

From hero to zero: Peabody Energy Corp.

Case Study Competition 2015

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From hero to zero: Peabody Energy Corp.

1. Company Overview and brief market analysis

Peabody Energy is the world's largest private-sector producer and distributor of coal. Present in 25 countries, this company produces thermal coal for power generation as well as metallurgical coal used in producing steel. The company has been struggling with deteriorating prices, as the demand for coal was hit by low natural gas prices, increasing use of alternative energy sources and the global drive to reduce carbon emissions by cutting coal and other fossil fuel generated energy consumption.

The company currently provides 10% of the electricity generated in the US and 2% of the energy around the world. Peabody Energy is the market leader in the U.S. providing 18.6% of the total volume of coal produced (cf. Table 1) - an equivalent to 183 275 thousand tons in 2013.

Company	Market Cap (\$ million)	% of Total Production	Revenue (\$ million)	Gross Margin	Net Income (\$ million)	Capital Expenditure
Peabody Energy Corp	2 043,995	18,6%	\$6 972	15,8%	(\$787)	(\$449.100)
Arch Coal Inc	278,08	13,2%	\$2 937	12,6%	(\$558)	(\$296.984)
Cloud Peak Energy	477,06	8,7%	\$1 396	18,6%	\$51.971	(\$46.780)
Alpha Natural Resources	296,01	8,6%	\$4 287	9,9%	(\$884)	(\$215.661)
Sector Average (25 companies analysis)	-	-	1.235 (m)	29,3%	(63,98)	-

Table 1 - Comparison of the top 4 producers in the US market (2014)

Peabody operates through the entire value chain, from mining the coal, to selling and distributing it for electricity production and steelmaking. Peabody Energy also markets, brokers and trades coal in the world's fastest-growing economies.

Analysing the US market, a very relevant market for Peabody Energy due to its market size and overall Peabody Energy exposure, we can clearly see that the whole sector is suffering profound changes. At a first glance all but one of the top 4 producers show very negative net incomes, and all of the companies are disinvesting heavily, which can seriously injure future profits by limiting the companies' size in a capital-intensive sector. All the larger companies face lower gross margins than the sector average, which could be a sign of how difficult it is for these companies to reduce their size without compromising future growth, due essentially to the weight of Capital Expenditures in the business model.

“Current prices are eliminating profit margins for a growing number of coal producers. [...] Over half of China's coal producers have cash costs in excess of domestic Chinese spot prices, and throughout the US higher cost miners are currently producing at a loss.” – according to Carbon Tracker, a financial specialist concerning carbon investments.

Peabody's current production and distribution is concentrated in the U.S. and Australia, as we can see in the Figure 1. This geographical segmentation is severely pressuring the company. On one side, U.S. and Australian markets are more mature economies, with increased pressures to reduce carbon emissions and bringing up competitive energetic alternatives like Natural Gas or renewables, or event the recent game changers Shale Gas and Oil. Fast-growing markets like China or India tend to

value price and efficiency whilst caring less for carbon emissions in this stage of development, but these developing countries already have local producers which are better positioned in a scenario of higher concentration of Coal consumption worldwide. Exporting to these markets will remain a challenge due to: (1) stronger currency; (2) low to unexistent local presence when compared to local competition - in markets with higher market entry barriers than most developed countries; and (3) shipping costs.

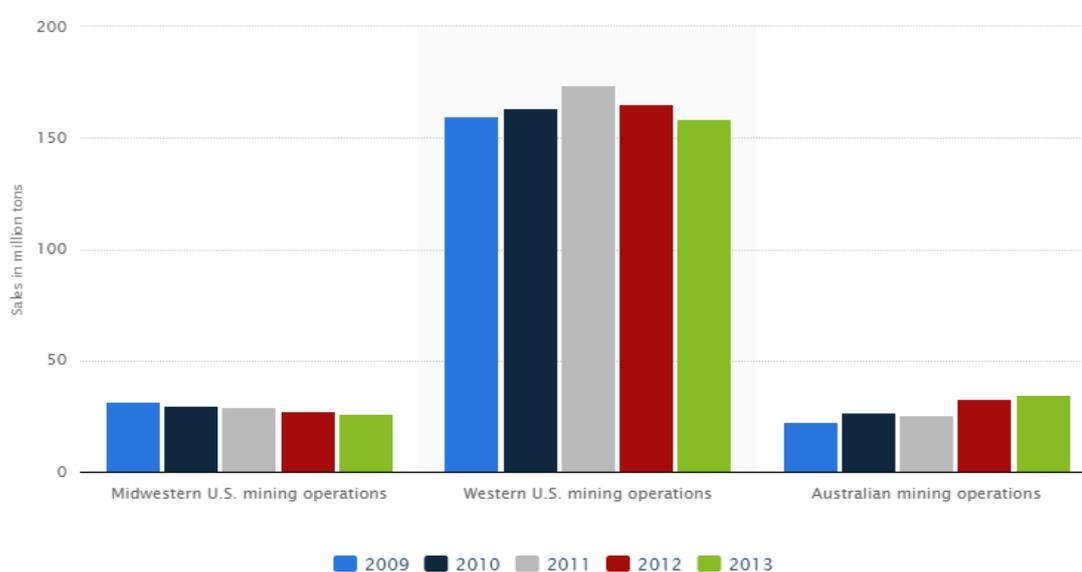


Figure 1 - Peabody's coal sales from 2009 to 2013 by producing region.

In its current geographies, Peabody Energy faces fierce competition in the coal mining market (Table 2). There are huge players like BHP Billiton, Rio Tinto PLC, Glencore PLC and China Shenhua Energy Co Ltd, most of them with higher EBITDA margins and well diversified in the energy sector. Moreover, being China one of the most important markets for coal mining we should note that this market already has well established strong players - like China Shenhua Energy Co Ltd, the world's largest coal mining enterprise. Due to that fact, Peabody Energy should not take the expected growth in the Chinese coal market as granted, since it won't be that easy to appropriate the piece of the cake that could ensure some revenue. Actually, in 2014, Chinese coal

imports declined 35 million tonnes, since China itself faced oversupply, with the Chinese Government intervening to close some facilities in order to keep prices stable.

Company	Market share	Market cap ^[1] (\$Millions)	EBITDA margin (%)	Coal revenue YOY (%)
China Shenhua Energy Co Ltd	3.40%	\$57,334	31.87%	12.79%
Coal India Ltd	1.60%	\$38,621	25.97%	0.74%
Glencore PLC	1.60%	\$57,562	3.61%	1.63%
China Coal Energy Co Ltd	1.50%	\$11,179	14.74%	-4.70%
BHP Billiton Ltd	1.30%	\$133,054	44.88%	-7.88%
Yanzhou Coal Mining Co Ltd	1.10%	\$7,676	15.88%	-3.00%
Peabody Energy Corp	1.00%	\$2,036	10.44%	-13.17%
Rio Tinto PLC	0.70%	\$90,236	35.24%	-10.03%
Anglo American PLC	0.50%	\$26,138	26.24%	-11.31%
Arch Coal Inc	0.40%	\$263	8.72%	-20.00%

Table 2 - Industry Market Leaders in coal mining worldwide¹

Overall, Peabody Energy has been suffering for all these effects in general, and this has translated into a sharp decrease in its stock price (cf. Figure 2). Not only such a change in stock price is unusual, but given the future trends noted in the next part of this report, we believe the downfall will keep its negative pace steadily into bankruptcy.

¹ Bloomberg, <http://www.bloomberg.com/visual-data/industries/detail/coal-mining>

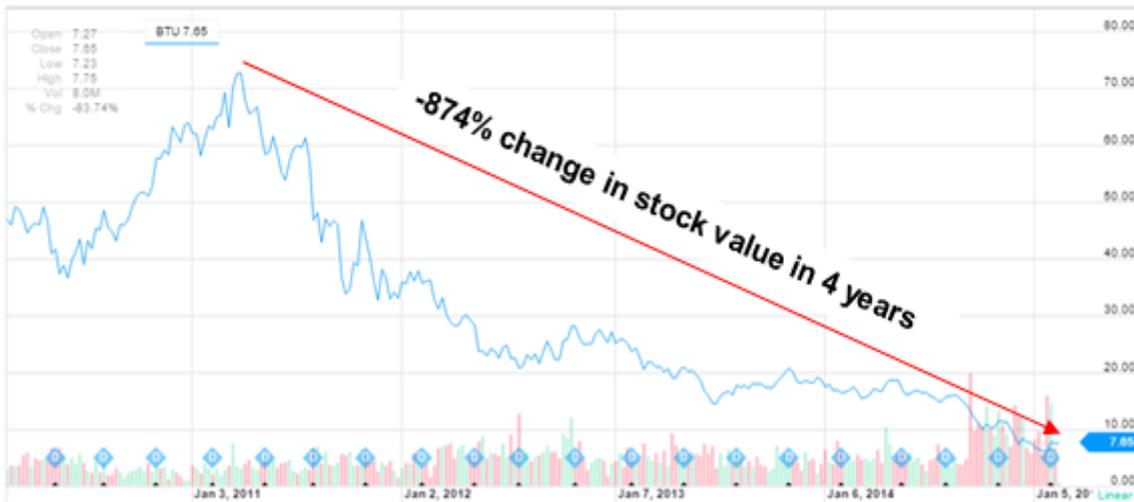


Figure 2 - Evolution of Peabody's stock value

2. Current market Trends – the Energy Market and the Coal sector

2.1 Shale energy will be a game changer for the U.S.

According to Scott Nyquist and Susan Lund, in their November 11, 2014 article for Forbes, *Shale Revolution: Opportunity to Jump-Start Economic Growth*, shale oil and shale gas have experienced high growth in the U.S. in the most recent years and shale energy is a true game changer for the U.S. economy. The U.S. Energy Information Administration projects 9.5 million crude oil barrels production per day in 2015 in the U.S., from 5 million barrels per day in 2008, mostly driven by shale production. Since 2007, shale gas production has grown 51% per year. This type of energy is becoming more efficient and proved reserves in the U.S are one of largest in the world, having increased five times since 2007. This will affect Peabody Energy as the U.S. is a key market for the company.

2.2 Required investment to continue producing coal will rise over the next few years

David Mitchell from Datamonitor's Energy and Sustainability section, a market intelligence agency, states the UK as an example, noting that this also applies to other countries:

*“The energy sector will also need a huge amount of investment in order to sustain where it is going. To give you a U.K. example, over the next 10 years, a significant proportion of U.K. power generation capacity will come offline. So the coal plants that we built 20 to 25 years ago will come offline. The amount of money needed in the U.K. energy sector to rebuild those plants is about £200-300 billion over the next 10 years. That's many times more levels of investment than have ever been spent in that economy before. **And the U.K. is not unique. Lots of other countries will need to invest, and that investment will either come from taxpayers when the government makes those investments, or it will come from taxpayers paying higher energy prices.**”*

This means that to keep the current production pace, the capital-intensive electricity producers that use coal as an input will have to consider facing huge investments, not only due to keep pace with innovative processes but also to keep their current plants running safely. Considering the state of public finances in the overall developed world, it seems unlikely that a state/taxpayers intervention would come easy.

2.3 Increasing demand for energy will rebalance the energy-mix sources

The 2013 International Energy Association annual report states that energy demand will rise continuously in the next coming years. However, this rise in demand will make way for a rebalance in the proportion of the contributing energy sources:

- Renewable energy sources, like wind and solar, will continue to increase their share in total energy production;
- Most of the new energy demand will come from the transport and petrochemical industries, both of which is based on oil;
- Renewable energy consumption will see its subsidies more than double over the medium term, but fossil fuel subsidies will remain high;

Therefore, our analysis tells us that although energy demand will rise in the upcoming years, due to these factors, fossil fuels will evermore concentrate on oil production and renewable energy will be more competitive, implying a negative outlook for the importance of coal in the future.

2.4 Natural Gas will make life harder for coal producers

According to MarketRealist's analysis of the coal market, natural gas and coal are competing fuels for electricity generation. Since oil production is steadily increasing, and natural gas is a by-product of the oil production or can be produced more intensively when oil prices go down - by deploying facilities to switch from oil production to natural gas production - the increase in natural gas production is leading to ever cheaper natural gas, which has negative impact on the demand for coal. The impact can be seen in this Figure 3 - below that shows the US market share of these 2 sources of electricity generation. Since the US is a major energy market and Peabody is very exposed to the American market, this is another trend to take into consideration.

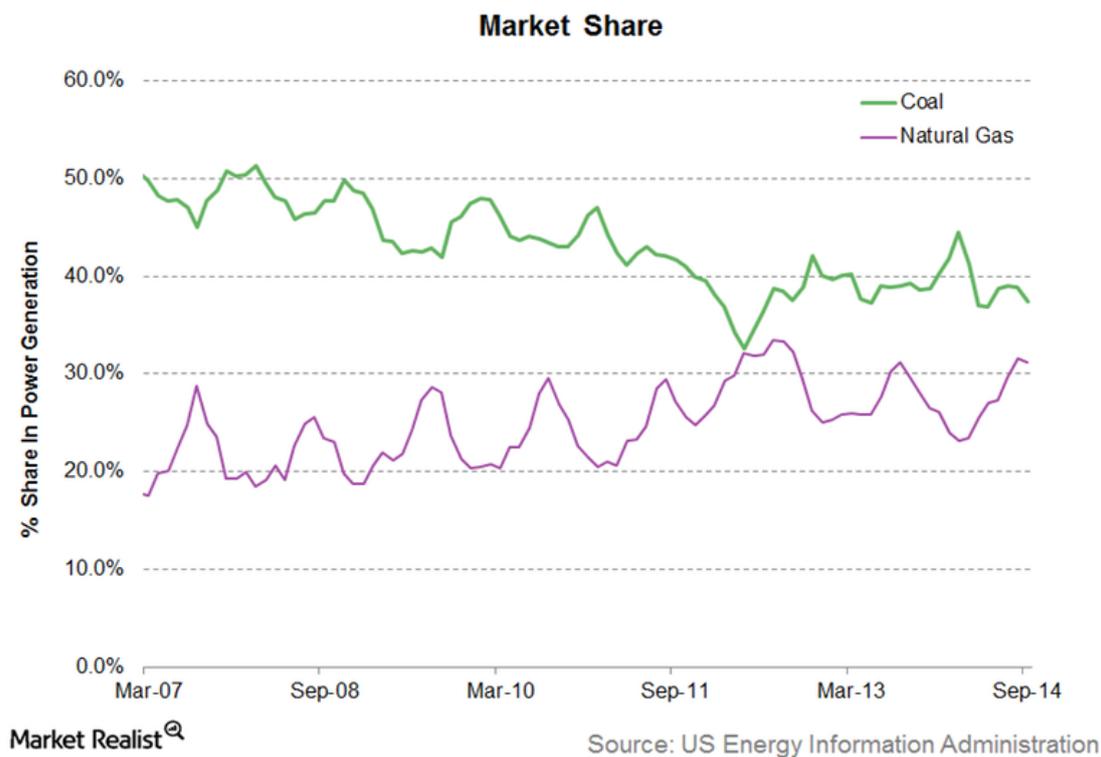


Figure 3 – US market share of coal and natural gas (2007-2014)

2.5 Regulations and environmental awareness will also be harder on coal producers

Since regulations are tightening in almost every market due to general increasing awareness concerning global warming and tax payers preference for greener solutions, cleaner energy solutions will make way for future capacity additions. This can be seen in the US market, especially if we take into consideration that it was one of the countries which hasn't signed the Kyoto treaty regarding CO₂ gas emissions limits. According to the US Energy Information Administration of the 4350 Megawatts of new electricity generating capacity that were added in the first half of 2014, renewable energy accounted for around 42%, natural gas for around 53%, and zero to coal-fired capacity. Therefore, coal is rapidly losing share in the total electricity output – from 50% in 2004 to 37% in 2014.

Also, new regulations that impose a drastic reduction in carbon dioxide emissions are not only slowing future investments but turning existing facilities economically weakened in order to comply with the necessary physical improvements to obey the new environmental laws.

2.6 Wind powered turbines are getting competitive and may hurt coal production

According to data compiled by Bloomberg: “Power from coal costs about \$78.30 a megawatt-hour to produce and gas costs \$69.71, compared with \$82.61 for onshore wind farms”. The same source states that the cost of wind power has declined about 90% in the past twenty years, decreasing 30 percent only in the last three years.

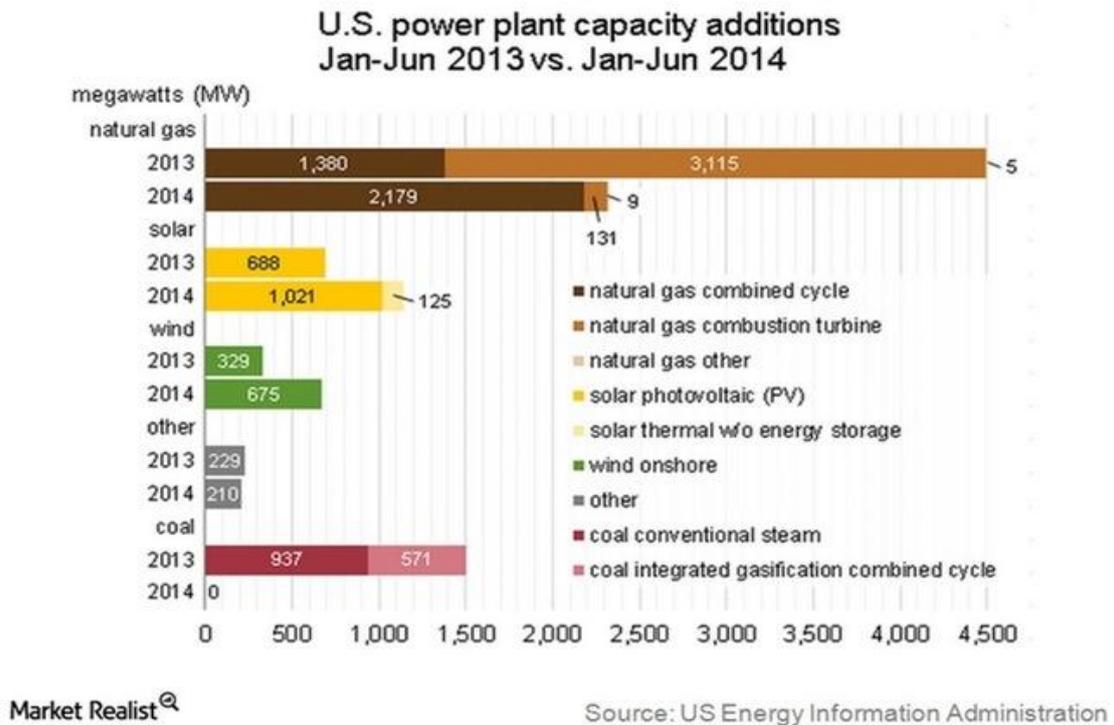
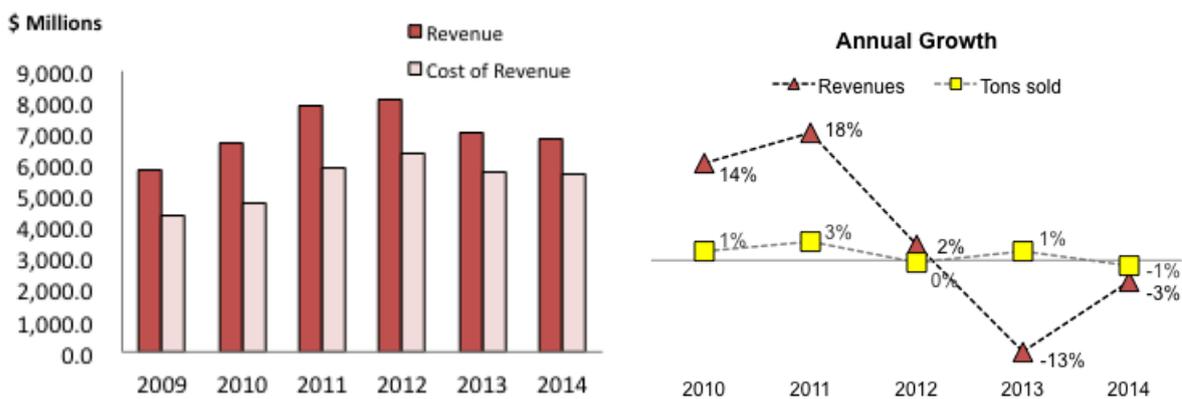


Figure 4 – US power plant capacity additions

3. Peabody's Financial Status

3.1. A path to leverage and decreased profitability

Despite high revenue growth rates from 2009 until 2011 (Figures 5 and 6), since 2012 Peabody Energy's revenue has decreased at a fast rate. We can see that although revenue has been volatile, the number of tons sold has remained stable over the years, which indicates that Peabody Energy is highly dependent on global coal prices and has struggled to increase its production sold, in spite of recent acquisitions.



Source: Thomson Reuters Eikon in 18-02-2015, at 15:20h

Figures 5 and 6 – Revenues, Cost of Revenues and Annual Growth

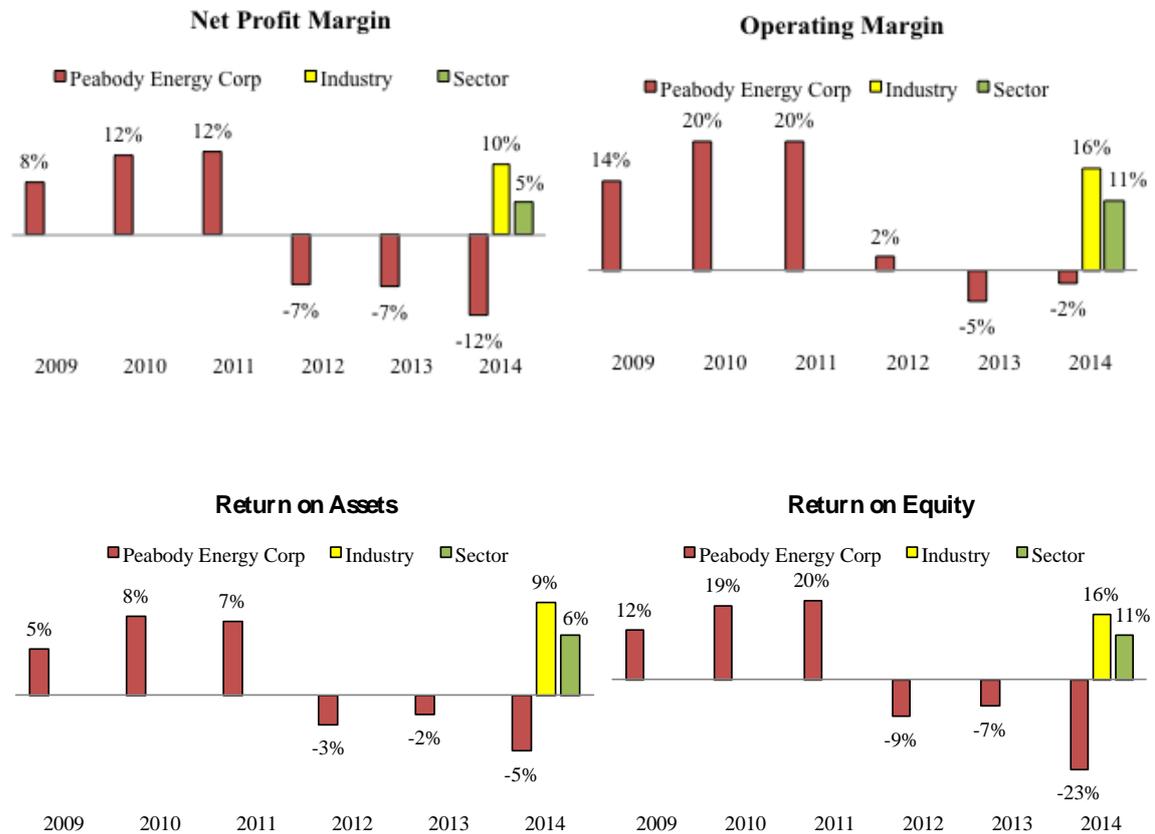
But even more concerning is the sharp decrease in its gross margin (Figure 7).

Figure 7 - Peabody's Gross Margin (2009-2014)



Gross margin in 2014 was 15,8%, well below both the sector (24,2%) and the industry average (28,3%). Coal industry is capital intensive and has important fixed costs. Also, tons sold were stable during this period. As a result, the cost of revenue represents a growing percentage of revenue. The implication is that the company doesn't have flexibility to reduce its production costs in case of a further decrease in revenue.

Analyzing profitability ratios and the Operating and Net profit Margins (Figures 8 to 11) is clear that Peabody Energy is losing both margins and profitability at a staggering pace, performing well below the industry and sector average:



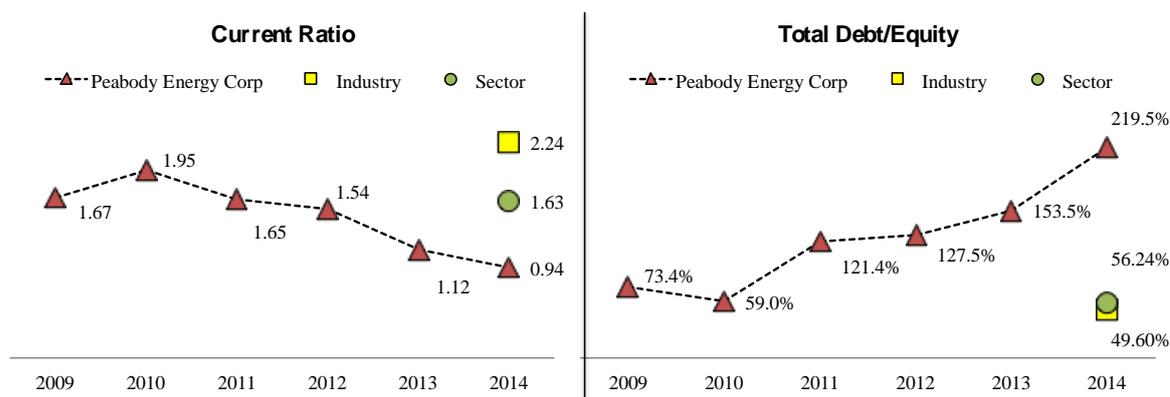
Figures 8 to 11 - Peabody's Net Profit Margin, OM, ROA and ROE, Source: Thomson Reuters Eikon in 18-02-2015

Profitability is falling, but we still need to see how the company is concerning liquidity and long-term solvency (Figures 12 and 13).

Total Debt represented 219.5% of Equity in 2014, a value much higher than the industry and sector average (49.6% and 56.2% respectively). Long-term Debt represents an astounding \$5.97 Billion and the Current Ratio is below one. Interest expenses accounted in 2014 to \$426.6 Million. With we should bear in mind that only in corporate bonds by 2016 \$650 Million will be due, by 2018 \$1.6 Billion and by 2020 \$650 Million² and \$1,2 Billion for a Term Loan Facility due in 2020.

² Morningstar

Figures 12 and 13 - Peabody's Current Ratio and Debt to Equity



Source: Thomson Reuters Eikon in 18-02-2015, at 15:20h

Peabody Energy's profitability is sharply decreasing and its debt is incredibly high. It is then important to consider the cash flow evolution (Table 3).

(\$ Million)	2008	2009	2010	2011	2012	2013	Total
Cash from Operating Activities	1297.8	1.05	1.087	1.633	1.515	722	6.008
Capital Expenditures	(264)	(383)	(546)	(847)	(986)	(328)	(3)
Cash from Investing Activities	(395,4)	(406,5)	(703,6)	(3.807,8)	(1.092,1)	(515,7)	(6.921,1)
Long Term Debt Issued	0,0	0,0	1.150,0	4.101,4	0,8	1.188,0	6,44
Net Change in Cash	404	539	306	-496	-240	-115	399
Free Cash Flow	1.034	667	541	786	529	394	3.951

Table 3 – Peabody's Free Cash Flow; Source: Thomson Reuters Eikon in 18-02-2015, at 15:20h

The cash generated from operations has been decreasing, from \$1.1297.8 in 2008 to \$722 Million in 2013. Operations have been generating less and less cash and the company has relied on Debt to finance itself. The company has successfully raised since 2009 until 2013 \$6.44 Billion to face the decrease in cash generation from operation and invest. From the press release in January 27, 2015 we see a further decrease in the cash flows generated from operations in 2014, which totaled \$336.6

Million. That is a 53.4% fall from the cash flow from operation in 2013. In December 31, 2014 Cash & Equivalents were only \$298 Million.

In 2011, Peabody Energy acquired Macarthur Coal in a 4.9 Billion takeover, a move that has yet to produce results.

Furthermore, the company has reduced its capital expenditures and projects for 2015 a \$180-200 Million capital expenditure. This decrease in capital expenditures will have an effect in an industry that needs new investments and innovation to face the environmental and technological challenges.

Calculating the wide known Altman Z-score in 2013 to assess the financial distress of the company and the probability of going bankrupt within two years we reached a Z-score of 0.94. We used the formula: $Z = 1.2T1 + 1.4T2 + 3.3T3 + 0.6T4 + 0.999T5$, where $T1 = \text{Working Capital} / \text{Total Assets}$; $T2 = \text{Retained Earnings} / \text{Total Assets}$; $T3 = \text{Earnings Before Interest and Taxes} / \text{Total Assets}$; $T4 = \text{Market Value of Equity} / \text{Book Value of Total Liabilities}$; $T5 = \text{Sales} / \text{Total Assets}$. This means that Peabody Energy is in the “Distress” zone, as the Z-score is below 1.81.

3.2. Credit Rating

Moody’s, Fitch and Standard & Poor’s are unanimous³: the company’s financial instruments are Non-investment grade speculative, just one level from becoming Highly Speculative

³ Moody’s rates Peabody Energy Corp. as Ba3, both Fitch and Standard & Poor’s as BB-

Figure 14 - Credit Default Swaps



We can see a huge increase in the cost to insure Peabody Energy bonds for the event of default. The Credit Default Swaps for the company’s senior 5 year bonds are now trading close to 900 basis point when in February 2014 they were close to 300 basis point. This market reaction shows how serious is the company’s current financial distress.

Figure 14 - Peabody Energy’s Bonds⁴

Name	Maturity Date	Amount \$(Mil)	Credit Quality	Price	Coupon %	Coupon Type (Fixed/Floating)	Callable	Rule 144A	Yield to Maturity %
Peabody Engy 7.875%	11/01/2026	250.0	---	80.5	7.875	Fixed	No	No	10.85
Peabody Engy 6.5%	09/15/2020	650.0	---	82.8	6.500	Fixed	No	No	10.69
Peabody Engy Cv 4.75%	12/15/2066	371.5	---	46.0	4.750	Fixed	Yes	No	10.39
Peabody Engy 6.25%	11/15/2021	1,339.6	---	80.4	6.250	Fixed	No	No	10.36
Peabody Engy 6%	11/15/2018	1,515.6	---	88.0	6.000	Fixed	No	No	9.91
Peabody Engy 7.375%	11/01/2016	650.0	---	104.9	7.375	Fixed	No	No	4.36
Peabody Engy 144A 6.25%	11/15/2021	160.9	---	---	6.250	Fixed	No	Yes	---
Peabody Engy 144A 6%	11/15/2018	84.4	---	---	6.000	Fixed	No	Yes	---

⁴ Morningstar, in February 18

Taking a further look on Peabody Energy's bonds (Figure 14) we see that for 6.50% Senior Notes due on 2020 corresponds a Yield to Maturity of 10.85%, superior in 4.35 percentage points to the coupon. This value shows that the market requires a high remuneration for the risk of lending money to Peabody Energy.

4 - Projections for 2020

Since we know that the quantity sold has been somewhat stable during the period analysed, we identified as a driver for revenues the evolution of the coal prices. Using the World Bank commodities price forecast in nominal U.S. dollars, released on January 22, 2015 for Coal, Australia, we reach the following annual growth table:

Annual Growth	2015	2016	2017	2018	2019	2020
Coal, Australia	-4.40%	4.00%	4.20%	4.10%	4.00%	4.20%

Table 4 – Coal price forecast, Australia

We applied this growth rate to the revenues and projected the following Free Cash Flow⁵:

(\$ Millions)	2015P	2016P	2017P	2018P	2019P	2020P	Total
Free Cash Flow	158.6	307.9	352.4	407.3	456.6	495.8	2,178.50

Table 5 – Projected FCF

⁵ Assumptions for projection: Gross Margin equal to three previous years' average; Selling/General/Administrative expenses equal to three previous years' average; value for Property/Plant/Equipment remains constant; Unusual expense and other operating expenses equal to three previous years' average; Total Interest Exp.(Inc.), Net-Operating equal to three previous years' average; Capital expenditures equal to \$200 Million yearly; no tax payments on negative operating income; tax used is US Corporate rate; Accounts Receivable Days, Accounts Payables Days and Days in Inventory are constant

If we compare with the amount of cash needed to pay the debt until 2020 (Table 6):

(\$ Millions)	2015	2016	2017	2018	2019	2020	Total
Debt due	-	650	-	1518.8	-	1835.4	4,004.20

Table 6 – Debt

In our opinion, by 2020 Peabody Energy Corp. will go bankrupt. After analysing the market and the company status:

- i. The company has a huge debt and it is not generating enough cash to repay it;
- ii. Operational margin has been decreasing with no signs of recovery;
- iii. Decreased demand on coal in preference of other less polluting sources of energy;
- iv. Mass extraction of shale gas and oil, increased efficiency of renewable energy and natural gas competition;
- v. Assets, like mines, will start to lose value as coal is a declining sector, what will compromise an eventual sell.

If the company fails to restructure its debt, we strongly believe bankruptcy is the most probable scenario.