

# Reducing Information Asymmetry in SMES: The Role of Financial Signals.

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**Abstract:** *In this paper, we examine the signaling role of entrepreneur's contribution, debt, dividends, and guarantees in limiting information asymmetries of Malian SMEs using a survey conducted with 217 business leaders. The results of the binary logistic regression analysis by the method of descending selection of variables mainly validate the contribution of the entrepreneur in the financial project and the dividends through the results of the SME. These results suggest a limitation of the degree of informational opacity of SMEs with regard to banks in the presence of these financial signals.*

**Keywords:** *Information Asymmetries, Signals, SME financing, Logistic regression, Mali.*

## Introduction:

SMEs play an essential role in the economic fabric of African countries (Tadesse, 2009; Wamba H., 2013; Baguma Mashali & Habiba, 2017; Oghenevwegba, & Iwegbue, 2022). However, these companies face difficulties when it comes to meeting their financial needs through bank loans<sup>1</sup>. Indeed, the activity of banks is highly dependent on information and SMEs are potentially more risky than large companies when the quality of the information provided is taken into account. There are many reasons for this relative informational opacity of SMEs (St-Pierre, 2018): distrust of the banking system and loan officers, weakness in entrepreneurial, fiscal, and competitive management, and the costs of producing information. Thus, not being able to observe certain relevant information before granting credit and not being able to perfectly control borrowers' behaviors after granting credit, banks use different mechanisms (control, rationing, restrictive clauses, etc.) to deal with borrowers' informational opacity. Many theoretical studies confirm the use of these mechanisms by banks. According to agency theory, the purpose of these mechanisms is to prevent the agent, i.e. the borrowers, from behaving in a way that might harm the interests of the principal, the banks (Jensen & Meckling, 1976; Fama 1980). Conversely, borrowers with promising plans can circumvent the difficulties created by asymmetric information by adopting signaling techniques. This amounts to transmitting information to banks through a financial or non-financial variable that indirectly signals the quality of the entity and that of its decision-makers (Wamba and Tchamanbè-Djiné, 2002).

It is to these information transfer mechanisms that we will devote this study. We will attempt to verify the relevance of certain financial signals<sup>2</sup> in the context of Malian SMEs. We postulate, in this context, that these signals contribute to the reduction of the informational opacity of Malian SMEs. This translates empirically into a negative relationship between the signaling variable and the risk of information asymmetry in the SME. In other words, the risk of asymmetry of the SME decreases in the presence of the signaling variables considered. The importance of our study lies in a better understanding of the signaling mechanisms in SMEs with respect to the informational constraints that weigh on them.

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<sup>1</sup> The latter are, in fact, the main providers of external resources for SMEs, especially in an area where financial markets are poorly developed.

<sup>2</sup> The distinction between financial and non-financial signals is based on the quantitative or qualitative nature of the information conveyed by the signal.

In the next sections, we will present a review of the literature related to the contribution of the above-mentioned financial signals in the limitation of informational imperfections between bank and firm, we will follow by the presentation of the adopted methodology, and we will finish by the analysis of the results as well as the conclusion.

## **2. Information asymmetries and financial signals**

After defining the concept of information asymmetry that underlies this study, we will successively present the different financial signals likely to reduce the problems of information asymmetries as well as our research hypotheses.

### **2.1. Information asymmetry**

Many works and models are based on the postulate of the existence of asymmetric information between economic agents in a market (Arrow, 1963; Akerlof, 1970; Jensen & Meckling, 1976; Stiglitz and Weiss, 1981). The basic postulate common to these works is that is that markets are imperfect in reality, that is, some market agents have relevant information that others do not. Moreover, since agents are opportunistic by nature, the best informed will try to take advantage of the imperfect information. In the specific context of the credit market, information asymmetry implies that firms have more information than creditors about their own risk (Stiglitz & Weiss, 1981; Fraser & al., 2001) or that certain information relevant to the analysis of the risk of these firms, and in particular SME clients, is incomplete, absent or unreliable (Wamba & Tchamanbé-Djiné, 2002; St-Pierre, 2018). In the presence of asymmetric information, creditors face risks of adverse selection and moral hazard of borrowers (Akerlof, 1970; Stiglitz & Weiss, 1981). Many studies predict that these risks can be reduced by signaling efforts on the part of borrowers (Wamba & Tchamanbé-Djiné, 2002). Commonly analyzed financial signals relate to borrowers' personal commitment to the project, debt levels, the firm's dividend policy, and collateral (Ross, 1977; Leland & Pyle, 1977; Bhattacharya, 1980; Bester, 1985). The next few lines will be used to present some of the work related to these signals and to define our research hypotheses.

### **2.2. The borrower's contribution signal**

The borrower's contribution refers to the proportion of capital invested by the borrower in the project to be financed, or in another context the share of capital held by the managers. Leland & Pyle (1977) were among the first authors to focus on this signal. They assume that potential borrowers seek to finance projects whose quality they alone know. Leland and Pyle then suggest that borrowers invest a greater or lesser portion of their personal wealth in the project. Indeed, they consider that the greater the share of capital invested by the borrower in the project, the better the quality of the project. Therefore, borrowers who have better investment projects must signal this to the banks by contributing a portion of the amount to be invested. This signaling is costly because low-quality borrowers cannot engage in such behavior or risk losing their invested funds. Empirically, Leland and Pyle find a positive and significant relationship between the value of the firm and the proportion of capital invested by managers in their projects. They maintain, therefore, that in the presence of information asymmetries, the involvement of managers in the project to be financed can serve as a signal to potential external investors. Keasy & McGuinness (1992) found that the share of capital held by the managers of SMEs constitutes a signal of the future health of the firm (Belletante & Levratto, 1995). In addition, Wamba & Tchamanbé-Djiné (2002) have shown that the promoter's personal contribution is a determining signal for the banker. This contribution reflects the confidence that the entrepreneur has in his project, and therefore increases his chances of obtaining bank credit.

These arguments in favor of the borrower's contribution signal lead us to formulate our first hypothesis: *the risk of information asymmetry diminishes in the presence of the entrepreneur's personal contribution signal*.

### **2.3. The debt signal**

Particularly with the work of Ross (1977), leverage becomes an important element in signalling the value of a firm. Ross shows that the value of the firm increases with the financial leverage, thus contradicting the

conclusion of the neutrality of the financial structure on the value of the firm of Modigliani and Miller (1958). Only the latter firms can bear a large debt load and the associated financial burdens. According to Ross, a firm that is able to bear a high level of debt shows that its future results are important and certain. Thus, potential lenders could use debt to distinguish between good and bad firms.

Flannery (1986) argued that, in the presence of imperfect markets, the choice of debt maturity sends a signal to external investors. By borrowing in the short term, the firm signals its (non-risky) quality insofar as it accepts the refinancing of its long-term investment opportunities by short-term credits. As a result, it runs the risk of bankruptcy if the debt is not refinanced at maturity. Also, considering that short-term debt is more expensive because of refinancing costs, companies that opt for this financing maturity signal their quality to the market. Similarly, Goswami, Noe & Rebbello (1995) find that the maturity chosen for debt depends on the information asymmetry associated with the project to be financed. A project that requires a short-term loan has less information asymmetry than one that requires a long-term loan.

Supplier credit is emphasized in the model of Biais & Gollier (1997) as a means of signaling firm quality<sup>3</sup>. According to their analysis, trade credit can alleviate the adverse selection problem by using information held by suppliers about their customers in the lending relationship. Firms without bank relationships have a greater incentive to use trade credit to signal to potential future external lenders. This signaling is costly because only creditworthy firms can continuously benefit from supplier credit.

These different considerations on debt lead us to formulate our second hypothesis: *the debt signal reduces the risk of information asymmetry in SMEs.*

#### **2.4. The dividend policy signal**

Generally speaking, the dividend policy consists of deciding on the amount of profits to be distributed to shareholder-owners (St-Pierre, 2018). However, when investment and financing policies are known, this policy consists of the trade-off between retaining profits on the one hand and paying cash to shareholders on the other. Modigliani & Miller (1961) have shown, in a perfect market context, that the dividend policy does not influence the value of the firm's shares. This neutrality announced by Modigliani and Miller has been the subject of several debates. In particular, the questioning of the hypothesis of the existence of identical information for all market participants has led to the realization that dividend policy can be used as an informational vector from the best informed (managers) to the uninformed (external investors).

In a framework of asymmetric information, dividend signaling models, such as those of Bhattacharya (1980) & Kalay (1980), illustrate how dividends are likely to inform investors about the quality of listed firms (Albouy, 2010). These models show that dividend announcements by managers, who are better informed than anyone else about the potential and future prospects of their companies, allow investors to anticipate the value of the firm.

In the financial markets, the informational role of dividends is thus based on the fact that the dividend provides information about the future and the performance of the large firm. Within these firms, the objective of the dividend policy is to remunerate current and potential shareholders for their investment in the firm. As a result, a regular and substantial dividend payment is perceived by these investors as a positive signal that can only be provided in the long term by successful firms. On the other hand, in SMEs, the dividend policy may not necessarily play the role of signal that the financial markets associate with it (St-Pierre, 2018). The owner of an SME may grant himself a significant share, in the form of salaries or dividends, of his firm's results, or, given his difficult access to external financing, the owner may decide to reinvest the results obtained in order to support the growth of his firm or to increase his capacity to obtain financing from banks.

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<sup>3</sup> Alphonse, Ducret, and Séverin (2004) validated this theoretical analysis of Biais and Gollier (1997). Using data from a sample of 654 firms collected from business finance providers, they found that total loan volume has a negative effect on trade credit utilization, while accounts payable volume has a positive effect on access to bank loans (Chandler, 2009).

The particularity of the dividend policy of SMEs therefore prompts the use of an indirect measure to assess its signaling contribution. Indeed, the distribution of dividends is fundamentally based on the firm's results, and a positive result would signal that the firm is potentially performing well. On this basis, we formulate our third hypothesis as follows: *the signal emitted by the positive results of the SME reduces the risk of information asymmetry.*

### **2.5. The guarantee signal**

The contribution of collateral in limiting information asymmetry problems has been emphasized by many studies. Indeed, according to Grossman (1981), "good firms" use all possible means to signal themselves to investors and to distinguish themselves from others by agreeing to provide quality guarantees. In this sense, the personal guarantee constitutes a real quality guarantee for the bank. In particular, when the moral hazard is high, the entrepreneur who personally commits his assets or liquid assets will be more inclined to respect the terms of the loan contract. According to Bester (1985), in a context of asymmetric information, the guarantee signals the quality of the borrower. Indeed, good quality firms tend to opt for a debt contract with a relatively low interest rate but requiring relatively high collateral. Similarly, studies by Wamba & Tchamanbé-Djiné (2002) have shown that the value of the collateral is a determining signal for bankers in assessing the quality of an SME. Indeed, the high probability of losing important guarantees in the event of the project's failure encourages the entrepreneur to respect the reasons for which the funds were requested from the lenders. Lenders, on the other hand, are more receptive to firms offering more collateral, allowing them to mitigate the risk of adverse selection.

We then hypothesize that: *the risk of information asymmetry is lower when the SME signals itself with guarantees.*

### **3. Methodology:**

The methodology adopted for this study relates to the data used, the description of the variables, and finally the specification of the data analysis model. The data used in this study came from several sources<sup>4</sup>. These have resulted in a list of 348 companies. Among these companies, we have identified those that are still active in the capital<sup>5</sup> and that meet the definition of an SME. These different criteria of eligibility for the study led to a reduced list of 254 SMEs<sup>6</sup>. We then conducted a questionnaire survey among these SMEs in order to collect data<sup>7</sup>. The number of usable questionnaires was 217 SMEs, i.e. a response rate of almost 85%.

The operationalization of the variables (dependent and independent) in our study was guided primarily by the theoretical and empirical literature. Given the information available, we had to resort to indirect measures as indicators of certain variables. Thus, we will use the following measures for the different variables in our study:

#### **- Information asymmetry (IA):**

The existence of a risk of asymmetries of information, a variable dependent on this study, is measured by 0 if the SME presents certified accounting documents and/or conforms to the current accounting system (SYSCOHADA) and measured by 1 otherwise.

#### **- The entrepreneur's contribution (APE):**

We will use two variables as proxy for the signal sent by the contractor: size (APE1) and legal form (APE2). As for size, we consider that the larger a company, the more opportunities it has to contribute to a larger business. Size will be measured by the logarithm of the number of employees in the enterprise. As regards the

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<sup>4</sup> National Directorate of SMEs of Mali, Employers' Organization of Construction Companies of Mali, Employers' organization of industrialists, Employers' Union of Bakers of Mali, National Union of Mining Operators of Mali, National Federation of Service Companies.

<sup>5</sup> In fact, the capital is home to most of Mali's businesses, nearly 80% of them.

<sup>6</sup> An SME is considered a non-financial, autonomous enterprise that produces goods and/or market services, registered with the RCCM and whose annual turnover excluding tax does not exceed one (1) billion CFA francs (BCEAO, 2014).

<sup>7</sup> The data collection process was entrusted to a survey firm. Five surveyors have been mobilized for this purpose for a month and a half, i.e. from November 2019 to mid-December 2019.

legal form, we consider that companies that adopt the status of SA (public limited company) or SARL (public limited company with limited liability) have more financial capacity than sole proprietorships and therefore the most likely to invest more equity in a project. The legal form is measured by 1 if the SME is a SA or a SARL and 0 if it is otherwise.

**- Debt (END):**

For the debt signal, we use three variables: the debt amount (END1), the debt maturity (END2) and the supplier credit level (END3). This triple measure allows us to understand from various angles the signal emitted by debt in SMEs. The amount of the debt will be assessed through its natural logarithm. The maturity of the debt will be coded 1 if the last credit requested is short term and 0 if the credit is long term. As for supplier credit, it will be assessed from the share of supplier debt in the total financing of the SME. We assign a score of 0 if this share is lower than the average share of the supplier credits in the sample and a score of 1 if this share is greater than or equal to the average share of the sample. Thus, we consider that the higher this share, the higher the level of commitment of the SME towards its suppliers.

**- Dividends (DIV):**

The proxy variable used to assess the signal sent by dividends is the profitability of the SME. SMEs with positive profits are likely to pay dividends. We therefore assign a value equal to 1 to the SME whose results have been increasing overall over the last three years of our survey, and a value equal to 0 if not.

**- Guarantees (GAR):**

We use two binary variables to assess the signalling contribution of the guarantee, namely the personal guarantee (GAR1) and the value of the personal guarantee (GAR2) coded every two by 1 respectively if the credit was granted with a personal guarantee from the owner and if the value of that guarantee was greater than the amount of credit obtained by the SME and all coded by 0 otherwise. Indeed, we consider that the potential loss of the owner's personal assets reduces his risk of moral hazard and strengthens his motivation to repay the credit on the one hand and, on the other hand, the importance of this guarantee could reduce the adverse selection risk for the bank.

To test the effect of signals on the risk of information asymmetry, we mainly use a logistic regression model. This is appropriate when the dependent variable is qualitative (binary or multiple choice). The independent variables can, however, be quantitative or qualitative (Gavard-Perret et al. 2018). The model to be estimated is then:

$$\text{Logit (RAI)} = \alpha_0 + \alpha_1 APE1_i + \alpha_2 APE2_i + \alpha_3 END1_i + \alpha_4 END2_i + \alpha_5 END3_i + \alpha_6 DIV_i + \alpha_7 GAR1_i + \alpha_8 GAR2_i + \epsilon_i$$

Our logistic regression approach consists of two main steps. First, we conducted simple logistic regression tests to test the individual significance of each signaling variable. In the second step, the individual variables that significantly influence the dependent variable (risk of information asymmetry) were selected to be regressed together to determine a single overall estimated model containing only statistically significant independent variables. To do this, the top-down and bottom-up multiple logistic regression methods of variable selection were adopted (Desjardins, 2005).

**4. Results and Discussion:**

Tables 2 and 3 provide descriptive statistics for the qualitative and quantitative data in the sample. The first table shows that 145 SMEs, or 66.8% of the sample, are likely to have information asymmetries. It also indicates that 47.9% of SMEs have a legal status of SARL/SA against 52.1% for EI/SNC/GIE status. In addition, 37.8% and 67.4% respectively of our SMEs have a supplier credit share greater than or equal to the average supplier credit share of the sample SMEs and have recently applied for short-term credit from their bankers. 53.9% of SMEs, or the majority, indicated that their result has been either declining or stable over the past three years; 71.2% of SMEs reported not providing personal guarantees to obtain their loan; while 60% of

SMEs report that the value of the goods they deposited to guarantee the loan was greater than the amount of the loan obtained

**Table 1:** Frequency statistics of qualitative data

Variables	Codes	Modality	Fréquency	% Valide	% Cumulative
<b>RAI</b>	0	No	72	33,2	33,2
	1	Yes	145	66,8	100
<b>APE2</b>	0	EI/SNC/GIE	113	52,1	52,1
	1	SARL/SA	104	47,9	100
<b>END2</b>	0	DMLT	43	32,6	32,6
	1	DCT	89	67,4	100
<b>END3</b>	0	< à 24%	135	62,2	62,2
	1	≥ 24%	82	37,8	100
<b>DIV</b>	0	Decrease/stable	117	53,9	53,9
	1	Increase	100	46,1	100
<b>GARI</b>	0	No	94	71,2	71,2
	1	Yes	38	28,8	100
<b>GAR2</b>	0	≤ to the Loan amount	68	40,0	40,0
	1	> to the Loan amount	102	60,0	100

**Table 2:** Descriptive statistics of quantitative data

Variables	Means	Std. Dev.	Minimum	Maximum
<b>APE1</b>	4,4	4,56	1	31
<b>END1</b>	51882768	85552195	500000	400000000

SPSS output, Version 20

- The results of simple logistic regressions<sup>8</sup> between the signaling variables taken in isolation and the risk of information asymmetry are reported in Table 4. These results show the individual statistical significance of the following financial signals<sup>9</sup> : APE1, APE2, END1, END3, DIV, and GAR2.

**Table 3:** Simple logistic regressions to determine significant financial signals (taken in isolation).

SIGNALS	Coefficients ( $\alpha$ ) and Odds-Ratio E ( $\alpha$ )	P-value of $\alpha$
<b>APE</b>	<b>APE1</b>	<b>-0,745*** (0,475)</b>
	<b>APE2 (EI/SNC/GIE)</b>	

<sup>8</sup> Since the model is binary, only the signs of the coefficients and the odds ratios are directly interpretable. The signs of the coefficients indicate whether the associated signalling variables positively or negatively influence the probability of the existence of an information asymmetry risk.

<sup>9</sup> These different financial signalling variables were then regressed together using the 'top-down' and 'bottom-up' multiple regression procedures. The method that provides the largest number of significant signalling variables was chosen for testing our hypotheses.

	- SARL/SA	<b>-1,343*** (0,261)</b>	<b>0,000</b>
<b>END</b>	<b>END1</b>	<b>-0,420*** (0,657)</b>	<b>0,000</b>
	<b>END2 (&lt; à 24%)</b>		
	- ≥ à 24%	<b>0,664** (1,942)</b>	<b>0,033</b>
	<b>END3 (DMCT)</b>		
	- DCT	0,012 (1,012)	0,975
<b>DIV</b>	(Decrease or Stable)		
	- Increase	<b>-0,487* (0,614)</b>	<b>0,093</b>
<b>GAR</b>	<b>GAR1 (No)</b>		
	Yes	-0,477 (0,621)	0,219
	<b>GAR2 (≤ to the loan)</b>		
	> to the loan	<b>-0,705** (0,494)</b>	<b>0,038</b>

\*\*\*, \*\*, \*: significance at the respective thresholds de 1%, 5% and 10%. (.) reference modality  
 SPSS output, Version 20

- The top-down method of selecting significant financial signals was completed by running five regression tests (see Table 5) and resulted in only one financial signal, namely the entrepreneur's contribution, being statistically significant at the 1% threshold (see regression 5 in Table 5).

- The bottom-up method of selecting significant financial signals was carried out in four regression tests as shown in Table 6. This method selects as significant financial signals: the entrepreneur's contribution and dividends (see regression 3 in Table 6).

**Table 4 :** Results of multiple logistic regressions of the effect of FS on the RAI using the top-down method

	<b>Regression 1</b>	<b>Regression 2 : Elimination of the variable VAP</b>	<b>Regression 3 : Elimination of the variable FRS</b>	<b>Regression 4 : Elimination of the variable DIV</b>	<b>Regression 5 : Elimination of the variable MTD</b>
<b>APE :</b>					
APE2	-1,229 (0,006)	-1,104 (0,011)	-1,142 (0,008)	-1,144 (0,008)	<b>-1,110 (0,001)</b>
APE1	-0,757 (0,008)	-0,689 (0,009)	-0,721 (0,006)	-0,735 (0,005)	<b>-0,581 (0,003)</b>
<b>END :</b>					
END1	-0,314 (0,041)	-0,253 (0,078)	-0,230 (0,100)	-0,228 (0,103)	-----
END3	0,421 (0,381)	0,358 (0,421)	-----	-----	-----
<b>DIV</b>	-0,135 (0,753)	-0,181 (0,657)	-0,165 (0,684)	-----	-----
<b>GAR:</b>					
GAR2	0,470 (0,402)	-----	-----	-----	-----
<b>Constant</b>	6,739 (0,008)	5,980 (0,010)	5,771 (0,012)	5,669 (0,013)	<b>1,987 (0,000)</b>

<b>Obs.</b>	123	132	132	132	<b>217</b>
<b>chi-square</b>	35,132 (0,000)	33,091 (0,000)	32,413 (0,000)	32,248 (0,000)	<b>29,42 (0,000)</b>
<b>- 2 Log-Vrais.</b>	133,025	146,216	146,894	147,059	<b>246,363</b>
<b>Pseudo R<sup>2</sup></b>	33,33%	29,8%	29,3%	29,2%	<b>17,6%</b>

**Table 5:** Results of multiple logistic regressions using the bottom-up method for the effect of FS on the RAI

	<b>Regression 1</b>	<b>Regression 2:</b> <i>Elimination of the variable FRS</i>	<b>Regression 3 :</b> <i>Introduction of the variable DIV</i>	<b>Regression 4 :</b> <i>Introduction of the variable GAR</i>
<b>APE :</b>				
APE2	-1,108 (0,010)	-1,144 (0,008)	<b>-1,129 (0,000)</b>	-1,144 (0,008)
APE1	-0,705 (0,007)	-0,735 (0,005)	<b>-0,580 (0,004)</b>	-0,614 (0,007)
<b>END :</b>				
END1	-0,250 (0,081)	-0,228 (0,103)	-----	-----
END3	0,348 (0,424)	-----	-----	-----
<b>DIV</b>	-----	-----	<b>-0,535 (0,087)</b>	-0,533 (0,134)
<b>GAR:</b>				
GAR2	-----	-----	-----	0,454 (0,222)
<b>Constant</b>	5,858 (0,011)	5,669 (0,013)	<b>2,252 (0,000)</b>	2,500 (0,000)
<b>Obs.</b>	132	132	<b>217</b>	170
<b>chi-square</b>	32,893 (0,000)	32,248 (0,000)	<b>32,374 (0,000)</b>	30,570 (0,000)
<b>- 2 Log-Vrais.</b>	146,414	147,059	<b>243,408</b>	191,361
<b>Pseudo R<sup>2</sup></b>	29,7%	29,2%	<b>19,3%</b>	22,6%

SPSS output, Version 20

*p. value* ( )

Thus, the final bottom-up regression model (regression 3 in Table 6) has more significant financial signals than the final top-down model (regression 5 in Table 5). For this purpose, we consider the results provided by the bottom-up method as the main results for testing our hypotheses. As a result, our hypotheses regarding the negative influence of the entrepreneur's contribution and dividends are confirmed. These two financial signals are therefore decisive in reducing the risk of information asymmetry in the Malian SMEs studied. This implies that large SMEs, as well as those in the form of a SA/SARL, are the most likely to provide information and the most likely to invest more equity in a project. Our results are in line with the work of Leland & Pyle (1977), Wamba & Tchamanbé-Djiné (2002). Moreover, our results confirm the informational role of dividends (Bhattacharya, 1980; Kalay, 1980; Albouy, 2010), that of informing about the future and the performance of the firm.

On the other hand, the sub-hypotheses relating to the negative influence of debt and guarantees on the risk of information asymmetry of the Malian SMEs studied are not confirmed. In other words, neither the amount of debt (END1), nor the importance of supplier debts (END2), nor the maturity of the debt (END3), constitute determining signals for mitigating the information asymmetry of the Malian SMEs sampled. These results relax the conclusions of the work of Ross (1977), Biais & Gollier, 1997, and Goswani, Noe & Rebello (1995). Moreover, our empirical results do not allow us to confirm the signalling role of guarantees advocated by certain works such as those of Bester (1985), Chan & Kanatas (1985), Wamb & Tchamanbé-Djiné (2002); and encourage us to lean towards the empirical work of Berger and Udell (1998) according to which the guarantee signalling hypothesis is only valid for firms that do not develop a strong relationship with their bank. Similarly,



Manave & Padilla (2001) argue that the guarantee does not allow the bank to remove the information asymmetry related to the quality of the borrower, but rather allows the bank to better control the borrower.

## 5. Conclusion:

Our study aimed to show the financial signals that are crucial in limiting the information asymmetries of SMEs towards banks. It was considered, based on signal theory, that if SMEs send enough signals about their quality and their project, then their difficulty in obtaining financing from banks would no longer be justified. In the specific case of Mali, the results of the logistic regressions show that the limitation of the risk of asymmetry of SMEs depends mainly on the importance of the entrepreneur's contribution to his project and the dividends through the good results generated by the SME. On the other hand, it was found that debt and guarantee have a limited significant impact in reducing the information asymmetries of SMEs. These results should be taken into account by the banking system, which could then select SMEs based on the determining signals. However, it is worth noting that for newly established SMEs, equity and dividends are often missing. Therefore, further research is needed to identify other more significant financial or non-financial signals. In addition, this work should use more sophisticated measures, large samples and control variables such as the nature of the financing sought, the type of project to be financed, whether the SME is family-owned or not and the sector of activity of the SME.

## References:

- Adouka, L.; Bouchikhi, M.R & Bouguelli, Z. (2015). Banking decision under informational asymmetry. *Economic Researcher Journal*, n°04, p. 1-15.
- Akerlof, G.A. (1970). The Market for Lemons: Quality Uncertainty and the Market Mechanism. *Quarterly Journal of Economics*, pp.488-500.
- Albouy, M. (1990). The dividend policy of companies. *Journal of Financial Economics*, p.240-251.
- Albouy, M. (2007). The dividend: a long-term management tool in Regards sur la recherche in gestion: Contributions grenobloises, M. Le Berre et A. Spalanzani, Harmattan. p.211-227.
- Baguma Mashali, R. & Habiba Djuma (2017). "Social capital and access to bank credit by SMEs in Bukavu city. *Annals de l'UNIGOM*, 2(1), p.81-110.
- Berger, A. & Udell, G. (1998). The economics of small business finance: the roles of private equity and debt markets in the financial growth cycle. *Journal of Banking and Finance*, vol. 22, p. 613-673.
- Besanko, D. & Thakor, A.V. (1987). Collateral and Rationing: Sorting Equilibria in Monopolistic and Competitive Credit Markets. *International Economic Review*, 28(3), p. 671-689.
- Bester, H. (1985). Screening versus Rationing in Credit Markets with Imperfect Information", *American Economic Review*, vol. 75, p. 850-855.
- Bhattacharya, S. (1980). Nondissipative signaling structures and dividend policy. *Quarterly Journal of Economics*, 95 (1), p. 1-24.
- Biais, B. & Gollier, C. (1997). Trade credit and credit rationing. *Review of Financial Studies*, vol. 10, p. 903-937.
- Binks, M.; Ennew C. & Reed G. (1992). Information asymmetries and the provision of finance to small firms. *International Small Business Journal*, vol. 1, p. 35-46.
- Flannery, M-J. (1986). Asymmetric Information and Risky Debt Maturity Choice. *Journal of the American Finance Association*, 41 (1), p.19-37.
- Goswami, G., Noe, T. & Rebellio, M. (1995). « Debt financing under asymmetric information. *Journal of the American Finance Association*, 50 (2), p.633-659.
- Grossman S-J. (1981). The Informational Role of Warranties and Private Disclosure about Product Quality. *Journal of Law and Economics*, 24 (3), p. 461-483.
- Jensen, M-C. & Meckling, W. (1976), « Theory of the firm: managerial behaviour, agency costs and Ownership structure. *Journal of Financial Economics*, vol.3, p. 305-360.

- Kalay, A. (1980). Signaling, information content and the reluctance to cut dividends. *Journal of Financial and Quantitative Analysis*, 15(4), p. 855-869.
- Leland, H. & Pyle, D-H. (1977). Informational Asymmetries, Financial Structure, and Financial Intermediation. *Journal of Finance*, 32(2), p.371-387.
- Miller, M. & Modigliani, F. (1961). Dividend policy, growth and the valuation of shares. *Journal of Business*, 34 (4), p. 411-433.
- Ngongang, D. (2015). Information asymmetry and bank credit rationing in Cameroonian SMEs. *Congolese Management Review*, 1(20), p.11-54.
- Oghenevwegba, E. & Iwegbue, C.N. (2022). Impact of Entrepreneurial Orientation in the Performance of Small and Medium Enterprises in Nigeria. *International Journal of Academic Accounting, Finance & Management Research*, 6(10), p.1-12
- Ross, S.A. (1977). The determination of financial structure: the incentive-signalling approach. *Bell journal of Economics*, 1(8), p.23-40.
- ST-Pierre, J. (2018). *Financial management of SMEs: theories and practices*, Presse Universitaire du Québec. La première édition du livre date de 1999.
- Stiglitz, J-E. & Weiss A. (1981). Credit Rationing in Markets with Imperfect Information. *American Economic Review*, 71(3), p. 394-410.
- Tadesse, A. (2009). What financing opportunities for SMEs in Africa? , *Proparco-Private Sector and Development*.
- Van Pham, Thi-H, Audet, J. & ST-Pierre, J. (2009). Determinants of access to bank financing for SMEs in a country in transition: the case of Vietnam. *Proceedings of the colloquium: the vulnerability of VSEs and SMEs in a globalized environment*, 11th scientific day of the Entrepreneurship Network.
- Wamba, H., & Tchamanbe-Djine, L. (2002). Financial information and bank credit policy for SMEs: The case of Cameroon. *Revue Internationale PME*, 15(1), p. 119-145.