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RATIONAL COOPERATION BETWEEN THE GOVERNMENT AND OTHER PARTICIPANTS IN THE INVESTMENT PROCESS IN THE OIL AND GAS INDUSTRY (PART I)

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At the outset each investment project has original prerequisites for implementation (expected demand for the product, expected acceptable conditions for profitable implementation, etc.). They may be transformed into a project that can be implemented only when a compromise can be reached among all participants in the project and those parties that are not direct participants, but on whose actions or decisions its accomplishment depends.

To successfully implement an individual oil and gas project all participants in the investment process (government, investing companies and their shareholders, contractors, and financing institutions) must coordinate their interests, some of which coincide and some do not. A separate question concerns the conditions under which this has become possible and the stability of the balance of interests achieved by the parties. In fact, if in order to start implementing the project as soon as possible the parties have reached an unstable compromise, based not on a long-term, but only current (short-term) coincidence of their interests that allows for shorter time period than the project timeline, the implementation of the latter may not, as a result, ensure an investment return that will justify the investment of the parties (private investors) in the project.

As a rule, a project is implemented under conditions different from the original ones stipulated by the declared interests of the parties. Obviously the government is a key party in the negotiations among the parties, since it owns the natural resources to be developed.

It is clear that a specific oil and gas project will have different scenarios for suc-

cessful implementation. They may call for different participants, although the government will always be included, because its natural resources, unlike capital, technologies, intellectual resources, and labor, are non-transferable in space and time

Due to this, the government often begins to dictate its conditions to other parties to the negotiations, primarily the distribution of the expected income from the project in order to maximize its direct fiscal revenues. As a rule (if not acting on behalf of the investor, e.g., in an oil company fully or partially owned by the government), the government itself does not run the risk of a financial investment.

The government's contribution in the form potential resources (in the case of exploration in promising areas) or explored reserves (in the case of identified deposits) will become a commodity, i.e., acquire value, only after the hydrocarbons are sold on the market as a result of the investments made by the investor under the conditions agreed upon by the parties [1].

If the project is not implemented, then there is not so much importance in the distribution of potential revenues from the project or disputes about whether each participant has received a smaller share of the profits than was due (more often it is the government that claims "lost" or "missing" revenue; a graphic example is the long-standing position of Russian fiscal agencies in correlating the procedure for licensing the use of natural resources with a production-sharing agreement). If the project is not implemented, the resources will not be converted into a commodity, acquire value, or be able to generate the corresponding direct, indirect, and multiplicative effects, the quality and quantity of

which may turn out to have greater social impact than the value of the produced raw materials or taxes on them.

From a macroeconomic standpoint the public derives a combined effect from the project in addition to the value of the produced raw materials: in the form of new employment and GNP growth due to the project itself and also in associated industries, as well as through multiplicative effects connected with the growth in effective demand and the entrepreneurial activity stimulated by it. Moreover, the foreign trade balance (for export-oriented projects) and budget indicators at federal, regional, and local levels improve. Thus, the government receives a much wider range of effects than the investor. As proven earlier, non-oil and indirect effects from the oil and gas project investment may markedly exceed the direct oil (tax) effects [2-7]. Yet the receipt all these effects by the government depends on how the profit is distributed between it and the other project participants. The project will be implemented only if it repays the private investors and yields an acceptable profit. Profit distribution is usually a stumbling block in the negotiation between the government and investors, which delays project startup. As long as the government fails to agree with the investor, it loses that economic possibilities that investors are ready to implement (as a rule, under commercial risk conditions) with gain both for themselves and the government. The public incurs costs in the form of lost profits due to delayed implementation.

Until now the investment process in the Russian oil and gas sector (OGS) is progressing with great difficulty. The year 2000, an apparent exception to the rule,

reflects not so much an improvement the Russian investment climate in general and its OGS in particular, as the favorable price conditions on the global oil market this year. Despite efforts by the President and certain changes for the better in the creation of a legislative foundation, the government has thus far failed to achieve significant success in developing an efficient investment process in the Russian OGS that is mutually beneficial for all its participants.

This article tries once again to define certain contradictions between the government and potential investors in the preparation and implementation of individual investment projects and where one may seek a possible rational approach to coordinating the interests of investors and the government. From an economic standpoint, this is an attempt to correlate traditional financial indicators and the macro-economic effect, which in our opinion should underlie a rational system for guarantee governmental interests while implementing investment projects in the OGS.

Investment project effectiveness assessment.

Analysis of the effectiveness indicators and size of the risks associated with implementation of these investments forms the basis of management decisions about real investments.

This article will confine itself to an examination of investment projects only in extractive industries of the fuel and energy sector (FES), the so-called upstream, which are characterized by the greatest combination of risks as compared to the processing/transforming FES industries (the downstream) and the sphere of ultimate consumption of energy resources. It should be also understood that within the framework of the extractive industries the combination of risks differs for various types of investment projects (see Fig. 1a) and for the companies that have a different investment strategy (see Fig 1b).

In line with the above approach, the effectiveness of the investment project is characterized by indicators that reflect the cost/benefit ratio as applied to the interests of its participants, namely:

- *commercial* (financial) effectiveness indicators that take into account direct financial consequences of the project implementation for its direct participants;
- *budgetary* effectiveness indicators that reflect direct financial consequences of project implementation for federal, regional, and local budgets;
- integral indicators of *economic* effectiveness that consider costs and benefits

connected with project implementation which go beyond the limits of direct financial interests and direct financial benefits of the participants and allow costs to be measured.

The three groups of indicators are given in Table 1.

Financial effectiveness indicators are now the most frequently used and most understandable for all participants in the investment project. They are the key indicators investors use to decide whether to take part in the project.

Budgetary effectiveness indicators are a modification of the first group of indicators from the standpoint of the government as specific participant. They reflect direct advantages for the budget of the corresponding level (or consolidated budget) from implementing the project.

The indicators of the first two groups have a common nature and are calculated by similar formulas. They play a key role in the system of interests of any potential investor and his project counterpart, the government.

Thus, at present the government measures mainly measure (and not always correctly) the effects from the (expected) implementation of investment projects by way of assessment within the framework of commercial and/or budget effectiveness, i.e., the system of direct effects, that usually do not take into account the indirect effects, not to mention multiplicative effects.

However, as demonstrated by calculations by our colleagues [2-5] and ourselves [6-7], when assessing investment project effectiveness in terms of integral (direct and indirect) effect, the impressions of the limits of efficient project implementation undergo substantial changes, which we shall discuss in greater detail later.

Investors' Interests and Their Perception of the Time Factor.

In Western economics, the maximization of profit from the commercial activity of private economic entities is traditional-

ly considered the basis of their interests. The perception of the time factor plays a major role in defining the very concept of profit for a specific investor. Proceeding from this, one can supplement the definition of the investor's interests.

Not only is the absolute amount of profit critically important to investors, but also the period of time in which the profit will be made (how the profit flow will be distributed in time); they will always prefer to shorten this period. There is a natural desire to maximize the direct economic effect, which considers the need to discount financial flows that are separated in time. Here two different factors operate simultaneously: first, the ability of any economic resource to create new value over time, i.e., the presence of alternative value of the used resource, and second, the investor's negative perception of the risk of unfavorable events, which grows in proportion to the delay in obtaining the desired economic benefit (the inverse effect of the time factor).

When calculating the effectiveness of oil and gas investment projects all investors use discounting at a sufficiently high rate, which usually greatly exceeds the interest rate. In these calculations the amount of entrepreneurial income usually includes a correction for the high risk level of operations in industries dealing with mineral raw materials compared to other industries, i.e., it considers primarily the geological risk

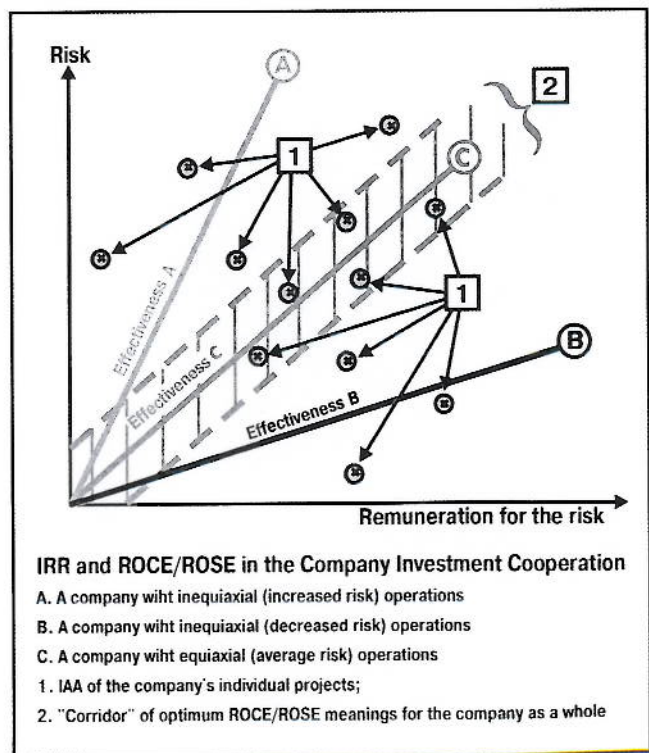


Table 1

Group of Effectiveness Indicators	Subject	Major Group Indicators	Parties, interested in assessing projects based on these Indicators of Effectiveness	Indicators applied practically
Financial (Commercial) Effectiveness Indicators	Financial consequences of project implementation to its immediate participants (including the government as participant in the project)	Internal Rate of Profitability (IRP) Net Discount Income (NDI) Profitability Index (PI) Current Payback period	Investors Creditors Contractors Government	Well used and widely used in practice along risk assessment systems. State bodies not always ready to use these indicators.
Budget Effectiveness Indicators	Financial consequences of project implementation to Federal, regional and local budgets	Budget Effect (for Federal budget) Budget Effect (for regional budget) Budget Effect (for local) Integral Effect for Consolidated budget	Government Strategic Investors	Discounting not always done. It distorts the real picture and reduces the possibility of rational use of these indicators.
Integral Indicators of Economic Effectiveness	Results connected with the project implementation, exceeding the boundaries of immediate financial interests and results of the investment project participants that allow value measurement	Multiplicator Coefficient Joint Economic Effect GDP changes as a result of implementing the project, etc.	Government	There is no hard and fast treatment, multiple approaches. The complexity of quantitative assessment of certain effects. In Russian Federation practice not used in system way.

Note 1. We do not cite the formula that discloses the content of such and such indices, for they are either common knowledge (as in the case of financial and budgetary efficiency), or will be examined in detail hereinbelow (integral indices of economic efficiency).

factor. For a majority of US oil and gas companies this discount rate amounts about 20% as compared with LIBOR [expansion unknown] rates when credit is granted in US dollars (4.16%) and in Euros (4.575% annually) (as of May 10, 2001 for one year).

It is clear from the foregoing that the most important thing from the investor's point of view is the direct financial benefits in the first several years of project implementation. Investors desire maximum production figures in order to speed up the achievement of a positive discount cash flow and reduce investment repayment time. The financial results that the company expects to receive after, say, the tenth

ny's entire strategic development, which may be extremely important when major oil and gas corporations make investment decisions (see Fig. 1).

Assessing the prospects of a given project, investors always consider the stability of individual factors and the entire forecast. As a rule, they are prepared to sacrifice some of the expected profit to improve the reliability of its forecast of benefits, especially at early stages of development, the implementation period, and other probability factors. This reflected in the persistently adverse attitude of investors toward risk. An increased risk, even when expected gains are preserved, reduces the investment

for in practice investors try to insure the existing risks by various methods, charging costs for such insurance to additional expenses and decreasing the obtained profit. Risk to the modern investor is converted into a separate expense item, in its sense close to items included in the price.

Therefore, in our opinion, when assessing the competitiveness of a project, it is necessary to distinguish the "technical" and "financial" costs of its implementation. It is the cost of borrowing funds that will determine the combination of non-technical risks of project implementation. The financial costs may turn out the most significant prohibitive factor.

Proceeding from their interpretation of the time factor and readiness to take certain risks, investors form their own system of interests and criteria for acceptability of investment projects. Table 2 lists the major types of investors who are potentially capable of participating in the development of the Russian OGS.

Russian vertically integrated oil companies are de facto today's major investors in the Russian OGS and are involved in the investment process for objective historic reasons (they were created by privatization and consolidation of earlier disintegrated constituents of the Soviet oil and gas industry) and a priori continue to assume pre-existing risks. The conservation and efficient buildup of the resource base and the proper development of new fields is directly connected to the stable existence and development of these companies. Their major problem is a chronic shortage of available financial resources for investment purposes that under conditions of an inflexible, fiscally oriented tax system makes Russian oil companies directly



year of implementation have practically no impact on decision about the financial effectiveness of a given project (meaning the assessment of financial benefits to the company, not to the host country). However, this does not preclude assessment of the project as part of the compa-

attractiveness of the project to all potential participants, particularly to those who invest resources that already have value, i.e., above all those who provide financing.

One may think that the notion of risk is automatically included in the interpretation of investor interests as outlined above,

dependent on global market conditions. Therefore, during the past two years the high prices on the global oil market have reduced the severity of the liquidity problem, but it has not disappeared, especially if prices drop (e.g., as a result of recession in the US).

International oil corporations have taken a keen interest in the Russian OGS since the country opened up to direct foreign investment in 1987. Strategic planning, stability of interests, good creditworthiness, availability of comprehensive technological solutions, experience from participation in various projects the world over, availability of domestic markets, readiness to achieve set goals, and high international reputation and efficiency of such companies, confirmed by decades of successful work on world markets, makes them quite attractive investors, achieving mainly a *scale effect*. Possessing finely tuned logistics systems and high credit ratings that reduce their financial costs, these companies are prepared to take on the complete commercial risks of implementing complicated capital-intensive mega-projects. Yet, following the law of complex systems, these structures tend to provide first of all for their own stable long-term survival and reproduction.

A major obstacle to attracting their enormous investment, engineering, and technological resources to Russia is the exceedingly high level of non-commercial risk, too dangerous, and hence unacceptable for the information and financial balance sheet of a major international company. This is why the largest foreign VIOCs take so much time to implement an oil and gas investment project, trying to minimize, if not eliminate, all possible and hypothetical risks. Sometimes, not wanting to meet partners halfway on even the smallest issues and trying to shift all risks, including commercial ones, onto the host government, they simply lose a project due to impossibility of balancing the interests of the parties (a graphic example of this, in our opinion, is the Timan-Pechora company's project in the Nenets Autonomous Oblast in northern European Russia, which was aborted after six years of talks in the 1990s).

Meanwhile almost all major international oil consortia continue to monitor economic and political events in Russia, maintaining their strategic interest in potential participation in such a big investment and consumer market. Their active involvement in developing Russian oil and gas fields may play a decisive role not only in the industry's recovery, but also in the overall nation-

Table 2

Potential types of investors in Russian OGS	Financial Resources	Interest for participation	Possessing Technology	Readiness to run risks
Russian VIOC	+	+++	+	+++
Russian Non-Integrated oil companies	-	+++	+	+++
International VIOC	+++	+++	+++	--
International Non-Integrated oil Companies	+	++	++	++
Portfolio Investors	++	+	--	++
International Financial Institutions	+++	+	--	--
Domestic Banks	+	++	--	++

Note 2. "--" investor does not have the indicated quality, "+++" - investor possesses unique quality and is able with more or less effectiveness to implement it in order to carry out Russian oil and gas projects.

al economy, since these companies are targeting so-called mega-projects, which in turn, due to the high level of project investment, provide large indirect and multiplicative effects, while the values of the oil and gas multipliers remain moderate compared to other especially labor-intensive industries), i.e., they generate a significant macroeconomic effect.

Under high risk conditions comparatively small *independent (non-integrated) Russian and foreign oil companies* may play a special role. As a rule, such companies concentrate on implementing specific types of projects both at the initial phase (exploration) and final phase (enhancing oil recovery during declining output) of the project investment cycle and are prepared to single-mindedly and energetically achieve results. They adapt more rapidly under new legislative and economic conditions and achieve mainly a *specialization effect*. The timeliness of their activity in Russia especially increases when the country's major oil and gas provinces are in later phases of development and also when hard-to-recover reserves, as well as small and medium fields, are involved in industrial development in ever growing amounts [8-12]. With all other conditions equal, this is an area where for non-integrated specialized companies prepared to assume higher technological risks in narrow types of activity have a competitive advantage.

A restricting factor for these companies' participation in the investment process is their financial weakness compared to major international VIOC and inability to implement large-scale integrated oil and gas projects independently. Many in this group are service companies.

Although they possess considerable financial means, *Portfolio investors*, both

foreign and domestic, especially minority shareholders, are not usually interested in long-term investments, and moreover are not confined to specific (industrial) types of projects. They are inclined to play on price differences in liquid stock markets, maintaining the possibility of entering and exiting such markets quickly, focusing profits. Therefore the time span of their interests is usually short and may lie in the fact that having become shareholders of a given company at the exploration stage, 2-3 years after a commercial discovery and capitalization growth as a result of growth of its assets by the amount of capitalized addition of explored (or more precisely, proven) reserves, will sell their shares at a dramatically increased price, thus making a profit.

International financial institutions, e.g. the World Bank group (institutions such as the World Bank for Reconstruction and Development and the International Financial Corporation) and the European Bank for Reconstruction and Development may become quite welcome participants in Russian oil and gas projects. Unlike commercial financial institutions, they are interested in obtaining not short-term financial benefits, but in maximizing macroeconomic effects for the benefit of the host country under the condition of guaranteeing the repayment of loans. Therefore, they grant loans at the most preferential interest rates, but under the most rigid conditions, as compared to commercial institutions, accompanying their funds with certain political requirements, whose implementation guarantees the irreversibility of market transformations in recipient countries (usually such recipients are developing countries or governments with transitional economies) and the

repayment of credits. Expert financial audit of these institutions usually brings the project to the international level of financing standards, and the fact of IFI participation in financing a given project is a kind of signal for other investors, an indicator of the suitability of this country for private investment. Yet, due to a number of political and economic reasons it is hard to get IFIs involved in the investment process.

The domestic banking sector has not recovered sufficiently and possesses relatively few available financial resources relative to the investment demand of OGS projects. Before the 1998 financial crisis, money shifted from the real sector to government short-term bonds and other short-term government and non-government financial instruments, providing financial investors with incomparably more attractive profitability in a shorter time period than investment in the OGS (see [13] and Table 8). Since the crisis there has been no practice of granting credit for periods comparable to the duration of the investment cycle of major oil and gas projects. But even within the framework of the existing time limits for bank financing, the credit rates are, as a rule, prohibitive for financing medium- and large-scale oil and gas projects (see [16] and Fig. 3). Only individual categories of relatively non-capital-intensive projects in the OGS that offer investment return periods of several months rather than years may find financing on the Russian bank credit market, as a rule, only at the largest Russian banks, e.g., the recent granting of credit by Sberbank (or more precisely, the corresponding letters of commitment) to finance the Severnaya Neft company's implementation of the Val Gamburtseva oilfield development project. However, the growth of Russian participation in the investment process seems to be quite feasible and natural as the country's banking system becomes stronger.

Any potential investor will try to optimize the relationship between the risk involved in the investment project and the amount of profit expected. These two factors will be the major criteria for the investor to assess the project's attractiveness, the risk element being the key factor in Russian oil and gas projects. The economic viability of many projects without risk elements (i.e., only for engineering costs) is quite sound, and the expected rate of return may be competitive. However, the high degree of risk (i.e., financial costs) oblige potential investors to adjust their assessments and frequently reject participation in the projects.

Continued in the next issue

References

1. A. Konoplyanik, "Russian Mining Law of Russia: Prospects for Increased Investment Attractiveness," *Mineral'nye resursy Rossii*, No. 4, pp. 24–30, 1998;
2. *Assessing the Impact of Large-scale Investment in Gas and Oil projects within the Framework of Six Production-sharing Agreements on the Socioeconomic Development of Russia*. Commission on Studying Labor and Mineral Resources, Russian Academy of Sciences, Petroleum Advisory Forum, Moscow, pp. 42, September, 1996.
3. R. D. Finken, A. A. Arbatov, A. V. Mukhin, A. Suvorov, and H. L. York, "Regional Impact of Project Spending," *Oil and Gas Executive*, Society of Petroleum Engineers, No. 1, pp. 38–43, 50, 1998.
4. A. A. Arbatov and A. V. Mukhin. "Socioeconomic Effects of Implementing Projects to Develop Eastern Siberia," *Neft, gaz, stroitel'stvo*, No. 1, pp. 60–63, 2000.
5. A. A. Arbatov and A. V. Mukhin, "Oil and Gas Projects in Russia: Investor's Arguments," *TEK*, No. 1, pp. 24–27, 2000.
6. A. Konoplyanik. *When Everybody Wins. Research of the Economic Effect of PSA Mechanism*// *Neft i kapital*, No. 9, pp 4–8, 2000.
7. A. Konoplyanik, "Analysis of the Effect of Implementing Oil and Gas Production-sharing Projects in Russia for Budgets of Various Levels (Assessing the Impact of Large-Scale Investment under Production-sharing Conditions in Oil and Gas Projects on Russia's Socio-Economic Development. *Neftyanoe khozyaistvo*, No. 10, pp. 24–30, 2000.
8. Russian Federation Ministry of Fuel and Energy, "Major Conceptual Provisions of the Development of Russia's Oil and Gas Sector" *Neftegazovaya vertical*, No. 1, pp. 4–6, 2000.
9. A. A. Arbatov and V. P. Kriukov, "A Future for Small Oil and Gas Companies?" *Neft Rossii*, No. 8, pp. 10–15, 1999.
10. A. A. Arbatov, "Modern Issues of the Oil and Gas Sector Predominantly Involving Growth," *Proceedings of Scientific Seminar: The Unknown Economy*, Moscow, TSEMI RAN, No. 8, p. 30, 1999.
11. V. I. Graifer and M. A. Danilenko, *Small and Medium Business in the Oil Industry*. Moscow, RITEK, p. 160, 2000.
12. A. A. Arbatov, "Creating Russian Nonintegrated Companies," *Neftegaz vertical*, No. 4, pp. 18–20, 2001.
13. A. Konoplyanik, "Development of the Legislative and Investment Process in Russia under the Federal Law 'On Production-sharing Agreements' (Based on Proceedings of the Third International Conference on Development of the Arctic Shelf, 23–26 September 1997, St. Petersburg)," *Neft, gaz i pravo*, No. 1, pp. 33–52, 1998.
14. A. Konoplyanik, "Chairs Today, Money Tomorrow: Solving the Financial Problems of Russian Oilmen and Engineers Participating in Production-sharing Agreements," *Neftegaz vertical*, No. 10, pp 140–143, 2000.

