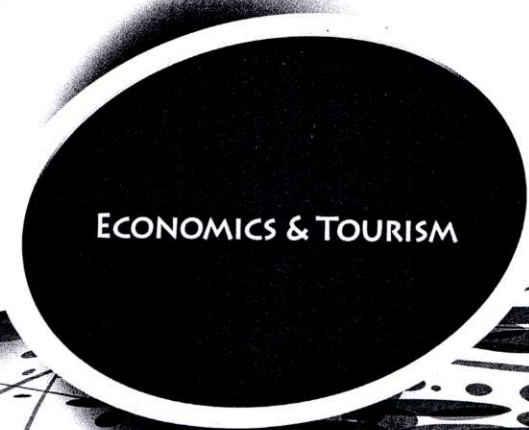


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**ADVANCED FIRMS IN THE REGIONAL DEVELOPMENT: REAL SITUATION AND THE POSSIBILITIES OF GROWTH (ON THE EXAMPLE OF THE JSC "TATNEFT" OIL COMPANY)**

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## ABSTRACT

In the article is carried out the general analysis of profit sources and possibilities of growth on the example of regional oil monopolist JSC "Tatneft" basing on authors methodology. For the periods of 2005 - 2013 are also constructed the models of growth with marking an extensive and intensive factors for the purpose of the accounting of their shares in production management.

**Keywords:** regional competitiveness, production functions, multiplicative Cobb-Douglas function, extensive / intensive growth.

## INTRODUCTION

One of the main objectives of social-economic development of the Republic of Tatarstan for 2011 - 2015 is the increase of regional competitiveness. The emphasis is placed to the dynamics of labor productivity in such sectors priority for the region, as petrochemistry and mechanical engineering, which provides about 40% of all industrial output of Tatarstan [1].

However actually the bigger importance compared with mechanical engineering for the region has the oil branch. Except the export sales out of the region and the country it delivers the production on the related with it regional enterprises of petrochemistry delivering in turn their production to the enterprises of mechanical engineering located in the region ("KamAZ", etc.). Thus, it is more expedient to begin clarification of opportunities of regional growth due to improvement of production processes on the key enterprises of these branches, i.e. oil production / processing. In the Republic of Tatarstan the real monopolists on production weight in these branches is the JSC "Tatneft".

**Analysis and draft conclusions.**

Let's make the preliminary selection of the companies of this branch for the further analysis and comparison within current state of the market (a necessary stage as because in principle from the official reports of "Tatneft"[5],[7], [8] enough full and regularly provided on RAS / IFRS follows in general the very optimistical picture).

We will make the primary selection of the possible companies by the standard statistical criterion applied in statistic and economic researches ("the main volume", which will be 90%) on the indicators "the capital and reserves" and "revenue".

Table 1. Draft list of the proposed for the analysis companies (data from 27.06.2014)

Company name	Currency balance	Capital and reserves	Revenue
JSC "Tatneft" (analysed)	533 317 265	421 696 037	363 531 273
JSC "Lukoil" OC	1 296 276 203	864 177 905	260 008 509
JSC "Surgutneftegas"	2 105 126 349	1 962 065 781	814 187 839
JSC "Gazprom neft"	899 539 887	341 601 552	1 178 063 787
JSC "Slavneft" OC	69 740 050	24 571 098	10 476 838
JSC "Bashneft" OC	370 864 920	178593136	517 486 718
JSC "Novatek"	406 121 752	223 602 169	245 077 487

Let's exclude the companies which exceeding the averages on the market by the size of the capital and reserves ("Surgutneftegas") and previously also exclude the companies with the considerable participation of federal bodies in various forms, including special attraction and participation of foreign players ("Rosneft", "TNK-BP"). As a result for the further analysis and comparison we have the following companies: "Bashneft", "Slavneft", "Gazprom Neft" (perhaps) and comparable by the volumes of revenue – "Lukoil" Oil Company (the large federal player, comparison with which could be interesting), and in case of (possible) loss of the last company on methodological aspects - JSC "Novatek". Let's carry out the further analysis on these companies.

It's possible to state obvious leadership of "Tatneft" among the all companies which are selected for the comparison by the coefficient of the current liquidity. The standard indicator is more than twice exceeded which could make some foundation for the proposition (only allegedly) about the successful functioning of the company in the short and medium-term period (basing on this indicator).

On maneuverability coefficient JSC "Tatneft"[2] is also close to the leader, showing the considerable volume of its own means in the most mobile form which allows carrying out technological modernization without serious consequences for the firm. Previously looking on this indicator we could speak about the high solvency of the company and its support of reasonable balance of a ratio of the capitalized own means and means of current activity financing.

Table 2. Observation indicators for chosen companies

Company name	Current liquidity ratio	Asset turnover ratio	Current assets to equity ratio	Debt ratio
JSC "Lukoil" OC	0,9034	0,3509	0,0404	0,5000
JSC "Tatneft" (analysed)	4,4858	0,9659	0,5554	0,2646
JSC "Slavneft" OC	2,4681	0,6898	1,0697	1,8379
JSC "Bashneft" OC	1,7309	3,6508	0,3699	1,0765

Compare with another companies of our analysis it's necessary to mark the lowest leverage coefficient level here. From the one hand it also shows potentially high solvency and considerable good-looking of the company to possible creditors. On the other hand considering that optimum for the Russian practice is the value about 1 and for developed economies is about 1,5 (i.e. 60% of loan and 40% of own capital) it is possible to speak about some missed opportunities to increase the profitability of own capital (see further) due to involvement in activity of additional borrowed funds.

On P/E coefficient (i.e. the price actions/profit) which is not very informative in a case of the companies concerned with the natural resources it is possible to fix the proximity of JSC "Tatneft" and "Bashneft" indicators and its low size rather with an average in the branch (but only little less than the average in selection). We propose that in this case it is possible to speak about a certain undervaluation of the company from the market especially as because the academic researches showed that in the equal conditions stocks of the companies with low "price/profit" coefficient in the long term will overtake the company with the high P/E ("effect of cost") and investment into low P/E takes the central place in strategy of such investors as Benjamin Graham and John Neff.

Table 3 (received from the web-site Quote.rbc.ru) EPS, \$, P/S, P/E, EV and other indicators

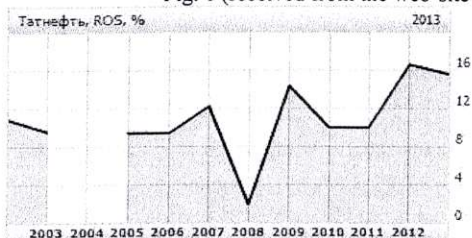
Indicators	JSC "Lukoil" OC	JSC "Gazprom neft"	JSC "Tatneft"	JSC "Bashneft" OC	JSC "Slavneft" OC
Capitalisation, млн. \$	47865.5	17769.61	13221.73	8109.56	1901.7
Revenue, млн. \$	143363	38071.43	13744.65	17280.54	5800.2
EPS, \$	8.21	1.1	1.06	9.4	0.05
P/S	0.33	0.47	0.96	0.47	0.33
P/E	6.85	3.4	5.74	5.73	7.58
EV, млн. \$	78253.5	31162.55	17802.85	15310.67	4534.39
EV/EBITDA	5.07	3.23	4.55	4.92	2.92
ROIC, %	7.55	13.41	14.11	14.89	6.1
Report type	GAAP	GAAP	GAAP	GAAP	GAAP
Period	1 quarter 2013 - 2013 -	1 quarter 2013 - 2013 -	1 quarter 2013 - 2013 -	1 quarter 2013 - 2013 -	1 quarter 2013 - 2013 -
	1 quarter 2014	1 quarter 2014	1 quarter 2014	1 quarter 2014	1 quarter 2014

On the P/S coefficient (coefficient "the price/sales volume" (price/revenue) or coefficient "multiple revenues" (price/revenues (or price/sales), PR ratio (or PS ratio), P/R (or P/S)) compared with the chosen companies it is possible to make a conclusion that the market estimates stocks of "Tatneft" as an attractive variant (on the developed market optimum variant is considered with the value close to one). However considering that this coefficient absolutely ignores the difference in sales profitability that is also reflected in a low indicator of P/S for the federal player with the developed network "Lukoil" and rather small indicator of the company "Slavneft" with the another

marketing strategy it is possible to state in general the small informational possibility of this indicator in that concrete case.

On a sales profitability coefficient (tab. 5.) JSC "Tatneft" is the leader that could prove the success of the continuous restructuring policy and in particular about the ability of the company to control expenses in this process and generally about the success of price policy (which looks especially interested with the earlier listed factors during the post-crisis period of economic development). However the probable and planned effect of long-term investments this indicator (Return on Sales, ROS) does not reflect as because it is only concerned with the reporting period.

Fig. 1 (received from the web-site Quote.rbc.ru) JSC "Tatneft", ROS, %



Generally speaking for the selected companies the indicator of assets profitability is rather low that is typical for capital-intensive branches. The position of "Tatneft" here is low that could be concerned as with the long-term investment carried out by the company including into the oil processing and also with the another factors (percentage payments, etc.). This aspect looks rather interesting for the further analysis.

Considering the companies on the value of coefficient of a own capital share in a balance sheet total (or on the concentration coefficient) we could notice that in the world practice it is considered that value of this indicator must be not less than 60% (the companies with an indicator are considered as potentially risky below). The recommended value starts from 0,75. Here we could think about the share of available and risk-free financing sources which the company could use a progressive tense in the activity, and here JSC "Tatneft" also has the leading positions.

Table 4. Net profit share in the revenue and own capital share in a balance sheet total

Company name	Net profit share in the revenue	Own capital share in a balance sheet total
JSC "Tatneft" (object of analysis)	0,1756	0,7907
JSC "Gazprom нефт"	0,0569	0,3797
JSC "Slavneft" OC	1,7089	0,3523
JSC "Bashneft" OC	0,1335	0,4815
ОАО "Новатэк"	0,2948	0,5505

However again with the transition to consideration the value of net profit share in the revenue indicator there is a question of efficiency of use of own capital. This indicator

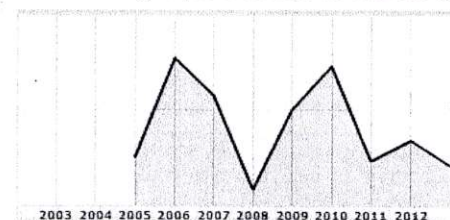
shows how many units of profit was made by the each unit of the realized production value and on it JSC "Tatneft" has a penultimate position. Except the obvious explanations (like the investments in oil processing and the accompanying expenses) it is possible to think about other reasons which are necessary try to clear below.

If we add to the previous indicator results the company position of the assets turnover coefficient (tab. 2) showing the efficiency of assets using (but seriously depending from the branch features) it should be noted the second position of JSC "Tatneft" on it (i.e. almost the leadership) that again allows us to speak about the (allegedly) rather intensive using of all attracted assets and the high business activity of the organization. In this case is also confirmed the known rule about the feedback with the indicator of sales profitability.

In a certain degree ROIC indicator (profitability of own capital) where JSC "Tatneft" and "Bashneft" are the market leaders corrects the positive value of the indicator "Net profit share in the revenue" confirming the good-looking for the investment. However the market now rather modestly estimates the JSC "Tatneft" basing on the value of EPS indicator (earning per share).

In a serious degree we could estimate like an a analog to earlier used indicator of P/E the EV/EBITDA coefficient (the relation of cost of the company (Enterprise Value, EV) to the profit got by it before the tax payment, EBITDA) on which "Tatneft" appears on the leading positions, proposed showing the rather optimistical opportunities including the potential investors, etc. But by consideration in dynamics the assessment can change (see fig. 3). However International Financial Reporting Standards (IFRS) and rules of conducting accounting of the USA (US GAAP) directly do not recommend using the EBITDA indicator as breaking the basic principles of the accounting. It is proposed that this indicator allows defining the efficiency of the company activity irrespective of its debt to various creditors and to the state and also from the depreciation charge method which in a case of JSC "Tatneft" [3] within its current policy is methodologically incorrect.

Fig. 2. (received from the web-site Quote.rbc.ru) JSC "Tatneft" EV/EBITDA



It is more expedient to analyse the results on EV indicator - the cost of the company (Enterprise value (EV), Total enterprise value (TEV) or Firm value (FV)) — the analytical indicator representing the estimation of company cost with the taking into account all sources of financing: debt obligations, preference shares, minority shares and common. Looking by the selection of the companies (tab. 3) it is possible to make a preliminary conclusion on considerable underestimation of the company cost by the market recognizing that cost of JSC "Tatneft" is only about 60% of the selection average. However after the exception of the large federal player of "Lukoil" Oil Company comparison with which for the JSC "Tatneft" is inexpedient methodologically

it becomes clear that this indicator of JSC "Tatneft" exceeds the market average for 3% which is well-coordinated with the estimations of another experts, like the "Alfa-Bank" analysts who counted in their recent report the JSC Tatneft "... one of the most expensive Russian oil companies".

Passing to the finishing indicator of own capital profitability (ROE) we could state the lowest position on it in our companies selection for the "Tatneft" (tab. 5). This indicator in the Russian practice could be interested by not only to owners of preference and common stocks. Consider to its value: a) when the company passes to new technologies and/or production demanding considerable investments this indicator always will be low; b) often the risk is more for the companies with the high value of this indicator; c) from the methodological point of view the indicator numerator, i.e. profit, is dynamic and reflects the activity results and the current prices level for goods and services generally for the expired period. The indicator denominator, i.e. own capital was made on the number of years. It is expressed in a book (registration) assessment which could differ from the current assessment very significantly; c) It is more important to note that the book assessment of the own capital has no relation to the future company incomes, for example, prestige of firm, a trademark, up-to-date technologies, the highly skilled administrative personnel have no monetary assessment in the reporting (if we are talking not about the firm sale in general).

In general basing only on this indicator it is impossible to estimate the efficiency of company business since the high value could be because of a high financial leverage that is clearly reflected in this case as its value of JSC "Tatneft" is the lowest among the chosen companies. Certainly, the recommended size for developed economies (10-12% for UK&USA) has no relation to the inflationary economies including Russia where this indicator has to be higher.

Table 5. Assets, own capital and sales profitability

Company name	Assets profitability	Own capital profitability	Sales profitability
JSC "Tatneft" (object of analysis)	0,1197	0,1514	0,2688
JSC "Gazprom neft"	0,0746	0,1965	0,0715
JSC "Slavneft" OC	0,1779	0,7286	0,0101
JSC "Bashneft" OC	0,1863	0,3870	0,1658

Thus, basing of the carried-out (standard) analysis we could see the strong and weaknesses of the company for the last period of time and even could make some predictive estimations. However for the answer to the posed questions, including the main about the drivers of the current contradictory economic development and the condition of the company it is necessary to use another tools.

#### Development of production function basing on JSC "Tatneft" data

It is known that the firms achieving high financial results at the expense of successfully developed environment of the market in the conditions of lack of possibility of continuous productivity increase have not the prospects of a sustainable development. Therefore it is advisable to spread out the financial result of JSC "Tatneft" to two components one of which significantly depends on internal organizational and technological conditions which in general could be reduced to productivity indicators,

whereas another (external conditions) is urged to characterize the specific market conditions (prices for products, total amount of demand, market condition, etc.).

Production capabilities of JSC "Tatneft" [4] as well as any other firm in a bigger or smaller degree are defined by the correlation of internal and external resources. To the internal must be primarily attributed resources which are concerned with the number of employees and their productivity, external will be concerned with the market conditions which ultimately affect the sales revenue. For the assessment of a correlation of internal and external factors let's put some indicators of the studied firm to the separate table (tab. 6).

On the basis of initial statistical information during 2005 - 2013 on revenue (X) - "GDP" in table 5, volumes of fixed assets (To), number working (L) and indicators of a deflator of GDP in relation to the prices of 2005 calculated the specified data provided in tab. 6.

Table 6. Data basing on GDP deflator

Period	Deflator	GDP (X), bln. of roubles.	OC (K), bln. of roubles.	Personal (L), thousands of people
2005	100,0	169,94	51,92	46,54
2006	108,2	160,89	48,90	42,51
2007	117,4	167,87	48,72	39,76
2008	122,5	178,52	51,34	26,50
2009	113,9	198,29	53,55	32,41
2010	119,0	216,76	53,35	21,30
2011	124,1	256,72	61,69	21,04
2012	128,3	268,56	73,82	21,10
2013	130,0	279,64	81,24	20,80

The entered GDP deflator (the base year - 2005) removes a collinearity of factors of OC and L, allowing to reveal actually specified divergence of tendencies.

The purpose at this stage is finding of production multiplicative function  $X = f(K, L)$  in the form of function of Kobb-Douglas (see the corresponding fragments of article on "NKNH").

The carried-out component analysis with creation of a correlation matrix testifies to correlation relationship between function and arguments X-K, X-L is very close (coefficients of pair rank correlation "0,95" and "-0,93" - respectively) whereas communication between arguments of the required K-L function makes "-0,85" - though rather close, but on the module not exceeding communication of an endogenous variable with the studied factors.

Modeling is carried out with the computer program (software developer Cand. Econ.Sci. Shikhalev A.M.) with the following results:

1. Type of required function:  $X = 25,5603 \cdot K^{0,7434} \cdot X^{-0,2775}$ ;
2. Reliability of the equation according to Fischer makes 100,0%;
3. The importance of regression coefficient  $\alpha_1$  and  $\alpha_2$  on Student - 99,8% and 98,9% - respectively;
4. Release grows more slowly than expenses that is characteristic for the decreasing economy;
5. Intensive labor-saving growth is observed;
6. Growth rate of production efficiency  $E = 0,4985$  (intensity of growth);
7. Growth rate of scale of production of  $M = 3,3007$  (extensiveness of growth);

8. Specific production efficiency  $Y = E/M = 0,1510$  that nevertheless is insignificant. In other words, during 2005 - 2013 in the general growth the share of efficiency of activity of JSC "Tatneft" in relation to a share of scale made no more than 15 percent (slightly more than one sixth from the general growth);
9. Number of degrees of freedom in numerator 8, in a denominator 6;
10. Darbin-Watson's criterion of  $DU \approx 1,60$  (in case of insignificance of autocorrelation of the remains the criterion has to be around 2,00);
11. Multiple coefficient of correlation of  $R = 0,9763$ ;
12. Multiple coefficient of determination of  $R^2 = 0,9532$  (it is measured as the attitude of the explaining dispersion towards the general and means that the received equation does not explain only less than 5% of unknown factors);
13. The logarithm of an error of approximation is equal 0,65% (it is necessary to build the basis of a natural logarithm in degree 0,65: it turns out that the average error of approximation makes 1,92%). From 0% to 10% the accuracy of approximation is considered "raised".
14. The model can be accepted for further researches as suitable for a short-term assessment and forecasting.

### CONCLUSION

The calculated value of criterion of Darbin-Watson of  $DU$  makes  $d = 1,83$  and testifies to lack of autocorrelation of the remains that there is a confirmation of a zero hypothesis of  $H_0$ . Therefore, the equation of production function of the given look it is quite possible to use for creation of extrapolation forecasts.

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## ECONOMIC PERFORMANCE ANALYSIS OF THE ROMANIAN AGRICULTURE

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### ABSTRACT

The purpose of this article is to analyze the Romanian agriculture during the time period 1990-2013. Descriptive statistics was used in order to assess: the surface of arable land, the surface of the cultivated land, the main crops, the exports and the imports. Secondly, trend line function was used to foresee the evolution of the cultivated land of Romania till the year 2020. The results underline the importance of capitalizing the agricultural potential of the country. Romania had an agricultural potential of 6,45 million hectares arable land at the level of the year 2013. The paper drew an objective analysis on the Romanian agriculture in terms of production-exports-imports macroeconomic variables analysis.

**Keywords:** arable land, crops, cultivated land, exports, imports, maize production, sunflower production, wheat production

### INTRODUCTION

For a country as Romania, which has more than 14 million hectares arable land and also more than 6 million hectares forests, agriculture and forestry should be the main focus for economic and social development.

When analyzing the forestry sector, an important attention should be paid to the non-wood forest products: "mushrooms, medical and aromatic plants, wild berries and other forest fruits" [1] for a better development strategy.

For the agricultural sector, many authors studied the performance of its main branches, one of it being vineyard management. Irimia et al. (2015) emphasized the importance of the "knowledge of spatial variation of chemical compounds which generate grapes quality" [2]. Other researchers focused their studies on fruit trees, in order to identify the differences among hybrid families for vigor of the tree [3]. Other authors made a macroeconomic analysis of the agricultural sector in order to understand "the massive transformation process regarding the convergence of the inland agricultural sector" to the Common agricultural Policy criteria and to the "economy exigencies". [4]

In this paper, descriptive statistics function was used in order to make an economic analysis on the various aspects of the agricultural sector: surface of arable land, surface of the cultivated land, main crops, exports and imports. Secondly, trend line function