



Financial Performance of Johannesburg Securities Exchange Traded Gold Mining Companies: Du Pont and Economic Value Added Analyses

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Abstract. Analysis of financial performance of mining companies offers management the opportunity to scrutinize company performance against its strategic goals. Furthermore, it assists investors in investment decision-making. Gold mining plays an important role in the South African economy through taxation, foreign investment income, employment and skill development. Hence, the financial performance of gold mining companies for the past 10 years was analysed based on their gold assets only. The analysis was conducted by using the commonly applied tools for analysis of financial performance viz Economic Value Add (EVA) and Du Pont Analysis. Data were sourced from individual company annual reports. Based on these measures, Sibanye-Stillwater was the better performing gold mining company, while AngloGold Ashanti came second in all fields of measurement except for profit, which averaged the highest over the period under study. Harmony Gold was the worst performing company of all the three. Company performance fluctuates on year-on-year basis, hence the importance of conducting financial analysis for asset optimisation, return maximisation and investment opportunities. While mining companies report a number of performance measures in silos, it is important that comparison per sector is done for investment purposes. This is supported by the fact companies compete for scarce capital investment.

Keywords: Gold · Mining · Finance · EVA · Du Pont · Investment · Evaluation

1 Introduction

Gold is important for various reasons but gold provides a good hedge against inflation [1]. South Africa has the largest known gold resource in the world, which is hosted in the Witwatersrand Basin [2]. Figure 1 shows the location of some of the gold mining companies operating in South Africa. However, South African gold mining contributes about 4.2% of the global gold production [2]. The low production account can be alluded to challenges presented by mining at great depth, low-grade deposits and reduced investment in the sector due to high sovereign risk.

Sovereign wealth funds, pension funds and other investors use crediting rating to assess the credit worthiness of a country for investment opportunities. Therefore, it has an impact on the cost of borrowing for a country. Table 1 shows the crediting rating of South Africa over the period under study. Fitch as well as Standard & Poor’s agencies downgraded South Africa to a junk status in 2017 while Moody’s ratings were last reported at lower medium investment grade in 2018. Based on the credit rating agencies, South Africa is a high-risk investment destination. Trading Economics assign a score between 100 (riskless) and 0 (likely to default) for credit worthiness of countries. This score is forward looking taking into account factors such as economic indicators, and financial markets. South Africa scores a 50 making it a risky investment destination [3].

Table 1. Credit worthiness of South Africa (Adapted from 3)

Agency		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Fitch	Rating	–	–	BBB+	BBB+	BBB	BBB	BBB–	BBB–	BB+	–
	Outlook	–	–	Stable	Negative	Stable	Negative	Stable	Negative	Stable	–
Moody’s	Rating	A3	–	A3	Baa1	–	Baa2	–	Baa2	Baa3	Baa3
	Outlook	Stable	–	Negative	Negative	–	Negative	–	Negative	Under review	Stable
Standard & Poor’s	Rating	–	–	BBB+	BBB+	–	BBB–	BBB–	–	BB	–
	Outlook	–	–	Stable	Negative	–	Stable	Negative	–	Stable	–
Credit rating scales											
Fitch, Standard & Poor’s	BBB+	Lower medium grade									
	BBB										
	BBB–										
	BB+	Non-investment grade speculative (“Junk”)									
BB											
Moody’s	A3	Upper medium grade									
	Baa1	Lower medium grade									
	Baa2										
	Baa3										

South Africa introduced the Mining Charter in 2004 which was reviewed twice during the period of study in 2010 and 2018. The Mining Charter sets out what mining companies needs to do in order to achieve the objectives of the government such as targets and timeframe for effecting the full participation of historically disadvantaged South Africans (HDSA) into the minerals industry. All mining companies, irrespective of their profit margins are expected to fully comply with the requirements of the charter such as ownership through black economic empowerment, employee and host communities. Companies are usually expected to fund the ownership. For example, the Charter requires shareholders to give up 10% of the company to employees and host communities at no cost to the beneficiaries [4]. Thus, in a stagnant economy this requirement becomes difficult to achieve without affecting the value of the mining companies. Consequently, negatively impacting the return to shareholders.

Electricity is also a concern in South Africa as the parastatal; Eskom has failed to keep the light on for the whole country over the years and continuously seeking to increase electricity tariffs from National Energy Regulator South Africa (NERSA). Increasing tariffs results in increased cost of production and may make mining companies that cannot afford alternative energy sources to be unprofitable and consequently, close. Premature closure will result to loss of invested capital, thus investors will be wary to invest in an environment where access to affordable energy is not guaranteed.

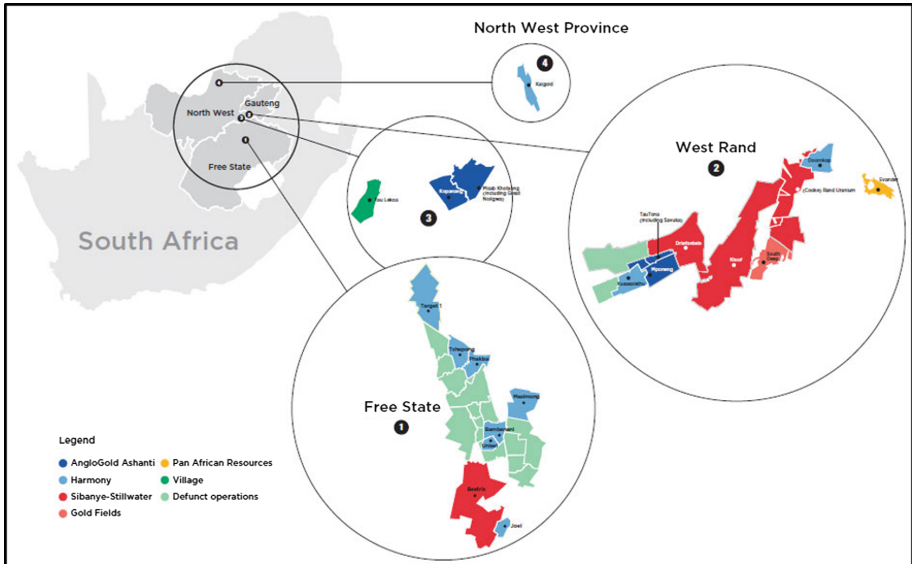


Fig. 1. Location of gold mining companies in South Africa [2]

Though the production contribution of South African gold mining has declined, gold mining still plays a critical role in the South African economic growth through taxes and employment. If the challenges faced by South African gold mines are resolved through adoption of new technologies and new and proposed policies, this will unlock the potential the sector has. Therefore, resulting in increased returns for the investors. This paper is aimed at analysing the financial performance of the Johannesburg Securities Exchange (JSE) traded gold mining companies for the period from 2009 to 2018. This period was selected because it covers the era post the Global Financial Crisis (GFC) and recession, which had adverse impact on the mining industry. The impacts of the two events are compounded by the sovereign risk introduced by changes in the Mining Charter and lack of access to efficient and low-cost energy.

The 2017 junk status from two agencies and the 2018 low medium investment grade make South Africa unappealing as an investment destination. This necessitates a need to frequently review financial performance of South African mining assets.

The companies that were selected are AngloGold Ashanti, Harmony Gold and Sibanye-Stillwater. Though all the companies considered have offshore assets and may have multi-commodity exposure, only South African gold assets were considered. These companies were selected based on their market capitalisation of R50.7 billion, R20.1 billion and R14 billion for AngloGold Ashanti, Sibanye-Stillwater and Harmony Gold respectively [5]. Gold Fields did not report company financial statements but group financial statement, hence it was not considered in the study. A comparative study of the financial performance of these companies was conducted using Du Pont analysis and Economic Value Added (EVA) metric.

2 Financial Analysis

Financial analysis can be defined as the process of selecting, evaluating and interpreting financial data to aid in investment and financial decision-making. Financial analysis is used as a tool to assess the trend in financial performance of a company relative to its historical performance, its peers and forecast its probable future performance. Financial analysis is commonly used for the purpose of assessing the potential for return on investment and associated risks, credit worthiness of a company for funding purposes, operational efficiency and due diligence for acquisition purposes. Numerous models are used to assess financial status of a company, the common ones being Discounted Cash Flow (DCF) and net present value (NPV), financial ratios, Du Pont analysis and EVA metrics. These evaluation tools are discussed in the subsequent sections.

2.1 Financial Ratios

Financial ratios model can be defined as a comparison between a financial measure and another. For example, current ratio where current assets are compared with current liabilities to measure. Financial ratios are categorized under profitability, liquidity, solvency, activity and market ratios. Usually financial ratios explain the performance of the company and do not provide explanations for the occurrences. Therefore, they should be used in combination with other measures that can consider the cause and effect. The measure limitations of financial ratios are that it [6]:

- Distorts the comparison findings if the companies considered use different accounting conventions;
- Does not provide accurate insight to the future performance of a company since it is based on ex post data; and
- Does not consider the effect of inflation on revenues and costs over time.

2.2 Du Pont Analysis

According to Soliman [7] and Doorasamy [8], Du Pont analysis decomposes return on net operating assets into two ratios viz profit margin, asset turnover and equity multiplier. These ratios measure different things and have different properties. There is a

positive correlation between asset turnover and future earnings [9]. In a mining context. Profit margin measures the profitability where revenues exceeds the costs of mineral extraction and processing. Asset turnover measures the use of revenue generated from assets to create value yielding positive returns [10]. Du Pont Analysis is regarded as a robust tool for strategic decision making to increase return on equity (ROE). The information needed to generate the ratios for the Du Pont Analysis is shown in Fig. 2.

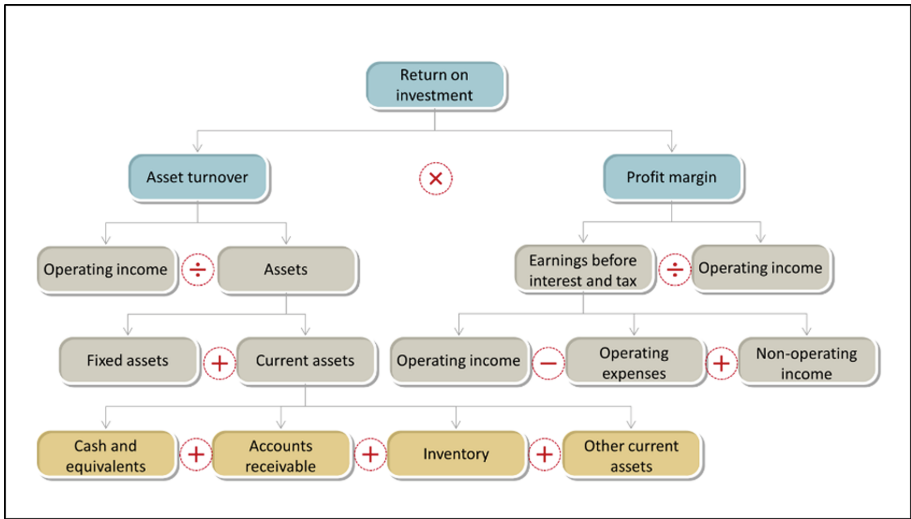


Fig. 2. Flowchart for the Du Pont Analysis [11]

2.3 Economic Value Add

Mining projects are characterised by capital intensive nature, volatile commodity prices (unless hedged) as well as volatile United States’ Dollar South African Rand exchange rate. Additionally, South African gold sector is characterised by deep ore deposits requiring additional capital to mine innovatively and safely while creating value for all stakeholders in particular, shareholders. Miners need to shift the focus from mining for tonnages to mining for profits while carefully allocating capital when implementing long-term growth strategies [12]. While profit remain a good short-term measure of value, mining companies engage in cost cutting measures that may increase profit but do not create economic value add [13]. Profit is a commonly reported traditional measure of value that does not account for charge on invested capital. Charge on invested capital is the monetary value calculated by multiplying invested capital with the cost of capital as shown in Eq. 2. The cost of capital can be cost of equity, cost of debt or weighted average cost of capital (WACC) depending on the capital structure of the company. Thus, the concept of economic value add (EVA) which measures residual wealth is considered an appropriate measure of value in mineral resource management [14, 15].

The goal of EVA is to quantify the charge of investing into a project and assess whether the project generates enough value to be classified as good investment [16]. Bluszcz and Kijewska [17] citing Marshal (1920) stated that earning of management is what remains from the profit after subtracting charge on the invested capital. EVA is calculated as net operating profit after taxes less the capital charge as expressed in Eq. 1 [18, 19].

$$EVA = NOPAT - \text{Charge on invested capital} \tag{1}$$

$$\text{Charge on invested capital} = \text{Cost of Capital} * \text{Invested Capital} \tag{2}$$

In order to asses a company in terms of EVA, it is important to understand the fundamental value drivers of EVA. The value drivers of EVA result from management decision in different aspects of the project namely, operational, investment and financing structure of the project as illustrated in Fig. 3.

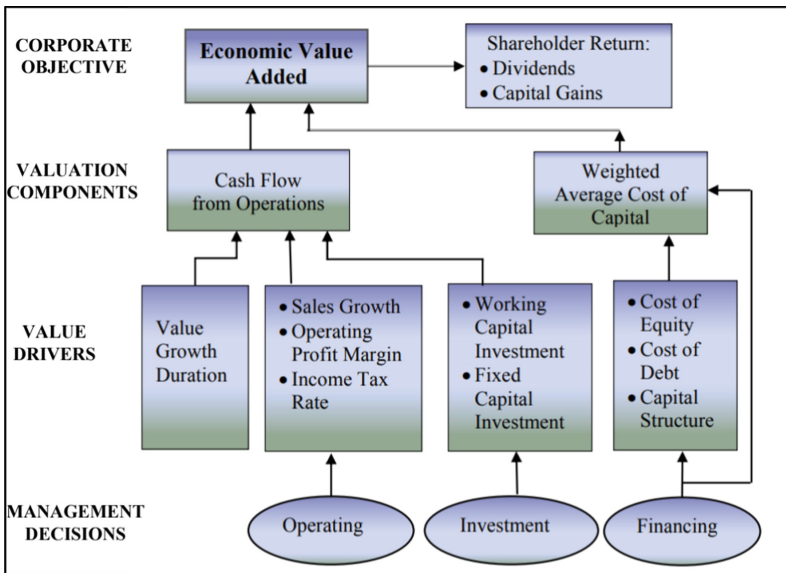


Fig. 3. Relationship between company goals and EVA [17]

From Fig. 2 and Eq. 1, EVA can increase if there is increase in sales offsetting capital investment, tax payments as well as cost of capital. Rappaport (1999) cited in [17] stated that there are seven value drivers including value growth duration, lower fixed and working capital. Rappaport has considered the effect of each of the seven drivers on assumption that the other drivers remain unchanged. However, multiple drivers can change at the same time due to the dynamic and complexity of the mining operating environment. Therefore, companies need to create EVA calculation models that enable iteration of different parameters to pro-actively evaluate management decisions.

3 Methodology

Data used for the analysis were sourced from annual reports of the individual companies over the 10-year period from 2009 to 2018 financial years. The annual reports comprise of income statement, balance sheet, statement of cash flows and justifications for company performance level. Sibanye-Stillwater was founded in 2012, thus its analysis begins in year 2012 for a period of six years. The financial performance models used in this study are DuPont analysis, economic value add and profit. From DuPont calculations returns on equity and return on assets were analysed. EVA was calculated using formula 1. Sibanye-Stillwater reported a 9.0% discount rate when they acquired Kroondal and other platinum assets; Harmony Gold reported a range between 8.35%–11.81% discount rates for South African operations [20, 21]. Other gold companies including AngloGold Ashanti, Pan African Resources and DRD Gold reported discount rates in the same range. On this basis, a discount rate of 10% was assumed in this paper. Invested capital is defined and calculated differently in different literature but in this paper invested capital was calculated as in Ernst & Young LLP (2017) cited in [13]:

$$\begin{aligned} \text{Invested capital} &= \text{Current assets} \\ &\quad - \text{non-interest-bearing current liabilities} \\ &\quad + \text{Net property, plant and equipment} \\ &\quad + \text{Intangible assets} \\ &\quad + \text{Goodwill} \\ &\quad + \text{Other operating assets} \end{aligned}$$

4 Du Pont and Value Analysis

The graphs presented in this section were produced from data sourced from individual company income statements, balance sheets and discount rates reported in the annual reports. Some of the information regarding share price for individual companies was not reported in the annual reports thus Investing.com was used to supplement the missing information. AngloGold Ashanti share price information for the years 2013 to 2015 were sourced from Investing.com. Harmony Gold share price information for the years 2014 to 2016 was sourced from Investing.com.

4.1 AngloGold Ashanti

In Fig. 4, the overall trend for the return on equity and return on assets for AngloGold Ashanti shows a decline from 2010 financial year. The good performance observed in 2010 may be alluded to the gold price soaring from approximately US\$1270/oz in January to US\$1650/oz in December. The graph shows that AngloGold Ashanti is not providing expected returns to the investors, with its value eroding over the years.

However, the ROE for the company increased by 62.5% to 0.3% in 2018. Nonetheless, these returns are still not adequate to boost investor confidence in the company. The same trend is observed for ROA indicating that the company is not using its assets efficiently to generate value. The ROA improved by 66.7% in 2018 from -0.8% return on assets. The average ROE and ROA for the period under study are 15.1% and 11.8% respectively.

In years 2010, 2011, 2012, 2014 and 2016, the company generated profit however it failed to create economic value at the same level. The average EVA for these four years was R1.3 billion whereas the average profit was about R5 billion, a variance of 74%. The good performance over these four years can be attributed to higher net operating profit after tax as opposed to invested capital which on average it was higher than the other years where EVA was negative. For the other years, the company made a loss, with highest losses experienced in 2013. Although the company made a loss in 2013, Fig. 5 shows that the company paid dividends from 2009 to 2013. The dividends were paid at group level while the profit and EVA analysis are on South African assets. The share price of the company depreciated from 2011 until 2015 and thereafter it started to appreciate until 2018. Furthermore, no dividends were paid in 2014 and 2015 supporting that the economic value add was not good in the preceding years.

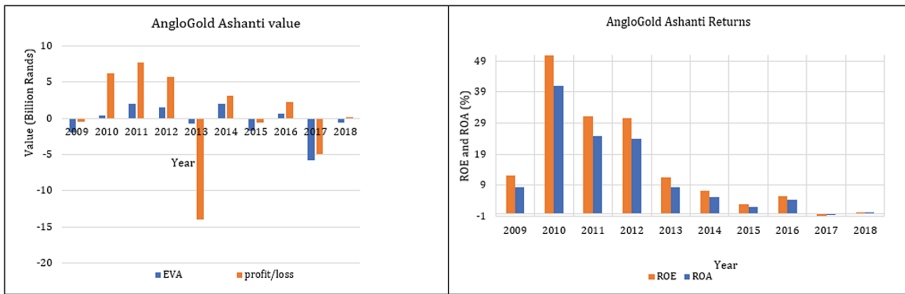


Fig. 4. AngloGold Ashanti financial performance

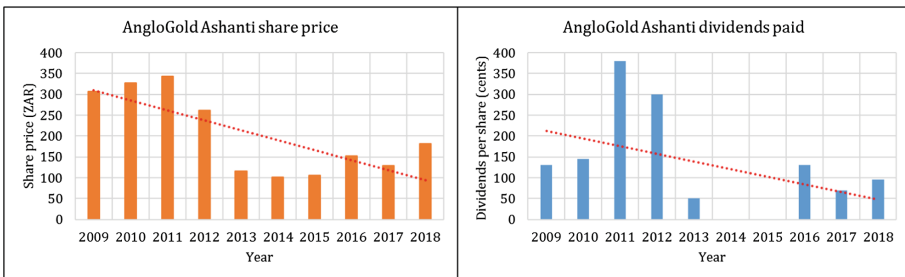


Fig. 5. AngloGold Ashanti share price movement and dividends payout

4.2 Harmony Gold

Figure 6 shows that Harmony Gold provided good returns for the investors from 2009 to 2013 with an arithmetic average of about 21% and 19% for ROE and ROA respectively. However, for the succeeding five years ending 2018 the ROE and ROA values have been negative thus eroding the value for investors. The failure of Harmony Gold to use its assets efficiently has reduced the ROE and ROA averages to 9.7% and 8.7% for the 10-year period. The poor performance may be alluded to low grade and unprofitable areas which resulted in scrapping of Harmony’s carrying values [22]. In 2009, Harmony Gold made loss however, there was economic value added due to positive net operating profit after tax (NOPAT) paired with relatively low invested capital. The company only made profit in 2012 and 2013 but no economic value was added as indicated by EVA values. Although NOPAT was higher than that of 2009, the average invested capital in 2012 and 2013 was 480% more than the capital invested in 2009. Figure 7 shows that the share price of Harmony Gold has depreciated over the period under study and the company did not payout dividends in years 2014 to 2016 and 2018. Therefore, there were no returns to the shareholders in these four years. The depreciation in share price and lack of dividends payout support the overall lack of economic value add in the company.

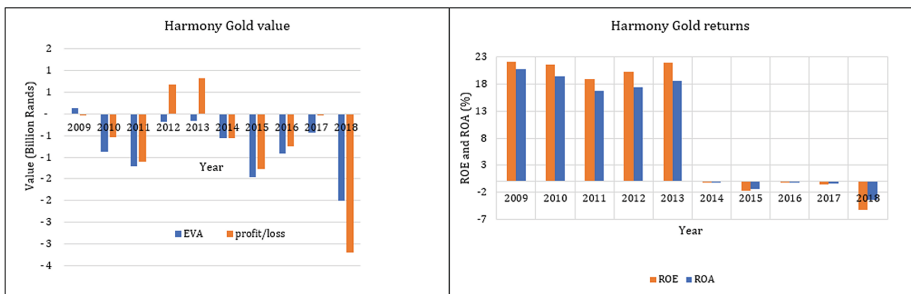


Fig. 6. Harmony Gold financial performance

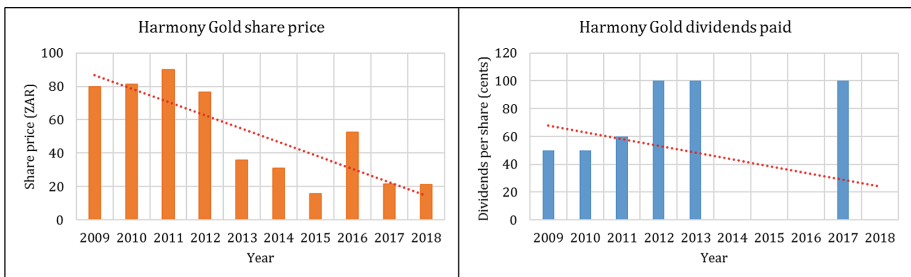


Fig. 7. Harmony Gold share price movement and dividends payout

4.3 Sibanye-Stillwater

Even though the ROE for 2012 was -33.8% , the performance of Sibanye-Stillwater was good as indicated by 17.4% return on assets (Fig. 8). This means that the company management was efficient in using the assets to generate earnings. This is further supported by the fact that from 2013 to 2017, the company generated positive return on investment. The company had negative ROE and ROA for year 2018. The average ROE and ROA for the 10-year period were 17.5% and 13.5% respectively. Generally, for the period under study, there has been reduction in the net property, plant and equipment from R16.3 billion in 2012 to R11.3 billion in 2018. Consequently, invested capital has also generally decreased over the period from R14.3 billion in 2013 to R9.2 billion in 2018. However, in 2018 the lower invested capital was paired with negative NOPAT resulting in economic value erosion. Figure 9 shows that the share price has remained relatively stable over the period. Sibanye-Stillwater has managed to create value for the shareholder through dividends payouts except in 2018, where no dividends were paid.

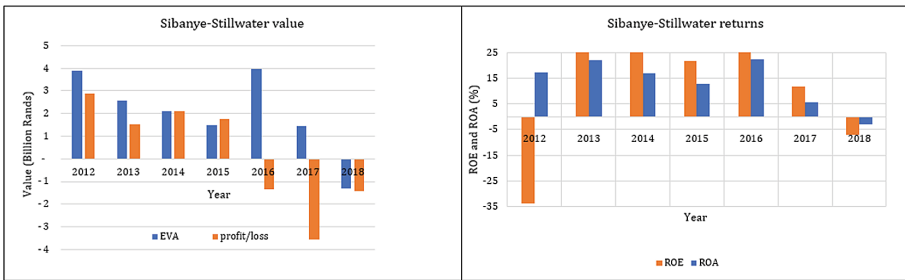


Fig. 8. Sibanye-Stillwater financial performance

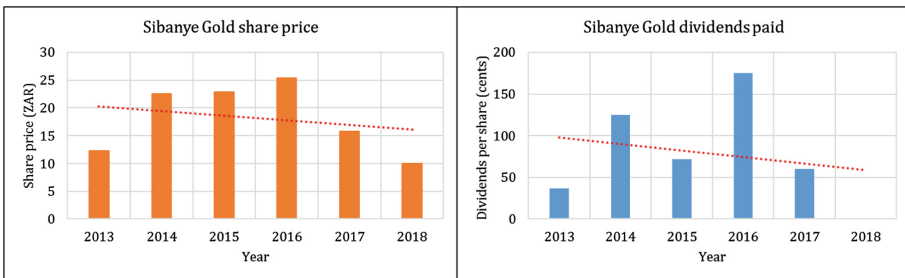


Fig. 9. Sibanye-Stillwater share price movement and dividends payout

5 Summary of the Findings

A colour code was used in order to compare the overall performance of the selected companies as shown in Table 2. Table 3 shows the average values of the measures of performance and their colour coding. Based on the colour coding Sibanye-Stillwater has performed better in terms of EVA, ROE and ROA. It is worth noting that Sibanye-Stillwater did not experience the negative impacts of the GFC and recession because it was founded in 2012. AngloGold Ashanti generated the highest average profit of R536 million. Per annum Year-on-year the performance fluctuated, thus it is important that financial performance is analysed on a yearly basis. In 2018, PriceWaterhouseCoopers highlighted the importance of capital allocation and transparency in mining project funding [12]. The share prices of the three companies fluctuated over the period but with a generally decreasing trend. Although share prices are at group level, this trend can be attributed to poor performance from the South African assets. The poor performance can further be attributed to low investor confidence as a result of sovereign risk evident from South Africa's credit worthiness from the credit rating agencies.

Table 2. Colour code for selected companies

Colour code	Interpretation
Green	Top performing company
Yellow	Middle performing company
Red	Lowest performing company

Table 3. Summary of the performance of the selected gold companies

Company	EVA (ZAR, million)	Profit/loss (ZAR, million)	ROE (%)	ROA (%)
AngloGold Ashanti	-440	536	15.1	11.8
Harmony Gold	-766	-597	9.7	8.7
Sibanye-Stillwater	2022	279	17.5	13.5

6 Conclusions

Most mining companies in South Africa are still dealing with the adverse impacts of the Global Financial Crisis of mid-2008 and recession as well as sovereign risk in South Africa. The impacts have affected the financial performance of the mining companies. This paper analysed the financial performance of three JSE traded gold mining companies over a 10-year period. The selected companies were AngloGold Ashanti, Harmony Gold and Sibanye-Stillwater. The analysis was conducted by using the commonly applied tools for analysis of financial performance viz. EVA and Du Pont Analysis. Data were sourced from individual company annual reports. The financial performance of all the companies fluctuated year-on-year. The measures used to assess the performance of the companies were EVA, profit/loss, ROE and ROA. Based on these measures, Sibanye-Stillwater was the better performing gold mining company. While AngloGold Ashanti came second in all fields of measurement except for profit, which averaged the highest over the period under study. Harmony Gold was the worst performing company of all the three.

Company performance fluctuates on year-on-year basis, hence the importance of conducting financial analysis for asset optimisation, return maximisation and investment opportunities. While mining companies report a number of performance measures in silos, it is important that comparison per sector is done for investment purposes. This is supported by the fact companies compete for the scarce capital investment.

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