

EVALUATION OF FOREIGN INVESTMENT USE IN OIL AND GAS COMPLEX OF KAZAKHSTAN

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Abstract

In modern conditions of oil and gas functioning there is exigency in search of field reserves of development at the expense of rational use of investment resources and efficient realization of investment projects. In the present situation such tasks solution is possible only in the framework of strategy development of component parts of the complex, including efficient attraction of foreign investment and mechanisms formation of its use.

Keywords: Foreign investment, hydrocarbon resources, oil and gas complex, oil and gas projects efficiency

Introduction

Problem formulation. The Republic of Kazakhstan transition to the trajectory of stable development depends a lot on investment policy that should contribute to structural reconstruction of state economy, radical renovation of physically and morally old production assets. However in crisis condition of economy, acute shortage of inner finance sources to inculcate modern technologies and equipment. This strategically important task can not be solved without foreign investment.

Latest research and publications analysis. The most significant works, on which is based theoretical and practical aspects of the problem being researched are the works of the following scholars economists: V. Y. Alekperova [1, 2], R.Y. Apostolova [3], T.N. Valuiskova [5], V.Y. Dodonova [7], V.V. Chainikova [10].

The basic goal of the research is scientific grounding of the propositions of improving the mechanism of foreign investment attraction in oil and gas industry of the Republic.

Basic outcomes of the research. One of the most important strategic lines of the state on foreign investment is maximizing of invested capital efficiency. The economic sense of this policy is first of all in efficiency increase from investment reclamation in a specific project, field or economy sector.

Main Text

According to designated purpose or functional character of the received effect investment projects at the enterprise can be divided into projects directed to products quality improvement and projects directed to manufacture quality improvement.

To the first ones can be referred projects carried out with the aim of improving single indexes of quality. In other words they are directed at improvement of the properties of the products manufactured or creating products with new properties. The second group of projects produces effect in the form of decreasing direct costs per production unit

manufacture (labor intensity, materials output ratio) and/or in the form of products output increase.

Investment costs of the first or second group are economically homogeneous as represent in all cases marginal costs of fixed and current assets. Economic differences can be defined only from actual data analysis. If, for example, it turns out that investment costs of the first group at a greater extent influence fixed assets increase and the second group influence current assets increase (or vice versa), then the connection between functional and economic costs composition can be determined more distinctly. Basically we can assume that second group costs are connected with manufacture process quality more and consequently production volume (i.e. turnover). That is why they can influence significantly current assets increase whereas first group investment costs can be connected at a greater extent with capital assets increase.

In reality the projects are directed as a rule at the same time at products quality improvement and productive capacity increase (costs cutout). Therefore there is a perception that products quality can be improved with simultaneous production costs cutout. It means that products quality and production capacity (production process quality) should be considered as two factors influencing the size, structure and character of production costs change. These two factors combined action complicates the evaluation of influencing character of each of them separately on the economic outcome and accordingly – investment projects efficiency. As a result products with better qualities do not always require current production costs increase and do not always entail price increase [4].

Products quality increase investment projects are characteristic of the following peculiarities:

1. Economic efficiency of products quality increase projects depends on the change of the form and elasticity of demand function. Demand or demand function represents a connection of products price (P) from the number of products at the market (Q) with all other things constant. When conditions are changed under the influence of different factors demand function is changed. Demand price elasticity is characterized with sensibility of the number of product purchases to price change and is measured with the help of elasticity index, which is determined according to the formula:

$$E = \frac{(Q_2 - Q_1)}{Q_1} \cdot \frac{(P_1 + P_2)}{P_1} \cdot \frac{(P_2 - P_1)}{P_2} \cdot \frac{(Q_2 + Q_1)}{Q_2}, \quad (1)$$

where P_1 - initial (bigger) demand price,

P_2 - changed (less) demand price,

Q_1, Q_2 - the number of purchased products correspondingly with bigger and less price.

Products quality is one of the most essential factors, changing demand function and its price elasticity. For example, products quality increase of some company with all other things equal can significantly increase its sale (and consequently all demand function relative to this company) then advertising and sales promotion.

Quality influence character on demand function is complicated and complex. However, it is necessary to point out that quality increase can reduce elasticity and increase demand function. Such influence corresponds to accepted conception of products life cycle (including products with improved quality characteristics).

2. Products quality improvement in manufacture always requires current production costs and extra investment increase the amount of which will depend on the change of those properties of manufactured products.

Presented dependence is characterized by the fact that while costs (current and lump sum) increase, directed to quality increase the products quality increases to a definite extent K (extreme quality), after which any costs increase does not lead to its improvement.

As it is known project efficiency in many ways is determined by timely characteristics of costs and project outcomes. As for products quality time of reducing targeted costs for products quality has a great significance, on which the character and products life cycle size is dependent on. In this connection the term quality management has a wide distribution in world practice and it is coming closer to the meaning of monitoring which is used nowadays widely enough in a great activity spectrum.

The main reference point of quality management as a process is in our opinion the determined dependence of product life cycle length and its economic characteristics at each stage of product quality, supplied to the market. In this connection it is necessary to interpret the main points of this process:

- the earlier quality management is organized at a pre manufacture stage the more economical products manufacture will be, otherwise quality will not change but economic indexes can significantly decrease;

- quality management should be done at every stage of pre manufacture stage of life cycle and therefore be integrated, otherwise the company can come to the market with product having other properties that will determine a new life cycle [6].

Thus, quality management elements will be as follows: economic (quality and price costs), market (demand, competitors, life cycle length, depending on qualitative properties), finance money flow, determined by the time of quality management carry out). On the basis of elements interrelation a model can be designed giving the possibility to solve the tasks of creating acceptable product quality design for specific market situation.

Statements considered above allow to make a classification of effects for products quality increase investment products (Fig. 1).

Costs		Non costs
Economic	Finance	
According to products quality increase outcomes	Sources of finance	Social
According to costs for products quality increase	Current assets management	Ecologic
According to capital fund costs, improving products quality	Tax-depreciation policy change, capital fund evaluation	
According to time		
According to the amount of “consumption price”		

Fig. 1 - Classification of effects for products quality increase investment products

Effects can be costs and non costs. Costs effects are those that can be determined in the form of specific cost (money) unit. They can be divided into two groups: economic and finance, as they have different origin nature and are stipulated by different laws and at some moments can exist independently of each other.

Determinant effects for any investment project, including investment projects of products quality improvement, having economic nature and which are based on the principle of measuring costs and outcomes.

Four basic types of economic effects can be singled out for including investment projects of products quality improvement, which are determined on the basis of investment projects of products quality improvement peculiarities considered above:

- effects arising from demand function change for the goods of improved quality that determines the change of product quality improvement outcomes;
- effects, arising because of costs change for manufacture quality;
- effects, arising of quality management carrying out time;
- effects, determined by “consumption price”.

Non costs effects are expressed in qualitative characteristics and can be determined only indirectly. For example, projects of increased level of ecologic security can influence people's life expectancy and labor efficiency increase, disease incidence decrease, etc. [8].

Striving for investment efficient use at microeconomic level it is possible to achieve high benefit also at the macro level. In this connection the author considers it reasonable to use those statements while analyzing finance-economic activity of a specific joint venture as a typical example of foreign investment use in the Republic. Besides, considered enterprise indexes on many points are identical to those of other joint ventures, thus, received outcomes and conclusions can become a practical recommendation in general for the whole sector of joint ventures in the Republic.

Enterprise activity is nearly always connected with investments. Company management while decision making directed for efficiency increase often faces different factors: investment type, investment project cost, available projects multiplicity, financial resources limit available for investment; risk, connected with making this or that decision, etc.

The basic sense of investment decision making is in the determination of the volume of assumed investment and future cash receipts. First of all, this principle is oriented for track of time analysis. Methods, used for investment activity analysis can be divided into two groups: a) based on discounted evaluations; b) based on accountable evaluations.

One of the basic methods of efficiency determination of investment use is calculation of net present value. This method is based on comparison of original investment volume size with general sum of discounted pure cash receipt, generated by it during projected lifetime.

As cash flow is distributed in time, it is discounted with the help of coefficient r , set up by the analyst himself on the basis of annual return rate that he would like to have or has for invested by him capital.

While investment solutions analysis and for objective outcomes receipt it is very important to apply such instrument of efficiency determination as a method of investment profitability index calculation. Profitability index or internal revenue rate (IRR) is discounting index value, where project NPV is equal to zero:

$$IRR=r, \text{ where } NPV = f(r) = 0 \quad (2)$$

The meaning of calculating this coefficient while analyzing planned investment efficiency is in the following: IRR shows maximum permissible relative level of expenses that can be associated with this project. For example, if the project is completely financed at the expense of commercial bank loan, IRR value shows the upper limit of acceptable level of bank interest rate, the increase of which makes the project unprofitable [9].

In practice any company finances its activity including investment one using different sources. In many cases the sources are advanced capital, for which it is necessary to pay a definite sum that compose company expenses. The index, characterizing relative level of those expenses can be called the price of advanced capital (P_{ca}). This index reflects the minimum of return for invested capital, its rate of return and is calculated according to the formula of measured average.

This index economic sense is in the following: the company can make any decisions of investment character, the level of rate of return of which is not less than current value of P_{ca} .

IRR index is compared with it and is calculated for a specific project and the dependence between them is the following:

If $IRR > 0$, the project can be accepted;

$IRR < 0$, the project should be rejected;

$IRR = 0$, the project is neither profitable nor unprofitable.

It is necessary to point out that it is possible to meet in the economic literature different opinions concerning IRR determination. The most correct, in our opinion, is the definition that characterizes internal norm as that interest rate calculation when capitalization of regularly received profit provides the sum equal to investment and consequently capital investment is a paid off activity.

As a rule, IRR calculation is done on the basis of special tables, specific values choice is done by computers and special software. Hand technology is the following: money flow is put in tables. The expert (investor) using trial and error method, starting from arbitrary value chooses discounting coefficient when NPV of invested profit will not be equal to zero. Such rate will show maximum interest rate for loan for this very investment project, when the project still remains self-supporting.

The third index of capital expenses efficiency is the period or payback coefficient (Payback) is most often used and the simplest way to determine project rate of return. Reduced costs rate of return index is often used in practice and in this case, the denominator is the sum of reduced costs. As depreciation does not mean real funds spending, this sum is again added to cash flow after calculating chargeable taxes. The benchmark while analysis is any convenient time (for example, project start).

Project payback period index shows in what time after project exploitation start investment will be compensated (i.e. total profits will become equal to initial investment) and turnover will become positive. For this reason there is another name for payback period calculation in English literature – break even analysis, i.e. break even point analysis.

Using pointed out methodical directions you can analyze the realization of a specific investment project.

Conclusion

It is necessary to point out that economic efficiency evaluation of foreign investment use in oil and gas processing industry is directly connected with industry peculiarities in general and specific conditions of oil processing at specific companies of the Republic. These conditions are the following:

1. Due to a great capital intensity of destruction processes, inculcated with the aim of oil and gas products quality increase, investment amount, directed to those processes development, final economic outcomes of manufacture are accompanied with deterioration of general evaluation indexes of rate of return, capital and productivity. In this connection multiplication effect determination has a great significance as the most part of field effect from investment use as the most part of field effect is not taken into account in practice as it is formed while using high quality oil products by the customer. In such conditions assimilated investment can have low efficiency while simultaneous achievement of national economy significant efficiency.

2. Nowadays there is companies fundamental reconstruction in oil and gas industry of the Republic caused by the fact that technological base of oil and gas processing plants was not adapted for high-wax and sulphur crude oil processing, having high specific weight in the composition of initial resources processing, satisfying customers' needs. Herewith together with the objects of main manufacture purpose that directly increase industrial market products output, a great place was given to the construction of necessary objects on raw materials cleaning and non manufacture purpose buildings.

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