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# HOW WELL DO ANALYSTS PREDICT STOCK PRICES? EVIDENCE FROM RUSSIA

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## **How Well do Analysts Predict Stock Prices? Evidence from Russia**

In this research we found that 56.8% of expert recommendations on selling or buying stocks of Russian companies were profitable. We show that the recommendations being publically released have an impact on stock prices, hence market players are likely to follow the recommendations. There also no difference in an analyst's gender and almost no difference in the day the recommendation was made.<sup>3</sup>

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JEL codes: G32 (Financing Policy; Financial Risk and Risk Management; Capital and Ownership Structure; Value of Firms; Goodwill).

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## **Introduction**

The financial crisis of 2008-2009 revealed weaknesses in company valuations based on stock market price performance, and the vulnerability of reliance on financial analysts' forecasts based solely on this data. Since the crisis, we investigate whether or not this approach to company valuations has changed. More precisely, the research objective is find whether post-crisis forecasts of financial analysts are accurate.

The research is structured as follows. First, a brief literature survey is presented; second, the data is described; third the core single and multifactor analysis results are give; the last section concludes.

## **Literature Survey**

Financial analyst forecasts concerning future company earnings and current company valuation have been of interest for a long period. Ramnath et al. (2010) present a comprehensive review of recent studies. Kahneman (2011) states there is no extra knowledge that analysts bring to receive a premium or remuneration as they often fail to achieve even a 50% success rate. Aleskerov and Egorova (2012) show that having a success rate above 50% allows investment bankers relying on analyst forecasts without paying attention to whether or not there is a crisis.

The current research aims at verifying the results obtained for developed markets (e.g. Ramnath et al. (2010)) and in a theoretical context (e.g. Aleskerov and Egorova (2012)) using empirical data from the developing stock market of Russia.

## **Data and methodology**

We gathered 1572 recommendations from 134 analysts, working in 23 Russian and global investment banks, issued during the period from January 1<sup>st</sup> 2012 to 31<sup>th</sup> December 2012. All the recommendations were found in financial databases such as RBC (RosBusinnesConsulting) and Bloomberg. These recommendations were made on the common and preferred stocks of the 41 most traded Russian companies in 10 industries: chemistry, construction and development, retail and consumer goods, energy production, banks, manufacturing and engineering, metals and mining, oil and

gas, telecommunications and media, and transport. The common and preferred stocks of these companies are traded on the Moscow, London, New York stock exchanges and NASDAQ.

All recommendations made by analysts fall into three categories: “buy”, the price is expected to rise; “sell”, the price is expected to fall; or “hold” no change expected. We simplified this into a dichotomous scale by combining “buy” and “hold” in one category, “buy” since the analyst, while evaluating a stock, is sure that the stock price will not fall within the forecast horizon, hence an investor would be sure he would not lose money. 980 recommendations (or 62% of total number) were “buy” and 107 recommendations (7% of total number) were “sell”, whereas the rest 485 recommendations (31% of total) were “hold”.

Two other assumptions were made, first, if a company is traded on two or more stock exchanges, we treat these stocks as independent. Second, the stocks are infinitely divisible. This assumption is crucial, since we chose the following scheme to estimate the successfulness of each recommendation. We open a position in a stock right after the recommendation is released. We open a long position if the recommendation was “buy”, and short position if recommendation was “sell”. The initial amount of funds invested in each stock was 1000 units of currency in which the stock is traded, depending on the stock exchange. We fully spent 1000 units of currency on each stock irrespective of its current price. For example, if an analyst on January 17<sup>th</sup> releases the recommendation to buy Gazprom ADR, at the current price of \$11.44 on LSE we spend 1000 units of currency to buy 87.41 shares. Then, after some time we execute reverse transaction, closing the position. The horizon on which the position is closed is discussed below.

## **Results and analysis**

We executed all 1572 operations virtually and recorded the profit or loss for each. In order to define the horizon on which we executed the reverse transaction we varied the number of days from 1 to 120. The results are presented in Figure 1<sup>4</sup>. This graph shows how many recommendations were successful. The maximum number of successful transactions occurs during 36–44 day period after recommendation was released. The maximum number of profitable transactions, 56.8%, occurs on the 39<sup>th</sup> day. Although recommendations are supposed to be reliable for one year.

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<sup>4</sup> The closing horizon for the position was obligatory in all 1572 transactions.

Figure 1. The proportion of successful recommendations with respect to the time horizon

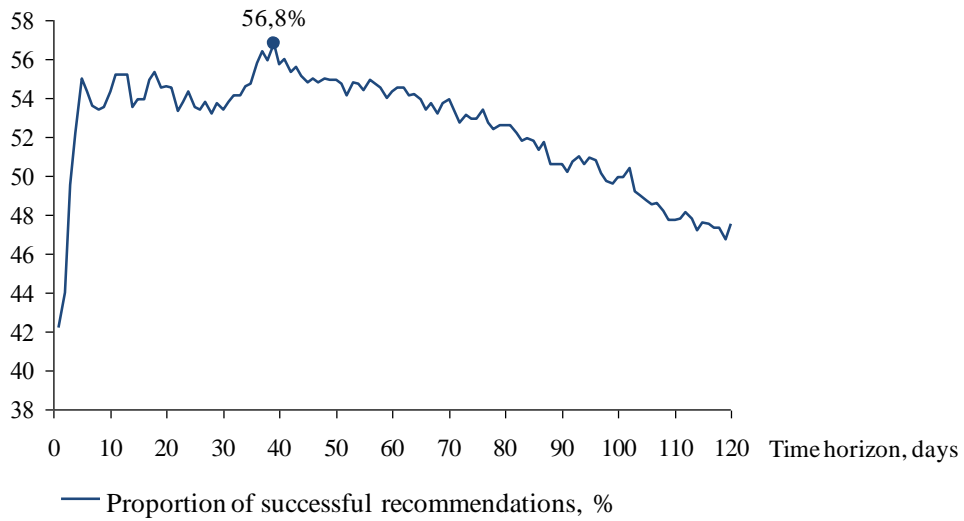
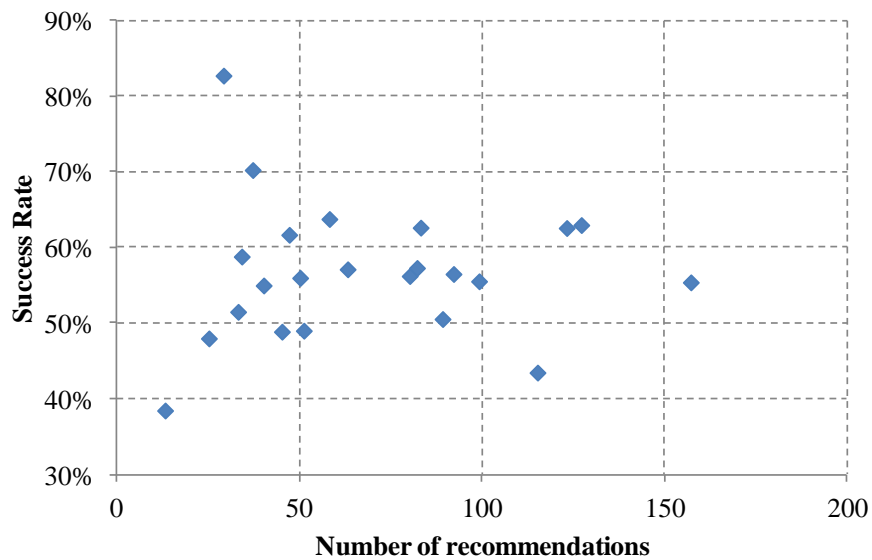


Figure 2 shows there is no strong dependence between the number of recommendations issued per investment bank and the accuracy of its recommendations.

Figure 2. Number Recommendations per Investment Bank versus Success Rate.



## Single Factor Analysis

To trace the determinants of the financial analyst recommendations a single factor analysis was undertaken for three variables: day of publication; analyst gender; and the industry of a security that was subject to recommendation.

Table 1 presents the effect of business day publication. The initial hypothesis was that the publication would be important as conventionally bad news is announced on Fridays implying less successful recommendations and good news is announced on Mondays implying more successful recommendations. The expected effect is observed, but it is not strong as the success rate declines from Monday to Sunday (although few recommendations were issued at the weekend).

<b>Publ.Day</b>	<b>Total</b>	<b>True</b>	<b>Success Rate</b>
Monday	265	158	60%
Tuesday	256	147	57%
Wednesday	352	202	57%
Thursday	299	177	59%
Friday	349	192	55%
Saturday	14	4	29%
Sunday	37	13	35%
<b>Total</b>	<b>1572</b>	<b>893</b>	<b>57%</b>

*Table 1. Success Rate by Days*

Table 2 presents the effect of gender on the success rate of recommendations. We cannot reject the hypothesis that there is an equal success rate by male and female analysts although the sample of females was four times smaller than for males (same proportions held when the gender was not available).

<b>Gender</b>	<b>Total</b>	<b>True</b>	<b>Success Rate</b>
Female	243	142	58%
Male	1035	584	56%
Not defined	294	167	57%
<b>Total</b>	<b>1572</b>	<b>893</b>	<b>57%</b>

*Table 2. Success Rate by Analyst Gender*

Table 3 presents the success rate by industries. The largest success rate of 72% corresponds to manufacturing and the lowest to metals and mining. At the same time these industries differ significantly by the number of recommendations. As most Russian investment banks cover mining

companies, there were 210 recommendations for 2012, while there were only 46 for manufacturing. This implies that the investor-popular industries attract more investment bankers who value them thereby diluting the competence level. On the other hand, if an investment bank covers an unpopular sector, it suggests a competence in valuations of those companies that results in a higher success rate of such recommendations.

<b>Industry</b>	<b>Total</b>	<b>True</b>	<b>Success Rate</b>
CONSUMER	241	150	62%
TELECOM&MEDIA	239	129	54%
METALS&MINING	210	104	50%
OIL&GAS	199	106	53%
FINANCE	188	114	61%
ENERGY	130	67	52%
TRANSPORT	128	74	58%
CHEMISTRY	112	71	63%
CONSTRUCTION	79	45	57%
MANUFACTURING	46	33	72%
<b>Total</b>	<b>1572</b>	<b>893</b>	<b>57%</b>

*Table 3. Success Rate by Industries*

### **Multifactor Analysis**

To validate the assumptions made above a multifactor analysis was undertaken. Actual profit (loss) was used as explained the variable. 5 outliers for which the price did not change were excluded.

<b>Var.</b>	<b>Coef.</b>	<b>Std.Er.</b>	<b>t-stat</b>	<b>p-value</b>
buy	0.025	0.006	4.13	0.000
day1	0.046	0.017	2.68	0.008
day2	0.047	0.017	2.72	0.007
day3	0.043	0.017	2.52	0.012
day4	0.053	0.017	3.11	0.002
day5	0.032	0.017	1.91	0.057
energ	-0.040	0.011	-3.68	0.000
telec	-0.021	0.009	-2.51	0.012
const	-0.034	0.013	-2.52	0.012
oilg	-0.035	0.009	-3.85	0.000
metal	-0.027	0.009	-3.06	0.002
_cons	-0.027	0.017	-1.62	0.106

*Table 4. Regression for the profit (loss) earned based on recommendations*

Though the R-squared measure is at the 4% level, it was possible to reveal the dependence judging by the significant t-statistics values.

As in the single factor analysis there is no dependence of gender and profit (loss) from following the recommendation. The yield of following all the recommendations is 1.5% yearly.

A similar confirmation was obtained for publication day effect, i.e. Monday recommendations are on average 1.4% more profitable than Friday ones in the horizon of 39 days.

Interestingly, buy recommendations are 2.5% more profitable in the horizon of 39 days than sell.

## **Conclusion**

The objective of this research was to analyze the performance of Russian stock market financial analyst recommendations and to trace their key determinants. 1572 recommendations issued during 2012 in Russia for 41 Russian companies by 149 analysts from 23 investment banks were used.

The highest success rate was 57% for a horizon of 39 days (for the maximum available horizon of 3 months the success rate falls to 48%). This is in line both with Kahneman (2011) who did not find special stock-picking skills (otherwise a success rate of close to 100% was expected) and Aleskerov and Egorova (2012) who found that this is the reason why bankers do not try to predict crisis events (or 'black swans') as their average success rate is above 50%.

It was also found that recommendation performance is linked to the announcement day. The announcement of good news on Monday and the publication of respective recommendations implies an increase in yield if such a recommendation is followed. Inversely negative news announced on Friday on average leads to decreased performance if one follows the recommendation issued on that day.

At the same time the less the industry is covered by banks and analysts, and consequently the fewer the number of recommendations, the higher the success rate of recommendations for that industry.



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