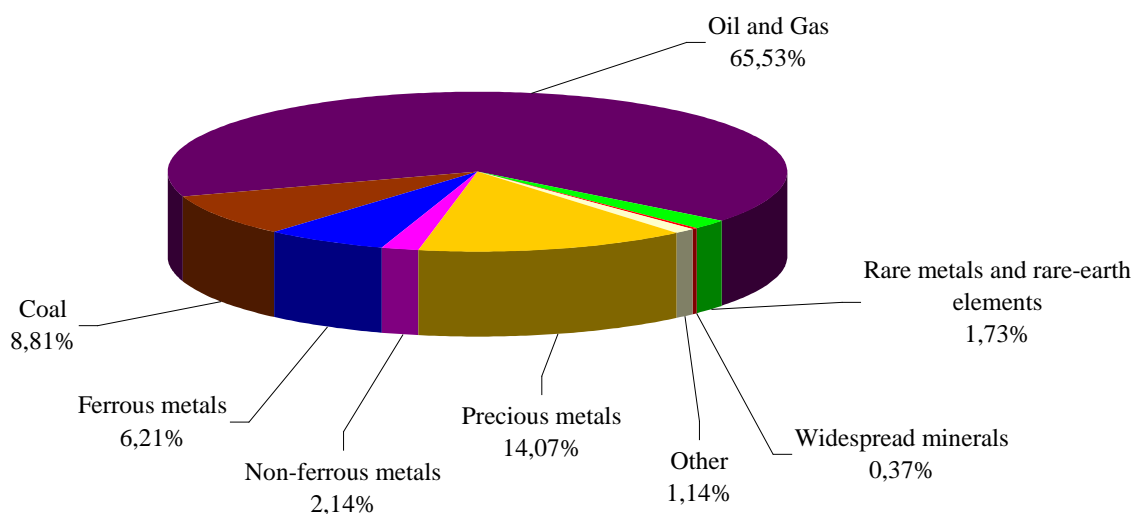


Fig. 6. Structure of the cost of mineral and raw potential of subsoil resources of Magadan Oblast for 01.01.2012

However, investment potential is determined by the real or perspective projects of development of resources which consider in short-term and foreseeable prospect. Depending on conditions of realization they can be considered in the following sequence.

1) **Gold** for the Magadan Oblast – the resource of traditional specialization has been extracting from a subsoil of the territory for more than 80 years. The main problem of this branch is falling of volumes of production in the recent years. For strengthening the production the project of development of the Natakinsky gold field is planned (gold production can be in the range of 24,7-37,0 t, the beginning of production is 2013-2014).

2) **Widespread Minerals.** Among primary types of widespread minerals are considered peat, with receiving from it peat briquettes, and organo-mineral fertilizers; zeolites for the purpose of production of mineral fertilizers; cement (receiving cement and cement mixes) and plaster (for production of dry construction mixes of plaster knitting and tongue-and-groove plates) [2].

3) **Brown coal.** Some years in Magadan Oblast the project of development of Lankovsky and Melkovodnensky coal fields for the purpose of processing and receiving gas of 230 million m³/year, motor fuel and coal briquettes, and also mountain wax has been discussed. Prospects of development of coal branch are considered in the context of implementation of this project.

4) **Non-ferrous metals.** From 61 objects profitable for development - 3 objects of zinc, 2 – tungsten and 1 – molybdenum [3] are recognized. Effects from involvement of these fields are estimated at economic circulation in this work.

5) **Iron.** According to experts, after carrying out prospecting works and opening of fields production of iron ore raw materials in the Southern Omolon iron ore area will make 8,5 million tons. For the organization of the finished iron ore cycle construction of iron and steel works with a power of 4,5 million tons of iron is supposed, and for ensuring technological process being coked coals of nearby fields will be used.

6) **Oil.** Experts assume two options of development of Northern Okhotskiy shelf: open fields will be mainly oil or mainly gas. The minimum stocks at which development will be profitable, allows to extract 2,8 million tons of oil in a year or – 2,5 bcm of gas.

The assessment of investment capacity of realized and potential projects by types of mineral raw material resources is presented in tab. 1.

Table 1

Volume of investment into projects of mineral complex of Magadan Oblast [1]

| № п/п | Resource type | Construction period, years | Volume of investment into a construction of objects of the project, bln USD | | Growth of average annual investments of rather basic level 2012 r. **), time |
|--------------|------------------------|-------------------------------|---|--------------------------|--|
| | | | In total during construction | Average annual volume | |
| 1. | Gold | 5 | 0,490 | 0,097 | 1,150 |
| 2. | Widespread minerals | 10 | 0,090 | 0,001 | 1,001 |
| 3. | Coal | 10 | 0,474 | 0,048 | 1,070 |
| 4. | non-ferrous metals | 10 | 0,910 | 0,090 | 1,140 |
| 5. | Iron*) | 15 | 3,603 | 0,242 | 1,370 |
| 6. | Oil and Gas*) | 15 | 48,387 | 3,226 | 4,930 |
| Total | | – | 53,955 | 3,713 | – |

*) with accompanying productions

**) volume of investment in 2012 r. 0,68 bln USD

Total investment capacity of the region is 53,95 billion USD according to projects of development of mineral resources of Magadan Oblast. Taking into account the construction period the average annual volume of investment into the region can increase from 1,001 to 4,93 times. The probability of implementation of projects depends on a set of factors – readiness of stocks, existence of infrastructure, profitability for investors and so forth, in particular, the projects, demanding the bigger volume of investment, are less prepared for realization.

4. Assessment of influence of investment projects on socio-economic indexes of Magadan Oblast.

Let's estimate, what contribution to the main indicators of the region will bring each of the considered projects, in other words, what effect will give growth of investments in the region. According to the received results, the greatest growth of gross product will bring the oil project, and the greatest number of workers is required for implementation of the project of development of iron ore knot as in this project the construction several large objects of infrastructure – seaport is required, the railroad, power plant (tab. 2). It is possible that some of projects will be carried out at the same time, and here effects owing to duration of action of projects will be gained at the same time - therefore total effects from their realization are estimated also.

Table 2

Main effects of investment projects

| № п/п | Resource type | Effects at a construction stage * | | | Effects at an operation stage | | |
|--------------|---------------------|--|--|--|--|--|--|
| | | Average annual gain of GRP at a stage of operation of objects of the project bln USD | Population on objects of the project, thou. per. | The gain of population of region*), thou. Per. | Average annual gain of GRP at a stage of operation of objects of the project mln USD | Population on objects of the project, thou. per. | The gain of population of region*), thou. Per. |
| 1. | Gold | 42,17 | 1,27 | 1,27 | 533,95 | 1,3 | 2,0 |
| 2. | Widespread minerals | 3,88 | 0,12 | 0,12 | 39,78 | 1,0 | 1,5 |
| 3. | Coal | 20,39 | 0,62 | 0,62 | 201,61 | 1,4 | 2,1 |
| 4. | non-ferrous metals | 39,12 | 1,18 | 1,18 | 345,21 | 5,0 | 7,7 |
| 5. | Iron**) | 103,34 | 3,12 | 3,12 | 449,64 | 34,0 | 52,9 |
| 6. | Oil and Gas**) | 1387,10 | 41,93 | 41,93 | 876,00 | 30,0 | 46,8 |
| Total | | 1595,99 | 48,24 | 48,24 | 2446,18 | 72,7 | 113,0 |

*) Population is increased by the number of objects temporarily occupied on construction

**) The increase in population is considered with domesticity coefficient.

At this stage it isn't possible to assume what will be a share of public and private investments - therefore the general need for them is given only. As necessary for implementation of projects objects of infrastructure – the road, power lines, ports will be used also by the population, they have to be constructed at the expense of public investments within state programs or on the terms of state-private partnership.

Investments into the considered investment projects at the stage of construction of objects will provide the increase in investment activity on the sum of projects of 5 times and will promote investment safety during the entire period of construction. Besides, during the stages of investment the gross regional product will increase by 1.6 times, and population by 1,3 times (tab. 3).

Table 3

Change of investment activity and safety during building of objects of investment projects

| Index | 2012 | Gold | Coal | Widespread minerals | Non-ferrous metals | Iron | Oil | Total |
|--|-------|----------|-------|---------------------|--------------------|-------|-------|-------|
| | Basic | Forecast | | | | | | |
| Population (average annual), thou pl. | 154,5 | 155,8 | 155,1 | 154,6 | 155,7 | 157,6 | 196,4 | 202,7 |
| Average annual GRP (in basis prices of the corresponding years), bln USD | 2,57 | 2,61 | 2,59 | 2,57 | 2,61 | 2,67 | 3,95 | 4,16 |
| Average annual volume of investment into fixed capital, bln USD | 0,65 | 0,75 | 0,70 | 0,66 | 0,75 | 0,90 | 3,88 | 4,37 |
| Investment safety, % | 25,5 | 28,9 | 27,2 | 25,8 | 28,6 | 33,5 | 98,1 | 104,9 |
| Investment activity (considering federal investments), ед. | 1,58 | 1,54 | 1,44 | 1,36 | 1,53 | 1,82 | 7,04 | 7,79 |

How regional socio-economic indexes will change if the listed investment projects will be realized? In 10-15 years after the construction beginning, at a stage of operation there will be a great increase in the amount of population and gross regional product of Magadan Oblast (tab. 4).

Table 4

Change of socio-economic indexes of Magadan Oblast

| Index | 2012 | Resource type | | | | | | Total |
|---|-------|---------------|-------|---------------------|--------------------|-------|-------|-------|
| | | Gold | Coal | Widespread minerals | Non-ferrous metals | Iron | Oil | |
| | Basic | Forecast | | | | | | |
| Population, thou. pl. | 154,5 | 156,5 | 156,6 | 156,0 | 162,2 | 207,4 | 201,3 | 267,5 |
| Growth of population of relative base year, | — | 1,01 | 1,01 | 1,01 | 1,05 | 1,34 | 1,30 | 1,73 |
| GRP mid-annual, bln USD | 2,57 | 3,10 | 2,77 | 2,61 | 2,91 | 3,02 | 3,44 | 5,01 |
| Growth of GRP of relative base year, paz | — | 1,2 | 1,1 | 1,0 | 1,1 | 1,2 | 1,3 | 2,0 |

As these projects can be realized during the different periods, the total effect from them can promote increase in population by 1,73 times and the growth of a gross regional product by 1,8 times in the comparable prices. Both of these indicators are very important for Magadan Oblast as in recent years the situation is characterized by large-scale outflow of the population (from 1990 for 2000 the population of the territory has decreased twice, from 2000 for 2012 by 1,3 times) and the insignificant growth of VRP, and in separate years, its decrease.

Conclusion

Investments are an important factor of regional development as realization of the available economic potential providing economic growth promotes. Investment potential of the territory is defined by objective factors, but the conditions promoting its realization - by the subjective. Conditions of investment promote attraction of investments. Activization of investment activity from the state can be caused by the lack of investment appeal from the private investors. Therefore it is expedient to estimate investment activity in the region, both taking into account the state investments, and without them.

There are different techniques of determination of investment activity. The difference consists in that - comparison done on separate indicators (the volume, rates, structure of investments) or on the integrated indicator uniting considered indicators. We consider that the objective assessment of investment processes is given by the integrated indicator. However, as in this technique growth rates of investments per capita in comparison with previous year are considered, the great importance is the selection of the base year: if in this year the volume of investment was insignificant, the whole next years will have high growth rates and positive dynamics and, vice versa, if in the base year the unique investment project was implemented, any next year on growth rates of investments will be in the worst situation. Therefore, along with investment activity we suggest to count the indicator of investment safety showing a ratio of the volume of investment and a gross regional product. By existing techniques of an assessment if this ratio is at the level of 20–25%, it is enough investments for favorable economic development of the region.

Theoretical procedures of an assessment of investment activity are approved on the example of the northern region of Russia –Magadan Oblast. It is as a result established that investment activity during 1990–2010 except for 6 years was at level below, than on the average for the Russia. Indicator of investment safety was in good corridor only in some years, but the main period was in pre-crisis condition. That testifies the need to increase investments into the regional economy as the modern situation is characterized by outflow of the population and decrease in industrial outputs.

Investment capacity of the region is defined by the volume of investment into territory projects. Magadan Oblast specializes on production of precious metals – gold and silver. The future economic development needs diversification of mining branch – production and processing of ferrous and non-ferrous metals, coal, oil and nonmetallic minerals. Investment capacity of the region regarding discussed projects can take 53,95 billion USD.

As a result of implementation of the considered projects at the stage of construction high investment activity above the average level across Russia (by 5 times) will be provided; investment safety will be ensured, and with it - significant economic growth: the gross regional product of Magadan Oblast will increase by 1,6 times, population by 1,3 times at the stage of building construction; at an operation stage – the gross regional product will increase twice, and population by 1,7 times.

The major problem of implementation of resource projects of the territory is the lack of transport and power infrastructure. Therefore ensuring economic growth of Magadan Oblast requires an advancing construction of infrastructure objects at the expense of public (state) investments. Only in this case involvement of private investors in development of fields and construction of the processing enterprises is possible.

Public and private investments play an important role in sustainable regional development. Depending on features of the region and the analysis of investment activity the optimum ratio of private and public investments can be different. So, in the conditions of insufficient investment activity, it is necessary to increase the volume of public investments, into the projects which realization will cause inflow of private investments to projects which in a consequence will provide the steady growth of economic indicators.

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