Assessment of Changes in the Effectiveness of Capital Utilization in a New Formula of Mining Industry Functioning

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Abstract

Mining industry in Poland went through a deep transformation. It was a result of a serious financial crisis in the largest mining enterprises in Poland. In this strategic industry for Poland, a consolidation process occurred along with a liquidation of some of its potential. The objective of the paper is to show the process of capital degradation in the largest Polish mining enterprise – Kompania Węglowa SA, what was one of the most important premises of changes implemented in mining industry, and to assess the first effects of the actions undertaken in terms of the effectiveness of capital utilization. The analysis conducted relates to the premises and effects of the first stage of consolidation process, that is after the incorporation of the first mining enterprise - Kompania Węglowa SA into the structures of Polska Grupa Górnicza SA. The basic research method is ratio analysis and the research period encompasses the years 2013–2016.

Keywords: effectiveness of capital, mining industry

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Introduction

Polish mining industry suffered a deep crisis in the last few years, what initiated the process of structural changes consisting in the consolidation of the largest Polish mining enterprises, along with a liquidation of some of their potential. At the beginning of this process, the largest Polish mining enterprise – Kompania Węglowa SA (Eng. Coal Corporation JSC), was functioning with a negative equity capital. The degradation of this capital mostly resulted from incurring losses by this enterprise in a long-term period. The objective of the paper is to show the process of capital degradation in this enterprise, what was one of the most important premises to implement the process of changes in mining industry, and to assess the first effects of the actions undertaken in terms of the effectiveness of capital utilization in a new formula of mining industry functioning. The analysis conducted relates to the premises and effects of the first stage of consolidation process, that is after the incorporation of the first mining enterprise – Kompania Węglowa SA into the structures of Polska Grupa Górnicza SA (Eng. Polish Mining Group JSC). The research period encompasses the years 2013–2016. The basic research method is ratio analysis, including among others: capital structure analysis, equity-to-fixed-assets ratio, evaluation of financial leverage and return on equity in the view of the return on assets. Next, the results of analysis were initially compared and generalized. The research process was enriched with a synthesis, which was used to draw the final conclusions. The research was based on literature review and analysis of primary data coming from the examined enterprises (financial reports).

Problems related to capital management

Capital management is very often identified with financial market and financial investments. However, this issue should be addressed in a wider perspective. Capital is a necessary element of each economic activity. Each company founded is equipped with its first capital that enables conducting a regular operating activity, determines output capability of the business (manufacturing, trade, services), and it also allows financing the development undertakings. Capital accompanies the business through the whole time of its activity, up to the moment of company liquidation. During the liquidation its role is significant too, especially in mining industry, where the liquidation process may be much more capital consuming than the founding process. Taking into account the role of capital and its presence in every stage of company lifecycle, efficient capital management is a very important issue.

Capital management includes the process of capital gathering, acquisition and utilization in order to generate the company market value. The objective of capital management is to achieve the largest possible benefits. In general, these take a form of value maximization for the shareholders in a long term, with a provision of acceptable investment security level. Effective capital management links the need of maximization of the return rate on the invested capital with a specific probability of the occurrence of the risk of capital loss. Therefore, an adequate level of security should be provided for the creditors and other stakeholders, and what follows it, high reliability and good business reputation should be provided as well. Professional and transpar-

Tab. 1. Struktura kapitałowa KW SA i PGG SA w latach 2013-2016 [%]
Tab. 1. Capital structure of KW SA and PGG SA in years 2013-2016 [%] [Source: own work based on the financial reports of the examined mining enterprises]

Type of capital	2013 KW	2014 KW	2015 KW	2016 PGG
Equity	5	-4	-18	29
Debt capital, including:	95	104	118	71
accruals	51	43	42	29
long-term liabilities	11	4	3	15
short-term liabilities	33	56	72	27

Tab. 2. Wartość wskaźnika pokrycia majątku trwałego kapitałem własnym w KW SA i PGG SA w latach 2013–2016 [%]
Tab. 2. The value of equity-to-fixed-assets ratio in KW SA and PGG SA in years 2013–2016 [%] [Source: own work based on the financial reports of the examined mining enterprises]

2013 KW	2014 KW	2015 KW	2016 PGG
7	-5	-23	35

ent capital management, combining the need for the maximization of the return rate on the invested capital with a defined probability of the occurrence of the risk of capital loss, is a very important element of the functioning of each company. This problem is especially visible in mining enterprises, which are characterized by a high immobilization of assets with high value. To a large degree these are the assets difficult to turn into cash. Thus, mining enterprises require a high capital engagement for a long term.

Due to a wide and ambiguous scope of the definition of capital, when considering a problem of capital management, the research subject should be defined. The definition of capital in this paper will be understood as all the elements placed in the balance sheet on the side of liabilities (Czekaj and Dresler, 2001, p.79). They constitute the source of financing for the components of the assets engaged in the business activity. In general, this capital may be divided into two groups: equity and debt capital. Equity is the capital invested by the owners (shareholders, stockholders), which refers to the right to manage the enterprise, the right to participate in the company's results and to bear the responsibility for business activity. This group of equity relates to share capital. The group of equity also includes supplementary and reserve capital. They are established during the functioning of the company after the division of profits and from the surplus of issuance price over the stock selling price in the joint-stock companies or from the additional contributions of the shareholders in the limited liability companies. These capitals are founded based on the act or according to the company statute or contract. Apart from them, the source of capital raise is the result of revaluation of fixed assets, which increases the value of these assets and, at the same time, increases the company's capital (Bernacki and Piątek, 2004, p.47). Furthermore, an important source for raising equity is net income. The second group of capital from the point of balance sheet view is debt capital. It constitutes the returnable sources of business financing and they are called liabilities. Liabilities may be of a long-term character (e.g. investment loans, liability bonds, long-term loans) or of a short-term character (e.g. bank loans, accounts payable, short-term loans) (Sawicki, 2005, p. 28). Accruals also belong to the group of debt capital. These are liabilities in a situation when one is not certain about their deadline or amount. However, the fact of their occurrence should be certain or highly probable, and their amount possible to evaluate reliably (Kiziukiewicz, 2007, p. 49). The factors that differentiate debt capital from equity are: limited period of remaining at the company's disposal and, in case of some types of debt capital, necessity to pay interest for their use (Michalak, 2014, p. 159–171).

Effectiveness measurement of capital management

Many effectiveness measurement methods refer to company management, in particular, to the management of capital engaged in the business activity. They base mainly on the parameters distinguished by the companies in their financial statement. In this paper the authors mainly ground on ratio analysis. Firstly, the analysis of capital structure is performed. Thanks to the analysis, it is possible to determine which subjects provided the company with the capital for assets financing (whether these are the owners, banks, financial institutions or suppliers) and to what extent the company finances its assets (self-financing from profits). When

Tab. 3. Wartość wskaźnika dźwigni finansowej w KW SA i PGG SA w latach 2013–2016
Tab. 3. The value of financial leverage ratio in KW SA and PGG SA in years 2013–2016 [Source: own work based on the financial reports of the examined mining enterprises]

2013 KW	2014 KW	2015 KW	2016 PGG
19.46	-26.33	-6.56	2.42

Tab. 4. Rentowność kapitałów własnych (ROE) i rentowność aktywów (ROA) w KW SA i PGG SA w latach 2013–2016
Tab. 4. Return on equity (ROE) and return on assets (ROA) in KW SA and PGG SA in years 2013–2016 [Source: own work based on the financial reports of the examined mining enterprises]

2013 KW		2014 KW		2015 KW		2016 PGG	
ROE	ROA	ROE	ROA	ROE	ROA	ROE	ROA
-1.1	-0.05	-	-0.11	-	-0.13	-0.14	-0.04

analyzing the source of capital origin, it is possible to evaluate the level of company's self-financing and indebtedness, as well as the effectiveness of using the capitals entrusted. The capital structure was examined using the following ratios:

*equity ratio = shareholders' equity / total capital employed * 100*

*debt ratio = total debt / capital employed * 100*

The first of the ratios informs to what degree the company is able to finance the activity conducted on its own. Its high value means the solid financial grounds of the business and high reliability for the potential capital providers. The share of debt capital informs about the degree of company's debt (Gabrusewicz, 2005, p.115).

In the next step, the equity-to-fixed-assets ratio is calculated. It allows determining whether the business complies with the golden balance sheet rule. It states that fixed assets, involved in the activity for longer than 12 months, should be mainly financed by equity. In order to accomplish the golden rule, the amount of this ratio should be equal or higher than 100%. This ratio is calculated as follows:

*equity-to-fixed-assets ratio = equity / fixed assets * 100*

A fulfillment of the analysis of the ways of business activity financing is financial leverage ratio. It is indicated as a relation of debt to equity, what may be pictured as:

financial leverage ratio = debt / equity

If the financial leverage ratio is higher than zero, a financial leverage effect occurs. The financial leverage effect means that, due to a constant burden of interest, the fluctuations of net income per one unit of equity are more than proportional in relation with the fluctuations of operating profits (Earnings Before deducting Interest and Taxes – EBIT). The use of financial leverage consists in increasing the share of debt in financing the business activity in order to increase the expected return rate on equity. The higher the financial costs, the stronger the financial leverage effect. The financial leverage effects may be positive when they translate into profits growth per one share, or negative, when they contribute to profits fall. Two ratios should be calculated when the character of the financial leverage effect is determined:

return on equity (ROE)= net income / average equity level

and

return on assets (ROA) = net income / average assets level

The positive financial leverage effects occur when the return on equity (ROE) is higher than the return on assets (ROA) (Michalak, 2014).

Characteristics of the research subject and circumstances of changes in its functioning formula

Kompania Węglowa SA was established in the year 2003. It was the largest mining enterprise in Poland and in Europe. At the beginning, Kompania Węglowa SA consisted of 23 mines and 9 technical facilities. In the initial stage of functioning the employment size was reaching 85 thousand people and the excavation capacity amounted to 60 million tons yearly. Since the beginning of performance, Kompania Węglowa SA has conducted many adaptive activities in order to maintain the position on the market and to improve the effectiveness of performance, mainly in the area of decreasing the cost of manufacturing (Jonek-Kowalska and Turek, 2013). In the subsequent years of the activity the unprofitable mines and facilities were down. Nevertheless, the enterprise still remained in high debt and struggled with many financial difficulties, which manifested in, among others, an alarming level of many financial ratios, e.g. financial liquidity ratio, debt ratios or return ratios (Michalak, 2016; Jonek-Kowalska, 2014). The financial situation of the company has led to a necessity of radical change of the functioning formula. On 1st May 2016, 11 mines and 4 facilities of Kompania Węglowa SA were taken over by a special purpose vehicle enterprise – Polska Grupa Górnicza (initially sp. z o.o. (LLC), currently SA (JSC)), called PGG in short. Its owners are PGNiG TERMIKA S.A., WĘGLOKOKS S.A., PGE Górnictwo i Energetyka Konwencjonalna S.A., ENERGA Kogeneracja Sp. z o.o., Towarzystwo Finansowe SILESIA Sp. z o.o., Fundusz Inwestycji Polskich Przedsiębiorstw, ENEA S.A. and State Treasury (possessing 1 stock). Along with the assets, PGG took over about 35 thousand employees as well as the financial liabilities of Kompania Węglowa SA. The remaining possessions of Kompania Węglowa SA were transferred to Spółka Restrukturyzacji Kopalń (Eng. Mine Restructuring Enterprise) and to two newly established limited liability companies. Since that moment one may speak about a new formula of Kompania Węglowa SA's functioning (in the media even such phrases as "New Kompania Węglowa" appeared). 11 mines taken over by PGG started the activity according to a new consolidated model of mines. In result of the consolidation, 5 mines were created out of 11. Thus, the stage of the reorganization process of mining enterprises is the subject of analysis in this paper. The effectiveness assessment of capital management in the "old" Kompania Węglowa and "new" Kompania Węglowa, that is PGG, includes the last three years of Kompania Węglowa SA's functioning (2013-2015) and the first year of PGG's functioning (2016). In the year 2017 further crucial changes took place in mining industry. The second largest mining enterprise – Katowicki Holding Węglowy SA was taken over by PGG. This moment may be assumed as the beginning of the second stage of mining reorganization in Poland. As of now, the PGG's financial report for the year 2017 has not been published yet. Therefore, the assessment of the next steps of reorganization remains in the area of future research.

Effectiveness assessment of capital management in Kompania Węglowa SA and Polska Grupa Górnicza SA

Due to the limited data availability, the analysis of financing strategy includes the years 2013–2016 in this paper. The effectiveness assessment of capital management started from the calculation of the formula of equity ratio an debt ratio, which determine the capital structure of the examined enterprises. The results are included in table 1.

The capital structure level in Kompania Węglowa SA (KW) was deteriorating year by year. The accumulated loss from the previous years and another one generated in 2014 caused that in this year negative equity appeared for the first time. Its negative value went up even higher in the next year. An additional element increasing the financial risk is a high level of short-term liabilities. This situation significantly improved in the new functioning formula of Kompania Węglowa, that is in the year 2016. At that time equity amounted to 29% of all capitals. What is more, the share of short-term liabilities decreased in the financing structure (their monetary value went down by half in 2016 when comparing to the level at the end of 2015).

Next, the level of equity-to-fixed-assets ratio was determined, which allows stating whether the company complies with the golden balance sheet rule. It is shown in table 2.

The golden balance sheet rule was not achieved in either of the years in the examined period. In the year 2013 equity financed about 7% of fixed assets. In two subsequent years, equity was negative, therefore one cannot speak about the level of assets financing using this capital. The year 2016, when the new functioning formula was adapted in the researched enterprise, brought a visible improvement. Equity financed 35% of fixed assets in 2016. Despite a positive change, this situation still implies a high financing risk, especially in mining industry, where a high level of assets immobilization occurs.

In the next stage of the assessment of capital structure in the selected enterprises the financial leverage ratio was calculated. The results are included in table 3.

Financial leverage appeared in 2013 in the "old" Kompania Węglowa and in year 2016 in PGG, although the use of debt capital has a different extent in these years. The financial leverage ratio was the highest in the year with the highest debt. However, the attention should be paid to the fact that the financial leverage effects may be positive or negative. In order to verify the financial leverage effects, the profitability of equity (measured by the return on equity) and the profitability of the total capitals invested (measured by the return on assets) were calculated. The results of the calculations are encompassed in table 4. Because of the limited data availability, that are necessary for the calculation of the average levels of equity and assets, the analysis of this area was restricted to the years 2010–2012.

In the examined mining enterprise, both before the transformation process and directly after it, one cannot see the profitability of equity or of assets as the enterprise was incurring a loss very year. In 2013 each 1 PLN engaged in the activity as equity generated a loss in the amount of 1.10 PLN. Furthermore, each 1 PLN engaged in the assets financing, regardless if it came from own or external sources, generated a 0.05 PLN loss. In such situation there are no positive financial leverage effects (the occurrence of loss prevents from using tax shield). In the year 2014 and 2015 the enterprise did not possess any equity, thus one cannot speak about the ROE level in these years. In turn, the ROA level implies a deteriorating financial situation of this enterprise. The loss generated by the entirety of assets is increasing. After the takeover of the mines belonging to Kompania Węglowa SA by PGG SA, equity was "cleaned" from the most burdening items of KW SA, that is "loss from previous years". At the end of 2015 this loss amounted to 2.7 billion PLN and another "net loss" from year 2015 was in the balance sheet of KW SA. Equity appeared as a positive item, what deserves a good remark, however, one cannot speak about the profitability of equity yet. The PGG's loss, noted in the first balance sheet after the inclusion of Kompania Węglowa SA in its structures, amounted about 320 million PLN. Each 1 PLN engaged as equity in financing the PGG's activity generated a 0.14 PLN loss.

Conclusions

The largest Polish mining enterprise has not been profitable for years. Despite the serious financial problems, it tries to face the crisis. After a few years of functioning with a huge loss and negative equity, the radical steps were taken in order to change the formula of enterprise's functioning. Although in the year 2016 the enterprise still has not reached the profitability of the capital engaged, a positive character of capital has been restored. In 2016 equity constituted about 30% of all capitals engaged. Moreover, the loss incurred was relatively lower than the loss generated in the old formula of the enterprise's functioning. In spite of the noticeable positive symptoms concerning the capital management in the new formula of the examined enterprise's functioning, its financial situation is still burdened by a high financial risk. Fixed assets, difficult to cash and engaged for a long period (buildings and objects of underground mining, longwalls, professional mining devices etc.), are financed only in 35% by equity. Additionally, among debt capital, short-term liabilities still dominate, what increases the level of financial risk. In the examined period one cannot speak about the effective capital management yet, however, the first positive effects of the changes introduced become visible.

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Ocena zmian efektywności wykorzystania kapitału w nowej formule funkcjonowania górnictwa

Branża górnicza w Polsce przeszła głębokie przeobrażenie. Było ono skutkiem poważnego kryzysu finansowego największych przedsiębiorstw górniczych w Polsce. W tej strategicznej dla polskiej gospodarki branży nastąpił proces konsolidacji z jednoczesną likwidacją części jej potencjału. Celem artykułu jest zobrazowanie procesu degradacji kapitału w największym polskim przedsiębiorstwie górniczym – Kompanii Węglowej SA, który był jedną z ważniejszych przesłanek wdrożonych zmian w branży górniczej oraz ocena pierwszych skutków podjętych działań w zakresie efektywności wykorzystania kapitału. Przeprowadzona analiza dotyczy przesłanek i skutków pierwszego etapu procesu konsolidacji, tj. po włączeniu pierwszego przedsiębiorstwa górniczego – Kompanii Węglowej SA w struktury spółki Polska Grupa Górnicza SA. Podstawową metodą badawczą jest analiza wskaźnikowa, okres badań obejmuje lata 2013–2016.

Słowa kluczowe: efektywność kapitału, górnictwo