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# Integration Processes and Their Role in the Socio-Economic Development of the Russian Oil Industry and Regulation

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**Abstract**

At the beginning of the XXI century in Russia, one of the most common tools for developing business structures was corporate integration processes. At the same time, the holding and management structure acquired particular popularity. It should be noted that the main way to implement integration processes is mergers and acquisitions (M&A). The hypothesis is taken as a basic one in the article that integration processes in such an important industry for Russia as the oil one has a significant impact not only on the offensive itself, but also on the indicators of the socio-economic development of the state as a whole. The article analyzes the impact of corporate integration processes on the industry management of the Russian oil industry. Based on the conducted correlation and regression analysis, conclusions are drawn about the influence degree of each factor on the development indicators of the oil sector. The authors also offered recommendations for predicting industry development based on modeling data from integration processes.

**Keywords:** Integration Process, Oil Industry, State Regulation, State Development, Mergers and Acquisitions.

## I. INTRODUCTION

A large number of scientists devoted to the motives study of mergers and acquisitions [10; 8].

However, there is still no legally established term in Russia similar to the concept of M&A in European countries and the United States. In the Russian Federation, at the regulatory level, there is only a definition of the concept of merger of companies, which in accordance with the Civil Code is one of the forms of legal entity reorganization. In world legal practice, a merger is usually understood as a combination of several companies "through the accounting method of purchase or the method of merging assets." Thus, from the point of the law view, a merger in the USA is the liquidation of several merging legal entities and their actual joining to the main legal entity. This interpretation of the merger in the United States is fundamentally different from the Russian approach, according to which the merger is only a special case of the reorganization of the enterprise, the hallmark of which is the change of ownership. At the same time, the global practice of carrying out integration processes suggests that the implementation of such processes is possible not only in the process of reorganization, therefore, the economic understanding of the merger used in international business circulation covers a larger number of possible solutions.

In this work, integration processes implemented in the form of mergers and acquisitions (M&A) are considered in a broad sense and in the economic context, both the voluntary integration of several business structures and hostile actions aimed at gaining control over another legal entity without the consent of the latter. Thus, the key criteria that distinguish integration processes from other types of cooperation are obtaining economic and legal control over one or several legal entities, the completed nature of the transaction, termination of economic independence and centralization of management in the hands of the "main" company management.

In the economic scientific literature, much attention is paid to assessing the effectiveness of integration processes, methods for their implementation and consequences for the economies of the regions and the country as a whole. These aspects will also be considered in this work, however, it seems necessary to analyze in detail the prerequisites and motives for the implementation of integration processes in the Russian oil industry.

One of the first authors to systematize the main motives of integration processes was F. Trautwein. In his work "Mergers motives and merger prescriptions", he identified 7 basic theories [8]. According to Trautwein, integration processes can be implemented in accordance with the theory of efficiency, i.e. the synergy achieved by the merging companies, the desire to achieve market power and become a

monopolist (monopoly theory), a value theory, i.e. increase the value of the company. Trautwein also identified the motives of integration processes as the desire to build an empire (imperial theory), the desires and ambitions of managers to gain control over a large number of resources and processes (process theory), raider motives, as well as external motives, for example, unrest.

Subsequently, other authors supplemented its classification, and already in 2016, for the first time in the literature, a version was put forward on the motive for acquiring growth, i.e. Acquisition of a company with significant and significant growth potential in the relevant market [4].

Some authors consider mergers and acquisitions as drivers for the development of territories [7], while others analyze their subsequent effectiveness [2; 3; 5]. Also in the literature there is a point of view on industry integration processes through the creation of innovative clusters [9; 6; 1].

The oil industry has been at the forefront of all integration transformations for a number of reasons. The oil industry continued to generate stable cash flows in foreign currency, despite the crisis in the economy. In this industry, there were still long-term contracts for the sale of oil and oil products to counterparties. A large number of potentially accessible fields for development formed a stable operating income in the already conducted geological work. All these factors led to the fact that integration processes began to be actively implemented in the oil industry.

## II. METHODS

In the oil industry for the period from 2001 to 2018, there are 1387 corporate integration processes totaling more than $ 317 billion.

Table 1 presents the dynamics of integration processes in the oil industry of Russia.

Integration processes in the oil industry of Russia widely illustrate the whole range of existing theories and motives.

As can be seen from table 1, the dynamics of integration processes as a whole coincides with the dynamics of the development of the domestic economy. After the rapid growth of 2000-2007 in the period 2008-2012, there has been a decline in the number of mergers and acquisitions in the oil industry. The surge in 2013 was due to the completion of the transaction on the consolidation by Rosneft of TNK-BP assets.

A feature of the market for corporate integration processes in the Russian oil industry is the fact that the industry is significantly affected by large transactions, mega-mergers, the cost of which starts at $ 500 million.

Noteworthy for analysis is the cost of implemented integration processes. It is extremely difficult to identify a set of traditional factors affecting the value of mergers and acquisitions. Unlike financial services markets, the IT sector, traditional factors such as asset value, revenue, EBITDA, etc., are supplemented by specific industry indicators - oil prices, the level and nature of reserves, the development degree of deposits, the availability of technology, frames. Also essential for such an important area as the oil industry is political will and the desire to achieve integration. Many of these factors are not required for disclosure by oil companies, therefore, it is possible to justify the price of integration processes using expert estimates and insider information.

**Table 1.** Dynamics of integration processes in the oil industry in Russia

| Year | Number of M&A | Amount of M&A deals, million dollars | Share in the total number of integration processes, % | Average transaction value, million dollars |
|---|---|---|---|---|
| 2001 | 65 | 3069,4 | 36,60 | 47,22 |
| 2002 | 76 | 4836,04 | 39,36 | 63,63 |
| 2003 | 67 | 14383,56 | 57,16 | 214,68 |
| 2004 | 128 | 3151,94 | 15,42 | 24,62 |
| 2005 | 106 | 28563,78 | 54,97 | 269,47 |
| 2006 | 100 | 12388,79 | 22,96 | 123,89 |
| 2007 | 164 | 34382,66 | 28,59 | 209,65 |
| 2008 | 83 | 8432,66 | 7,67 | 101,60 |
| 2009 | 60 | 28544,44 | 57,02 | 475,74 |
| 2010 | 58 | 5544,35 | 10,93 | 95,59 |
| 2011 | 96 | 16993,94 | 18,04 | 177,02 |
| 2012 | 98 | 9264,24 | 11,33 | 94,53 |
| 2013 | 87 | 79044,19 | 50,38 | 908,55 |
| 2014 | 74 | 20138,77 | 27,31 | 272,15 |
| 2015 | 40 | 16559,74 | 29,67 | 413,99 |
| 2016 | 32 | 16721,5 | 42,00 | 522,55 |
| 2017 | 30 | 12891,17 | 30,47 | 429,71 |
| 2018 | 23 | 2260,3 | 5,76 | 98,27 |

At the same time, it should be noted that integration processes can have a significant impact on the indicators of socio-economic development of the regions and the country as a whole. Given that in total terms, the share of mergers and acquisitions in the Russian oil industry in different years reaches almost 60% of all integration processes in all sectors, we can conclude that it is necessary to analyze the nature and extent of such an impact on macroeconomic indicators.

To conduct a correlation and regression analysis, the author selected independent variables: the number of mergers and acquisitions in the oil industry for the period from 2001 to 2018 inclusive, their value in millions of dollars, the average cost of 1 transaction, the share of transactions in this field of the total value of all transactions in%. The following indicators were successively analyzed as dependent variables: Russia's GDP in trillion. USD, consolidated budget revenues in billions of dollars, oil and gas condensate production in millions of tons, oil exports in millions of tons. The analysis was performed using the Statistica application package.

## III. RESULTS

The initial data are presented in the table 2.

**Table 2.** Source data for analysis

| | Consolidated budget revenues, billion dollars | Russia's GDP, trillion dollars | Number of M&A | Amount of M&A deals, million dollars | Share in the total number of integration processes, % |
|---|---|---|---|---|---|
| 2001 | 92 | 0,305 | 65 | 3069 | 36,6 |
| 2002 | 112,2 | 0,344 | 76 | 4835 | 39,36 |
| 2003 | 134,8 | 0,43 | 67 | 14384 | 57,16 |
| 2004 | 188,4 | 0,59 | 128 | 3152 | 15,42 |
| 2005 | 303,1 | 0,76 | 106 | 28564 | 54,97 |
| 2006 | 391 | 0,99 | 100 | 12389 | 22,96 |
| 2007 | 522,5 | 1,299 | 164 | 34383 | 28,59 |
| 2008 | 650,5 | 1,66 | 83 | 8433 | 7,67 |
| 2009 | 427,2 | 1,219 | 60 | 28544 | 57,02 |
| 2010 | 527,9 | 1,525 | 58 | 5544 | 10,93 |
| 2011 | 709,5 | 2,05 | 96 | 16994 | 18,04 |
| 2012 | 754,1 | 2,193 | 98 | 9264 | 11,33 |
| 2013 | 767,4 | 2,296 | 87 | 79044 | 50,38 |
| 2014 | 695,8 | 2,058 | 74 | 20139 | 27,31 |
| 2015 | 439,2 | 1,355 | 40 | 16560 | 29,67 |
| 2016 | 419,4 | 1,28 | 32 | 16722 | 42 |
| 2017 | 532,4 | 1,579 | 30 | 12891 | 30,47 |
| 2018 | 595,3 | 1,656 | 23 | 2260 | 5,76 |

An initial analysis was conducted on the existence of a correlation between the Consolidated Budget Revenues indicator and the selected three independent variables — the number of integration processes in the country's oil industry, the total volume of transactions and their share in the total number of transactions.

Multiple regression was carried out using the method of stepwise or ridge regression with a stepwise procedure with the inclusion of variables. As a result, the adjusted determination coefficient was 68%, which characterizes the presence of a fairly strong relationship between the analyzed variables. The 2-total value of mergers and acquisitions and the share of industry transactions in the total number of mergers and acquisitions were selected as significant variables. Brief results of multiple regression are presented in Figure 1.

The regression results for the dependent variable "Consolidated Budget Revenues" are presented in the figure 2.

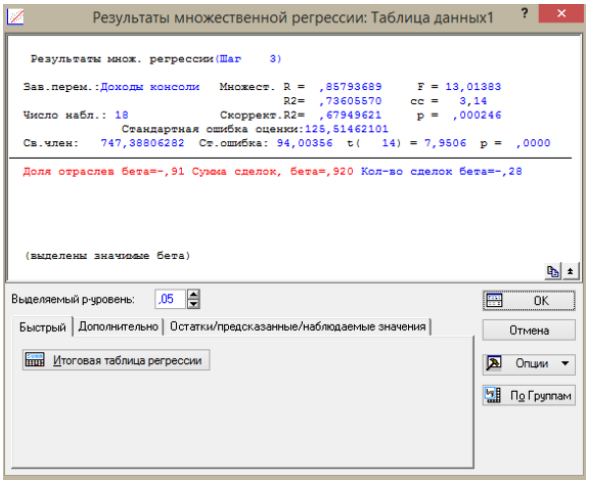


**Figure 1.** Summary Results of Multiple Regression on Consolidated Budget Revenues

Итоги регрессии для зависимой переменной: Доходы консоли
R= ,85793689 R2= ,73605570 Скоррект. R2= ,67949621
F(3,14)=13,014 p<,00025 Станд. ошибка оценки: 125,51

| N=18 | БЕТА | Ст.Ош. БЕТА | B | Ст.Ош. B | t(14) | p-знач. |
|---|---|---|---|---|---|---|
| **Св.член** | | | 747,3881 | 94,00355 | 7,95064 | 0,000001 |
| Доля отраслевых сделок в общих сделках, % | -0,906978 | 0,163931 | -11,7330 | 2,12068 | -5,53269 | 0,000074 |
| Сумма сделок, млн. долл. | 0,919712 | 0,168823 | 0,0114 | 0,00208 | 5,44779 | 0,000086 |
| Кол-во сделок слияний и поглощений, ед. | -0,278822 | 0,144946 | -1,7223 | 0,89532 | -1,92363 | 0,074977 |

**Figure 2.** Regression results for the dependent variable "Consolidated Budget Revenues"

A similar analysis was carried out for the dependent variable "Gross Domestic Product of Russia".

In this case, the adjusted determination coefficient was also 68%, and all 3 variables turned out to be significant. Multiple regression results are shown in the figure 3.

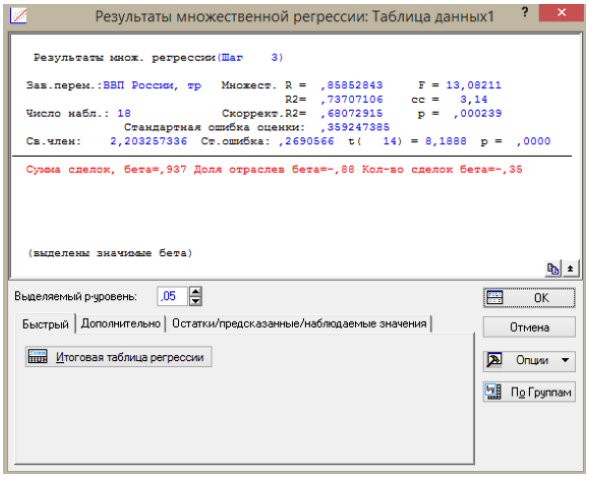


**Figure 3.** Summary Results of Multiple Regression on Russia's GDP

The final table and regression indicators are presented in the figure 4.

Итоги регрессии для зависимой переменной: ВВП России, трлн.долл
R= ,85852843 R2= ,73707106 Скоррект. R2= ,68072915
F(3,14)=13,082 p<,00024 Станд. ошибка оценки: ,35925

| N=18 | БЕТА | Ст.Ош. БЕТА | B | Ст.Ош. B | t(14) | p-знач. |
|---|---|---|---|---|---|---|
| **Св.член** | | | 2,203257 | 0,269057 | 8,18883 | 0,000001 |
| Сумма сделок, млн. долл. | 0,937319 | 0,168498 | 0,000033 | 0,000006 | 5,56279 | 0,000070 |
| Доля отраслевых сделок в общих сделках, % | -0,882877 | 0,163615 | -0,032753 | 0,006070 | -5,39606 | 0,000094 |
| Кол-во сделок слияний и поглощений, ед. | -0,354598 | 0,144667 | -0,006281 | 0,002563 | -2,45113 | 0,027983 |

**Figure 4.** Regression results for the dependent variable "GDP of Russia"

An analysis conducted on two other dependent variables - the volume of oil production and the export volume of crude oil, showed a complete lack of correlation between these variables and integration processes.

## IV. DISCUSSION

Integration processes in all sectors in Russia have a number of features. The first serious wave of integration in terms and procedures consistent with international best practices did not arrive in Russia until the beginning of the 21st century. Raider seizures, collateral auctions, barter transactions and the process of "initial capital accumulation" of the new Russia after the collapse of the USSR cannot be attributed to traditional M&A transactions due to non-compliance with the minimum legal procedures, the participation of criminal structures in such transactions, and the lack of proper legal regulation of the relevant processes .

In Europe and especially in the USA, the M&A market was very developed, the market was attended by relevant highly qualified specialists - lawyers, bankers, investment advisers. Russia was in a situation of the need for a radical change in the system of existing civil and business law, the search for highly qualified specialists in the field of mergers and acquisitions. It is for the period 2000-2005. there is a maximum number of so-called expats, attracted top managers of transnational corporations sent to Russia to coordinate integration processes. At the same time, tens of thousands of Russian citizens improved their skills and gained the basics of knowledge in the field of corporate law and integration processes at leading universities and business schools in the USA and Great Britain.

## V. SUMMARY

Informal ties and relationships played a great role in the implementation of integration projects in Russia. In the absence of a comprehensive and clear antitrust law, significant gaps in corporate and business law, political and administrative weaknesses of the Federal Antitrust Service and the authorities that preceded it, patronage in large state-owned companies or federal executive bodies was a key link in the successful implementation of integration processes , which carried out the coordination of these projects.

As a result, an independent and separate market for integration processes began to form in Russia, the distinguishing feature

of which was its high margin. The profitability of mergers and acquisitions could reach 400-500% per year. Such profitability leveled all existing economic and political risks in Russia and led to large-scale expansion of foreign capital into the country.

## VI. CONCLUSION

Thus, on the basis of the analysis, we can conclude that there is a correlation between integration processes, namely their quantitative and cost estimates, as well as the share of mergers and acquisitions in the oil industry in the total number of integration processes and revenues of the consolidated budget and gross domestic product .

The revenues dependence of the consolidated budget can be expressed by the regression equation, having the form

$$У = 747{,}3881 + 0{,}0114X_2 - 11{,}733X_3, \quad 1)$$

where $X_2$- is the total value of mergers and acquisitions in the oil industry of Russia;

$X_3$- the share of industry transactions in the total number of integration processes in the country.

The dependence of the gross domestic product of Russia can be expressed by the regression equation, having the form

$$У = 2{,}203257 - 0{,}006281X_1 + 0{,}000033X_2 - 0{,}032753X_3 \quad 2)$$

Where $X_1$- the number of mergers and acquisitions in the oil industry of Russia;

$X_2 -$ the total value of mergers and acquisitions in the oil industry of Russia;

$X_3 -$ the share of industry transactions in the total number of integration processes in the country.

Thus, it can be concluded that integration processes are an important tool of the system of both the state branch management of the oil industry and the whole country as a whole due to the strategic nature of regulated assets and a strong impact on key macroeconomic indicators.

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## REFERENCES

[1] Andersson T, Schwaag-Serger S, Sorvik J, Hansson EW. The cluster policies whitebook. 2004.

[2] Bykau A, Ghodsi A, Nezhadhossein H. Impact of oil prices on Russian ruble on condition of floating exchange rate regime. InPaper delivered at the 5th International Virtual Scientific Conference on Informatics and Management Sciences 2016 (pp. 1-3).

[3] Hua G, Zhou S, Zhang S, Wang J. Industry policy, investor sentiment, and cross-industry capital flow: Evidence from Chinese listed companies' cross-industry M&As. Research in International Business and Finance. 2020 Apr 3:101221.

[4] Levine O. Acquiring growth. Journal of Financial Economics. 2017 Nov 1;126(2):300-19.

[5] Marques LM, FS Gaspar AT, Schiozer DJ. Impact of the New Brazilian Fiscal System on Development of Oil Production Strategy. InSPE Asia Pacific Oil & Gas Conference and Exhibition 2014 Oct 14. Society of Petroleum Engineers.

[6] Rodnyansky DV, Abramov RA, Repin ML, Nekrasova EA. Estimation of innovative clusters efficiency based on information management and basic models of data envelopment analysis. International Journal of Supply Chain Management. 2019;8(5):929-936.

[7] Sadyrtdinov R, Rodnyansky D. Integration Processes as A Factor of Regional Development. Procedia Economics and Finance. 2015:772-777.

[8] Stein JC. Agency, information and corporate investment. -Handbook of the economics of finance. 2003:111-165

[9] Thurber MC, Hults DR, Heller PR. Exporting the "Norwegian Model": The effect of administrative design on oil sector performance. Energy Policy. 2011;39(9):5366-5378.

[10] Trautwein F. Merger motives and merger prescriptions. Strategic management journal. 1990;11(4):283-295.

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