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**Innovation and Growth in Russian Industry:
A Company-level Analysis**

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Abstract

Today more and more companies in Russia publish their reports, following the International Accounting Standards¹. There is a conventional opinion that it makes them more transparent and helps attract investment from financial markets. It is even considered sometimes as a panacea against corporate governance problems of Russian companies.

21 well-known Russian companies did this for the years 1999-2002. In the report we call them financially innovative companies (FIC's).

The main point of interest of our report is to analyze if the FICs perform better than industry in general: are they growing faster, are they more active in investment and in technical innovations, do they have better indicators of productivity, or not? This report tries to find answers to these questions.

¹ IAS or American GAAP.

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Introduction

One of the main economic tasks in today's Russia is to double its gross domestic product (GDP) up to 2010. Can this goal be achieved? Traditional growth analyses focus on the macroeconomic level, or manufacturing sector (see, for example, [28] for a review on studies in growth and productivity). In particular, one of the research directions of IIASA's Dynamic Systems Program (DYN) is devoted to developing models of economic growth with a stress on optimal patterns (see, for example, [30]).

But the microeconomic analysis on the company level is also the point of interest. Can it support or neglect conclusions obtained in the macroeconomic research? How companies of different industries are growing in comparison with the GDP growth? What one can conclude about achievement of macroeconomic goals on the basis of analysis on the microeconomic level? The paper deals with these and related problems.

The Sources of Data

The main sources of data for this research were the GOSKOMSTAT statistical yearbooks [1-5] and the Internet sites of the companies analyzed in [6-26].

The Methods of Analysis and Main Results

To fulfill this analysis we have calculated 17 indicators for 21 company. The short characteristic of these companies is given in Appendix. These indicators are divided into 3 groups: 8 indicators of growth; 6 of productivity; 3 of growth of productivity. For uniformity all calculations have been done in US dollars².

² In accordance with average exchange rates of ruble to US dollar in each year.

The indicators calculated for each company are compared with the industry average indicator. Since the industry data is taken from Goskomstat reports and the data for a particular company is taken from its own account one can suppose that the data construction for industries and for companies can differ. Therefore, in our analysis we use the following rank system. If the value of an indicator for the company is larger than its value for the corresponding industry by 20 % or more we give this indicator rank “+1”; if it is less by 20 % we give it rank “-1”. If this difference is within the range of +/- 20 % we give ranks “0.2” or “-0.2” respectively³. Then we calculate the average rank for each group of indicators and the final average rank for each company. It can be easily seen that in such system the maximal average rank is “+1”, the minimal is “-1”. The *positive sign* of average rank means that the company performs *better* than the industry on the average; the *negative sign* means that it works *poorer* than on the average. The results of this rank analysis are demonstrated in the Table 1 (the author’s calculations).

³ That means that we accept 20 % as a sufficient threshold of difference. The criteria of 20 % may seem to be dubious. But to defend this approach here let us call attention to the fact that only 62 indicators get ranks 0.2 or -0.2 among 357 total indicators (357=21*17), that is 17 %.

Table 1. Analysis of companies' ranks.

<i>Industry / Company</i>	<i>Average ranks of the groups of indicators</i>			
	growth	efficiency	Growth of efficiency	Final rank
<i>Telecommunication</i>				
Dalsvyaz	-0,25	0,2	0,07	-0,04
MGTS	-0,6	0	0,73	-0,15
NWT	-0,25	0,07	0,33	-0,04
Rostelecom	-0,9	-0,33	-1	-0,75
Vimpelcom	0,15	-0,53	0,33	-0,06
STC	-0,25	-0,13	0,6	-0,06
Uralsvyazinform	0,6	0,33	0,6	0,51
Industrial machinery and metal cutting				
Zavolzhski motorni	-0,35	0,33	-1	-0,22
Silovie machiny	0,4	-0,13	0,67	0,26
OMZ	0,4	0,13	1	0,44
Food & beverages				
Wimm-Bill-Dann	0,6	0,27	-0,67	0,26
Kalina	-0,6	-0,4	-1	-0,6
Sun Interbrew	0	-1	-0,33	-0,41
Oil & Gas				
TNK	-0,1	-0,2	0,6	-0,01
Sibneft	-0,15	-0,53	-0,07	-0,27
Lukoil	-0,2	-0,67	-0,33	-0,39

Electric energy				
Mosenergo	-0,45	-0,53	-0,2	-0,44
Lenenergo	-0,35	-0,2	0,33	-0,18
Ferrous metallurgy				
Magnitogorsk Metallurgical	-0,3	0	0,33	-0,08
Non-ferrous metallurgy				
ALROSA	0,15	-0,87	-0,6	-0,34
Pipeline transportation				
Transneft	0,38	-0,03	0	0,16

We see that only 5 companies have positive final ranks. The 1st place belongs to “Uralsvyazinform” (a telephone operator in the Ural region), the second to OMZ (former “Uralmash”) – now a group of industrial machinery companies with the parent company in Ekaterinburg. The 3d place is divided between “Silovie Machiny”, a group of energy equipment producers with the parent company in St. Petersburg’s⁴, and the well-known producer of juices and milk products “Wimm – Bill – Dann”⁵.

Among industry groups⁶ the best *average final rank* is demonstrated by *industrial machinery*. The group of *industrial machinery* has also the best *growth indicators*⁷, the *indicators of efficiency* and *indicators of growth of efficiency*. The latter indicators are also very high in *telecommunication companies*.

Table 1 provides us with the answer on the first question: do the FICs have better performance nowadays in Russia than the corresponding industries in general? The answer is: no. In order to explain this result we have calculated the average ranks of the

⁴ In 2003 OMZ and “Silovie machiny” declared about merging.

⁵ In *growth indicators* of individual companies the best are Uralsvyazinform, and WBD; in *efficiency indicators* the best are again Uralsvyazinform, and ZMZ (industrial machinery group in Volga Basin); in *the growth of efficiency indicators* the best are OMZ, and MGTS (Moscow telephone operator).

⁶The industry group is presented by companies of the given list.

⁷Non-ferrous metallurgy and transportation industry look well in these indicators but are represented by a single company.

basic indicators for the whole set of companies. The results are shown in the Tables 2a-2c (the author's calculations).

Tables 2a-2c. The indicators results (average ranks).

Table 2a. The indicators of growth.⁸

Industry/ Indicator	Sales index	Assets index	Investment/ Net income	Invest ment/ Assets	Rates of sustainab le growth	Financial leverage, 2002	Financial leverage (1999- 2002 average)	Loans /As sets
Telecommun ication	0,60	0,43	0,54	-0,54	-0,71	-0,60	-0,54	-0,89
Industrial machinery & metal cutting	0,33	1,00	0,33	0,73	-0,60	0,07	0,33	-1,00
Food & Beverages	0,33	0,73	-0,33	0,33	-0,73	-1,00	-0,33	1,00
Oil & Gas	0,60	1,00	-0,73	-1,00	-1,00	0,60	0,07	-0,73
Electric Energy	0,40	0,60	-1,00	-0,40	-1,00	-0,40	-0,40	-1,00
Ferrous Metallurgy	-0,20	-0,20	1,00	1,00	-1,00	-1,00	-1,00	-1,00
Non-ferrous metallurgy	-0,20	1,00	1,00	1,00	-1,00	0,20	0,20	-1,00
Pipeline Transportati on	1,00	1,00	1,00	1,00	1,00	-1,00	-1,00	0,00
Total average	0,45	0,68	0,12	-0,07	-0,71	-0,37	-0,30	-0,59

⁸ "Investment" here means "investment in property, plant & equipment".

Table 2b. The indicators of productivity.⁹

Industry/Indicator	Assets turnover	Investment in innovations/Net income	Investment in innovations/Assets	Labor productivity	Return on equity	Profit margin
Telecommunication	-0,09	0,71	0,71	0,20	-0,89	-1,00
Industrial machinery & metal cutting	-0,07	-0,33	-0,33	1,00	0,07	0,33
Food & Beverages	-0,47	-0,33	-0,33	0,33	-0,73	-0,73
Oil & Gas	0,20	-1,00	-1,00	-0,33	-0,20	-0,47
Electric Energy	-0,20	-1,00	0,00	1,00	-1,00	-1,00
Ferrous Metallurgy	-1,00	1,00	1,00	1,00	-1,00	-1,00
Non-ferrous metallurgy	-1,00	-1,00	-1,00	-1,00	-0,20	-1,00
Pipeline Transportation	-0,20	1,00	1,00	0,00	-1,00	-1,00
Total average	-0,20	-0,05	0,05	0,30	-0,62	-0,70

⁹ “Innovations” here means technology innovations.

Table 2c. The indicators of growth of productivity.

Industry/Indicator	Growth of assets turnover, annual average	Growth of labor productivity, annual average	Rates of accelerated growth, annual average
Telecommunication	0,14	-0,43	0,43
Industrial machinery & metal cutting	0,33	-0,33	0,33
Food & Beverages	-1,00	-1,00	0,33
Oil & Gas	-0,07	-0,73	1,00
Electric Energy	-1,00	0,60	0,60
Ferrous Metallurgy	0,20	-0,20	1,00
Non-ferrous metallurgy	-1,00	-1,00	0,20
Pipeline Transportation	-1,00	0,00	1,00
Total average	-0,24	-0,44	0,54

Tables 2a-2c demonstrate that in general FICs are mostly strong in such indicators as: 1) growth of sales; 2) growth of assets; 3) rates of accelerated growth; and 4) labor productivity. But they perform poor in the majority of productivity indicators. Their financial leverage is weaker than the corresponding industry on the average, and they are not prone to investments and innovation activities¹⁰.

These results allow making the following conclusions.

A. The FICs are mostly oriented on *growth*, on grabbing the market share, but are not directed on increasing of the firm's efficiency. To illustrate this let us have a look on Table 3 (the author's calculations).

¹⁰ Of course, one can observe peculiarities of a particular industry. For example, such companies as: MMK, ALROSA and Transneft are strong in the investment activity; and telecommunication companies and MMK are active in innovations.

Table 3. The share of the examined companies in the total industry production, 1999-2002, measured in %.

Industry/Company	2002	2001	2000	1999	1999-2002, average
Telecommunication					
Dalsvyaz	1,9 %	0,7 %	0,9 %	0,7 %	1,1 %
MGTS	4,4 %	5,3 %	5,5 %	4,0 %	4,8 %
NWT	3,6 %	1,9 %	1,1 %	1,1 %	1,9 %
Rostelecom	9,5 %	14,0 %	21,3 %	27,2 %	18,0 %
Vimpelcom	8,2 %	5,8 %	5,0 %	5,0 %	6,0 %
STC	4,0 %	1,3 %	1,3 %	1,4 %	2,0 %
Uralsvyazinform	5,9 %	1,1 %	1,3 %	1,3 %	2,4 %
<u>Total</u>	<u>37,5 %</u>	<u>30,1 %</u>	<u>36,4 %</u>	<u>40,7 %</u>	<u>36,2 %</u>
Industrial machinery and metal cutting					
Zavolzhski motorni	0,6 %	0,6 %	0,6 %	0,8 %	0,7 %
Silovie machiny	0,7 %	0,7 %	0,2 %	0,1 %	0,4 %
OMZ	1,1 %	0,9 %	0,9 %	0,5 %	0,8 %
<u>Total</u>	<u>2,4 %</u>	<u>2,2 %</u>	<u>1,7 %</u>	<u>1,4 %</u>	<u>1,9 %</u>
Food & beverages					
Wimm-Bill-Dann	3,1 %	2,9 %	2,5 %	2,3 %	2,7 %
Kalina	0,5 %	0,6 %	0,6 %	0,6 %	0,6 %
Sun Interbrew	1,6 %	1,5 %	1,4 %	1,3 %	1,4 %
<u>Total</u>	<u>5,2 %</u>	<u>5,0 %</u>	<u>4,5 %</u>	<u>4,2 %</u>	<u>4,7 %</u>
Oil & Gas					
TNK	16,1 %	15,3 %	14,3 %	9,9 %	13,9 %
Sibneft	12,7 %	10,6 %	8,1 %	9,8 %	10,3 %
Lukoil	40,7 %	39,8 %	44,5 %	43,0 %	42,0 %
<u>Total</u>	<u>69,5 %</u>	<u>65,7 %</u>	<u>66,9 %</u>	<u>62,7 %</u>	<u>66,2 %</u>
Electric energy					

Mosenergo	8,0 %	10,3 %	8,1 %	8,7 %	8,8 %
Lenenergo	3,4 %	4,1 %	2,7 %	2,7 %	3,2 %
<u>Total</u>	<u>11,4 %</u>	<u>14,4 %</u>	<u>10,8 %</u>	<u>11,4 %</u>	<u>12,0 %</u>
Ferrous metallurgy					
Magnitogorsk Metallurgical	13,5 %	12,8 %	13,1 %	13,9 %	13,3 %
Non-ferrous metallurgy					
ALROSA	12,9 %	16,0 %	11,4 %	14,2 %	13,6 %
Pipeline transportation					
Transneft		35,3 %	No data	30,7 %	

One can see from Table 3 that 13 companies among 21 FICs have increased their market share. The majority of them belong to telecommunication, industrial machinery, food & beverages and oil & gas industries.

B. One can conclude from Tables 2a-2c that the growth of FICs is not better supported by the financial leverage than the corresponding industry in general.

C. The growth of FICs is not followed by the growth of productivity with the exception of the labor productivity. But the latter circumstance does not give obligatory evidence of a sufficient technological change. There are no signs of such change. The innovation policy of the majority of FICs is weak¹¹.

¹¹ With some exceptions mentioned above, of course.

Table 4. The sources of assets growth, 1999-2002 average, %.¹²

Company / Industry	EQUITY	as a % of equity growth		DEBTS	as a % of debt growth: net bank credits and bond emission
		net income minus dividends	share emission		
Telecommunication					
Dalsvyaz	68,5 %	3,2 %	0,0 %	31,5 %	0,0 %
MGTS	59,6 %	62,0 %	0,0 %	40,4 %	-76,3 %
NWT	68,2 %	-3,6 %	0,0 %	31,8 %	-6,9 %
Rostelecom	25,4 %	-24,0 %	3,1 %	74,6 %	2,5 %
Vimpelcom	57,9 %	12,6 %	0,0 %	42,1 %	17,4 %
STC	48,5 %	12,7 %	21,9 %	51,5 %	-9,9 %
Uralsvyazinform	32,8 %	27,4 %	71,1 %	67,2 %	26,5 %
Total	58,5 %	23,0 %	19,8 %	41,5 %	11,5 %
Industrial machinery and metal cutting					
Zavolzski motorni	-245,1 %	117,7 %	10,3 %	345,1 %	12,2 %
Silovie machiny	52,8 %	10,8 %	0,0 %	47,2 %	50,7 %
OMZ	45,2 %	40,4 %	0,0 %	54,8 %	89,8 %
Total	58,0 %	32,4 %	1,3 %	42,0 %	74,8 %
Food & beverages					
Wimm-Bill-Dann	60,2 %	34,7 %	70,8 %	39,8 %	45,3 %
Kalina	97,4 %	63,2 %	36,8 %	2,6 %	1766,7 %
Sun Interbrew	57,2 %	19,4 %	84,0 %	42,8 %	82,1 %
Total	61,8 %	32,2 %	72,4 %	39,1 %	87,1 %
Oil & Gas					

¹²Table 4 is based on the main equation of the balance sheet: $A = E + D$, where A is assets, E is equity, D is debts.

TNK	28,1 %	327,1 %	17,1 %	71,9 %	28,8 %
Sibneft	38,0 %	96,0 %	-1,4 %	62,0 %	98,1 %
Lukoil	84,3 %	58,7 %	-0,3 %	15,7 %	52,5 %
<u>Total</u>	<u>66,1 %</u>	<u>84,1 %</u>	<u>1,0 %</u>	<u>33,9 %</u>	<u>56,4 %</u>
Electric energy					
Mosenergo	109,2 %	-7,2 %	0,0 %	-9,2 %	114,2 %
Lenenergo	111,8 %	-1,6 %	0,0 %	-11,8 %	-37,6 %
<u>Total</u>	<u>110,9 %</u>	<u>-3,7 %</u>	<u>0,0 %</u>	<u>-10,9 %</u>	<u>7,4 %</u>
Ferrous metallurgy					
<u>Magnitogorsk Metallurgical</u>	<u>49,0 %</u>	<u>-83,3 %</u>	<u>4,9 %</u>	<u>51,0 %</u>	<u>212,3 %</u>
Non-ferrous metallurgy					
ALROSA	44,8 %	71,8 %	0,0 %	55,2 %	66,3 %
Pipeline transportation					
Transneft	91,1 %	63,9 %	0,0 %	8,9 %	219,3 %

But if we accept all these conclusions what is the engine of the FICs' growth? If sales of the firm grow without increase in assets turnover (see Tables 2a-2c) we should concentrate our attention on the growth of assets and on the factors of that growth. They are analyzed at Table 4 (the author's calculations).

We can draw the following conclusions from this table.

1. For the majority of companies (12 companies) the main source of the assets growth is the growth of the equity capital.
2. At the same time only in 11 companies the retained earnings and shares emission combined together explain more than 50 % of the equity growth. Share emission alone is important only for 6 companies. Both of these facts mean that rather large part of equity increase can be explained by accounting "tricks", such as: reevaluation of assets, adjustment to currency rates and changes in inflation, etc. They themselves are not factors of growth.

3. Only in 11 companies the net credit is a serious factor of growth¹³.

As we know from the history of FICs in 1999-2002 mergers and acquisitions (M&A) played an important role in the growth of assets in many of them. Table 5 demonstrates this tendency (the author's estimates).

Table 5. Companies' activity in merging and acquisitions in 1999-2002.¹⁴

Industry/Company	1999-2002
Dalsvyaz	Y
MGTS	N
NWT	Y
Rostelecom	Y
Vimpelcom	N
STC	Y
Uralsvyazinform	Y
Zavolzhski motorni	N
Silovie machiny	Y
OMZ	Y
Wimm-Bill-Dann	Y
Kalina	Y
Sun Interbrew	Y
TNK	Y
Sibneft	Y
Lukoil	Y
Mosenergo	N
Lenenergo	N

¹³ The other part of debt growth can be attributed to accruals.

¹⁴ Y (yes) is indicated if M&A takes place, N (no) - if M&A is absent or there is no data.

Magnitogorsk Metallurgical	N
ALROSA	N
Transneft	N

Companies of the food & beverages industry, oil & gas production, the majority of telecommunications companies, and OMZ¹⁵, are the most active companies in M&A.

¹⁵ The process of M&A is very typical for today's Russia. It should be noted that some of M&A acts are not friendly and voluntary processes.

Conclusions

1. The majority of FICs do not perform better than the corresponding industry on the average.
2. The growth indicators are the best indicators for FICs. The main goal of many
3. Russian companies now is to overtake the maximal market share in different industries¹⁶.
4. The attraction of money from domestic or foreign financial markets provides the growth only partially.
5. FICs become more transparent but not more attractive for investments due to weak economic indicators. Many of them begin to lag behind other companies in efficiency.
6. A serious role in growth of FICs belongs to their policy of merging and acquisitions.
6. The companies that use international standards of accounting are usually considered the “best” companies by Russian financial authorities and seem to be “advanced” firms in opinion of economists. But the previous analysis demonstrates serious obstacles for their future economic growth. The really best companies should use financial markets more intensively and work more on innovations and the productivity growth to be the locomotives of the Russia’s future economic development.

¹⁶ This conclusion is supported by other researches (see, for example, the review of the policy of largest Russian companies in [29]).

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Appendix

List of 21 analyzed companies

1. Magnitogorsk metallurgical plant (MMK) – a ferrous metallurgical plant in the South of the Urals.
2. OMZ (Ob'edinennie mashinostroitelnie zavodi) – a group of machinery plants for energy industry producing in the Urals and the European part of Russia.
3. Northwesttelecom (NWT) – a telecommunication company that serves North and West regions of Russia.
4. Uralsvyazinform – a telecommunication company that serves the Urals' region of Russia.
5. Dalsvayz – a telecommunication company that serves the Russian Far East.
6. MGTS – a telecommunication company that serves the Moscow region.
7. Rostelecom – a long-distance all-national operator of the Russian Federation.
8. Vimpelcom - one of Russia's leading providers of wireless telecommunication services.
9. Southern Telecommunication Company (STC) – the largest communication company that serves the Southern region of European Russia.
10. Zavolzhski motorni zavod (ZMZ) – a group of machinery producing plants in the industrial cities of Volga Basin.
11. Silovie mashiny – a group of machinery plants in St.- Petersburg and other regions of European Russia.
12. Wimm-Bill-Dann – one of the largest producers of juices and milk products in Russia.
13. Kalina – one of the largest producers of perfumery in Russia.
14. Sun Interbrew – one of the largest brewery companies in Russia.
15. TNK – an oil company in West Siberia.
16. Sibneft – an oil company in Siberia.
17. LUKOIL – one of the largest Russian oil companies.
18. Mosebergo – an energy supplier of the Moscow region.
19. Lenenergo – an energy supplier of the St.-Petersburg region.

20. ALROSA – the largest company in the Russian Federation engaged in exploration, extraction, processing and selling of diamonds.

21. Transneft – a company engaged in pumping, coordination and management of oil transportation by pipelines.