Banking financing and credit risk: Case of the Sme's segment in Morocco

Moudine, Chourouk and El Khattab, Younes

Ecole Nationale de Commerce et de gestion - Casablanca, Faculté des sciences juridiques, économiques et sociales - Mohammedia

September 2016

BANKING FINANCING AND CREDIT RISK ISSUES: CASE OF THE SME'S SEGMENT IN MOROCCO

Authors:

Younes EL KHATTAB
Professor - Researcher
Faculty of Juridical, Economic and Social Sciences
Mohammedia - Morocco
younes.master@hotmail.com

Chourouk MOUDINE
Professor - Researcher
National School of Business and Management
Casablanca - Morocco
chourouk_7@yahoo.fr

ABSTRACT

This article focuses on challenges faced by banks in providing loans to small and medium-sized enterprises (SMEs). In this connection, we try to assess the credit risk of Moroccan SMEs sector using a set of aggregate quantitative indicators. In light of our assessment, we propose some measures to improve the creditworthiness of those enterprises and facilitate their access to bank credit.

KEY WORDS: Credit risk, creditworthiness, relationship lending, transaction lending, SMEs sector.

INTRODUCTION

The sustainability of any development model remains dependent to the existence of an innovative ecosystem, competitive and socially engaged. Small and medium-sized enterprises (SMEs) occupy a central place within this ecosystem, and actively contribute to its dynamism and promote the integration of young skills in the entrepreneurial sphere, which justifies the particular interest of the academic community in the different issues affecting this category of companies.

In Morocco, SMEs are at the heart of heated debates about the economic model of development's sustainability which lost its dynamism. Therefore, its revision is needed more than ever. Among the weaknesses that structurally characterize this model, we found especially the weak competitiveness of Moroccan companies that remain mostly SMEs.

SMEs are one of the engines of Moroccan economic growth because they create wealth and jobs. These companies remain exposed, however, to a multitude of constraints linked in particular to the rise of global competition and the lack of technical and financial resources. Although, SME's financing is often mentioned as the greatest challenge to their development.

Given their importance in the national economic fabric and the extent of their financial needs, SMEs are receiving a particular attention from Moroccan banks, which propose them a diversified finance offers. The access of SMEs to these offers remains, however, conditioned by the level of their credit risk which is the subject of a deep evaluation by the banker before deciding to grant credit.

Based on all the above observations, the present paper focuses on the Moroccan SMEs' bank financing. The main issue can be formulated as follows: which banks' risk exposures assessment can we made of those involved in the financing SMEs in Morocco? And what are the measures to be proposed to improve the solvency of this category of companies and to enhance their ability to access bank credit?

To grasp this issue, the first section of this paper will define the credit risk and present its theoretical foundations, with a focus on the SME segment. The second section will proceed to a global assessment of the Moroccan SMEs' credit risk, based on a set of aggregated quantitative indicators relating to this segment. Finally, the paper will proposes certain measures likely to improve the solvency of these SMEs and to enhance their eligibility for bank credit.

1. SME CREDIT RISK: THEORETICAL FOUNDATIONS AND DETERMINANTS

Credit risk is the risk incurred by a bank when it grants a loan to its client. It is materialized by the possible incapacity of the latter to repay his loan. This is an intrinsic risk closely related to the solvency of the borrower and highly dependent on his profile. It can, therefore, be reduced by the diversification of the customer portfolio as well as the improvement of the evaluation and selection's mechanisms of their clients. This section will present the theoretical aspects of credit risk with a particular focus on its determinants within SMEs.

1.1. Theoretical foundations of the SMEs' credit risk

The interest of the academic community in studying SME issues stems from the central role played by these operators in the economy. In this context, Karpak and Topcu [2010] state that SMEs are becoming a major component of economic development around the world, while emphasizing their importance in the economic fabric of each country. Also, Henderson and Weiler [2010] call SMEs the engine of economic growth. The development of this category of companies remains highly dependent on their credit availability [Di Giuli et al., 2011], thus requiring a strong banking institutions' involvement in their financing. Simultaneously, these banks are exposed to the credit risk resulting from their involvement.

The extent of credit risk borne by banks remains closely linked to the quality of the information they are basing finance companies' decision on. Drawing on this, Stiglitz and Weiss [1981 and 1992] have highlighted one of the main obstacles to the proper functioning of the bank credit market, which is the information asymmetry's problem. In a context of high interest rates, this asymmetry results in two effects namely, adverse selection (attracting risky borrowers) and moral hazard (leading borrowers to opt for risky investments). Dealing with this situation, banks are forced to ration their loans to reduce their exposure to the risk of non-repayment. Indeed, according to Stiglitz and Weiss, the exclusion of risky borrowers is done through credit rationing rather than by rising borrowing rates.

For their part, Neuberger and Rathke [2009] present information asymmetry, adverse selection and moral hazard as constraints that particularly affect SMEs' bank financing, limiting therefore their access to credit. The risk associated to this category of borrowers was also reported by Dierkes et al. [2011] who say that SMEs are opaque borrowers, more risky and highly dependent to bank credit. The informational asymmetry associated to SMEs - especially newly created ones - was also mentioned by Canales and Nanda [2012], while noting that the cash generated by the activities of these companies remains limited. Kirschenmann and Norden [2012] examined the SMEs' behavior in terms of credit maturity's choice. They linked this choice to 3 elements namely, the level of risk inherent to SME, its bargaining power vis-à-vis its bank and the degree of informational asymmetry in credit market.

Given the elements described above, a deep and rigorous assessment of credit risk is an essential prerequisite for banks to make the right decision on financing SMEs[1]. The theoretical contributions distinguish globally between two main credit risk assessment frameworks namely, relational financing and transactional financing. The two frameworks differ in the nature of the information used by the banker in assessing the solvency of the company.

According Neuberger and Rathke [2009,] the relational financing bases the grant credit's decision on the analysis of qualitative information (soft information) relating to the borrower. In this context, the banker focuses on the personal and professional qualities of the shareholders and managers of the company, their strategy, the evolution of the shareholding structure, etc. These informations were collected through direct contact with the customer and this, through their long-term relationship that allows to follow the commercial and financial performance of the company. Uchida et al. [2006] insist on maintaining a long-term and close relationship between the bank and the entrepreneur, in order to guarantee access to certain important informations concerning, among other things, his morality and his skills. The exploitation of these qualitative data is a distinctive feature of relational financing. The academic literature tends to consider this credit risk analysis framework very suitable for opaque firms, especially SMEs [Berger and Udell, 2006].

Furthermore, the assessment of a company solvency using the transactional financing approach is based mainly on quantitative information (hard information) deduced from its financial statements. In this context, the banker is referring to a multitude of indicators, of which Neuberger and Rathke [2009] cite operating cash flow, interest coverage ratio, return on equity as well as different profitability indicators. Uchida et al. [2006] also highlight the importance of financial statements as an essential source of quantitative information used by banks that opt for transactional financing, while noting that this analytical framework remains theoretically more suitable for the evaluation of the risk inherent in firms relatively transparent.

Berger and Udell [2006] affirm, however, that the transaction financing approach can also be used to assess the solvency of opaque firms, in particular SMEs. In this case, the banker will not focus on the financial statements of the borrower whose transparency is calling in question, but rather will refer to other techniques to collect the quantitative information necessary for the risk credit's assessment. Among these techniques mentioned by the two authors, there is the use of credit bureaus which provide a wide range of data on SMEs' solvency. The bank may also adopt a more focused approach on the collection and use of collateral information. The value and quality of these assets will be the main basis of the banker to grant credit and determine the amount. The assets solicited in this framework depend on the credit category and include fixed assets, stocks and trade receivables. The same logic of information collection is adopted for fixed assets financed by leasing as well as receivables mobilized from factoring companies.

Finally, note that in practice banks often tend to use several credit risk assessment techniques, combining both qualitative and quantitative analysis [Moro and Fink, 2013].

[1] The assessment of credit risk is extremely important regardless of the category of borrowers targeted by the bank (large companies, SMEs, professionals or individuals).

1.2. Determinants of SMEs' credit risk

In practical terms, the banker refers to a multitude of qualitative and quantitative determinants to assess the ability of a company to repay its credit. The deep analysis of these determinants becomes even more crucial for SME's segment, hence the interest to present them.

- Managerial determinants

Among the intrinsic company's characteristics involved in assessing its credit risk, there is management with its two human and structural dimensions.

The risk arising from the human dimension of management remains closely linked to the personality of the company's managers, their morality, their experience as well as their technical skills[2]. For its part, the risk's assessment arising from the structural dimension of the management requires the verification of the existence of certain coherence between the organizational structure of the company and the nature and extent of its activity. The relative stability of this structure is certainly a reassuring element, but it cannot be completely fixed and this, in order to preserve a certain scope of adaptation to the changes in the environment.

- Technical determinants

Credit risk can also be caused by purely technical factors affecting the process of transforming inputs into outputs within the enterprise. Indeed, the technical condition of the assets assigned to the production process is a key indicator of risk. The premises reserved for the exploitation constitute a first element to be evaluated, by focusing on a multitude of criteria, the most important of which are the geographical positioning, the distance of the main suppliers and customers, the surface area, the margins of extension, the respect of security measures as well as storage capacities. The state of the technical installations and production equipment (obsolescence and capacity) is a decisive factor because of its direct impact on the regularity, quality and cost of production.

- Commercial determinants

The business environment in which the company operates is a potential source of risk that could affect its solvency. The study of the commercial component of risk uses a multitude of indicators, among which are the fluctuations of the company's turnover, the evolution of its market shares and its position relative to its main competitors. This is complemented by an evaluation of the intangible elements whose impact is undeniable on the commercial performance namely, the reputation of the products sold and their brand image. For its part, the marketing strategy adopted by the managers remains a decisive determinant of the risk incurred by the company, hence the interest of a careful study of the options chosen for the design of the product ranges, the prices fixing, the widespread distribution networks as well as the types of promotion and communication channels.

- Financial determinants

The company's viability is largely conditioned by its financial health, which is assessed using a set of financial indicators. These indicators represent major determinants of credit risk and their full and deep analysis is an essential step in assessing the company's solvency. In following, we will focus on

[2] See BERRADA (2007).

the main parameters whose unfavorable evolution can be a source of risk threatening the financial balance of the firm.

The working capital is the major financial determinant revealing the credit risk, because it becomes alarming when it displays a negative sign, since the company is unable to fully cover its investments with stable financial resources. It is important to analyze, in this framework, the level and structure of permanent funding and fixed assets.

Operating cycle indicators are also used in the assessment of credit risk. The banker is interested here in working capital requirements whose aggravation inevitably leads to a sharp deterioration of the company's cash flow, threatening its solvency. Furthermore, the analysis includes all the elements likely to influence the evolution of the current assets and liabilities, among them:

- The quality of the customer portfolio and the sale conditions negotiated with them, particularly in terms of instalments and payment deadlines.
- The effectiveness of debt recovery procedures.
- The effectiveness of supply and inventory management procedures.
- The terms of payment deadlines negotiated with suppliers.

Net cash is also a relevant indicator used by banks in assessing credit risk. Indeed, a structural and uncontrollable cash deficit is an alarming indicator that makes the firm's survival dependent to bank loans in the short term[3]. The access to bank loans may even be subject to restrictions which take into account the company's solvency aimed to push it to rationalize its cash flow management.

After focusing on the theoretical and practical aspects of credit risk, the following section will be devoted to the assessment of this risk in Moroccan SMEs.

2. ISSUES OF BANK FINANCING OF SMEs IN MOROCCO:CREDIT RISK ASSESSMENT TEST

The SME sector occupies an important place in Moroccan banks lending policies because of its strong dynamism as well as the significance of its size. Nevertheless, granting loans to SMEs requires a deep analysis of various factors of credit risk inherent to this category of enterprises. SMEs creditworthiness deterioration could make their access to bank loans more and more difficult. The present section proposes a global evaluation of SME segment credit risk in Morocco.

2.1. Profile of SMEs in Morocco

The SME[4] sector is an important component of Moroccan socioeconomic landscape since it accounts for 95% of active enterprises, generates 75% of GDP and employs 85% of the workforce, according to the Ministry of Industry, Investment, Trade and Digital Economy (2015).

In terms of bank financing, SMEs obtained 33% of the total amount of credit granted to non-financial enterprises in 2016, the same proportion was recorded in 2016, according to the latest figures released by the Moroccan central bank, named bank Al-Maghrib.

---

[3] See GUERMATHA (2016).

[4] According the National Agency of the Promotion of Small and Medium-Sized Enterprises, an SME is any enterprise with a turnover of less than 175 million MAD.

SMEs are particularly implanted in the region of Casablanca which includes 50% of them, flowed by the regions of Tanger-Tetouan- Al Hoceima, Rabat-Sale-Kenitra and Fes-Meknes.

According to the latest available statistics (2011), the SME is present in all sectors of economy with a significant predominance of commercial (41%) and manufacturing (37%) sectors.

Chart 1: Distribution of SME by business sector

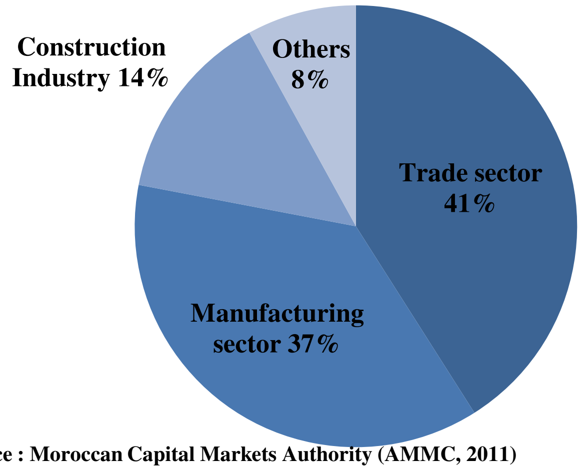


Chart source : Moroccan Capital Markets Authority (AMMC, 2011)

As it’s the case for all developing countries (with low income), manufacturing industries in Morocco represent an undeniable engine of economic activity since they contribute actively to job creation, productivity improvement and growth stimulation.

According to the high commission for planning, the SME represent 89% of Moroccan manufacturing sector, this part is made up of micro enterprises (35%), small-sized enterprises (33%) and medium-sized enterprises (21%), (The 2015 nation survey on economic structures). Those SMIs generate around 15% of industrial value added and employ 33% of industrial workforce.

SMIs are notably active in the sectors of chemical industries (31% in 2013), agro-industries (27%) as well as metals and mechanical industries (21%).

Chart 2: Distribution of SMI by Business sector (2013)

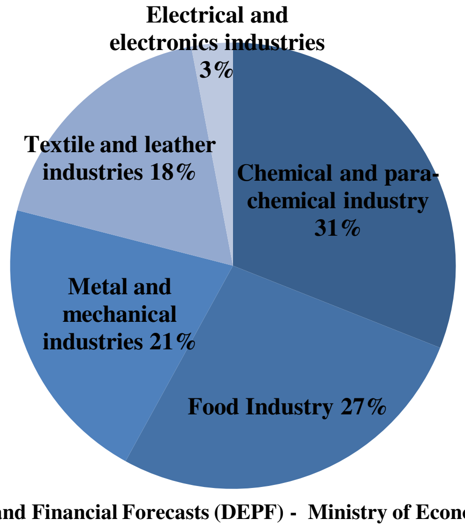


Chart Source : Direction of Studies and Financial Forecasts (DEPF) - Ministry of Economy and Finance

However, there is a steady decrease in the total number of Moroccan SMIs that could be explained by the development of industrial automation, smart factories and robotics which are too expensive for Moroccan businesses. Furthermore, foreign industrial investors prefer benefiting from advanced technologies in developed countries rather than seeking a cheap workforce in developing countries.

Chart 3: Evolution of the number of SMIs (2011-2013)

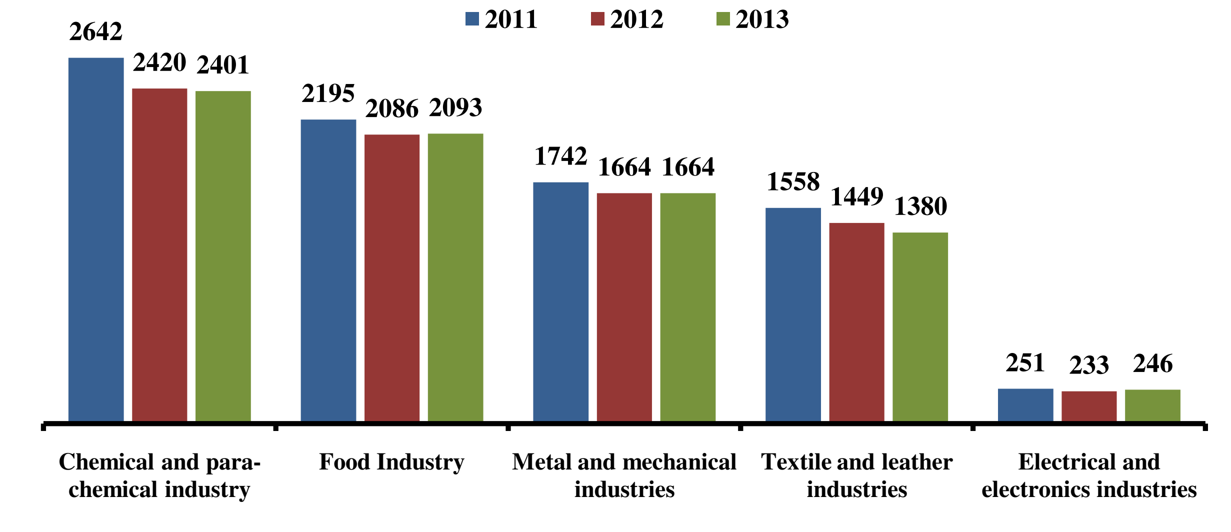


Chart Source : Direction of Studies and Financial Forecasts (DEPF) - Ministry of Economy and Finance

In a context of a greater economic openness and stronger international competition, Moroccan SMEs are constrained to implement comprehensive restructuring plans as well as ambitious development strategies in order to survive which cannot be done successfully without access to funding.

2.2. Credit risk of SMEs in Morocco: assessment in terms of aggregate indicators

In our empirical study, we propose a global credit risk assessment for the SME segment in Morocco using a set of aggregate quantitative indicators provided particularly by Bank Al-Maghrib and Inforisk (company specialized in business data providing). Those two entities are characterized by their rich database focused on SME segment and some of their aggregate indicators are freely accessible which explains their exploitation in this research work. The database used is, however, constrained by the heterogeneity of the periods covered by the various indicators. In light of what precedes, our SMEs creditworthiness assessment is based on transaction-lending approach and takes into account two credible sources of quantitative data (Bank Al-Maghrib and Inforisk) which helps to reduce the information asymmetry stemming from the opacity of SME segment5. We mention, finally, that some of the aggregate risk indicators are available both for SMEs and micro enterprises.

The level and structure of Moroccan SMEs financial resources are two major constraints that have a negative impact on their creditworthiness. Those enterprises show, from the beginning of their activity, a structural weakness of their equity. The latter remains below 10.000 dirhams for 47% of the MSME created in 2010. In addition, 90% of this population has a capital that does not exceed 100.000 dirhams. The profitability of this capital has also deteriorated significantly, from 6.1% in 2012 to 0.7% in 2015 and thus losing more than 5 points over this period.

---

[5] See Berger and Udell [2006] approach previously presented.

Chart 4: Distribution of SMEs in Morocco, according to their start-up capital in Thousands Dirhams
(Sample of 2710 companies created in 2010)

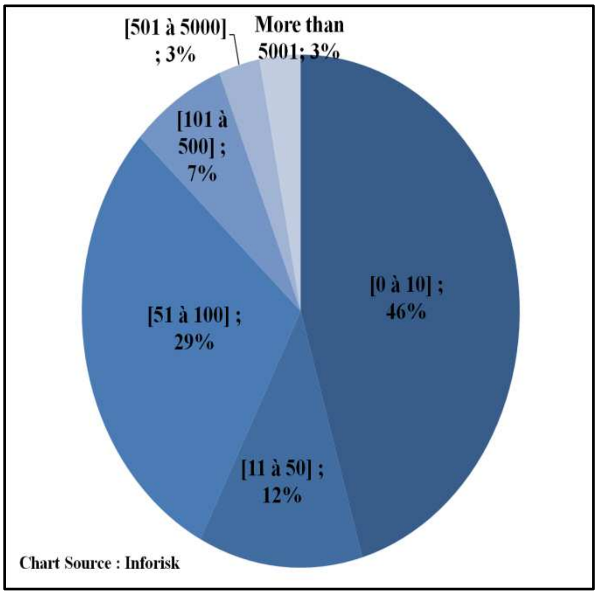
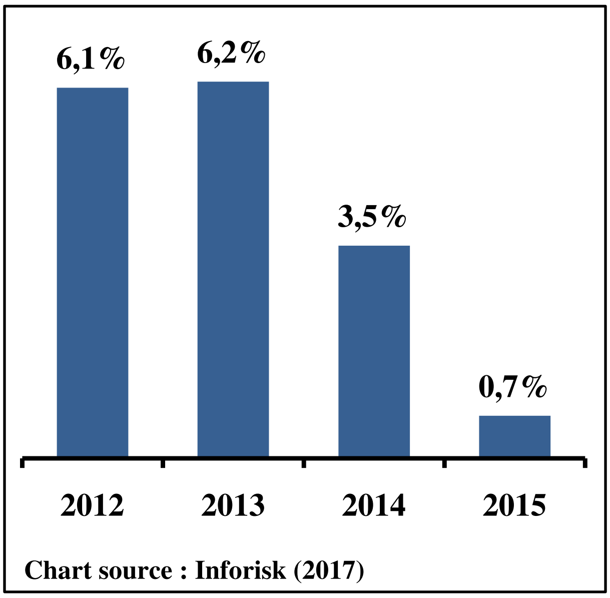
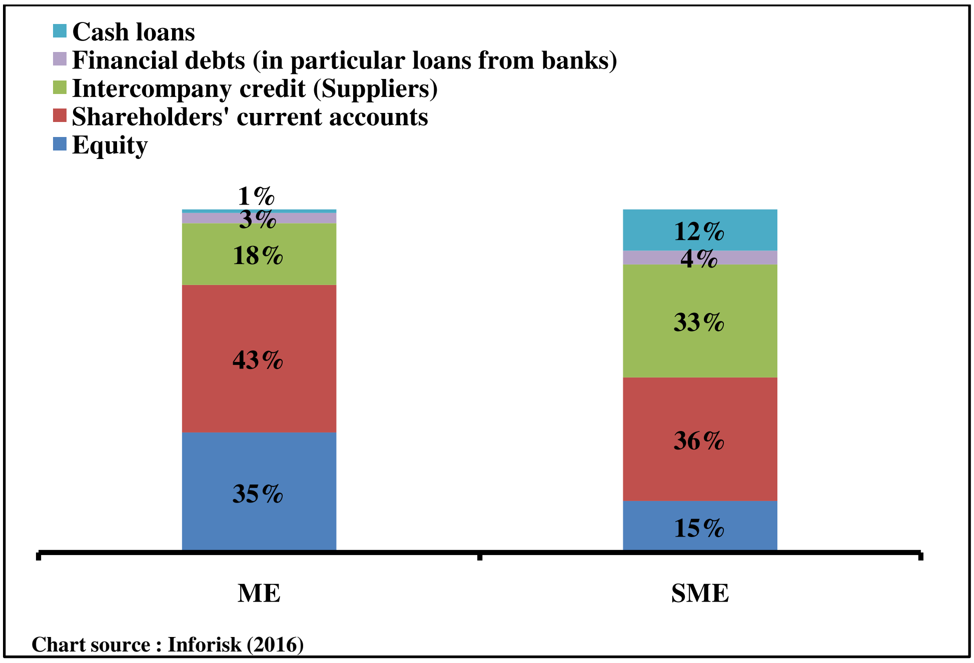


Chart 5: Evolution of the financial profitability of the MSME (return on equity) over the period (2012-2015)



The undercapitalization characterizing small and medium-sized companies in Morocco and the low level of their financial profitability are risk factors that undermine their solvency, thus limiting their access to bank financing, whose overall contribution to their financial resources is limited to 16% for SMEs and even falls to 4% for very small companies. This contribution varies between 36% and 43% for current account advances of the partners and varies between 18% and 33% for intercompany loans, which reveals the predominance of short-term financial resources to the detriment of stable resources and aggravates, by therefore, the credit risk inherent to the segment under study.

Chart 6: Structure of the TPME's financial resources in Morocco (Sample of 2710 companies created in 2010)



The level of fixed assets of Moroccan SMEs and their composition also have a potential impact on their credit risk. In fact, the weight of fixed assets in the total assets of these enterprises is limited, on average, to 11.2% in the commercial sector, does not exceed 13.5% in the construction sector and amounts to 25.4% in the manufacturing sector. The relative weakness of these shares reflects the inadequacy of SMEs' efforts to consolidate their sustainable assets assigned to production. In addition, the intangible component of these assets (R & D, patents and licenses) remains low, particularly in manufacturing activities, with a share of just 1%. These levels confirm the persistence of the orientation of SMEs towards low capital-intensive and labor-intensive activities.

The limited investment of Moroccan SMEs in physical and immaterial assets thus represents a source of structural vulnerability that threatens their competitiveness and the sustainability of their activities, which calls into question the eligibility of this category of companies for bank credit.

Figure 7: Weight of SMEs' fixed assets in their total assets (average per sector)

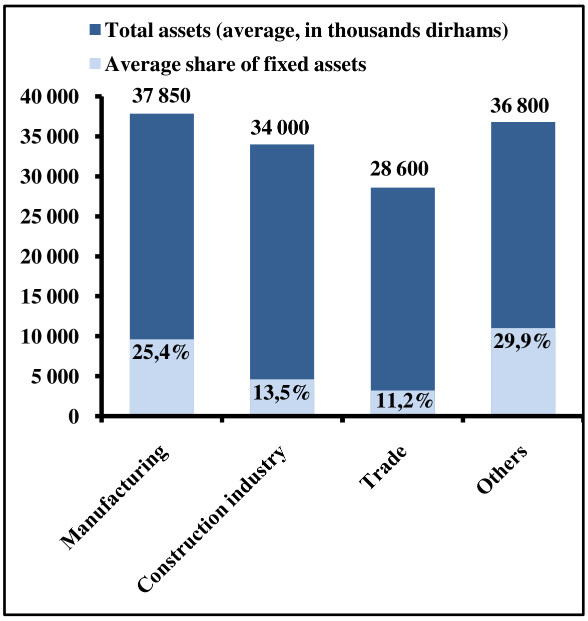
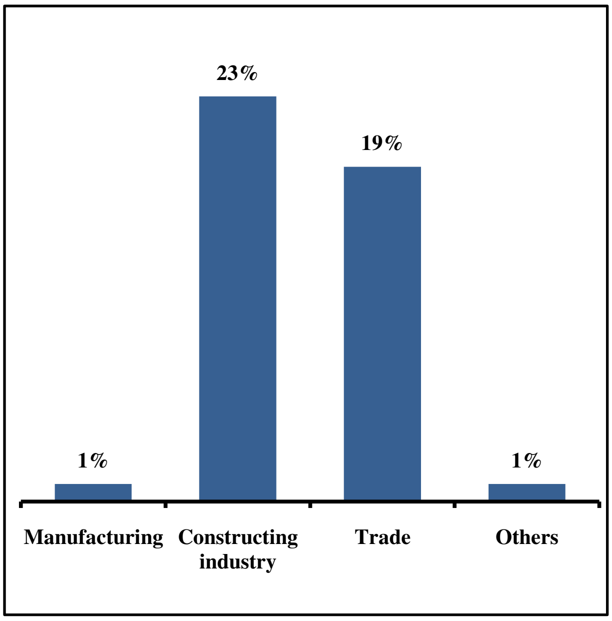


Figure 8: Shares of SMEs' intangible assets in their total fixed assets (average per sector)



Charts source : Moroccan Capital Markets Authority (AMMC, 2011)

The balance sheets of Moroccan SMEs are characterized, in addition, by the preponderance of current assets. The average contribution of the latter to total assets is 70% in manufacturing activities and exceeds 80% in the trade and construction sectors. The importance of these circulating assets favors the deterioration of the solvency of SMEs, insofar as it remains closely linked to two risk factors, namely, the lack of control over stock changes and the deterioration of the payment deadlines of customers.

The lack of control over the evolution of inventories is reflected by the excessive weight of these stocks in the current assets of SMEs, with an estimated average of 42% in the commercial sector and 35% in the manufacturing sector. This situation is reflected financially by an increase in the SMEs' working capital requirements and a deterioration of their treasury.

Chart 9: Weight of SMEs' current assets in their total assets (average per sector)

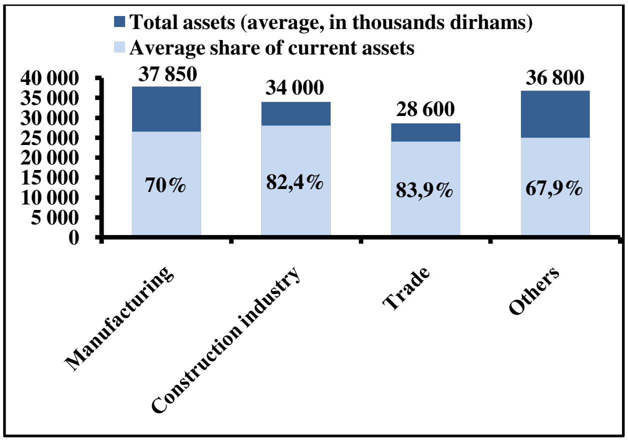
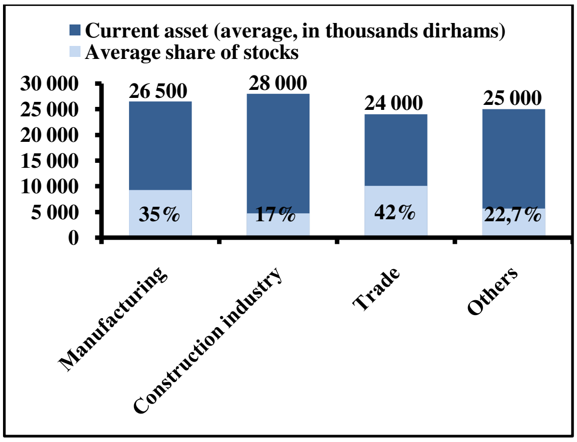


Chart 10: Weight of SMEs' stocks in their current assets (average per sector)



Charts source : Moroccan Capital Markets Authority (AMMC, 2011)

For its part, the lengthening of payment periods for customers is a major constraint on the treasury of SMEs in Morocco, potentially limiting their ability to honor their commitments to their banks. The impact of this constraint is even more important within the micro entreprises. In 2015, the customer turnaround was 129 days for SMEs and 158 days for very small businesses. These companies have thus borne additional delays in the collection of their receivables, ranging from +20 to +35 days compared to 2012. In addition, the deadlines negotiated by SMEs and micro entreprises with their customers remain significantly higher compared to large companies, with a range of between 52 and 81 days in 2015, reflecting the weakness of their position when negotiating the general terms and conditions of sale, particularly with certain large customers.

Regarding the payment terms of suppliers, they have moved relatively in the right direction between 2012 and 2015, from 111 to 122 days for SMEs and 91 to 98 days for very small businesses, which allowed them to benefit from additional time on the payment of their invoices, varying between +11 and +7 days. However, supplier delays granted to large companies remain largely advantageous (longer) compared to those applied to SMEs and micro entreprises, with a gap ranging from 21 to 45 days in 2015. These conditions reflect the weak bargaining position of these companies during the negotiations of the purchase's general conditions of with some major suppliers.

Chart 11: Evolution of customer payment terms for Moroccan MSME and large companies **(in days of turnover) (Period, 2012-2015)**

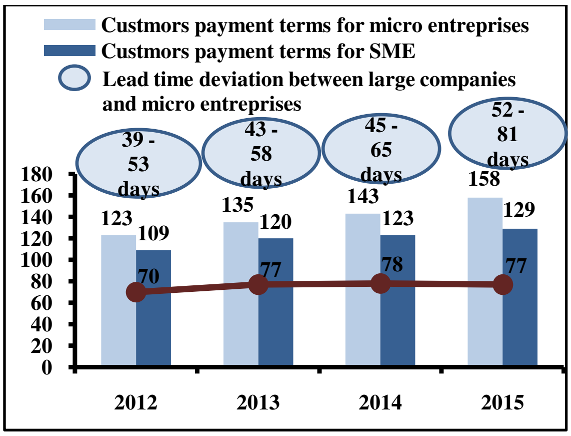
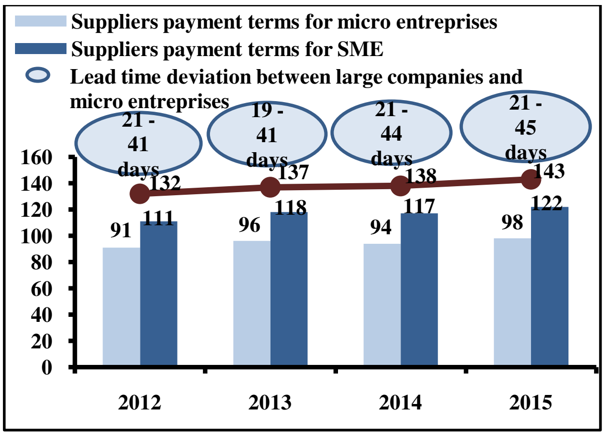


Chart 12: Evolution of supplier payment terms for Moroccan MSME and large companies **(in days of purchases) (Period, 2012-2015)**



Charts source : Central Bank Of Morocco (Bank-Al Maghrib)

The negative impact of the payment terms on the solvency of Moroccan SMEs and micro entreprises can also be highlighted by referring to the difference between the payment term of their customers and their suppliers (difference between the customer and supplier delay). Over the period (2012-2015), this gap increased from +32 to +60 days for very small businesses, and from -2 to +7 days for SMEs. Thus, the margin of maneuver of these companies has been gradually reduced, since they must collect their receivables later, while facing generally rigid supplier delays.

Chart 13: Evolution of the lead time deviation between customers and suppliers payment terms – Micro entreprises

(in number of days) (Period, 2012-2015)

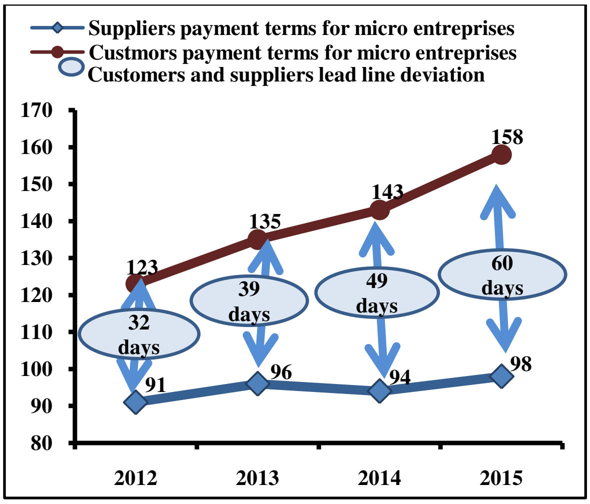
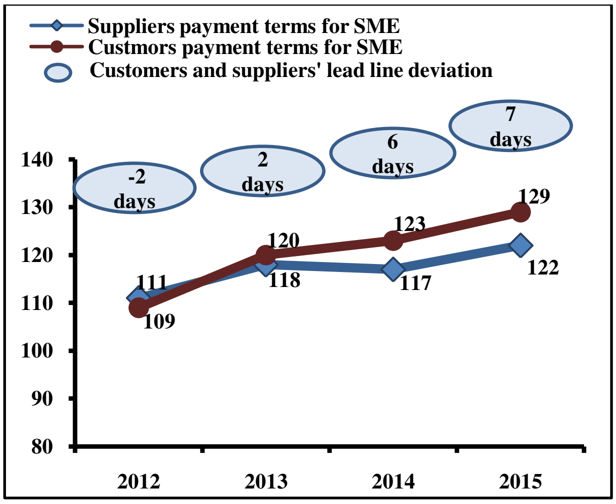


Chart 14: Evolution of the lead time deviation between customers and suppliers payment terms - SMEs

(in number of days) (Period, 2012-2015)



Charts source : Central Bank Of Morocco (Bank-Al Maghrib)

The credit risk inherent in Moroccan SMEs is further accentuated by their inability to maintain the stability of their turnover, especially during periods of slowing economic activity. TPEs are even more affected by this slowdown. Indeed, the pace of growth of value added has decelerated sharply in Morocco, falling from + 6.3% in 2011 to + 3% in 2015. In this context of economic slowdown, sectoral sales of TPE Moroccan firms contracted significantly, losing annually between 2% and 49% on average over the period (2012-2015).

Table 1: Micro entreprises' average annual growth rate of sectoral turnover

(Period 2012-2015)

Micro entreprises sectors of activity	Turnover's average annual growth rate
Fishing	-49%
Water and electricity's production and distribution	-39%
Real estate	-34%
Construction industry	-32%
Manufacturing industry	-31%
Extractives industries	-31%
Communal services	-26%
Domestic services	-23%
Trade	-23%
Agriculture	-17%
Transports	-16%
Health	-10%
Financial activities	-2%
Hotels and restaurants	5%
Education	13%

Table source : Inforisk (2017)

Chart 15: Value added in the Moroccan economy, by volume

(Annual % changes, Period 2011-2015)

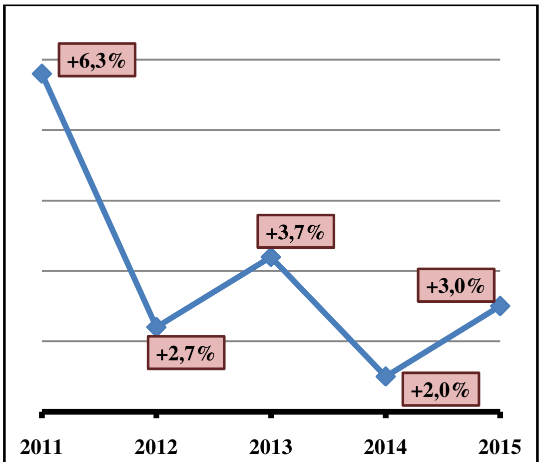


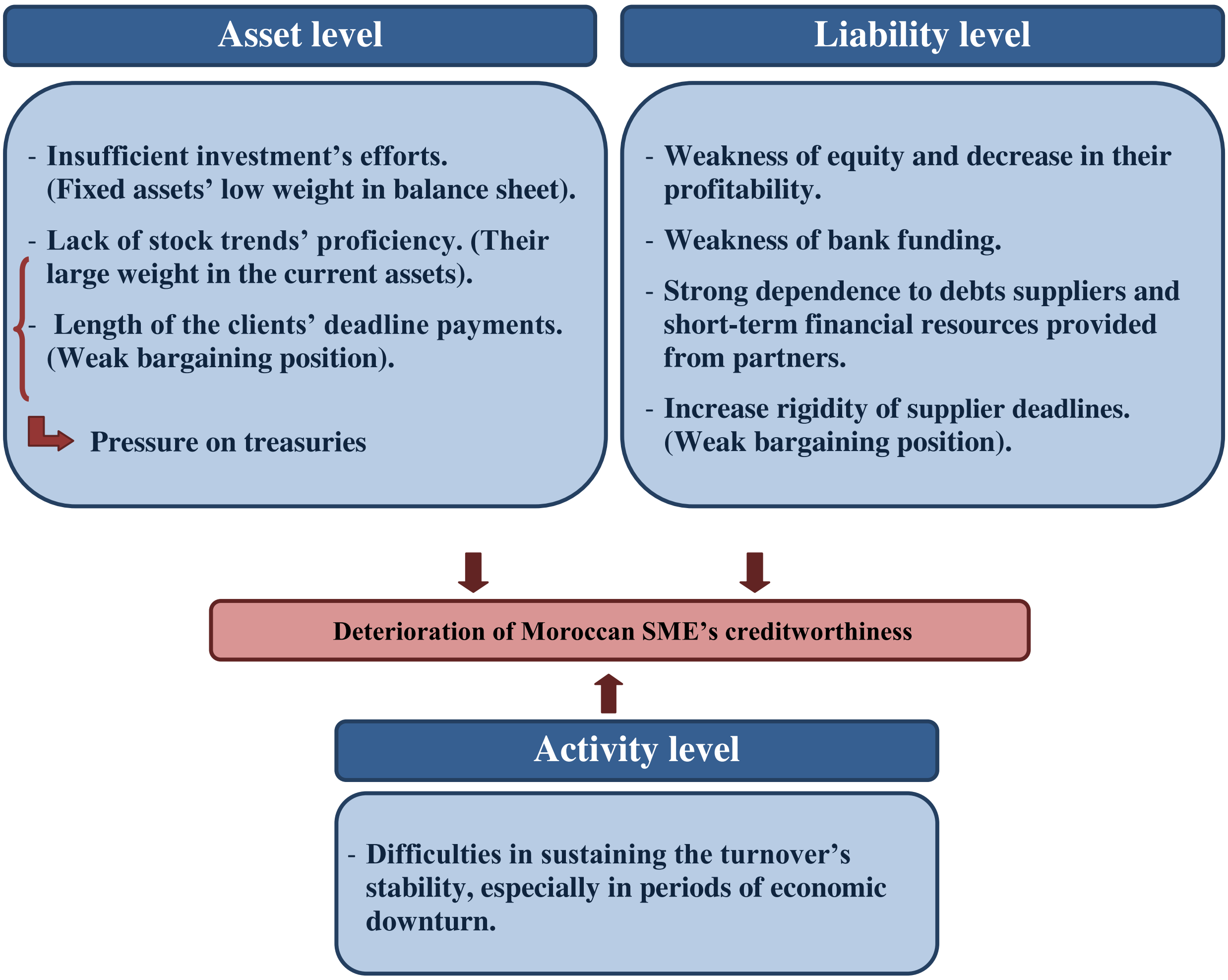
Chart source : High Commission for planning (HCP)

In the light of the above, it is clear that the banks' commitment to finance Moroccan SMEs exposes them to a potentially high credit risk. In fact, the solvency of these companies is negatively affected by their financial structure, which remains weakened by the low level of equity, the limited bank financing and the heavy dependence on supplier debts as well as short-term financial resources mobilized from partners. In addition, SMEs are subject to several factors that create pressure on their treasuries, namely the uncontrolled evolution of inventories, the considerable lengthening of customer delays and the upward rigidity of supplier delays. Other structural weaknesses are added to these elements, in particular the low level of investment by SMEs in the sustainable assets allocated to production as well as the sensitivity of their turnover to fluctuations in economic conditions.

CONCLUSION

The SME segment occupies an important place in the credit policies adopted by Moroccan banking operators. The latter have developed a wide range of products intended for financial support for this category of clientele. At the same time, banks are paying close attention to the credit risk arising from this positioning, hence the interest to make an overall assessment of this risk based on a set of aggregated quantitative indicators relating to SMEs' segment, in the context of a transactional valuation approach. The work thus leads to the identification of a multitude of structural weaknesses that potentially contribute to the deterioration of the solvency of Moroccan SMEs. The diagram below summarizes all of these fragilities.

Chart 16: Structural Fragilities Affecting the Moroccan SMEs' Credit Risk (Synthetic scheme)



In order to improve their access to bank financing, Moroccan SMEs are thus obliged to deal with all of these factors that generate credit risk. Minimizing this risk requires the involvement of banks, which must develop a long-term relationship with SMEs, while providing them with the advice and support they need to upgrade them. The guidelines to be formulated in this context concern simultaneously the liabilities, the assets and the activity of these companies:

- In terms of liabilities, it is important to mention the consolidation of SME's equity by extending their funding to new partners, the exploitation of this core of equity to promote their access to bank financing and balance their financial structure, in addition to the diversification of suppliers in order to negotiate more advantageous payment terms.
- At the level of the assets, it should be noted the consolidation of the investment of the SMEs in the durable assets allocated to the production, the rationalization of the management of the stocks to better control their weight in the current assets as well as customer diversification to reduce negotiated recovery times.
- On the business side, it is important to point out the need to reinforce the role of marketing as an indispensable tool for the loyalty of SME customers and the sustainability of their turnover.

REFERENCES

Scientific papers

- **Berger, Allen N. & Udell, Gregory F.,** «A more complete conceptual framework for SME finance», Journal of Banking & Finance, volume 30 (11), November 2006, pp 2945 – 2966.
- **Canales R., and Nanda R.,** «A darker side to decentralized banks: Market power and credit rationing in SME lending», Journal of Financial Economics, N°105, 2012, pp 353 – 366.
- **Dierkes M., Erner C., Langer T. and Norden L.,** «Business credit information sharing and default risk of private firms», Journal of Banking & Finance, N°37, 2013, pp 2867 – 2878.
- **Di Giuli A., Caselli S. and Gatti S.,** «Are small family firms financially sophisticated ?», Journal of Banking & Finance, N°35, 2011, pp 2331 – 2944.
- **Henderson J. and Weiler S**., «Entrepreneurs and job growth: probing the boundaries of time and space», Economic Development Quarterly, N°24(1), 2010, pp 23 – 32.
- **Karpak B. and Topcu I.,** «Small medium manufacturing enterprises in Turkey: an analytic network process framework for prioritizing factors affecting success», International Journal of Production Economics, N°125, 2010, pp 60 – 70.
- **Kirschenmann K. and Norden L.,** «The Relationship between Borrower Risk and Loan Maturity in Small Business Lending», Journal of Business Finance & Accounting, N°39 (5-6), 2012, pp 730 – 757.
- **Moro A., and Fink M.,** «Loan managers´ trust and credit access for SMEs», Journal of Banking & Finance, Volume 37 (3), 2013, pp 927 – 936.
- **Neuberger D. and Rathke S.,** «Microenterprises and multiple relationships: The case of professionals», Small Business Economics, N°32, 2009, 207 – 229.
- **Stiglitz J.E. and Weiss A.,** «Credit rationing in markets with imperfect information», The American Economic Review, Volume 71, N°3, June 1981, pp 393 – 410.
- **Stiglitz J.E. and Weiss A.,** «Asymmetric information in credit markets and its implications for macroeconomics», Oxford Economic Papers, New Series, Volume 44, N°4, Special Issue on Financial Markets, Institutions and Policy, October 1992, pp 694 – 724.
- **Uchida H.**, **Udell G.F. and Yamori N.,** «SME financing and the choice of lending technology», RIETI Discussion Papers Series, N°06-E-025, 2006, pp 1 – 45.

Books

- **BERRADA M.A.,** Les techniques de banque de crédit et de commerce extérieur au Maroc, Editions SECEA, Casablanca, 2007.

- **DAOUDI T.,** Les opérations de banque, Collection BANQUE, Rabat, 2003.
- **GUERMATHA M.,** Trésorerie d'entreprise, EL MAARIF AL JADIDA, 3ème édition, Rabat, 2016.
- **SION M.,** Gérer la trésorerie et la relation bancaire : Principes de gestion opérationnelle, DUNOD, Paris, 1998.
- **WORTHINGTON I. and BRITTON C.,** The business environment, Pearson Education, Essex, Fifth edition, 2006.

Institutional Publications

- **Moroccan Capital Markets Authority,** Le Financement des PME au Maroc, Rabat, may 2011.
- **Moroccan Central Bank**, Rapport annuel sur la supervision bancaire, Rabat, 2016.
- **Moroccan Central Bank**, Rapport sur la stabilité financière, Rabat, 2016.
- **Ministry of Economy and Finance (DEPF),** Les PME au Maroc : éclairage et propositions, Rabat, march 2000.