The Stock market modeling in QUMMIR.

• Performed by Kaminova Sofia
• The Institute of Economic Forecasting
Initial Public Offerings

- 2005: 0.3%
- 2006: 2.2%
- 2007: 1.9%
- 2008 1q: 2.3%

- in Russia
- IPO
- Fixed capital investments from issuance of shares

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SECTORAL SEGMENTATION BY CAPITALIZATION

Total capitalization $1274.5 billion

- Oil & Gas: 60.9%
- Telecoms: 15.2%
- Financials: 6.3%
- Metals & Mining: 6.8%
- Industry: 5.4%
- Consumer & Retail: 2.1%
- Electric Utilities: 3.4%
Oil and natural gas prices, volumes of export of oil and gas

Retail trade turnover, income of population

The output of Mining and quarrying, Manufacturing

The output of Mining and quarrying, Manufacturing, Electricity, gas and water supply

Population expenses of the Internet, cellular communication payments

Price index of electricity

Electricity, gas and water supply

Total assets of banking system

Oil & Gas

Consumer & Retail

Metals & Mining

Industrial

Telecoms

Electric Utilities

Financials

External factors

S&P index, FRS rate

RTS index

Direct foreign investments

Corporate credits

Investments in fixed capital

GDP
## Exogenous variables

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil price (brent)</td>
<td>119.5</td>
<td>124.8</td>
<td>129.9</td>
<td>132.5</td>
<td>135.2</td>
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<tr>
<td>Natural gas price</td>
<td>371.1</td>
<td>388.8</td>
<td>387.1</td>
<td>404.1</td>
<td>408.1</td>
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<tr>
<td>Export of oil</td>
<td>64.2</td>
<td>64.8</td>
<td>65.3</td>
<td>65.5</td>
<td>65.3</td>
</tr>
<tr>
<td>Export of gas</td>
<td>50.2</td>
<td>52.5</td>
<td>54.7</td>
<td>56.8</td>
<td>59.7</td>
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<tr>
<td>Price index of electricity</td>
<td>24.06</td>
<td>27.28</td>
<td>30.30</td>
<td>33.31</td>
<td>35.03</td>
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<tr>
<td>FRS rate</td>
<td>2.05</td>
<td>2.28</td>
<td>2.70</td>
<td>3.41</td>
<td>4.02</td>
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<tr>
<td>S&amp;P index</td>
<td>1314.7</td>
<td>1325.5</td>
<td>1388</td>
<td>1471.3</td>
<td>1611.3</td>
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</tbody>
</table>
• \( r \text{ credjurT}\_\text{del} = rtsi, invVCT, \text{passiv_kb}\_\text{del}[1], \)

• \( r \text{ invdiroblres} = rtsi, sezinvdiroblres, invVT/invVT[1], \text{fdVT}/\text{fdVT}[1], \)

credjurT\_\text{del} – increase of corporate credits
invdiroblres - direct foreign investment
rtsi – RTS index
fdVT – GDP in constant prices
invVT - fixed capital stock in constant prices
invVCT – fixed capital stock in current prices
passiv_kb\_del - increase of banking system liabilities
sezinvdiroblres – seasonality of direct foreign investment
credjurT

SEE = 71.00 RSQ = 0.9021 RHO = 0.02
Obser = 20 from 2003.100
SEE+1 = 71.00 RBSQ = 0.8837 DW = 1.95
DoFree = 16 to 2007.400
MAPE = 22.25

invidroblres

SEE = 2869.05 RSQ = 0.6306 RHO = -0.00 Obser = 13 from 2005.100
SEE+1 = 2868.78 RBSQ = 0.4459 DW = 2.00
DoFree = 8 to 2008.100
MAPE = 45.09
## Forecast

<table>
<thead>
<tr>
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<th>2010</th>
<th>2011</th>
<th>2012</th>
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</thead>
<tbody>
<tr>
<td>Oil &amp; Gas</td>
<td>356.2</td>
<td>390.7</td>
<td>391.8</td>
<td>410.9</td>
<td>426.2</td>
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<td>Financials</td>
<td>667.9</td>
<td>943.9</td>
<td>1291.3</td>
<td>1745.8</td>
<td>2354.7</td>
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<tr>
<td>Consumer &amp; Retail</td>
<td>409.2</td>
<td>554.7</td>
<td>687.1</td>
<td>842.5</td>
<td>991.1</td>
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<tr>
<td>Industrial</td>
<td>368.4</td>
<td>414.5</td>
<td>504.3</td>
<td>604.9</td>
<td>760.4</td>
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<tr>
<td>Electric Utilities</td>
<td>346.3</td>
<td>471.7</td>
<td>602.3</td>
<td>762.5</td>
<td>927.7</td>
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<tr>
<td>Metals &amp; Mining</td>
<td>410.7</td>
<td>441.1</td>
<td>538.2</td>
<td>651.7</td>
<td>827.4</td>
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<tr>
<td>RTS index</td>
<td>2513.1</td>
<td>2855.0</td>
<td>3327.7</td>
<td>3995.4</td>
<td>4985.7</td>
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### RTS Index

![RTS Index Chart](chart.png)
Thank you