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Financial Health and Firm Valuation in the Democratic Republic of Congo's Mining Sector: Evidence from GCM

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Abstract: This study investigates the effect of financial health on firm value at GCM over the period 2004–2023. The objective is to examine the causal relationship between financial health indicators and company valuation. A quantitative analytical research design was adopted using secondary data from GCM's annual financial reports, covering 20 years of observations. Financial health was assessed using the Current Ratio, Debt-to-Equity Ratio, Long-Term Debt-to-Equity Ratio, Return on Assets (ROA), and Return on Equity (ROE), while firm value was measured by Adjusted Net Asset Value (ANAV). Data were analyzed using ratio analysis, descriptive statistics, correlation, and multiple regression techniques. Results indicate that although GCM's financial position has improved over time, it remains structurally fragile. Regression findings (R-Squared = 0.8663) show that 86.63% of the variation in ANAV is explained by financial health indicators. The study confirms a strong and statistically significant relationship between financial health and firm valuation.

Keywords: *Financial Health; Firm Valuation; Liquidity; Solvency; Profitability; Adjusted Net Asset Value (ANAV).*

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I. INTRODUCTION

With their primary capitalist objective of maximizing shareholders value, companies have also inherently a requirement as another aim to pursuit also a strong financial health, as it ensures performance, long term profitability, a good level of risk management and a sustainable growth of both earnings and value. This has become a hard work for managers to maintain the two objectives maximized: financial health and valuation of their companies (Higgins, Koski & Mitton, 2022).

Financial health refers to a company's overall ability to meet its obligations, both in short term and long term,; sustain operations, generate profit from this operations and activities, and to manage risks effectively. Financial health can be assessed through the lens of financial statements from which, a firm's sustainability and value generation depend on its earnings quality, balance sheet integrity and cash flow strength (Penman, 2023).

For firms, financial health indicates how they can be positioned to survive against economic fluctuations, to invest in growth opportunities, and to deliver value to their stakeholders, when assessing their liquidity, solvency, profitability, efficiency, and the stability of cash flows their can generate from their activities. So it denotes financial stability and flexibility that influences the ability of a company to fund operations, to invest in assets, and to survive downturns (Brealey, Myers & Allen , 2023).

In additional, financial health is a multi-dimensional assessment of a company's performance, stability, and risk profile, derived through in depth analysis of financial statements. So it must take into consideration the quality and integrity factors of financial reporting in accordance with traditional financial measures. Authors noted that the financial health as a dynamic, integrative concept, directly affects the valuation of the firm, its cost of capital and the market perception (Young, Cohen & Bens, 2019).

Valuation leads to the understanding of how a business creates economic value. In this case, the key principle is that, value creation is driven by cash flow, not accounting metrics; the four core drivers of value creation are the revenue growth, operating margin, investment efficiency and cost of capital. So the valuation philosophy must prioritize activities and

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operations of long term value creation through cash flow fundamentals (McKinsey & company et al, 2020).

As Valuation is about estimating intrinsic value, the primary goal of equity valuation is to estimate a stock's intrinsic or true value, based on expectations of future cash flows, growth and risk. This makes valuation essential for investment analysis, portfolio management and corporate finance (Pinto et al, 2020).

The mining industry has long been associated with environmental challenges, strained community relations , and inherent investment risks. So while making quantitative monitoring of sustainability performance, investors, communities and policymakers are proactive and focused on analyzing impacts of Environmental , Social and corporate Governance (EGS) ratings , that supposed responsible investment; their ratings on mining companies are generally larger but not necessarily more profitable or facing lower debt costs. In this case, while EGS ratings are associated with company size, they do not directly have an impact of the improvement of financial performance, financial health of that mining. Then, investors have to consider a broader set of financial health indicators when assessing mining company valuation. The relationship between mining companies' valuation and financial health stays a multifaceted nature, so stakeholders, principally the managers, must consider an optimal combination of financial performance, strategic direction, EGS factors and valuation methodologies to make informed decisions (Mahelet et al, 2024).

The Boston Consulting Group (BCG) gives five winning actions that managers and stakeholders of mining companies have to consider with much importance despite all obstacles and uncertainties. First of all, they must proceed to a refreshment of the company's approach to investments and portfolio risks; after they have to double down on operational performance because a continuous improvement is a must in order to deliver on the top and bottom lines.; after that they must make zero-base of the company's organizational structure, from which, the best way to root inefficiency and maximize productivity is by assessing and justifying every role and activity from the ground up; in fourth position, managers and stakeholders have to make a clear revisitation of company's approach to talent consideration by installing generative leaders who recognize that attracting and retaining talent requires more than solid compensation and benefits; and at the end they have to win over investors as the company does for its customers : too many mining companies have undercut their credibility with investors (Vogt et al, 2024) .

The economic performance of the Democratic Republic of Congo (DRC) remains resilient, with growth projected at 6.5% in 2024, primarily driven by the mining sector. However, challenges persist; including missed fiscal targets due to revenue shortfalls and increased spending on security and elections. The country report of International Monetary Fund (IMF,2024) emphasizes the need for continued reforms in public financial management to enhance fiscal sustainability. The DRC's economic growth, is heavily reliant on the mining sector, particularly the extraction of copper and cobalt. This dependence underscores the importance of maintaining financial health within mining companies to sustain national economic performance (IMF, 2024).

The financial health and valuation of mining companies in the Democratic Republic of Congo are influenced by a complex number of factors like commodity price volatility, regulatory reforms, geopolitical dynamics, and the strategic importance of critical minerals (World Bank, 2024).

Also, the size of the company can be a central factor in its valuation: the size of the company that does not affect means that the size of the company is not a consideration for investors in investing. Positive value gives the meaning of the increasing importance of the company. The company's extent is assessed from the assets owned by this company for its operational activities. But for the size of the company that affects significantly the value of the Company, that is a consequence of the access to the capital market: a larger company has easier access to the capital market so that the ability to get fund is greater compared to a small company: the larger the size of a company, the higher the value of the company. The value of a company is significant to increase the share price. The high value of the company will attract investors to buy those shares. To obtain the company's worth, it must increase the steps to grow some of the company's finance's fundamental variables, namely the company's growth opportunity, and improve the company's net profit margin (Sriyono & Ekawati, 2021).

This study aims to assess the financial health of GCM, determine its financial values and analyze the causal relationship between the health of GCM and its value, financially. As far, the specific research question was : do the effects of GCM's financial health have a positive impact on the process of improving its value?

An analytical research design was adopted , using quantitative approach based on quantitative data collected from annual financial statements of GCM under the period study from 2004 to 2023.

II. LITERATURE REVIEW

The relationship between financial health and firm value has been extensively examined in corporate finance literature. Foundational insights emerge from the capital structure irrelevance proposition of Modigliani and Miller (1958), who argue that, under perfect market conditions and in the absence of taxes, a firm's value is independent of its capital structure. According to this neutrality theorem, financing choices between debt and equity do not affect firm value, as investors can replicate leverage through arbitrage. However, in their later work (1963), the authors incorporate corporate taxation and demonstrate the non-neutrality of debt: interest payments create tax shields that increase firm value. This extension establishes a direct theoretical link between leverage, financial structure, and company valuation.

Building on capital structure theory, the Trade-Off Theory (Kraus & Litzenberger, 1973) posits that firms determine an optimal level of debt by balancing the tax advantages of borrowing against the costs of financial distress.

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Firm value increases with leverage up to the point where marginal tax benefits equal marginal bankruptcy and agency costs. Thus, solvency and debt management become central components of financial health and value maximization.

In contrast, the Pecking Order Theory developed by Myers and Majluf (1984) emphasizes information asymmetry between managers and investors. Firms prioritize internal financing, then debt, and issue equity as a last resort. Profitability therefore reduces reliance on external debt, suggesting that stronger financial health—particularly retained earnings—can enhance firm value by lowering financing costs and minimizing information gaps.

Agency Theory, introduced by Jensen and Meckling (1976), further explains the interaction between leverage and firm value. It highlights conflicts between shareholders and managers, as well as between shareholders and creditors. Debt can act as a disciplinary mechanism, reducing managerial opportunism and agency costs, thereby potentially increasing firm value. However, excessive debt may generate conflicts with creditors and increase monitoring costs. Optimal leverage is therefore achieved when agency costs are minimized.

The Financial Leverage and Financial Accelerator perspectives complement these theories by emphasizing how debt influences profitability. Financial leverage affects return on equity (ROE) depending on the spread between return on investment and borrowing costs. Positive leverage enhances shareholder returns when profitability exceeds interest rates, whereas negative leverage deteriorates performance. This dynamic demonstrates how solvency and interest conditions directly shape financial health and corporate value (Betoine &Hemdane, 2016).

Stakeholder Theory (Jensen, 2010) broadens the analysis beyond purely financial metrics. While value maximization remains central, long-term firm value depends on effective engagement with stakeholders, including employees, regulators, and communities. In capital-intensive and socially sensitive industries such as mining, financial health is intertwined with governance quality, regulatory compliance, and reputational performance.

Finally, the Theory of Planned Behavior links managerial attitudes and decision-making quality to corporate outcomes. Strategic investment choices, risk management, and capital structure decisions reflect managerial intentions and perceived control, which ultimately influence firm value. Together, these theoretical perspectives support the proposition that liquidity, solvency, and profitability indicators are closely associated with corporate valuation (Pandurugan & Al Shammakhi, 2024).

Empirical studies provide substantial support for the theoretical linkage between financial health metrics and firm value. Research on mining companies by Rowland, Kasych, and Suler (2021) identifies working capital to total assets, net income to total assets, and cash flow to total liabilities as key predictors of financial stability. Their findings demonstrate that liquidity and profitability ratios are effective indicators of corporate financial condition.

Similarly, Movsesyan and Seissian (2025), examining mining firms listed on the Lima Stock Exchange, find that leverage, profitability, firm size, and interest rates significantly influence financial health classifications. Their results confirm that borrowing costs and capital structure decisions materially affect financial distress risk.

Studies in other sectors reinforce these conclusions. Zarb (2018), analyzing U.S. airline companies, shows that debt-to-equity ratios and operating profit margins significantly predict profit volatility. Haldane and Gryglewicz (2023) demonstrate that strong liquidity and lower leverage ratios are associated with improved financial performance and long-term stability. Likewise, Rukhiyatul and Anita (2022) find that profitability, liquidity, and solvency positively and significantly affect firm value in Indonesian health companies.

However, empirical findings are not universally consistent. Dede, Radison and Devi (2021) observe that while debt-to-equity ratios positively affect firm value in textile companies, liquidity and profitability measures may not always show significant individual effects. Suhesti and Shinta (2019) report that return on assets significantly influences firm value, whereas liquidity and debt ratios may not exert independent effects, although jointly they remain significant.

Within the Congolese context, prior analyses of GCM indicate structural financial fragility, including negative working capital and fluctuating leverage (Mwaka, 2019; Mbaya, 2019). These findings highlight the relevance of examining the long-term relationship between financial health indicators and corporate valuation in the mining sector of the Democratic Republic of the Congo.

Overall, the literature suggests a strong but context-dependent relationship between financial health and firm value. Liquidity, solvency, and profitability metrics frequently explain variations in corporate valuation, yet sectorial characteristics and macroeconomic conditions moderate their effects. This study contributes to the literature by providing longitudinal evidence (2004–2023) from a major mining company in the DRC, thereby enriching understanding of financial health–valuation dynamics in resource-dependent economies.

III. METHODOLOGY

This study adopts a quantitative research methodology grounded in positivist principles, which emphasize objectivity, measurement, and hypothesis testing. Research methodology refers to a structured and systematic plan that guides the entire research process to ensure transparency, rigor, and reliability (Creswell & Poth, 2023). In line with this perspective, the study applies an explanatory and correlational research design to examine the relationship between financial health indicators and firm value over time. Research design provides the overall framework for data collection, measurement, and analysis. A quantitative approach was selected because the study seeks to analyze numerical relationships between liquidity, solvency, and profitability ratios and company valuation metrics using statistical techniques (Kothari, 2004). The explanatory design

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is appropriate as it aims to determine whether variations in financial health significantly influence firm value.

The population of the study consists of all available annual balance sheets of GCM covering the period from 2004 to 2023. A study population includes all units sharing defined characteristics relevant to the research problem (Saunders, Lewis, & Thornhill, 2023). In this case, the population is finite and time-bound, comprising 20 annual financial statements. Because the number of observations is limited and accessible, the study employs a census approach rather than selecting a subset. The effective sample size is therefore determined as: n = 2023 – 2004 + 1 = 20 annual observations. This time-series structure enables the analysis of financial trends and the dynamic interaction between financial health indicators and Adjusted Net Asset Value (ANAV) over two decades.

Data collection relied exclusively on secondary sources, specifically audited annual financial reports of GCM. Documentary and archival analysis is appropriate when researchers use existing financial data in quantitative studies (Saunders et al., 2022). A structured secondary data extraction sheet was developed to record raw financial figures and computes the selected ratios: Current Ratio, Debt-to-Equity Ratio, Long-Term Debt-to-Equity Ratio, Return on Assets (ROA), and Return on Equity (ROE). The dependent variable, ANAV, was derived using an asset-based valuation approach. Microsoft Excel was used for data entry, cleaning, ratio computation, and preliminary analysis, while EViews software supported econometric modeling, correlation testing and regression estimation.

Validity and reliability were carefully addressed to ensure the robustness of findings. Validity refers to the extent to which measurement instruments accurately capture the intended constructs (Litwin, 2022). Construct validity was ensured by employing widely recognized financial ratios and valuation techniques consistent with corporate finance theory. Internal and statistical validity were reinforced through appropriate model specification and diagnostic testing, following the distinctions outlined by Yin (2018) and Hair et al. (2019). Diagnostic tests for autocorrelation, multicollinearity, and heteroscedasticity were conducted to verify regression assumptions. The coefficient of determination (R^2) and significance levels were reported to assess explanatory power and statistical strength. External validity is limited to the case study context; however, the longitudinal design enhances analytical generalization.

Reliability, defined as the consistency of measurement under stable conditions (Litwin, 1995), was supported by the standardized and audited nature of GCM's financial statements. Ratio recalculations from raw financial data ensured computational accuracy and repeatability. Internal consistency across the 20-year dataset further supports the dependability of the measures.

Data processing involved systematic cleaning, transformation, and normalization of financial time-series data prior to modeling, consistent with structured data processing principles (Köseoglu, 2022). The methods of analysis included descriptive statistics, financial ratio analysis, correlation analysis, and multiple regression modeling. The econometric model estimated was:

ANAV = C(1) + C(2)CR + C(3)DER + C(4)LTD/ER + C(5)ROA + C(6)ROE

Where ANAV represents the dependent variable firm value , while liquidity, solvency, and profitability represent the independent variables' indicators. C(i) are the parameters of the model with: C(1) as constant coefficient and C(i>1) slope coefficients. This specification enables assessment of the magnitude and statistical significance of financial health variables in explaining variations in firm valuation over the 2004–2023 period.

IV. RESULTS

- *ASSESSING THE FINANCIAL HEALTH OF GCM: Measures and analysis of financial health of GCM*

Table 1-Assessment of Financial Health of GCM from 2004-2010

Ratio	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
4.1.2.1. Liquidity Ratio							
Current Ratio (X_1)	0.1923692	0.0638184	0.1788207	0.1533472	0.1934806	0.2012957	1.0664495
4.1.2.2. Capital structure and solvency Ratios							
Debt to Equity Ratio (X_2)	-1.307344	-1.344822	-1.232323	-1.178071	-1.435423	-1.430113	1.3099687
Long-term debt to Equity (X_3)	-0.033345	-0.029541	-0.067312	-0.034986	-0.080854	-0.092365	0.036314
4.1.2.3. Profitability Ratios							
Return On Assets ROA (X_4)	-0.123811	-0.063943	-0.149672	-0.935059	-0.342198	-0.175541	-0.004069
Return On Equity ROE (X_5)	0.0380525	0.0220491	0.0347723	0.1665071	0.1490011	0.0755025	-0.0094

Source: Developed Base on Excel

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Table 2-Assessment of Financial Health of GCM from 2011-2017

Ratio	2011	2012	2013	2014	2015	2016	2017
4.1.2.1. Liquidity Ratio							
Current Ratio (X_1)	0.7698966	-0.010872	0.7788198	0.7031775	0.5388183	0.6072645	0.7699767
4.1.2.2. Capital structure and solvency Ratios							
Debt to Equity Ratio (X_2)	0.6238337	0.413826	0.5984882	0.599873	0.704068	0.7784788	0.9104699
Long-term debt to Equity (X_3)	0.1001701	0.1073687	0.2380845	0.2105922	0.2302443	0.2350337	0.350557
4.1.2.3. Profitability Ratios							
Return On Assets ROA (X_4)	-0.038983	-0.050425	-0.045472	-0.021401	-0.003873	-0.005176	-0.075382
Return On Equity ROE (X_5)	-0.063303	-0.071293	-0.072686	-0.034239	-0.0066	-0.009206	-0.144014

Source: Developed Base on Excel

Table 3-Assessment of Financial Health of GCM from 2018-2023

Ratio	2018	2019	2020	2021	2022	2023
4.1.2.1. Liquidity Ratio						
Current Ratio (X_1)	0.9010167	0.7986111	0.6669171	0.698422	0.7853211	0.9017115
4.1.2.2. Capital structure and solvency Ratios						
Debt to Equity Ratio (X_2)	0.8221488	0.8163948	1.1194978	1.2655801	1.1062583	1.2006138
Long-term debt to Equity (X_3)	0.3321005	0.3060093	0.392809	0.4173184	0.3693567	0.3854963
4.1.2.3. Profitability Ratios						
Return On Assets ROA (X_4)	0.0382054	-0.037573	-0.041263	-0.041576	0.0612777	0.0298422
Return On Equity ROE (X_5)	0.0696159	-0.068247	-0.087456	-0.094193	0.1290666	0.0656711

Source: Developed Base on Excel

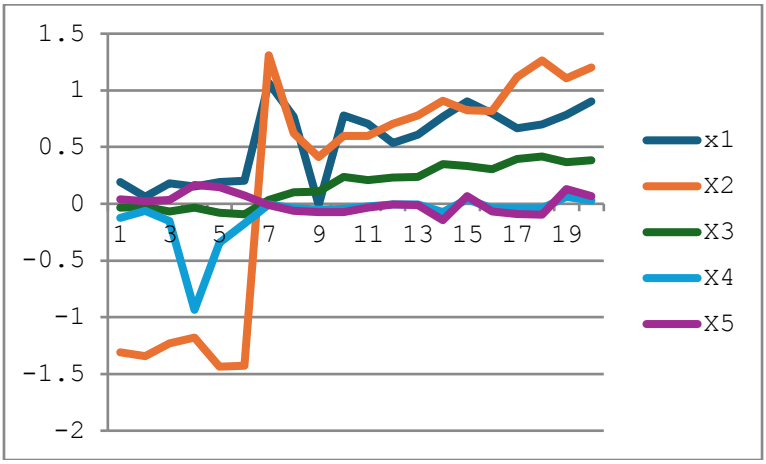

Fig 1 Graph of Financial Health Metrics Trend from 2004-2023

Considering the Current Ratio, GCM has operated for most of the period with negative or insufficient working capital. The company likely depends on: continuous cash inflows, short-term borrowing, favorable credit terms from suppliers. While recent years show improving liquidity, the firm still lacks a strong liquidity buffer. The current ratio analysis suggests that GCM's short-term financial health has historically been weak, with signs of gradual recovery in recent years. However, since the ratio remains below 1, the company continues to face liquidity risk, and further strengthening of working capital is necessary to achieve a sound and sustainable financial position.

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The debt–equity ratio analysis shows that GCM's financial health has improved significantly from a position of distress, but in the most recent years, the company has become increasingly leveraged. While no longer insolvent, GCM now faces moderate to high financial risk, and further increases in debt could weaken its long-term financial stability unless supported by strong and consistent operating performance.

From 2004 to 2023, GCM's long-term debt–equity ratio shows a transition from negative values to moderate but rising positive values. This suggests a shift from negative net worth and financial distress toward greater financial stability, followed by increasing reliance on long-term debt to support growth or operations. The long-term debt–equity ratio indicates that GCM's long-term financial health has improved substantially since 2010. While the company now relies more on long-term debt than in earlier years, the leverage remains within acceptable limits, suggesting sound solvency and prudent long-term financial management, provided earnings remain stable.

The ROA analysis shows that GCM has historically exhibited weak profitability and inefficient asset utilization, undermining its financial health. However, the positive ROA in the most recent years indicates early signs of recovery. For long-term financial sustainability, GCM must maintain consistent profitability and further enhance asset efficiency.

The ROE analysis indicates that GCM's financial health has been unstable over the long term, with extended periods of shareholder value erosion. While recent improvements in ROE point to a recovery, the company must sustain profitability and control leverage to ensure consistent and long-term value creation for shareholders.

Overall, the financial health analysis reveals that GCM has undergone a significant transition from a period of severe financial distress to one of gradual recovery and stabilization. Historically, the company exhibited weak liquidity, high financial risk, inefficient asset utilization, and prolonged erosion of shareholder value. Although solvency has improved markedly since 2010, as reflected in healthier debt–equity and long-term debt–equity ratios, the current ratio remaining below unity indicates persistent short-term liquidity risk. Furthermore, the recent increase in leverage exposes the company to moderate financial risk, particularly if operating performance weakens. Profitability indicators, including ROA and ROE, have been largely negative over the period, underscoring structural inefficiencies; however, their recent improvement suggests early signs of operational recovery. Despite these positive developments, the sustainability of GCM's financial health depends on its ability to strengthen working capital, maintain consistent profitability, and manage debt prudently to ensure long-term financial stability and shareholder value creation.

- *Determining the Financial Value of Gcm*

Table 4-ANAV of GCM from 2004-2023

Accountig year	**2004**	**2005**	**2006**	**2007**	**2008**
Total Corrected Assets (I)	605407910.40	645455754.40	402219125.50	357638015.40	616388383.20
Total Liabilities (II)	2575210955.51	2517309138.76	2133508522.93	2366037085.13	2031995767.30
Adjusted Net Assets Value (Y) =I-II	**-1969803045.11**	**-1871853384.36**	**-1731289397.43**	**-2008399069.73**	**-1415607384.10**
Accountig year	**2009**	**2010**	**2011**	**2012**	**2013**
Total Corrected Assets (I)	538385038.90	813169215.59	3137228612.00	2787758127.00	3962157520.00
Total Liabilities (II)	1790113708.10	461143134.42	1713794092.00	1111144419.00	1498082489.00
Adjusted Net Assets Value (Y) =I-II	**-1251728669.20**	**352026081.17**	**1423434520.00**	**1676613708.00**	**2464075031.00**
Accountig year	**2014**	**2015**	**2016**	**2017**	**2018**
Total Corrected Assets (I)	3800016519.00	3508185876.00	3595078244.00	3704599656.00	3805654349.00
Total Liabilities (II)	1451839399.00	1524006611.00	1645271632.00	1824379213.00	1758615610.00
Adjusted Net Assets Value (Y) =I-II	**2348177120.00**	**1984179265.00**	**1949806612.00**	**1880220443.00**	**2047038739.00**
Accountig year	**2019**	**2020**	**2021**	**2022**	**2023**
Total Corrected Assets (I)	3651504988.00	3809071854.00	3722545469.00	4015331662.00	4404086796.00
Total Liabilities (II)	1678218079.00	2059712365.00	2129720420.00	2156733307.00	2451961598.00
Adjusted Net Assets Value (Y) =I-II	**1973286909.00**	**1749359489.00**	**1592825049.00**	**1858598355.00**	**1952125198.00**

Source: Developed Base on Excel

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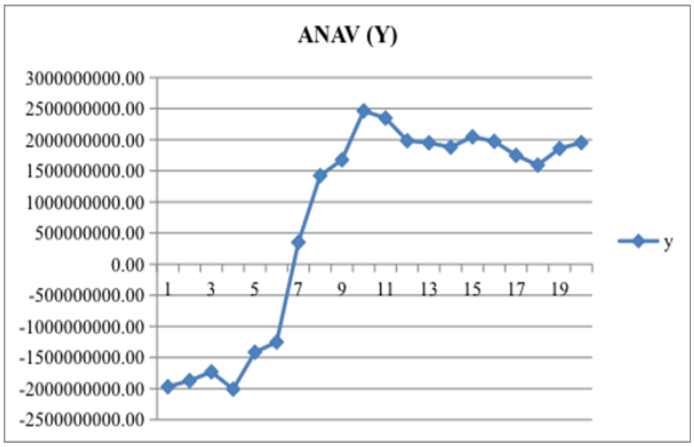

Fig 2 Graph of Fluctuations of GCM ANAV

GCM's ANAV shows a dramatic structural shift over the period:

- 2004–2009: Deeply negative company value and Severe Value Destruction with ANAV ranges from approximately –USD 1.25 billion to –USD 2.01 billion. Persistently negative and worsening values indicate: excessive liabilities, accumulated losses and erosion of net assets. The sharp decline in 2007 (–USD 2.01 billion) reflects acute financial stress, possibly due to operational losses, write-downs, or adverse market conditions.
- 2010–2012: Strong turnaround into positive territory and major Turnaround and Value Restoration
- ANAV turns positive in 2010 (USD 352 million) and rises sharply to USD 1.68 billion by 2012. This state suggests:successful restructuring, improved profitability, capital infusion or debt reduction.
- 2013–2016: Peak Value with Mild Corrections: ANAV peaks at USD 2.46 billion (2013). Subsequent slight declines indicate: normal market or operational adjustments, increased leverage or asset revaluation effects. Despite fluctuations, company value remains strongly positive, reflecting solid financial footing.
- 2017–2019: Gradual Decline but Continued Stability : ANAV trends downward from USD 2.05 billion to USD 1.59 billion. This means : there is slower growth, possible pressure from rising debt, lower margins, or external shocks. However, the company still maintains substantial positive net value, indicating resilience.
- 2020–2023: Recovery and Stabilization : ANAV rebounds from USD 1.75 billion to USD 1.95 billion. It indicates: improved asset utilization, strengthening earnings, better balance between assets and liabilities.

Overall, the ANAV analysis reveals that GCM underwent a profound financial transformation over the 2004–2023 period. From a position of deep financial distress and negative company value, it has evolved into a firm with substantial and stable positive value. While recent fluctuations indicate ongoing challenges, the overall trend confirms a significant strengthening of financial health and long-term viability.

➢ *Analysis of the Relationship Between the Financial Health of GCM and its Value*

This section presents correlation analysis conducted using EVIEWS software for a multiple regression model, supported by different statistic tests.

Table 5-Estimation Equation and Coefficient of Determination

Dependent Variable: ANAV				
Method: Least Squares				
Sample: 1 20				
Included observations: 20				
Variables	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	4.62E+08	6.08E+08	0.760306	0.4597
CURRENT_RATIO	-5.44E+08	9.93E+08	-0.547447	0.5927
DEBT_TO_EQUITY_RATIO	1.07E+09	4.60E+08	2.333223	0.0351
LONG_TERM_DEBT_TO_EQUITY_RATIO	2.61E+09	1.85E+09	1.407990	0.1810
ROA	8.10E+08	1.00E+09	0.806999	0.4332
ROE	-1.22E+09	2.51E+09	-0.486192	0.6344
R-squared	0.866328	Mean dependent var		7.50E+08
Adjusted R-squared	0.818588	S.D. dependent var		1.71E+09
S.E. of regression	7.28E+08	Akaike info criterion		43.89267

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Sum squared resid	7.42E+18	Schwarz criterion	44.19139
Log likelihood	-432.9267	Hannan-Quinn criter.	43.95098
F-statistic	18.14676	Durbin-Watson stat	1.021785
Prob(F-statistic)	0.000011		

Source: Developed Base on Eviews

Estimation Command:
==========
LS ANAV C CURRENT_RATIO DEBT_TO_EQUITY_RATIO LONG_TERM_DEBT_TO_EQUITY_RATIO ROA ROE

Estimation Equation:
==========
ANAV = C(1) + C(2)*CURRENT_RATIO + C(3)*DEBT_TO_EQUITY_RATIO + C(4)*LONG_TERM_DEBT_TO_EQUITY_RATIO + C(5)*ROA + C(6)*ROE

Substituted Coefficients:
==========
ANAV = 462262918.838 - 543533603.671*CURRENT_RATIO + 1072244043.95*DEBT_TO_EQUITY_RATIO + 2611697559.99*LONG_TERM_DEBT_TO_EQUITY_RATIO + 809899578.523*ROA - 1219584173.32*ROE

Source: EVIEWS Output

With the financial data of GCM, for the Adjusted Net Asset Value (ANAV) as dependent variable using the Current Ratio, Debt to Equity Ratio, Long term Debt to Equity Ratio, Return On Assets (ROA) and Return On Equity (ROE) as independent variables, for the 20 years comprised between 2004 and 2023, the following multiple regression estimation equation was made : ANAV = 462262918.838 - 543533603.671*CURRENT_RATIO + 1072244043.95*DEBT_TO_EQUITY_RATIO + 2611697559.99*LONG_TERM_DEBT_TO_EQUITY_RATIO + 809899578.523*ROA - 1219584173.32*ROE

From this, The correlation analysis reveals statistically significant and positive relationships between company value and key financial health metrics of GCM . The strongest relationship is observed between the Adjusted Net Asset Value (ANAV) and Current Ratio, Debt to Equity Ratio, Long term Debt to Equity Ratio, Return On Assets (ROA) and Return On Equity (ROE) with a R-squared or coefficient of determination (R^2) of 0.866328 which revealed that 86.63% of the variability observed in ANAV is explained by the different independent variables or by the regression model. This suggests that enhancements in company value are strongly associated to the named financial health metrics.

- *Summary of Statistical Tests for the Validity of the Regression Model*

To ensure the robustness and reliability of the regression model explaining Adjusted Net Asset Value (ANAV) using Current Ratio, Debt to Equity Ratio, Long-Term Debt to Equity Ratio, Return on Assets (ROA), and Return on Equity (ROE) of GCM from 2004 to 2023, several diagnostic tests were conducted.

First, the normality of residuals was examined using the Jarque–Bera test. The obtained probability value (0.631996) is greater than the 5% significance level (0.05), leading to the acceptance of the null hypothesis that the errors are normally distributed. This confirms that the regression residuals satisfy the normality assumption, which is essential for valid statistical inference.

Second, the homoscedasticity of errors was tested using the heteroskedasticity test. The F-statistic probability (0.4938) and the Chi-square probabilities are all greater than 0.05, indicating that the null hypothesis of constant variance cannot be rejected. Therefore, the model does not suffer from heteroskedasticity, and the variance of the residuals remains stable across observations.

Finally, multicollinearity among the independent variables was assessed using both the correlation matrix and the Variance Inflation Factor (VIF) method. Although some correlations between explanatory variables are moderately high, all centered VIF values are below the critical threshold of 5. This confirms the absence of serious multicollinearity problems in the model.

Overall, the diagnostic tests demonstrate that the regression model satisfies the key classical linear regression assumptions, validating its reliability and strengthening the credibility of the empirical findings.

V. DISCUSSION

The findings of this study reveal that GCM has transitioned from a period of acute financial distress to a phase of gradual recovery, though its financial position remains structurally fragile. The improvement in solvency and the shift away from negative equity indicate strengthened capital structure and enhanced long-term viability. However, the persistence of a current ratio below one highlights ongoing liquidity constraints, exposing the firm to short-term operational risk. The recent rise in leverage further amplifies financial vulnerability, particularly in periods of earnings volatility. These results are consistent with Movsesyan and Seissian (2025), who demonstrate that leverage, profitability, and macro-financial conditions significantly shape mining companies' financial health classifications. In this context, GCM's recovery trajectory reflects both internal financial restructuring and broader sectoral dynamics.

Regarding firm valuation, the Adjusted Net Asset Value (ANAV) analysis confirms a substantial transformation over the 2004–2023 period. The company evolved from negative valuation to sustained positive value, despite episodic

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downturns. This supports Pierre's (2004) assertion that firm value reflects the fundamental capacity to generate wealth beyond market perceptions. The upward ANAV trend suggests improved asset quality and enhanced long-term sustainability, aligning with Rukhiyatul and Anita (2022), who emphasize that profitability, liquidity, and solvency are central determinants of corporate value creation.

Most importantly, the regression results demonstrate a strong and statistically significant relationship between financial health indicators and firm value ($R^2 = 0.866$). Approximately 86.63% of the variation in ANAV is explained by liquidity, solvency, and profitability ratios. This finding corroborates Zarb (2018), who identifies debt-to-equity and profitability measures as significant predictors of corporate performance, and reinforces evidence from Rukhiyatul and Anita (2022) that financial ratios positively influence firm value. Although some studies (e.g., Suhesti & Shinta, 2019) report mixed individual effects of liquidity and solvency, they confirm joint significance, which is consistent with the present study's multivariate results.

In conclusion, the study affirms that improvements in financial health are strongly associated with enhanced firm valuation. For GCM, sustained profitability, disciplined debt management, and strengthened liquidity remain essential to consolidating value gains and ensuring long-term financial stability.

VI. CONCLUSION

This study set out to examine the relationship between financial health and firm valuation in the Democratic Republic of the Congo's mining sector, using GCM as a longitudinal case study over the period 2004–2023. The empirical findings provide strong evidence that improvements in financial health are closely associated with increases in company value.

First, the analysis of financial health reveals a company in transition. While GCM experienced severe financial distress in the early years—characterized by negative equity, weak profitability, and structural imbalance—it has progressively improved its solvency position and moved away from negative net worth. However, liquidity constraints persist, as indicated by a current ratio consistently below one, and profitability remains vulnerable despite recent positive trends in ROA and ROE. These findings suggest that although recovery is underway, financial stability is not yet fully consolidated.

Second, the valuation analysis demonstrates a profound transformation in firm value. The Adjusted Net Asset Value (ANAV) shifted from deeply negative levels to sustained positive growth, reflecting strengthened asset quality and improved long-term viability. Despite temporary fluctuations linked to operational and financial pressures, the overall upward trajectory confirms a significant enhancement of GCM's economic position.

Most importantly, the regression results establish a strong and statistically significant relationship between financial health indicators and company value. Liquidity (Current Ratio), leverage (Debt-to-Equity and Long-Term Debt-to-Equity ratios), and profitability (ROA and ROE) significantly influence ANAV. With an R^2 of 86.63%, the model explains a substantial proportion of variation in firm value, confirming that financial health metrics are key determinants of valuation performance.

However, the study's strengths lie in its 20-year time-series dataset, rigorous econometric testing, high explanatory power ($R^2 = 86.63\%$), and the integration of financial health and valuation perspectives within a mining-sector context; this provide robust empirical evidence of the financial health–valuation linkage despite that, it presents several limitations that should be acknowledged while also highlighting its key strengths. First, the research is based on a single-case study (GCM), which may limit the generalizability of findings to other mining companies or sectors. Although the longitudinal design enhances internal consistency, the sample size of 20 annual observations restricts broader statistical inference. Second, the analysis relies exclusively on secondary financial statement data, which, despite being audited and standardized, may not fully capture qualitative factors such as managerial decisions, governance practices, regulatory changes, or macroeconomic shocks that could influence firm value. Third, the model focuses on selected financial ratios and ANAV, potentially omitting other relevant valuation determinants such as commodity price volatility or exchange rate fluctuations.

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