IMPACT OF FINANCIAL INFORMATION ON THE GLOBAL PHARMACEUTICAL MARKET INVESTMENTS

Străchinaru Adina Ionela

The Bucharest University of Economic Studies

Faculty of Finance, Insurance, Banking and Stock Exchange, Romania

adina.strachinaru@yahoo.com

Abstract

The issue in this paper refers to the ability of the information contained financial indicators to contribute to a company's managerial decisions and, in particular, those investments. The effect of financial information provided by financial statements on performance and investment capacity has always been the central reason for the existence of companies. Therefore, the aim of the paper is to capture the impact of financial indicators essential for the development of a business (net income, total assets, net debt, capital expenditures, cash for financing activities) on short-term investments of the most profitable companies in the pharmaceutical industry of the world during the analysis period of 2014. In this respect, using the platform Thomson Reuters, I selected 145 companies worldwide that match this sector. In order to analyze the feasibility of investing of the most representative companies in the pharmaceutical industry worldwide, I used a multiple regression model. The evolution of indicators showed that short-term investments depended on a more or less of them. Thus the impact of selected financial indicators together on short term investments proved to be stronger than the impact of each financial indicator in part on the explained variable. This can be explained by the fact that between economic and financial indicators used there is a relationship of interdependence.

Keywords: Asset, capital, debt, income, investment, pharma

INTRODUCTION

The financial information has always been the starting point for the development of a company. Management decisions are based on information contained in the financial indicators. So I think it is interesting to analyze the extent to which investment management decisions are based on corporate financial accounting information as well as information taken directly from the pharmaceutical market.

The objective of financial statements is to provide information about the financial position, performance and cash flows of an enterprise that is useful to a wide range of users in making economic decisions (IFRS Framework, paragraph 12). Potential benefits of IFRS implementation include: increased transparency of financial reporting (Jermakowicz, Gornik-Tomaszewski, 2006), lower cost of capital (Li, 2011), better comparability of financial statements (Aljifri, Khasharmeh, 2006). The implementation of IFRS entails challenges and costs, among which we highlight: the use of the professional judgment, fair value measurement and the cost of staff training, consulting, and adaptation of IT systems.

Accounting professionals believe that the most important benefit of applying IFRS is an increased attractiveness of the listed companies to investors, whereas the most significant costs associated with the application of IFRS are those incurred for adaptation of IT systems and the training of personnel (Sacarin, Bunea, Girbina, 2013).

The purpose of this paper is to analyze the extent that the information contained by all financial indicators succeed in explaining the variability of short-term investments on the global pharmaceutical market. The paper is divided into 4 parts. The first two parts surprise introductory theoretical elements, but also the methodology and data used in the next section that captures a regression model. The paper ends by presenting conclusions and some future research directions.

METHODOLOGY

The paper aims to analyze the impact of financial indicators essential for business development, such as net income, total assets, net debt, capital expenditures, cash for financing activities on short-term investments made by the most representative companies in pharmaceutical industry worldwide.

In this respect, using the platform Thomson Reuters were selected companies around the world that have the field manufacturing and marketing pharmaceutical products (see Annex 1). Therefore, the case study was conducted on a sample of 145 companies in the world pharmaceutical market. As the base year, the current year was considered, respectively, 2014. The database consists of financial indicators calculated (see Annex 2) using financial

information provided by financial statements of the most profitable companies in the pharmaceutical industry in the world.

To capture the influence of financial indicators used as exogenous variables on the variable endogene- short-term investments, we used a regression model with Eview.

Regression function has the following form :

$Y = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5,$

where: Y = Short Term Investments

 X1 = Net Income

X2 = Total Assets

X3 = Net Debt

X4 = Capital Expenditures

X5 = Cash from Financing Activities

In order to validate the regression model should consider measuring statistical significance test. The significance level chosen for its realization is 5%. P -value associated statistical test, is the probability of error involved nerespingerea estimated result as valid. As the p -value exceeds the significance threshold the more the term is not economically significant .

So accept the null hypothesis, which holds that exogenous variable coefficient is not significantly different from zero. So exogenous variables studied economic indicator that is not exogenous variable influences. On the other hand, if the p -value associated with the test statistic is less than the significance level of 5% test indicates rejection of the null hypothesis and the information contained economic and financial indicators gain economic significance.

Report of determination of the regression equation, R -squared, indicates the extent to which variation of the dependent variable short - term investments is explained by economic and financial indicators analyzed .

Another way to check the validity of the regression model consists of applying Jarque-Bera test. It shall examine whether the empirical distribution can be approximated by a normal distribution. It can test thus normality of residuals, on the assumption that the errors are normally distributed (null hypothesis) .

Using the method of least squares in terms of autocorrelation of errors can lead to unbiased and consistent estimators but not effective, the parameters of the regression model. In this sense, we can test the hypothesis on the autocorrelation of errors. Durbin-Watson test statistic value is included in the interval [0,4].

DW less than 2 indicates a positive autocorrelation, and DW greater than 2 indicates a negative autocorrelation. If errors are not correlated, then the value of DW will be around 2.

To test whether the model parameters are equal to zero or the same, ie that each residual value is generated based on a distribution that has the same characteristics, we consider the hypothesis of homoscedasticity. On the contrary, heteroscedasticity assumption implies that each residual value is generated based on a distribution which has different characteristics.

So, one of the immediate consequences of applying the method of least squares to estimate parameters linear regression model, why not check homoskedasticity hypothesis is distorting the quality of statistical tests performed on model parameters . For this reason it is recommended prior to heteroskedasticity detect them. Heteroscedasticity hypothesis testing using the test White possible explanation is based on a series of explanatory variables residues according to the regression model.

ANALYSIS OF EMPIRICAL RESULTS

Following the estimation results was obtained following formula :

Estimation Command:

=====================

LS ST_INVESTMENTS C FINANCING_ACTIVITIES CAPITAL_EXPENDITURES NET_DEBT TOTAL_ASSETS NET_INCOME

Estimation Equation:

=====================

ST_INVESTMENTS = C(1) + C(2)*FINANCING_ACTIVITIES + C(3)*CAPITAL_EXPENDITURES + C(4)*NET_DEBT + C(5)*TOTAL_ASSETS + C(6)*NET_INCOME

Substituted Coefficients:

=====================

ST_INVESTMENTS = 150.6085952 + 0.3247854843*FINANCING_ACTIVITIES - 0.0511949738*CAPITAL_EXPENDITURES - 0.1878677648*NET_DEBT - 0.02772306808*TOTAL_ASSETS - 0.0230974614*NET_INCOME

Table 1: The regression model including all exogenous variables

Dependent Variable: ST_INVESTMENTS
Method: Least Squares
Date: 11/28/14   Time: 11:44
Sample: 1 145
Included observations: 143
Excluded observations: 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	150.6086	26.44671	5.694795	0.0000
FINANCING_ACTIVI...	0.324785	0.072527	4.478155	0.0000
CAPITAL_EXPENDI...	-0.051195	0.089408	-0.572598	0.5679
NET_DEBT	-0.187868	0.061474	-3.056030	0.0027
TOTAL_ASSETS	-0.027723	0.079504	-0.348700	0.7278
NET_INCOME	-0.023097	0.081072	-0.284900	0.7762

R-squared	0.177867	Mean dependent var		151.9847
Adjusted R-squared	0.147863	S.D. dependent var		227.5160
S.E. of regression	210.0230	Akaike info criterion		13.57336
Sum squared resid	6043022.	Schwarz criterion		13.69768
Log likelihood	-964.4955	F-statistic		5.927960
Durbin-Watson stat	1.884071	Prob(F-statistic)		0.000054

Therefore, a one percentage point increase of short-term cash investments for financing activities will increase by 0.32%, capital expenditures will decrease by 0.05%, net debt, total assets, net income will decrease also with 0.18%, 0.027% respectively 0.023%.

The estimated value with the aid of the DW test is 1.884071, so the errors have not correlated. This is one more argument that supports the validity of the regression model used.

Jarque-Bera test registers a probability of 0.00 < 0.05, so we reject the null hypothesis and we cannot approximate the distribution model as a normal one (errors are not normally distributed).

Figure 1: Jarque - Bera test , including all exogenous variable

Series: Residuals
Sample 1 145
Observations 143

Mean	-3.24E-14
Median	-70.06468
Maximum	909.4181
Minimum	-491.4477
Std. Dev.	206.2922
Skewness	1.597453
Kurtosis	6.189356
Jarque-Bera	121.4274
Probability	0.000000

Next I tried to capture the influence of each independent variable on the dependent variable .

a) The capital expenditures independent variable`s influence

Table 2: Regression Model - capital expenditures

Dependent Variable: ST_INVESTMENTS
Method: Least Squares
Date: 11/28/14   Time: 14:02
Sample: 1 145
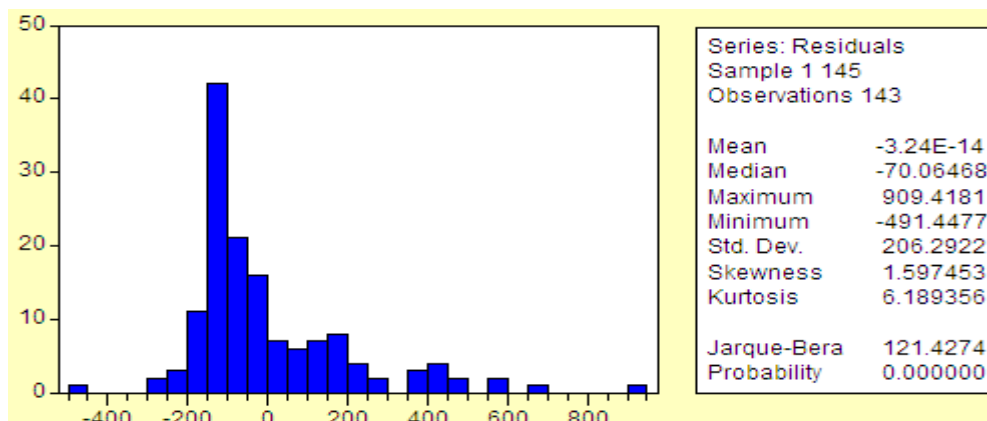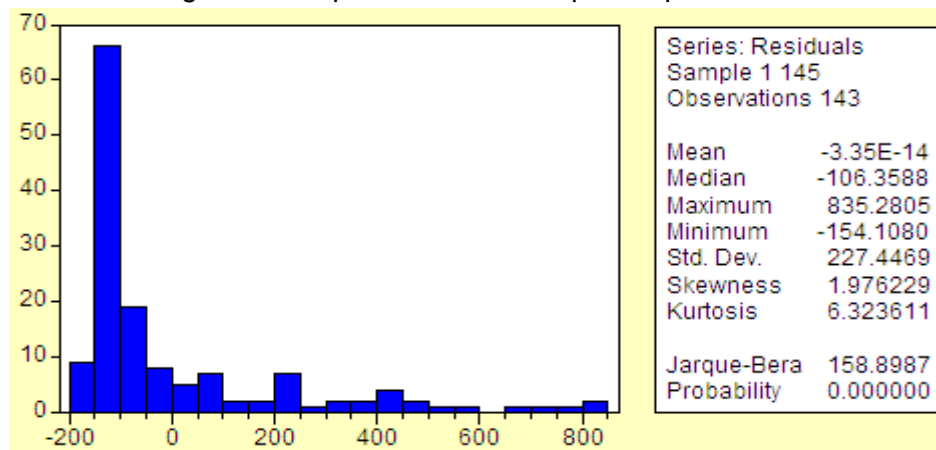Included observations: 143
Excluded observations: 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	155.4222	22.41102	6.935079	0.0000
CAPITAL_EXPENDI...	0.026282	0.089792	0.292699	0.7702

R-squared	0.000607	Mean dependent var		151.9847
Adjusted R-squared	-0.006481	S.D. dependent var		227.5160
S.E. of regression	228.2521	Akaike info criterion		13.71267
Sum squared resid	7345959.	Schwarz criterion		13.75410
Log likelihood	-978.4556	F-statistic		0.085672
Durbin-Watson stat	1.988522	Prob(F-statistic)		0.770183

Figure 2: Jarque - Bera test - capital expenditures

Series: Residuals
Sample 1 145
Observations 143

Mean	-3.35E-14
Median	-106.3588
Maximum	835.2805
Minimum	-154.1080
Std. Dev.	227.4469
Skewness	1.976229
Kurtosis	6.323611
Jarque-Bera	158.8987
Probability	0.000000

As we can see in the above estimate, an increase with 1% in capital expenditures cause a change in the same direction in short-term investments with 0.0262%. Therefore, in the event that we consider only the influence of this variable, there is a closer connection and positive.

Unfortunately this variable exogenous variation can be explained only able 0.000607% variation of short-term investments as R-squared indicates indicator. Both the Durbin -Watson test, and Jarque-Bera test associated probability values indicate adequate for supporting the validity of the estimated model.

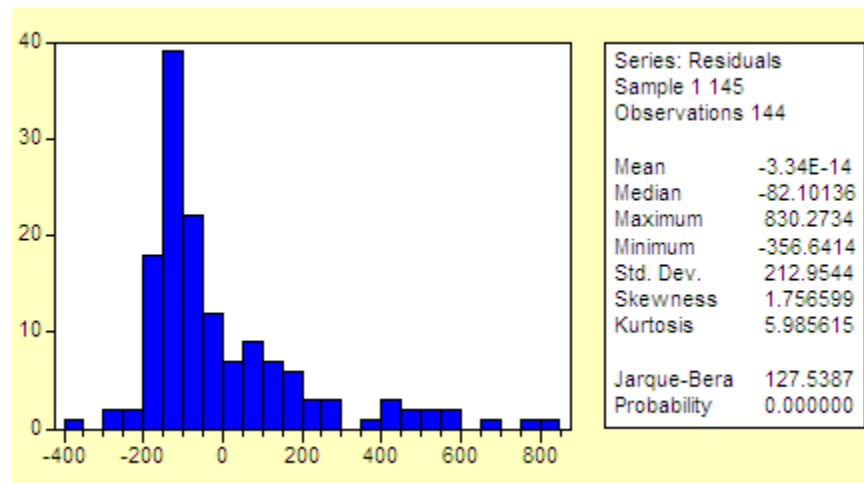b) The financing activities independent variable`s influence

Table 3: Regression Model - financing activities

```
Dependent Variable: ST_INVESTMENTS
Method: Least Squares
Date: 11/28/14   Time: 14:04
Sample: 1 145
Included observations: 144
Excluded observations: 1
```

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	154.9875	17.83057	8.692234	0.0000
FINANCING_ACTIVI...	0.321069	0.073074	4.393774	0.0000

R-squared	0.119681	Mean dependent var	151.0973
Adjusted R-squared	0.113482	S.D. dependent var	226.9691
S.E. of regression	213.7029	Akaike info criterion	13.58084
Sum squared resid	6484989.	Schwarz criterion	13.62209
Log likelihood	-975.8206	F-statistic	19.30525
Durbin-Watson stat	1.819675	Prob(F-statistic)	0.000022

Figure 3: Jarque - Bera test - financing activities


```
Series: Residuals
Sample 1 145
Observations 144

Mean        -3.34E-14
Median      -82.10136
Maximum      830.2734
Minimum     -356.6414
Std. Dev.    212.9544
Skewness     1.756599
Kurtosis     5.985615

Jarque-Bera  127.5387
Probability   0.000000
```

Cash for financing activities are closely and directly related to short-term investments, as evidenced in the above figures. This is explained by the fact that investments are funded, in part, of cash for financing activities. As can be seen probability p -value registers a value less than 5% threshold, which indicates that the exogenous variable is significant in economic terms.

Furthermore, by utilizing the R- squared registered we can say that 11.96 % of the variation in the endogenous variable can be explained by variation in the independent variable.

The probability associated with the F-test, respectively 0.000022 <0.05 and thus we can say that the model is valid and there is at least one exogenous variable that can explain the behavior of the endogenous variable.

Table 4: Test White - financing activities

White Heteroskedasticity Test:

F-statistic	3.603043	Probability	0.029778
Obs*R-squared	7.001578	Probability	0.030174

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 11/28/14   Time: 14:06
Sample: 1 145
Included observations: 144
Excluded observations: 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	42015.48	8996.358	4.670276	0.0000
FINANCING_ACTIVI...	92.51417	35.03300	2.640772	0.0092
FINANCING_ACTIVI...	0.069535	0.061281	1.134693	0.2584

R-squared	0.048622	Mean dependent var	45034.65
Adjusted R-squared	0.035127	S.D. dependent var	100906.5
S.E. of regression	99118.41	Akaike info criterion	25.86663
Sum squared resid	1.39E+12	Schwarz criterion	25.92850
Log likelihood	-1859.397	F-statistic	3.603043
Durbin-Watson stat	2.014288	Prob(F-statistic)	0.029778

The probability associated Test White is below the threshold of 5 %, which indicates the presence of heteroscedasticity in the series phenomenon residues. Therefore, the hypothesis of no homoscedasticity, which is another argument that supports the allegation that the model is valid, and it can draw on relevant managerial decisions.

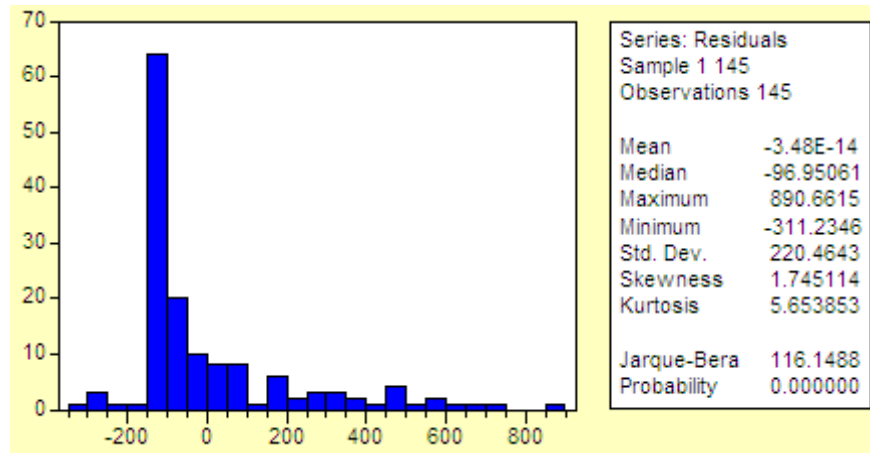c) The net debt independent variable`s influence

Table 5: Regression Model - net debt

Dependent Variable: ST_INVESTMENTS
Method: Least Squares
Date: 11/28/14   Time: 14:11
Sample: 1 145
Included observations: 145

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	147.5362	18.44821	7.997321	0.0000
NET_DEBT	-0.179111	0.062842	-2.850183	0.0050

R-squared	0.053754	Mean dependent var	152.2961
Adjusted R-squared	0.047137	S.D. dependent var	226.6398
S.E. of regression	221.2338	Akaike info criterion	13.65001
Sum squared resid	6999046.	Schwarz criterion	13.69107
Log likelihood	-987.6260	F-statistic	8.123541
Durbin-Watson stat	1.955619	Prob(F-statistic)	0.005016

Figure 4: Jarque - Bera test - net debt

Series: Residuals	
Sample 1 145	
Observations 145	
Mean	-3.48E-14
Median	-96.95061
Maximum	890.6615
Minimum	-311.2346
Std. Dev.	220.4643
Skewness	1.745114
Kurtosis	5.653853
Jarque-Bera	116.1488
Probability	0.000000

Net debt in reverse influence short-term investments. Thus, a 1% increase in investments involve a decrease in net debt, which gain economic significance as p -value indicates the probability of 0.005<0.05. Both DW test, test White, Jarque - Bera test and associated probability F argues assertion validity of the model.

Table 6: Test White - net debt

White Heteroskedasticity Test:

F-statistic	11.84371	Probability	0.000017
Obs*R-squared	20.72986	Probability	0.000032

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 11/28/14   Time: 14:13
Sample: 1 145
Included observations: 145

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	32610.13	8745.151	3.728938	0.0003
NET_DEBT	-54.52039	27.71780	-1.966981	0.0511
NET_DEBT^2	0.164890	0.038088	4.329135	0.0000

R-squared	0.142965	Mean dependent var	48269.28
Adjusted R-squared	0.130894	S.D. dependent var	104491.3
S.E. of regression	97412.88	Akaike info criterion	25.83178
Sum squared resid	1.35E+12	Schwarz criterion	25.89336
Log likelihood	-1869.804	F-statistic	11.84371
Durbin-Watson stat	2.114333	Prob(F-statistic)	0.000017

d) The total assets independent variable`s influence

Table 7: Regression Model - total assets

Dependent Variable: ST_INVESTMENTS
Method: Least Squares
Date: 11/28/14   Time: 14:14
Sample: 1 145
Included observations: 145

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	153.1569	22.64948	6.762051	0.0000
TOTAL_ASSETS	-0.005539	0.080449	-0.068857	0.9452

R-squared	0.000033	Mean dependent var	152.2961
Adjusted R-squared	-0.006960	S.D. dependent var	226.6398
S.E. of regression	227.4271	Akaike info criterion	13.70523
Sum squared resid	7396403.	Schwarz criterion	13.74629
Log likelihood	-991.6295	F-statistic	0.004741
Durbin-Watson stat	1.957043	Prob(F-statistic)	0.945200

Figure 5: Jarque - Bera test - total assets
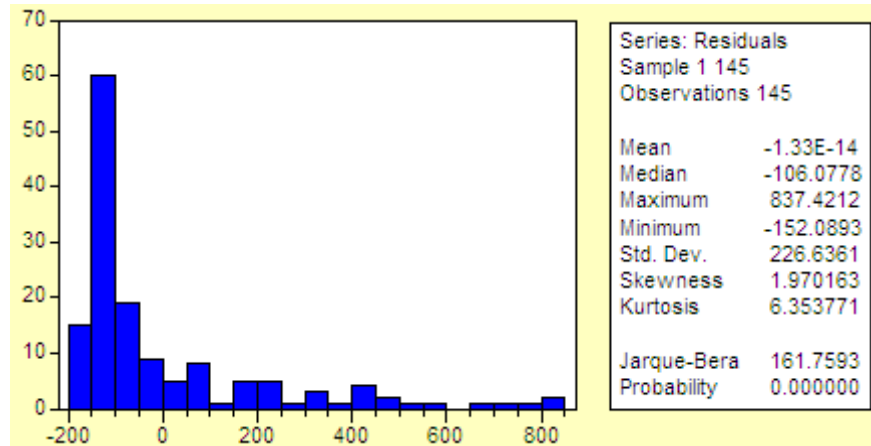
Total assets decrease by 0.0055% to an increase in short-term investments, which is proved by accounting reality. Jarque-Bera test probability indicates that errors are not normally distributed and we can not approximate a normal distribution as.

The probability associated Test White indicates a value above the threshold of 5% , which is why we can say that the phenomenon of heteroscedasticity is present in the residue series. Therefore, the hypothesis of homoscedasticity is verified.

Table 8: Test White - total assets

White Heteroskedasticity Test:

F-statistic	2.049168	Probability	0.132635
Obs*R-squared	4.067526	Probability	0.130842

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 11/28/14   Time: 14:15
Sample: 1 145
Included observations: 145

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	69385.09	13451.31	5.158240	0.0000
TOTAL_ASSETS	-260.9492	133.4535	-1.955356	0.0525
TOTAL_ASSETS^2	0.279765	0.165097	1.694546	0.0924

R-squared	0.028052	Mean dependent var	51009.67
Adjusted R-squared	0.014362	S.D. dependent var	118436.4
S.E. of regression	117582.8	Akaike info criterion	26.20815
Sum squared resid	1.96E+12	Schwarz criterion	26.26973
Log likelihood	-1897.091	F-statistic	2.049168
Durbin-Watson stat	2.145877	Prob(F-statistic)	0.132635

e) The net income independent variable`s influence

Table 9: Regression Model - net income

Dependent Variable: ST_INVESTMENTS
Method: Least Squares
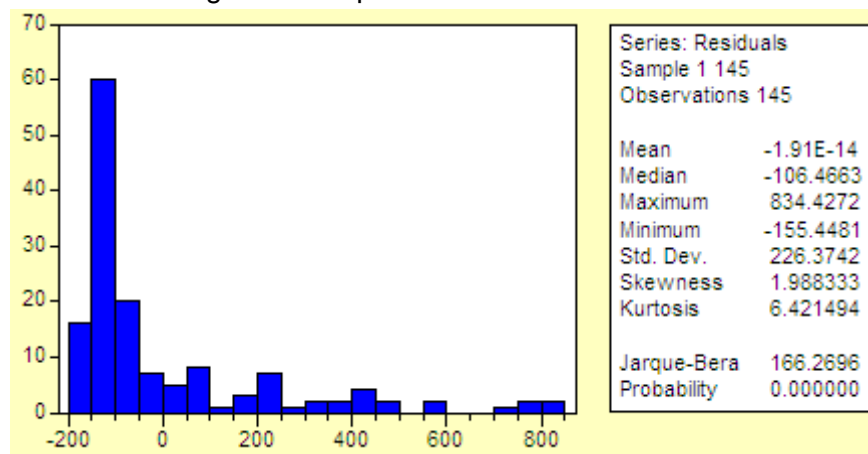Date: 11/28/14   Time: 14:16
Sample: 1 145
Included observations: 145

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	156.0350	19.93797	7.826024	0.0000
NET_INCOME	-0.048794	0.084207	-0.579454	0.5632

R-squared	0.002343	Mean dependent var		152.2961
Adjusted R-squared	-0.004634	S.D. dependent var		226.6398
S.E. of regression	227.1644	Akaike info criterion		13.70292
Sum squared resid	7379321.	Schwarz criterion		13.74398
Log likelihood	-991.4618	F-statistic		0.335767
Durbin-Watson stat	1.941253	Prob(F-statistic)		0.563195

Figure 6: Jarque - Bera test - net income

Series: Residuals
Sample 1 145
Observations 145

Mean	-1.91E-14
Median	-106.4663
Maximum	834.4272
Minimum	-155.4481
Std. Dev.	226.3742
Skewness	1.988333
Kurtosis	6.421494
Jarque-Bera	166.2696
Probability	0.000000

Net income recorded a decrease of 0.0487% to an increase in short-term investments by 1%. This gain in terms of economic significance and probability p-value of 0.56 which has a value close to the threshold of 5 %. Other tests reinforce the idea of the existence of a valid model.

Table 10: Test White - net income

White Heteroskedasticity Test:

F-statistic	0.061938	Probability	0.939967
Obs*R-squared	0.126382	Probability	0.938764

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 11/28/14   Time: 14:17
Sample: 1 145
Included observations: 145

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	49542.33	10655.61	4.649412	0.0000
NET_INCOME	9.820151	53.44000	0.183760	0.8545
NET_INCOME^2	0.010650	0.072552	0.146787	0.8835

R-squared	0.000872	Mean dependent var	50891.87
Adjusted R-squared	-0.013201	S.D. dependent var	118907.9
S.E. of regression	119690.1	Akaike info criterion	26.24367
Sum squared resid	2.03E+12	Schwarz criterion	26.30526
Log likelihood	-1899.666	F-statistic	0.061938
Durbin-Watson stat	2.132376	Prob(F-statistic)	0.939967

CONCLUSIONS AND FUTURE RESEARCH DIRECTIONS

The results come in the affirmations on the economic reality. Therefore, short-term investments made by the most representative companies in the global pharmaceutical industry for 2014 were financed from cash for financing activities , triggering a reduction in net income, total assets, net debt and capital expenditures .

At first analysis we included all these financial indicators and we obtained a strong direct link between endogenous variable and short - term investments one of the independent variables namely - cash for financing activities and an inverse relationship between endogenous variable and the rest exogenous variables.

In order to analyze the effect between short-term investments and each indicator in hand, I decided to analyze separately to see whether there are changes. After performing estimates only variable-capital expenditure recorded a change in the direction of the link between it and the endogenous variable, short-term investments. One possible explanation could be to do as an increase in short-term investments involve an increase in capital expenditure only to the extent that does not take into account other variables.

The study can be extended by taking into account several financial indicators of whose evolution depends on short-term investments. Moreover, their work may have applicability in other sectors of the local economy and world.

REFERENCES

Aljifri, K. (2006). The Impact of Corporate Governance Mechanisms on the Performance of UAE Firms: An Empirical Analysis. CBE, UAEU

Andrei, T. and Bourbonnais, R. (2008). Econometrics, Bucharest: Economic Publishing House

Eakins, S. G. (2002). Finance: Investments, Institutions and Management (Second Edition), Addison – Wesley Longman, Incorporated

Eva K. Jermakowicz, Sylwia Gornik-Tomaszewski (2006). Implementing IFRS from the perspective of EU publicly traded companies. Journal of International Accounting, Auditing and Taxation, 15, 170–196

June, Li (2011). Prediction of Corporate Bankruptcy from 2008 Through 2011. Journal of Accounting and Finance, 12(1)

Sacarin, M. and Bunea, S. and Girbina, M. M. (2013). Perception of accounting professionals on IFRS application at the individual financial statements: evidence from Romania. Accounting and Management Information Systems, 12 (3), 405–423

Vintilǎ, G. (2006). Financial management of the enterprise (Sixth Edition), Bucharest: Didactic and Pedagogic

ANNEXURE

Annex 1 - Name and origin of the companies used in the case study

No crt.	Fiscal Year End Date	Company Common Name	Country of Headquarters
1	12/31/2014	Gilead Sciences Inc	United States of America
2	12/31/2014	Jilin Gpro Titanium Industry Co Ltd	United States of America
3	12/31/2014	Consun Pharmaceutical Group Ltd	United States of America
4	12/31/2014	RaQualia Pharma Inc	China
5	3/31/2015	Daiichi Sankyo Co Ltd	United States of America
6	12/31/2014	Cumberland Pharmaceuticals Inc	Germany
7	12/31/2014	Laboratorios Farmaceuticos ROVI SA	India
8	12/31/2014	Shanghai Fosun Pharmaceutical Group Co Ltd	Switzerland
9	12/31/2014	Targacept Inc	Japan
10	12/31/2014	Futura Medical PLC	China
11	3/31/2014	Panacea Biotec Ltd	United States of America
12	12/31/2014	Shanghai Fudan-zhangjiang Bio-Pharmaceutical Co Ltd	Switzerland
13	12/31/2014	Depomed Inc	United States of America
14	12/31/2014	Lee's Pharmaceutical Holdings Ltd	United States of America
15	12/31/2014	Otsuka Holdings Co Ltd	United Kingdom
16	12/31/2014	Ocera Therapeutics Inc	Japan
17	12/31/2014	Columbia Laboratories Inc	United States of America
18	12/31/2014	Aastrom Biosciences Inc	United States of America

19	12/31/2014	Lansen Pharmaceutical Holdings Ltd	Hong Kong
20	3/31/2015	Oculus Innovative Sciences Inc	Germany
21	11/30/2014	Iwaki & Co Ltd	Japan
22	3/31/2015	Neuland Laboratories Ltd	China
23	12/31/2014	JW Holdings Corp	Japan
24	12/31/2014	Novartis AG	China
25	3/31/2015	Adamis Pharmaceuticals Corp	China
26	12/31/2014	Assembly Biosciences Inc	United Kingdom
27	12/31/2014	Evoke Pharma Inc	United States of America
28	12/31/2014	Vetoquinol SA	Brazil
29	9/30/2014	Benchmark Holdings PLC	Japan
30	12/31/2014	BG Medicine Inc	Korea; Republic (S. Korea)
31	12/31/2014	Macrocure Ltd	United States of America
32	12/31/2014	Guangzhou Baiyunshan Pharmaceutical Holdings Co Ltd	China
33	12/31/2014	Aegerion Pharmaceuticals Inc	Japan
34	3/31/2015	Ono Pharmaceutical Co Ltd	China
35	12/31/2014	Medicines Co	Ireland; Republic of
36	12/31/2014	Chugai Pharmaceutical Co Ltd	Japan
37	12/31/2014	Grifols SA	Hong Kong
38	12/31/2014	China Resources Double-Crane Pharmaceutical Co Ltd	Japan
39	12/31/2014	Valeant Pharmaceuticals International Inc	Hong Kong
40	12/31/2014	ARIAD Pharmaceuticals Inc	China
41	12/31/2014	Shanghai Pharmaceuticals Holding Co Ltd	Japan
42	12/31/2014	Cubist Pharmaceuticals Inc	Hong Kong
43	12/31/2014	Auxilium Pharmaceuticals Inc	Japan
44	12/31/2014	Zhangzhou Pientzehuang Pharmaceutical Co Ltd	China
45	12/31/2014	Merck KGaA	Korea; Republic (S. Korea)
46	12/31/2014	Theravance Inc	United States of America
47	3/31/2015	Sun Pharmaceutical Industries Ltd	United States of America
48	3/31/2015	Mitsubishi Tanabe Pharma Corp	United Kingdom
49	12/31/2014	Celgene Corp	Japan
50	3/31/2015	Dr.Reddy's Laboratories Ltd	United States of America
51	3/31/2015	Sumitomo Dainippon Pharma Co Ltd	United States of America
52	6/30/2015	Aspen Pharmacare Holdings Ltd	Spain
53	3/31/2015	BTG PLC	Japan
54	3/31/2015	Santen Pharmaceutical Co Ltd	Japan
55	12/31/2014	Biogen Idec Inc	Hong Kong
56	12/31/2014	Regeneron Pharmaceuticals Inc	Korea; Republic (S. Korea)
57	12/31/2014	CSPC Pharmaceutical Group Ltd	Korea; Republic (S. Korea)
58	12/31/2014	AbbVie Inc	Korea; Republic (S. Korea)
59	12/31/2014	Bayer AG	United Kingdom
60	3/31/2015	Tsumura & Co	Korea; Republic (S. Korea)
61	12/31/2014	Xizang Haisco Pharmaceutical Group Co Ltd	United States of America
62	3/31/2015	Sawai Pharmaceutical Co Ltd	Japan
63	12/31/2014	Tianjin Tianyao Pharmaceuticals Co Ltd	Ireland; Republic of

64	12/31/2014	China Medical System Holdings Ltd	Korea; Republic (S. Korea)
65	12/31/2014	Hikma Pharmaceuticals PLC	Japan
66	12/31/2014	Repligen Corp	Canada
67	12/31/2014	Hypermarcas SA	France
68	3/31/2015	Taisho Pharmaceutical Holdings Co Ltd	Japan
69	12/31/2014	Impax Laboratories Inc	United Kingdom
70	12/31/2014	Pharmicell Co Ltd	United States of America
71	12/31/2014	AMAG Pharmaceuticals Inc	Japan
72	12/31/2014	Shandong Jincheng Pharmaceutical and Chemical Co	Ireland; Republic of
73	2/28/2015	Hisamitsu Pharmaceutical Co Inc	Korea; Republic (S. Korea)
74	12/31/2014	Luye Pharma Group Ltd	Korea; Republic (S. Korea)
75	12/31/2014	Endo International PLC	Hong Kong
76	3/31/2015	Nippon Shinyaku Co Ltd	Ireland; Republic of
77	12/31/2014	Sino Biopharmaceutical Ltd	United Kingdom
78	3/31/2015	Astellas Pharma Inc	Korea; Republic (S. Korea)
79	12/31/2014	Lijun International Pharmaceutical Holding Co Ltd	Korea; Republic (S. Korea)
80	12/31/2014	Sihuan Pharmaceutical Holdings Group Ltd	United States of America
81	12/31/2014	Hunan Er-Kang Pharmaceutical Co Ltd	Korea; Republic (S. Korea)
82	3/31/2015	Takeda Pharmaceutical Co Ltd	Japan
83	6/30/2015	Hua Han Bio-Pharmaceutical Holdings Ltd	Hong Kong
84	3/31/2015	Kaken Pharmaceutical Co Ltd	Canada
85	12/31/2014	Qianjiang Yongan Pharmaceutical Co Ltd	Japan
86	12/31/2014	LG Life Sciences Ltd	United Kingdom
87	12/31/2014	Tetraphase Pharmaceuticals Inc	France
88	12/31/2014	VIVUS Inc	India
89	12/31/2014	AstraZeneca PLC	China
90	3/31/2015	Zeria Pharmaceutical Co Ltd	Australia
91	12/31/2014	Rockwell Medical Inc	India
92	12/31/2014	Progenics Pharmaceuticals Inc	Japan
93	12/31/2014	Alexion Pharmaceuticals Inc	United States of America
94	12/31/2014	Almirall SA	Korea; Republic (S. Korea)
95	3/31/2015	Kyorin Holdings Inc	United Kingdom
96	3/31/2015	Seikagaku Corp	Japan
97	12/31/2014	China Traditional Chinese Medicine Co Ltd	Japan
98	12/31/2014	Green Cross Corp	Japan
99	12/31/2014	Hanmi Pharm Co Ltd	China
100	12/31/2014	Yuhan Corp	China
101	6/30/2015	Abcam PLC	Japan
102	12/31/2014	Stada Arzneimittel AG	Japan
103	12/31/2014	Bukwang Pharm Co Ltd	United States of America
104	12/31/2014	Pernix Therapeutics Holdings Inc	Spain
105	3/31/2015	Kissei Pharmaceutical Co Ltd	China
106	12/31/2014	Shire PLC	United States of America
107	12/31/2014	Chongkundang Holdings Corp	United Kingdom
108	3/31/2015	Eiken Chemical Co Ltd	India

109	12/31/2014	Concordia Healthcare Corp	China
110	12/31/2014	Ipsen SA	Hong Kong
111	3/31/2015	Towa Pharmaceutical Co Ltd	Japan
112	12/31/2014	GlaxoSmithKline PLC	United States of America
113	3/31/2015	Ranbaxy Laboratories Ltd	United States of America
114	12/31/2014	Hyperion Therapeutics Inc	United States of America
115	3/31/2015	Mochida Pharmaceutical Co Ltd	China
116	12/31/2014	Jazz Pharmaceuticals PLC	United States of America
117	12/31/2014	Korea United Pharm Inc	Japan
118	12/31/2014	Green Cross Holdings	India
119	12/31/2014	Dawnrays Pharmaceutical Holdings Ltd	Korea; Republic (S. Korea)
120	12/31/2014	Trinity Biotech PLC	United States of America
121	3/31/2015	Vectura Group PLC	United States of America
122	12/31/2014	Kwangdong Pharmaceutical Co Ltd	United States of America
123	12/31/2014	Daewon Pharmaceutical Co Ltd	France
124	12/31/2014	Roche Holding AG	United Kingdom
125	12/31/2014	Alimera Sciences Inc	United States of America
126	12/31/2014	Ildong Pharmaceutical Co Ltd	Israel
127	3/31/2015	ASKA Pharmaceutical Co Ltd	China
128	12/31/2014	Beijing Tong Ren Tang Chinese Medicine Co Ltd	United States of America
129	12/31/2014	ProMetic Life Sciences Inc	Japan
130	3/31/2015	JCR Pharmaceuticals Co Ltd	Japan
131	6/30/2015	Sinclair IS Pharma PLC	Spain
132	12/31/2014	Virbac SA	China
133	3/31/2015	Orchid Chemicals & Pharmaceuticals Ltd	Canada
134	12/31/2014	China Shineway Pharmaceutical Group Ltd	United States of America
135	12/31/2014	Kyowa Hakko Kirin Co Ltd	China
136	6/30/2015	CSL Ltd	United States of America
137	3/31/2015	Alembic Pharmaceuticals Ltd	United States of America
138	12/31/2014	Katakura Industries Co Ltd	China
139	12/31/2014	LipoScience Inc	Germany
140	12/31/2014	Jw Pharmaceutical Corp	India
141	6/30/2015	Dechra Pharmaceuticals PLC	Japan
142	9/30/2014	Fuji Pharma Co Ltd	United States of America
143	3/31/2015	Eisai Co Ltd	India
144	3/31/2015	Nippon Chemiphar Co Ltd	Japan
145	12/31/2014	Sinovac Biotech Ltd	South Africa

Source: Thomson Reuters platform

Annex 2 - values of financial indicators used

Net Income	Total Assets	Net Debt	Short Term Investments	Capital Expenditures	Cash from Financing Activities
3,074,808,000	22,496,785,000	4,879,624,000	2,131,562,000	-190,782,000	-2,543,941,000
94,924,960	1,173,426,520	-112,387,660	222,387,660	-43,384,410	-170,820,180
152,882,000	1,456,945,000	-902,026,000	902,026,000	-64,085,000	640,383,000
-1,108,269,000	6,648,177,000	-4,035,228,000	4,035,228,000	-26,107,000	309,275,000
60,943,000,000	1,854,037,000,000	268,139,000,000	183,070,000,000	-54,514,000,000	100,322,000,000
-2,104,610	87,613,740	-55,065,860	54,889,220	-7,559,490	-9,154,110
23,022,000	235,923,000	16,277,000	14,701,000	-24,683,000	-13,468,000
2,027,057,740	29,475,190,860	4,990,227,740	3,111,609,520	-1,040,055,110	-932,108,430
-46,705,000	145,873,000	-91,193,000	92,329,000	-92,000	-552,000
-2,208,330	1,465,770	-990,570	990,570	-5,050	181,330
-1,121,300,000	19,433,500,000	10,407,000,000	245,400,000	-559,800,000	-302,600,000
87,218,000	749,216,000	-251,719,000	324,927,000		
43,313,000	508,653,000	-260,673,000	271,937,000	-1,962,000	243,880,000
150,467,000	1,165,655,000	-243,391,000	379,062,000	-222,056,000	8,588,000
150,990,000,000	2,028,399,000,000	-471,551,000,000	573,272,000,000	-69,943,000,000	-66,695,000,000
-17,514,000	51,820,000	-45,700,000	45,700,000	-12,000	46,488,000
6,703,770	60,092,460	-16,169,970	20,715,410	-522,350	-89,060
-15,622,000	9,215,000	30,336,000	8,059,000	-40,000	14,404,000
11,691,000	192,382,000	48,123,000	11,029,000	-9,080,000	6,388,000
3,735,000	20,791,000	-5,333,000	5,480,000	-504,000	2,945,000
754,741,000	37,678,971,000	-20,027,000	3,835,527,000	-520,631,000	-170,263,000
268,073,000	4,686,558,000	1,897,396,000	6,171,000	-185,350,000	-389,030,000
17,817,457,410	1,014,442,067,030	763,908,271,490	5,116,053,100	-15,719,179,170	15,293,432,640
9,175,000,000	126,254,000,000	8,948,000,000	9,096,000,000	-3,571,000,000	-8,769,000,000
-8,155,880	15,121,620	-4,981,250	5,403,240	-10,000,000	22,183,360
-19,403,760	27,132,040	-27,061,050	27,061,270	-6,480	24,374,610
-2,836,470	24,986,460	-21,242,640	24,196,690		27,120,950
23,580,000	351,831,000	-46,892,000	83,928,000	-7,540,000	-14,021,000
4,294,000	22,416,000	1,209,000	3,250,000	-156,000	-1,585,000
-15,849,000	9,353,000	-437,000	7,751,000	-132,000	10,285,000
-18,324,000	20,738,000	-18,995,000	18,995,000	-116,000	13,750,000
980,045,080	12,249,123,150	-1,099,523,030	1,939,044,410	-350,345,600	-211,688,980
-63,358,000	142,332,000	-118,642,000	126,231,000	-716,000	85,036,000
20,350,000,000	485,962,000,000	-121,820,000,000	127,193,000,000	-12,857,000,000	-19,636,000,000
15,512,000	1,741,282,000	-140,975,000	376,727,000	-13,574,000	271,487,000
50,895,000,000	697,212,000,000	-232,898,000,000	234,643,000,000	-14,964,000,000	-23,169,000,000
345,551,000	5,841,036,000	2,097,882,000	709,977,000	-172,849,000	-105,146,000

870,690,220	6,480,915,890	-1,196,529,470	1,410,017,800	-217,676,710	-110,695,720
-866,142,000	27,970,797,000	16,894,042,000	600,340,000	-184,955,000	4,027,752,000
-274,158,000	370,894,000	-128,667,000	237,179,000	-8,543,000	313,584,000
2,242,925,140	56,311,521,570	-1,159,466,740	12,978,824,730	-905,058,430	-721,565,080
-18,571,000	3,145,821,000	259,700,000	578,558,000	-15,509,000	758,160,000
-18,065,000	1,201,176,000	639,609,000	71,186,000	-10,386,000	554,976,000
429,768,410	3,259,294,350	-741,757,950	1,182,649,310	-146,543,980	631,751,370
1,202,200,000	20,818,600,000	922,500,000	3,346,300,000	-516,600,000	-1,072,700,000
-170,701,000	681,255,000	-177,625,000	465,125,000	-87,734,000	397,843,000
31,414,700,000	293,708,200,000	-50,869,600,000	95,718,600,000	-9,060,000,000	5,065,700,000
45,393,000,000	886,476,000,000	-119,555,000,000	133,657,000,000	-14,340,000,000	-21,098,000,000
1,449,900,000	13,378,200,000	-945,700,000	5,687,000,000	-139,100,000	-553,700,000
19,632,000,000	160,296,000,000	7,726,000,000	33,636,000,000	-10,831,000,000	-242,000,000
20,061,000,000	659,032,000,000	-9,698,000,000	104,698,000,000	-21,556,000,000	-27,164,000,000
5,007,600,000	82,547,400,000	31,771,600,000	8,225,600,000	-2,029,300,000	19,447,500,000
24,300,000	711,700,000	-38,200,000	38,200,000	-12,500,000	102,700,000
17,110,000,000	231,105,000,000	-76,561,000,000	76,620,000,000	-4,786,000,000	-7,953,000,000
1,862,341,000	11,863,335,000	-626,206,000	1,222,729,000	-3,509,000,000	-716,528,000
424,362,000	2,951,013,000	-188,472,000	693,984,000	-156,323,000	77,139,000
972,751,000	12,200,547,000	296,057,000	1,188,189,000	-647,341,000	-1,729,271,000
4,128,000,000	29,198,000,000	4,828,000,000	9,895,000,000	-491,000,000	-3,442,000,000
3,189,000,000	51,317,000,000	7,006,000,000	1,800,000,000	-2,157,000,000	-2,535,000,000
18,051,000,000	187,623,000,000	9,643,000,000	14,445,000,000	-7,690,000,000	-4,575,000,000
519,218,910	2,457,188,460	-824,831,090	1,054,519,310	-163,980,760	-115,816,420
12,192,000,000	149,348,000,000	-16,846,000,000	25,536,000,000	-7,352,000,000	-178,000,000
51,925,700	3,111,597,720	-25,856,910	565,632,000	-310,078,010	464,434,590
632,114,528	3,807,849,944	-159,623,962	484,483,665	-135,607,239	-344,092,842
212,000,000	1,929,000,000	291,000,000	168,000,000	-75,000,000	-229,000,000
16,093,160	118,644,900	-61,623,200	61,623,200	-4,634,780	2,522,180
256,722,000	12,501,987,000	2,917,386,000	1,158,833,000	-241,591,000	-1,121,645,000
32,694,000,000	728,442,000,000	-147,734,000,000	159,404,000,000	-14,860,000,000	-9,439,000,000
101,259,000	996,923,000	-413,133,000	413,133,000	-44,785,000	8,962,000
-25,700,634,600	99,368,848,820	6,965,309,520	1,841,329,280	-2,652,956,780	-15,738,594,540
-9,602,000	265,459,000	-213,789,000	213,789,000	-1,632,000	1,402,000
64,596,720	1,575,802,820	-31,244,030	351,702,410	-160,178,180	-21,020,360
21,358,000,000	251,852,000,000	-78,098,000,000	81,760,000,000	-4,208,000,000	-6,476,000,000
310,498,000	3,387,463,000	530,811,000	343,150,000	-270,923,000	87,320,000
-685,339,000	6,571,856,000	3,271,374,000	526,597,000	-108,483,000	579,525,000
5,752,000,000	118,188,000,000	-21,292,000,000	21,496,000,000	-1,263,000,000	-1,606,000,000
1,036,764,000	9,968,867,000	-1,307,925,000	3,120,025,000	-582,724,000	-535,692,000

90,875,000,000	1,653,108,000,000	-395,329,000,000	395,329,000,000	-56,146,000,000	-89,395,000,000
411,814,000	5,083,908,000	851,492,000	336,928,000	-909,688,000	201,981,000
1,303,012,000	10,011,648,000	-2,215,636,000	2,517,801,000	-1,168,578,000	-1,048,596,000
192,929,450	1,447,001,100	-494,732,980	501,979,740	-203,976,160	-23,979,830
137,357,000,000	4,569,144,000,000	78,852,000,000	851,029,000,000	-78,519,000,000	101,441,000,000
341,314,000	5,877,387,000	-2,484,650,000	2,725,335,000	-639,995,000	248,221,000
9,735,000,000	106,465,000,000	-13,261,000,000	17,456,000,000	-2,126,000,000	-10,992,000,000
23,006,610	1,202,353,110	-124,128,830	124,128,830	-99,925,550	-39,376,940
3,261,126,170	611,986,372,530	224,443,652,940	24,350,631,790	-80,340,700,460	47,233,717,960
-29,636,000	105,886,000	-92,224,000	102,712,000	-129,000	118,268,000
-174,456,000	431,796,000	-130,180,000	343,286,000	-1,795,000	270,103,000
2,556,000,000	55,899,000,000	392,000,000	10,013,000,000	-2,058,000,000	-3,047,000,000
5,277,080,000	99,493,864,000	4,258,985,000	22,202,305,000	-3,192,618,000	9,001,436,000
-48,783,310	36,362,120	-3,691,010	23,916,070	-654,200	70,484,180
-42,572,000	114,541,000	-65,860,000	65,860,000	-137,000	40,104,000
252,895,000	3,317,696,000	-1,401,851,000	1,514,851,000	-29,329,000	71,639,000
-33,717,000	1,772,721,000	167,013,000	89,211,000	-63,653,000	276,780,000
12,025,000,000	169,378,000,000	-46,715,000,000	48,982,000,000	-3,095,000,000	-3,704,000,000
4,746,000,000	73,826,000,000	-11,272,000,000	12,575,000,000	-8,065,000,000	-1,310,000,000
198,463,000	5,066,470,000	970,992,000	355,814,000	-94,073,000	1,648,946,000
70,066,278,510	1,104,264,800,880	17,529,940,420	47,073,108,700	-90,641,167,520	45,966,290,860
43,933,275,560	880,869,228,720	224,725,304,110	109,703,981,140	-34,906,908,860	-32,248,352,910
86,461,208,090	1,513,968,939,000	-300,830,337,490	354,111,277,490	-59,534,411,260	5,711,269,470
34,045,000	206,594,000	-55,862,000	55,862,000	-7,475,000	-13,838,000
121,426,000	3,413,182,000	1,589,462,000	161,620,000	-86,966,000	147,300,000
19,532,034,470	228,213,313,880	-77,722,292,960	77,722,292,960	-4,435,133,320	-33,476,271,530
-25,635,330	211,386,300	2,662,500	15,646,960	-527,520	-24,231,220
9,094,000,000	172,649,000,000	-54,803,000,000	58,314,000,000	-2,108,000,000	-2,304,000,000
665,100,000	8,323,000,000	-2,239,400,000	2,239,400,000	-157,000,000	-344,600,000
415,737,872,510	277,523,653,190	12,449,608,410	60,325,798,870	-30,188,119,340	-43,483,815,380
1,985,000,000	36,395,000,000	-9,847,000,000	11,129,000,000	-594,000,000	-1,268,000,000
2,431,000	170,765,000	-22,167,000	42,899,000	-107,000	52,402,000
152,541,000	1,565,332,000	-103,406,000	131,108,000	-62,426,000	-76,551,000
5,992,000,000	103,318,000,000	10,274,000,000	10,675,000,000	-8,218,000,000	3,529,000,000
5,436,000,000	42,086,000,000	13,460,000,000	5,600,000,000	-1,701,000,000	-6,273,000,000
-10,852,520,000	139,901,180,000	51,541,650,000	15,515,650,000	-7,809,260,000	10,161,620,000
16,627,000	142,519,000	-94,004,000	102,277,000	-1,085,000	59,645,000
9,893,000,000	130,669,000,000	-43,597,000,000	44,472,000,000	-2,435,000,000	-6,089,000,000
216,312,000	2,238,221,000	-86,528,000	636,504,000	-11,276,000	-24,029,000
12,212,392,030	193,539,434,860	-3,231,715,540	27,052,705,620	-12,336,988,650	-4,204,428,690

43,549,742,610	1,624,124,362,980	542,104,571,960	74,697,465,400	#############	85,876,994,620
153,099,000	1,721,148,000	36,509,000	211,667,000	-91,447,000	-95,130,000
9,646,000	226,486,000	-22,317,000	22,317,000	-23,176,000	-798,000
-2,300,000	308,000,000	-81,700,000	81,700,000	-2,300,000	53,300,000
22,037,369,440	425,675,174,180	-18,622,444,530	77,402,000,820	-6,940,610,490	-13,377,478,390
12,320,944,750	160,139,938,890	-23,096,045,910	26,836,354,850	-10,168,900,400	-509,366,510
11,164,000,000	62,167,000,000	8,655,000,000	11,935,000,000	-2,854,000,000	-14,669,000,000
-46,229,000	19,620,000	24,288,000	12,628,000	-973,000	1,654,000
6,484,818,690	628,214,312,580	109,971,841,590	57,562,982,290	-61,443,950,240	71,056,254,500
496,000,000	51,269,000,000	-5,327,000,000	6,919,000,000	-2,007,000,000	-574,000,000
220,001,000	1,410,115,000	-887,593,000	923,597,000	-126,406,000	540,719,000
-16,489,000	49,872,000	-9,833,000	17,396,000	-7,641,000	41,055,000
1,296,208,000	33,464,268,000	-2,984,193,000	7,244,313,000	-2,409,604,000	-369,450,000
-5,301,000	302,718,000	37,027,000	17,532,000	-1,723,000	63,611,000
60,523,000	896,232,000	233,621,000	34,971,000	-59,295,000	25,467,000
-5,580,270,000	46,510,391,000	33,931,353,000	215,547,000	-11,159,793,000	6,643,797,000
683,647,000	5,738,294,000	-1,791,383,000	2,291,905,000	-261,886,000	235,360,000
30,079,000,000	719,257,000,000	-12,833,000,000	20,190,000,000	-34,725,000,000	-12,579,000,000
1,307,000,000	6,277,700,000	1,281,300,000	609,000,000	-401,900,000	-1,137,100,000
2,355,084,000	12,178,018,000	865,731,000	228,243,000	-819,627,000	-1,510,564,000
1,003,000,000	132,583,000,000	6,724,000,000	28,110,000,000	-4,781,000,000	-191,000,000
-12,535,000	71,998,000	-33,758,000	49,574,000	-4,621,000	39,689,000
2,274,880,270	589,368,537,770	313,402,243,410	982,064,230	-10,567,377,800	-9,957,985,300
59,047,000	300,774,000	5,376,000	26,773,000	-7,373,000	-92,148,000
2,068,000,000	39,138,000,000	-249,000,000	6,520,000,000	-3,326,000,000	3,743,000,000
32,956,000,000	945,500,000,000	75,613,000,000	174,838,000,000	-22,103,000,000	#############
1,888,000,000	40,106,000,000	6,897,000,000	5,667,000,000	-2,486,000,000	-205,000,000
7,442,000	240,693,000	-40,600,000	107,242,000	-5,176,000	14,419,000

Source: Thomson Reuters platform