EUROPEAN ENERGY MARKET DEVELOPMENTS. OMV AUSTRIA CASE

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Abstract: *The evolution of the energy market in Europe was influenced by the unprecedented development of the economy in 2007 and by the evolution of oil prices. From the analyses carried out in the energy field, we found that although American economy slowed down after September 11, 2001, the war in Iraq and then the other local conflicts in the Middle East forced an increase in oil consumption which led to an increase in the barrel price, which reached a level USD 145/barrel with the outbreak of the financial crisis. Against the background of the banking crisis and the sovereign debt crisis, the growth rate of the world economy has slowed down and the oil price has stabilized today at a level of 45-55 USD/barrel. Present in Romania through Petrom, OMV Austria is a multinational company whose main activity are exploration, production and marketing of oil and gas, petroleum refining and electricity generation. In this paper, we will assess the financial situation of the company on the European energy market into three periods: before, during and post-financial crisis, taking into account assets, liabilities, equity, performance indicators and market indicators.*

1. Business developments in the financial crisis

Public debt was considered one of the main reasons of concern for many countries. This problem became acute in the early 80s, when the early signs of the crisis appeared across several countries. This was manifested by the cessation of foreign debt payments. Such problems caused by public debt have come to the attention of both the creditor states and those responsible for payment. In the early 1980s, foreign debt crisis was manifested in several countries particularly indebted countries in Central and South America (Găban**,** 2016:146-152). OMV Austria was established on July 3, 1956 under the name "Österreichische Mineralölverwaltungs Aktiengesellschaft" and then was officially registered in the Commercial Register following the takeover of Company Assets Soviet Mineral Oil Administration (Sowjetische MineralölVerwaltung, SMV), which was established in the area of Soviet occupation in post-war Austria.

The company analysis for the period 2005–2015 will be made based on the financial statements which we divided into three periods: the pre-crisis (2005-2007), the financial crisis (2008-2010) and the post–crisis period (2011-2015).

Many analysts believe that the financial crisis was an unprecedented phenomenon in the world economy. From real estate, the credit crunch has generated a world

financial crisis, during which central banks and governments of developed countries pushing for the release of credit supported economy, which gradually came into recession. A review of the world economy found that there have been crises in other countries such as Brazil and Mexico, but these were due to mismanagement generated by the government policies based on low taxation and a fixed exchange rate of currencies. The global financial crisis was in turn described as "Economy's Pearl Harbor's" or "The new spill", name but a few of the descriptions of the global financial crises (Bătrâncea, Bătrâncea, 2009:143-155).

From 2010 onwards, the sovereign crisis caused by Greece's impossibility of paying the national debt of the state without the financial support of IMF and the EU was probably the hardest blow for the European Union over the last decade, preceded only by the "crash" - the European Constitution referendums in France and the Netherlands since 2005 (Găban et al, 2016:44-58).

In analyzing the financial position of OMV Austria, we had in mind that almost all multinational companies have been affected by the global situation, the events that occur internationally, namely: the global financial crisis, global warming and labor migration. The impact of the financial crisis for a company that manufactures and sales oil and that produces electricity will be strongly felt in terms of the negative effects, especially of the oil price in the market. The oil price strongly affects the company's activity, especially its turnover (it will still be able to sell large quantities, but if you sell at a lower price, the turnover will be strongly affected, its level is much lower than when you sell a smaller amount at a higher price). A company in the petroleum industry is strongly affected by the oil price on the international market, and also by the legislation of the country in which it operates, as well as by international regulations on environmental protection.

The real estate credit crisis led to the global financial crisis, and, since then, central banks and governments of developed countries have made great efforts to unlock credit economy, which gradually came into recession. Analyzing in retrospective the world economy, there were crises in other countries such as Brazil and Mexico, but they were due to faulty government policies based on low taxation and a fixed rate of conversion of national currencies (Bătrâncea, et al, 2009:58-64).

The current crisis led to a significant decrease in the confidence level of consumers, investors and businessmen, which in turn affected stability and economic strength. This created a vicious circle of economic growth based on excessive consumption sustained by debts. Deregulation and financial liberalization did not generate an efficient allocation of resources. Recent measures taken by governments numbered assets acquisition, banks recapitalization, injecting liquidity into the banking system. In spite of these measures, many banks have not escaped the subprime lending problem. At least in Europe, counterbalancing the effects of the financial crisis appears to be an extremely difficult mission. France, for example, created a sovereign fund to assist strategic companies (Bătrâncea, et al 2013:16-29). In the chart below, one can see the oil price on the international market in different periods (financial crisis, events experienced by OPEC members).
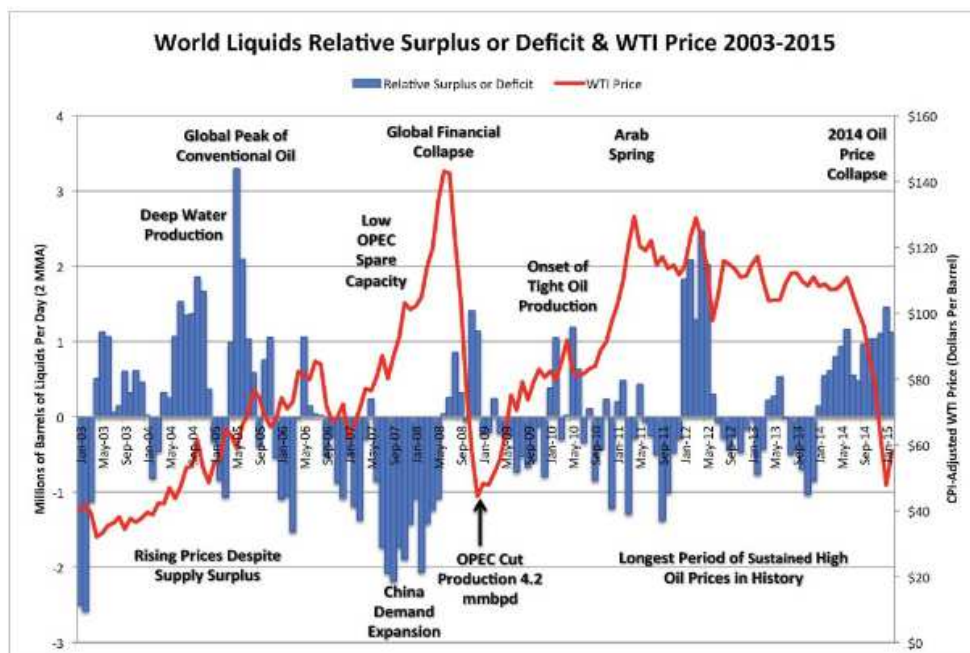
Chart 1: The evolution of oil price between 2003-2015
Source: www.oilprice.com/Energy/Oil-Price)

The chart indicates that one of the causes of the financial crisis was an unprecedented increase in oil price amid overheating national economies. Due to the collapse of the Leman Brothers bank in May 2008, in less than three months the oil price fell from $ 150 per barrel to a level of 70 $ per barrel. The financial crisis has led to a gradual recovery in the oil price, followed by the post-crisis period, when the oil price remained constant at 70 US $ per barrel since 2015. This was generated by lower oil imports of the US. Nevertheless, as a result of economic sanctions against Russia, the price per barrel having settled at a minimum of USD 40-45 per barrel.

2. Literature Review

The analysis of economic and financial environments requires a multidimensional approach towards a company, from taking into account the financial position and changes in the financial position to performance. Relevant works in two major segments of the disclosure of this analysis are presented in the following. An analysis of the financial position and how this changes is based on the balance sheet and the cash flow statement. The balance sheet shows the changes which took place in different items, during the analyzed period (Bătrâncea, et at, 2010). Each change implies that an amount of money entered or exited the company and that cash has been generated or consumed (Bătrâncea, et al, 2008:52 – 56). In order to respond to global competition challenges, the wood-processing industry in Finland and other countries are outsourcing round wood harvesting to harvesting contractors. The weak profitability, liquidity and solvency of harvesting contractors and the consequent difficulty in hiring qualified machine operators make networking and

enterprise growth a complicated process (Mikkola, et al, 2011:211-219). Cash flow analysis can be found in numerous papers. Thus, Găban (2016) shows that in the financial reporting system, the balance sheet and profit and loss account are key elements throughout the world as part of periodical financial reporting, while the cash flow statement is not mandatory in many countries (e.g. Germany and the Netherlands). In Japan, cash flow reporting is mandatory only for companies listed on the stock exchange market (Găban, 2016: 46-52).

Other authors noted that "if cash flow reports are mandatory, their format may differ from country to country. For instance, in the United Kingdom interest and dividends are grouped into a separate category, are not included in the cash flows reports from operations or in the financial one. Although this format is considered superior to SFAS 95 format (US format), cash flow reports are not comparable in terms of financial information sent to users without making some adjustments (Moscviciov et al, 2010:600-603). Operating activities affect the net profit through the cash inflows and outflows that it generates. (Bătrâncea, et al, 2009:92 - 98)

Another paper examines the relationship between working capital management and profitability for small and medium-sized enterprises (SMEs) by controlling unobservable heterogeneity and possible endogenity. The results point to the fact that there is no non-monotonic (concave) relationship between working capital level and firm profitability. This indicates that SMEs have an optimal working capital level that maximizes their profitability (Baños-Caballero, et al, 2012:517-529). On the other hand, the cash flow analysis is replaced by funds flow. Therefore, in some countries from South America, entities draw up reports of funds changes. Funds are defined in this case as *net working capital* (current assets minus current liabilities), this financial indicator reports on the changes recorded in the entity's working capital. Fund flows limits were recognized in the late 1970s, and this method of financial reporting was abandoned in the United States since 1973 (Bătrâncea, et al, 2009:57-62). Another research shows that lower profitability has left companies with little resources to undertake renovation and modernization. Fiscal measures have been imposed by the government, together with a proposal for modernization, the latter being effective for reconstructing the condition of the Indian cement industry (Banerjee, 2015, 171-179).

Other researchers report that the working capital is a form of liquidity highlighting the resources available after covering short-term liabilities (Bătrâncea, et al, 2008:34 – 40). For this reason, the analysis of the working capital ratio is an important target for every manager of Romanian companies (Moscviciov, et at, 2010:600 – 603). The liability–asset ratio of China's industrial state-owned enterprises (SOEs) has increased dramatically in the course of the economic reform period. Western observers point out the inherent dangers to enterprise solvency. The research shows that the increase in the liability-asset ratio of industrial SOEs is the inevitable result of systemic changes and a low-profitability SOEs tends to have a high liability–asset ratio (Holz, 2002:1-26).

The purpose of another study was to find a function for the profitability of Swedish micro firms in the sectors of health, transport, trade and metal. In order to understand how micro firms relate to key variables such as firm size, growth of sales, productivities, lagged profits, asset turnover and firm's age, OLS (Ordinary Least Squares), and the more robust quartile regression techniques were used to estimate micro-firm profitability (Khaik, Darush, 2012:94-106). Data advances in panel data econometrics were used to investigate the determinants of profitability for

manufacturing and service sector firms in Belgium, France, Italy and the UK, for the period 1993–2001. The paper synthesizes empirical models that have been used by researchers in industrial economics, strategic management and accounting, finance. (Goddard, et al, 2005:1269-1282)

3. Methods and Results

Results were based on the comparison method, the indices method and the rates method. These methods are conducted with respect to the three periods mentioned in the above: anti-crisis, financial crisis and post-financial crisis. A first component of financial analysis refers to the company's financial position. An analysis of the structure of the assets and liabilities of the company during 2005-2015 found that, compared to other companies such as Shell, Exxon, MOL, OMV Austria was not affected by the financial crisis as shown in the following table.

Table 1: Evolution of OMV Austria in the period under review-million Euro-

Before Financial Crisis	2005	2006	2007	Minim	Maxim	Average in EU	
Assets	15.451	17.804	21.250	15.451	21.250	18.168	
Liabilities	7.758	8.628	10.910	7.758	10.910	9.099	
Equity	7.694	9.176	10.340	7.694	10.340	9.070	
Financial Crisis	**2008**	**2009**	**2010**	**2011**	**Minim**	**Maxim**	**Average in EU**
Assets	21.376	21.415	26.404	21.376	21.376	26.404	22.643
Liabilities	12.013	11.380	15.092	11.380	11.380	15.092	12.466
Equity	9.363	10.035	11.312	9.363	9.363	11.312	10.018
Post - Financial Crisis	**2012**	**2013**	**2014**	**2015**	**Minim**	**Maxim**	**Average in EU**
Assets	30.519	31.786	33.938	32.664	31.786	33.938	32.227
Liabilities	15.989	17.241	19.336	18.366	17.241	19.336	17.733
Equity	14.530	14.545	14.602	14.298	14.298	14.602	14.494

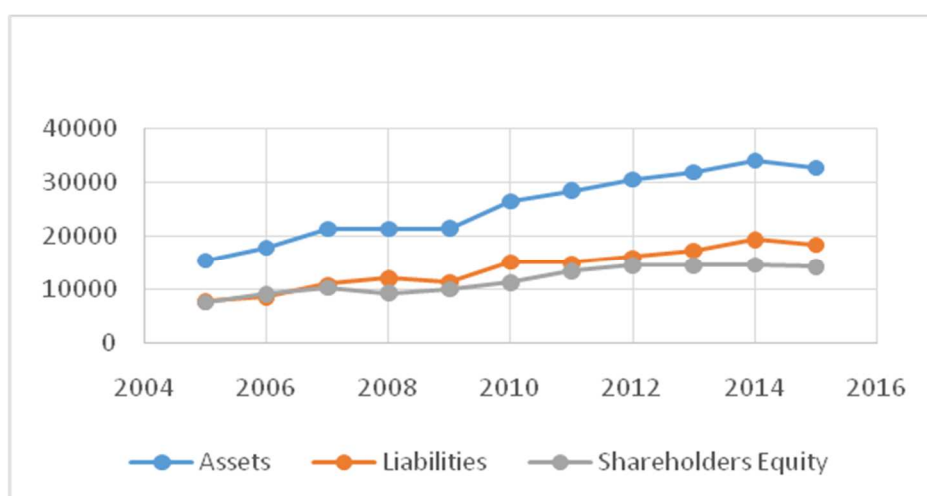Source: The financial statements of OMV Austria

Chart 2: The evolution of assets, liabilities and equity of OMV Austria
Source: Own calculus based on the OMV balanace

As the data presented above and in chart 1 the assets, liabilities and equity show slight increases throughout the period analyzed, being generally above the European average of companies in the oil industry. Another component analysis company refers to its performance and features the turnover and profit as shown in the table below.

Table 2: The performance indicators as OMV Austria in three periods - million Euro-

The anti - crisis	2005	2006	2007	Minim	Maxim	Average in EU	
Earnings after tax (EAT)	1.495	1.658	1.842	1.495	1.842	1.810	
Earnings before tax (EBT)	1.947	1.966	1.956	1.947	1.966	2.012	
Earnings before interest and taxes (EBIT)	1.958	2.061	2.184	1.958	2.184	1.179	
Income Tax	452	308	114	114	452	9.244	
Turnover	15.580	18.970	20.042	15.580	20.042	9.265	
Dividends paid	134	378	487	134	487	333	
Financial crisis	2008	2009	2010	2011	Minim	Maxim	Average in EU
Earnings after tax (EAT)	1.528	717	1.214	1.572	717	1.572	1.257
Earnings before tax (EBT)	2.308	1.181	1.960	2.200	1.181	220	1.912
Earnings before interest and taxes (EBIT)	2.339	1409	2.333	2.473	1.409	2.473	2.139
Income Tax	779	464	746.8	628	464	746	654
Turnover	25.542	17.917	23.323	34.053	17.917	34.053	25.208
Dividends paid	547	336	334	441	334	441	414
Post- Financial Crisis	2012	2013	2014	2015	Min	Max	Average in EU
Earnings after tax (EAT)	1.790	1.728	613	-1.255	-1.255	1.790	719
Earnings before tax (EBT)	2.857	2.289	877	-1.909	-1909	2.857	1.028
Earnings before interest and taxes (EBIT)	3.103	2.716	1.054	-2.006	-2.006	3.103	1.217
Income Tax	1.067	561	264	-654	-654	1.067	309
Turnover	42.649	42.414	35.913	22.527	22.527	42.649	35.875
Dividends paid	626	627	649	530	530	649	608

Source: The financial statements of OMV Austria

Analyses of the evolution of performance indicators during the entire period reveal positive developments with the exception of the year 2015, when the indicator earning after tax has fallen dramatically mainly due to the lower oil price. However, the company distributed dividends to the dividend level of 2008. The third component of the financial analysis refers to the OMV Austria market indicators, whose evolution is shown in the following table.

Table 3: The evolution of the dividend per share (DPS) and earnings per share (EPS)

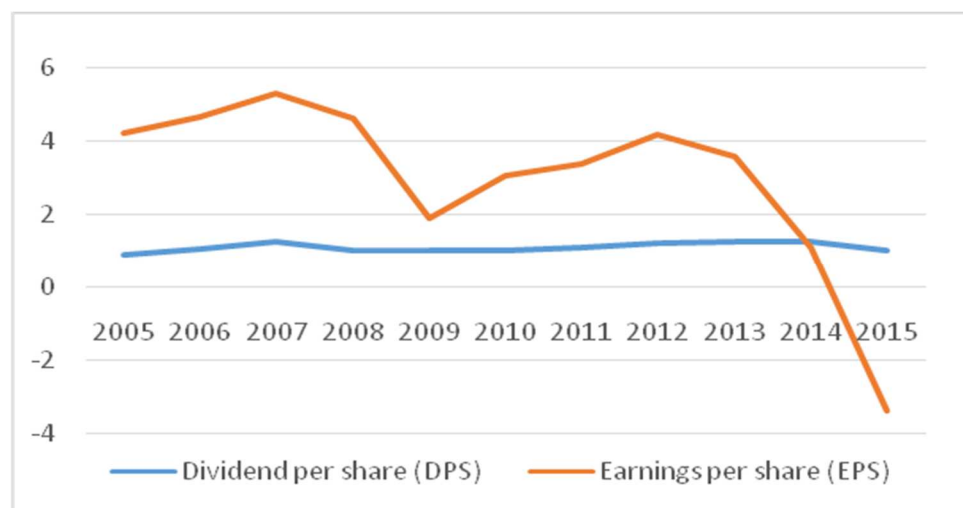| Indicators	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Dividend per share (DPS)	0.9	1.05	1.25	1	1	1	1.1	1.2	1.25	1.25	1
Earnings per share (EPS)	4.21	4.64	5.29	4.6	1.91	3.07	3.38	4.18	3.56	1.09	-3.37
Stock exchange capitalization (mil EUR)	14.780	12.840	16.560	5.590	9.170	9.290	7.640	8.920	11.350	7.180	8.530

Source: The financial reports of OMV Austria

Chart 3: The evolution of market ratios of OMV Austria
Source: Own calculus based on the annual reports

An analysis of the market indicators of OMV Austria reveals a constantly evolving dividend per share and a steady decrease pointing to 2005-2009 and 2012-2015, which indicate the beginning of a new global financial crisis. In order to identify the causes of oil companies' performances, we chose a sample of six companies such as: OMV Austria, MOL Hungary, Rompetrol SA form Romania, AGIP Italy, BP from UK and PK ORLENE from Poland. In this sense, we took into account four ratios to analyze whether return on assets (ROA), debt ratio (DR) and current liquidity ratio influenced the variable return on equity (ROE). For this reason, we used the RStudio software to build the statistic equations between ROE as dependent variable and the independent variables ROA, DR and RLC.

Firstly, we analyzed the relation between ROE and ROA, DR and RLC with correlation coefficients:

```
         ROE          ROA          DR           RLC
ROE    1.00000000   0.8693797    -0.09194262   0.6733242
ROA    0.86937969   1.0000000    -0.17390510   0.4154050
DR     -0.09194262  -0.1739051    1.00000000   -0.1583505
RLC    0.67332420   0.4154050    -0.15835045   1.0000000
```

The results show that between ROE (dependent variable) and the independent variables ROA, DR and RLC there is a connection.
Secondly we build the linear model of ROE (ROE is a function of ROA, DR, RLC).
> Model ROE = lm (ROE~ROA +DR+RLC)
> Summary (Model ROE)
Lm (formula = ROE ~ ROA + DR + RLC)
Residuals = squared differences between observed and computed data.
Residuals:

Min	1Q	Median	3Q	Max
-43.241	-3.685	0.366	5.203	30.336

We note that approximately 75% of residuals are in [-3,685,5,203]

We estimate the coefficients of regression equation:

	Estimate	Std. Error	t value	Pr (>|t|)	
(Intercept)	-26.45668	3.91156	-6.764	5.50e-09	***
ROA	2.29063	0.15238	15.033	< 2e-16	***
DR	0.06991	0.03254	2.149	0.0356	*
RLC	0.13335	0.01657	8.049	3.26e-11	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
We note that the coefficients are significant (p-value<0.05).
Residual standard error: 11.85 on 62 degrees of freedom
Multiple R-squared: 0.8824,   Adjusted R-squared: 0.8767
F-statistic: 155 on 3 and 62 DF, p-value: < 2.2e-16
Then we analyzed the variance based on ANOVAs test.

> ANOVAs (Model ROE)

Response: ROE

	Df	Sum Sq	Mean Sq	F value	Pr (>F)	
ROA	1	55924	55924	398.3418	< 2.2e-16	***
DR	1	268	268	1.9077	0.1722	
RLC	1	9095	9095	64.7824	3.257e-11	***
Residuals	62	8704	140			

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

ANOVA analysis emphasize that DR coefficient is not significant; so we remove the DR (debt ratio) variable.
The new model is: ROE = ROA + RLC (using R software convention)
Model ROE = lm (ROE~ROA+RLC)
Lm (formula = ROE ~ ROA + RLC)

Residuals:

Min	1Q	Median	3Q	Max
-46.278	-3.401	0.321	4.720	32.326

Coefficients:

```
        Estimate Std. Error t value Pr (>|t|)
(Intercept) -20.30551    2.74067  -7.409 3.86e-10 ***
ROA          2.25121    0.15555  14.473  < 2e-16 ***
RLC          0.12992    0.01696   7.662 1.39e-10 ***
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Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 12.18 on 63 degrees of freedom
Multiple R-squared:  0.8736,     Adjusted R-squared:  0.8696
F-statistic: 217.7 on 2 and 63 DF, p-value: < 2.2e-16
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> ANOVAs (Model ROE)
Analysis of Variance Table

Response: ROE

```
          Df Sum Sq Mean Sq F value    Pr (>F)
ROA        1  55924   55924 376.719 < 2.2e-16 ***
RLC        1   8715    8715  58.705 1.393e-10 ***
Residuals 63   9352     148
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Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
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Conclusion: Both lm and ANOVAs functions show us that the model is significant:

$$ROE = -20,30551 + 2,25121 \, ROA + 0,12992 \, RLC$$

For a change of 1 unit of ROA, ROE changes by 2,25121.
For a change of 1 unit of RLC, ROE changes by 0,12992.
For a change of 1 unit of ROA and RLC, ROE changes by 2,38113 (2,25121 +0,12992)
For RLC =0 and ROA =0 ROE = -20,30551 (no action from ROA and ROE)

4. Conclusions

The financial crisis has had an impact on the world economy with negative consequences on macroeconomic indicators such as the GDP, the inflation rate, the unemployment rate, wages, taxation etc. Although oil prices fell steadily after the financial crisis, oil companies have successfully overcome the difficult period caused by industrial production decrease due to the increase of domestic consumption. The performance of the oil companies has succeeded both during the financial crisis, and in 2015, due to lower oil prices, companies pay dividend and increase investor confidence in the capital market. The statistical analysis shows that between the dependent variable ROE (return on equity) and the independent variables ROA (return on assets) and RLC (current liquidity ratio) there is a strong linear connection. Also, we note that between performance and liabilities there is no connection, which means that debts did not influence the companies' performances.

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