ISSN 2348-3156 (Print)
International Journal of Social Science and Humanities Research ISSN 2348-3164 (online)
Vol. 6, Issue 3, pp: (465-470), Month: July - September 2018, Available at: www.researchpublish.com

CONTRIBUTION OF BANK CREDIT ON PERFORMANCE OF MINING COMPANIES IN RWANDA

"A CASE STUDY OF RWANDA MINING ASSOCIATION (RMA)"

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***Abstract*: Naturally, mining business is so expensive that without access to bank loan it would be difficult for mining companies to significantly improve their performance. The main objective of this research was to investigate the contribution of bank credit on performance of mining companies in Rwanda using a case study of RMA. The results from the study are mainly based on primary data collected from a sample of 122 companies that was selected in a population size of 176 mining companies. Questionnaires and semi structured interviews were used to collect both qualitative and quantitative data from the field and it was entered and analyzed using SPSS. The overall findings from the study have shown that bank credit has a positive impact on mining sector performance in Rwanda. It was shown that bank credit has helped mining companies to improve their performance at all levels especially in mineral production and environmental protection. The results have also shown that mining companies suffer from low access to bank credit as for every 100 mining companies who requested bank loan, only few of them (31.5%) have got it while the majority of them (68.5%) were refused bank loan. The study has recommended all actors in mining to put together their efforts for solving the issue of low access to bank loan for mining companies.**

***Keywords:* Bank credit, mining, performance, short term loan, medium term loan long-term credit.**

I. INTRODUCTION

The Rwandan mining industry is in a state of transition, it is moving from artisanal mining to a sustainable economic and competitive industry. Given that Artisanal and Small-scale Mining (ASM) represents the dominant production source for Rwandan minerals to date, they further require the analysis of future growth models and options for productivity improvements.

Financial institutions have a key role in any productive activity but in mining, given the huge amounts of initial investment required, they are particularly important. (OECD, 2002)

There are three main elements to financing challenges which are: the capacity of small-scale miners to apply for loans, the capacity and willingness of banks to finance the mining industry and the capacity and willingness of the Rwandan government to support large-scale investments with an injection of its own capital. (MINIFOM, 2010)

The fact that mining sector faces low access to bank loans explains the main problem to improve from artisanal to a sustainable economic growth and competitive industry. (BNR, 2012). Mining business is so expensive that without access to bank loan it would be difficult for mining companies to improve their performance.

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The main objective of the study was to investigate the contribution of bank credit on performance of mining companies in Rwanda. Specific objectives of the study were to analyse the contribution of banks credit on the production of mining companies in Rwanda, to examine the performance of mining companies in Rwanda, to assess the role of government and technology use in mining sector, to assess relationship between banks credit and performance of mining companies in Rwanda. Apart from the introduction to this study as chapter one, the study is summarised in three respective chapters namely: Literature review, Methodology, findings and discussion through which study results are presented through and lastly conclusion and recommendations.

II. LITERATURE REVIEW

Organization's performance is defined as "how well the organization is managed" and "the value the organization delivers for customers and other stakeholders. (Moullin, M., 2007)". Many productive firms cannot expand or make the technological improvements and investments needed to increase their productivity because they have no access to bank credit. (Bloom, N., A. Mahajan, D. McKenzie and J. Roberts, 2010)

(UNEP, 2002) No major mining project can be developed nowadays without a significant role being played by banks and financial institutions, be it as lenders or advisers. For UNEP, banks are the main providers of debt financing to mining projects. They found that commercial bank credits impacted positively and significantly on the manufacturing sub-sector in Nigeria, commercial bank credits to mining and quarry is a positive and significant determinant of the current year Mining and Quarry output in Nigeria.

2.1. Conceptual Framework

The conceptual framework is a systematic structure which reflects the relationship between the independent variable and the dependent variables through their sub-variables in order to explain the rational connection between those variables (KOTHARI, 1990)

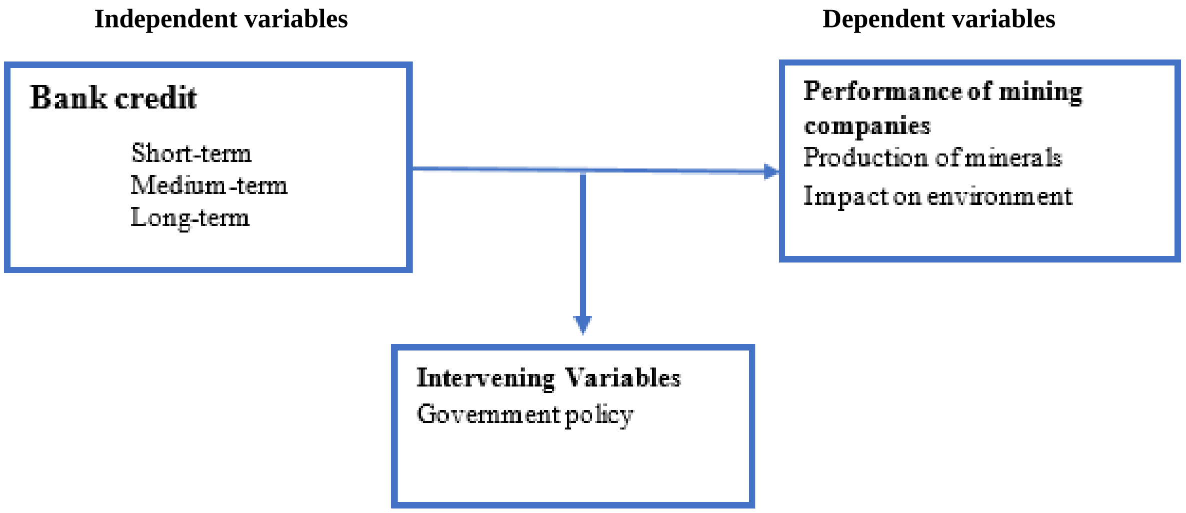

Figure 2.1. conceptual framework

(Ebi and Emmanuel, 2014), Has investigated the impacts of commercial bank credit on Nigeria industrial subsectors between 1972 and 2012 using the Error Correction Model (ECM). They found that commercial bank credits impacted positively and significantly on the manufacturing sub-sector in Nigeria, commercial bank credits to mining and quarry is a positive and significant determinant of the current year Mining and Quarry output in Nigeria. These findings point to the assumption that, increase bank credits to industrial sector is essential in stimulating industrial sector growth development.

(Hammes, 2003), Has examined the relationship between long term loan and performance by comparing Polish and Hungarian firms to a large sample of firms in industrialized countries. He used panel data analysis to investigate the relation between long term loan financing, and firms" performance measured by profitability. His results showed a significant and negative effect for most countries.

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III. RESEARCH METHODOLOGY

The purposive sampling techniques was used because mining companies were chosen according to different factors such as monthly production, number of workers, existing infrastructure in mine sites and their accessibility. The sample size of 122 mining companies selected from the population size of 176 mining companies grouped in Rwanda Mining Association. Using Slovene's formula (Ghozali, 2006), the sample size was computed as follows:

$$n = \frac{N}{1 + N\varepsilon^2}$$

Where: n = sample size; N = population size and ε = margin of error desired, and estimated at 5% (percent allowance for non-precision. Then our sample size was $n = \frac{176}{1+176(0.05)^2}$ =122.222 companies, means that our survey was conducted to 122 mining companies' Owners.

IV. RESEARCH FINDING

4.1 Contribution of Bank credit on mining companies' production in Rwanda

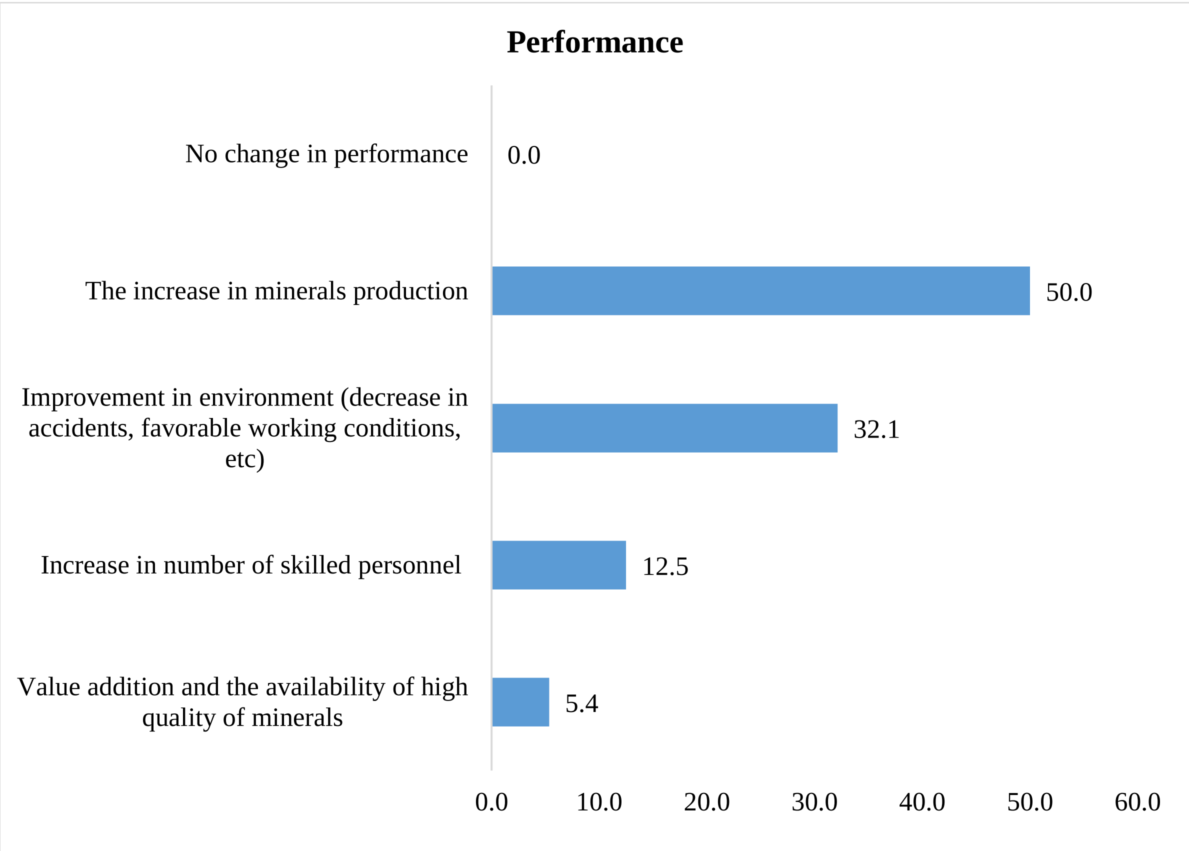

Figure 4.1. Performance of mining companies after getting bank credit

The results that mining companies have performed well after getting bank loan. An increase in mineral production represents 50% of the total performance of mining companies after getting loan. the study has shown that an increase in production, improvement in environment, increase in skilled personnel, and value addition in minerals as main indicators to mining company's performance explain well the positive impact of bank credit to the mining sector. It also explains that once given loan, mining companies use it efficiently to achieve their business targets.

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4.2. Performance of mining companies in Rwanda in last five years

Table 4.1. Achievements of mining companies compared to planned targets in last five years

Planned targets	Achievement	Frequency	Percentage
To increase mineral production between 3-5tones of mineral concentrates/month	Production was increased more than planned	34	47.9
	Production was increased as planned (at 100%)	27	38.0
	Production was increased at less than planned	6	8.5
	There was no increase in production at all	3	4.2
	Production was decreased compared with the one before last 5 years	1	1.4
	Total	71	100
To add value by upgrading mineral concentrate from 60%-70%	Mineral concentrate was upgraded higher than planned	18	22.8
	Mineral concentrate was upgraded as planned at 100%	51	64.6
	Mineral concentrate was upgraded at less than planned	7	8.9
	There was no value addition at all	2	2.5
	The grade of mineral concentrate was low compared to the one before last 5 years	1	1.3
	Total	79	100
To increase the number of qualified personnel at least between 10%-15% of existing workers	The number of qualified personnel was increased highly than planned	63	68.5
	The number of qualified personnel was increased as planned	23	25.0
	The increase in qualified personnel was less than planned	2	2.2
	There was no increase at all	3	3.3
	The number of qualified personnel was decreased compared to the last five years	1	1.1
	Total	92	100
To invest in buying modern equipment between 200,000,000Frw - 300,000,000Frw/year	Achievement was higher than planned	13	28.9
	Target was achieved as met as planned	27	60.0
	Investment was less than planned	4	8.9
	There was no investment in modern equipment at all	1	2.2
	Total	45	100
To implementing environment management plan by investing between 30,000,000Frw-50,000,000 Frw	The investment was higher than planned	42	38.9
	Targeted investment was met at 100% as planned	53	49.1
	The investment was less than planned	5	4.6
	There was no investment in environmental mitigation at all	8	7.4
	Total	108	100

The results show that for all planned targets, the performance was excellent where the majority of mining companies have achieved their targets at high level than planned while many others succeeded at 100% as planned. The figures above show high performance of mining companies in Rwanda which is shown in the most important components of mining operations: mineral production, mineral processing (mineral value addition), qualified personnel (strong human resources), technology (modern equipment) and environmental protection. Only few of them failed to achieve planned target: 14.1% for the target to increase production, 12.7% in the target related to value addition, 6.6% with regard to qualified personnel, 11.1% for modern equipment and 12% for environmental protection, this failure may due to different reasons such as lack of finance, unexpected disasters, poor management etc.

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4.3. The role of Government policy on mining sector performance in Rwanda

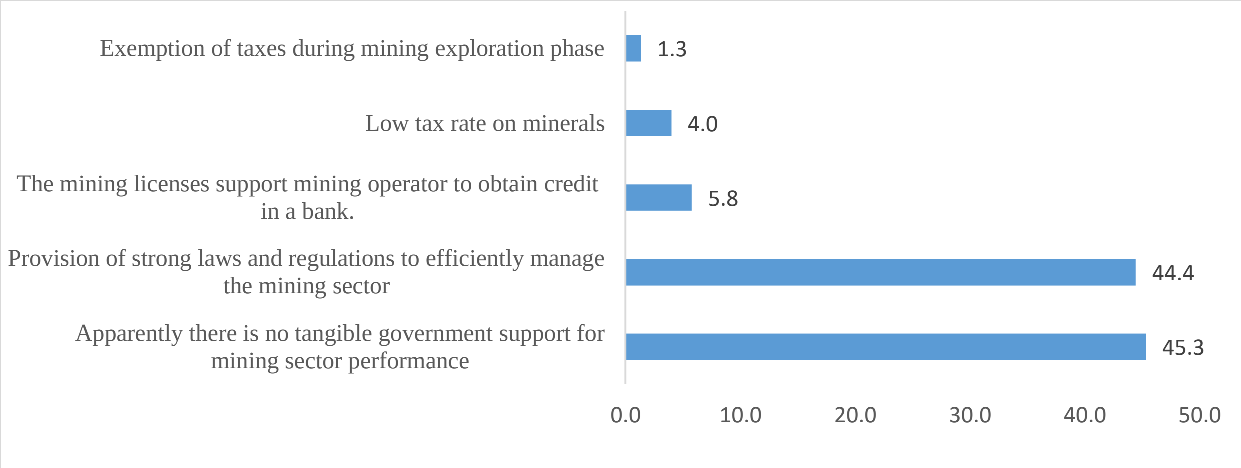

Figure 4.2. Positive elements of government policy to support mining sector performance

The figure 4.2 shows that the majority of mining companies recognize positive elements of the government policy to support mining sector performance such as favorable tax rate, mining licencing that supports access to credit for mining companies but mostly they appreciate strong laws and regulations (44.4%) to efficiently manage the mining sector. On the other hand, other mining companies representing 45.3% do not see any tangible government support for mining sector performance. For mining companies which do not have any challenge to implement government regulations they would be confident to appreciate government. This is the case of large scale mining companies because they have enough capital and have professional practices that it is easy for them to implement government requirements. For those which are challenged to meet government requirements, they see them as a burden rather than a solution to their business and sometime are not able to see and interpret positive actions done by government towards mining performance. Also the persistent obstacle to the success of Rwandan mining sector that is low access to finance and which government has failed to address is a serious constraint to the performance of many mining companies in Rwanda.

4.4. Relationship between Bank credit and mining sector performance

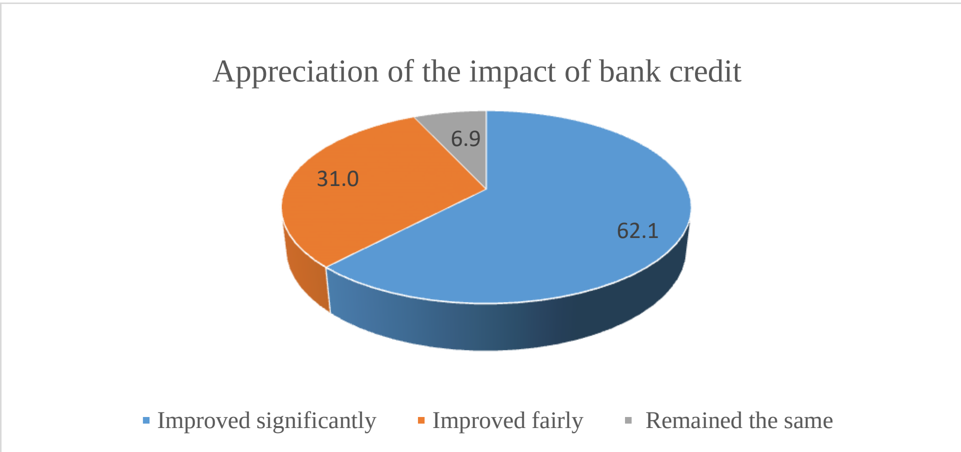

Figure 4.3. Impact of bank credit on mining sector performance

Findings show that bank credit has positive impact on mining sector performance. 62.1% of mining company's performance has significantly improved while 31% of respondents have confirmed that mining company's performance has fairly improved. Only 6.9% said that there was no change on mining performance after getting credit. This is also possible because mining is a risky business associated with many disasters or other external factors which can hinder mining performance and which the company cannot control. On the other hand, a company may get credit but it has poor management, this credit cannot bring positive impact. This implies that for a bank credit to improve mining company performance, there are other factors which must be met including company management for a bank credit to bring positive impact on company performance.

V. CONCLUSION AND RECOMMENDATION

1. Conclusion

The mining sector in Rwanda is in a state of transition, it is moving from artisanal mining to a sustainable economic and competitive industry that involve modern equipment, new technologies and qualified personnel. Achieving this target require huge amount of capital that cannot be obtained without intervention of financial institutions specifically commercial banks. This study has found that for mining companies which have obtained bank credits the later helped them to improve mining company performance in terms of increase in business turnover, skilled personnel, in mineral production and in environmental protection. The issue of low access to bank loan is the most serious obstacle to mining companies' performance. This issue must be addressed as soon as possible for the Rwandan mining sector to become a sustainable economic and competitive industry.

2. Recommendation

To achieve sustainable mining will require commitments from all actors in general and from mining regulators in particular. Mining as an expensive and complicated business cannot reach expectations without positive and strong involvement of financial institutions. The following recommendations are addressed to all actors who are connected to mining sector in Rwanda.

The government of Rwanda should play clear intermediation role between mining companies and financial institutions to facilitate easy access to finance. The establishment of national fund for mining operators would be an alternative to serve as collateral to pledge for mining operators. Otherwise mining licensing must be clear and strong enough for financial institutions to serve as collateral for mining operators. It is also a government responsibility to increase capacity building of mining operators with regard to meeting bank credits requirements.

The Private Sector Federation must set up measures to collaborate with commercial banks in Rwanda aiming at enforcing the setup of a joint working group for loan requests so that banks learn and understand all needed mining information to give credit.

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