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Family Solidarity and Financial Structure of Family SMEs: Evidence from Eastern Democratic Republic of Congo

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Abstract— ***The research objective is to analyze the influence of family solidarity on the financial structure of family small and medium-sized enterprises (SMEs) located in Eastern region of Democratic Republic of Congo. Building on a sample of 522 family SMEs, the results suggest that family solidarity has a significant and positive influence on the total debt level of family SMEs. These results reveal the need for owner-managers to ensure harmonious family relationships across generations to have access to financial resources.***

Index Terms—Family firm, Family solidarity, Financial Structure, Democratic Republic of Congo, Socio-emotional wealth.

I. INTRODUCTION

The literature on the financial structure of family SMEs emphasizes their heterogeneity, with some family SMEs opting mainly for self-financing or new contributions from family shareholders, while others use a financial structure that mixes family equity and debt [1]. These differences are mainly explained by the level and the form of family involvement, which strongly influence the financing choices made by family SMEs [2]- [3]. However, these studies do not allow to apprehend how family-specific social-affective components are involved in family SMEs financing choices. Addressing this issue is relevant because the social-affective prerogatives of family members are crucial in explaining the financial decisions of family SMEs, particularly because of the hegemonic power of the family that characterizes the decision-making process of this type of firm [4]. Hence, this research proposes to investigate the influence of family solidarity on the financial structure of family SMEs.

This study is important for two reasons. First, family SMEs represent 70-80% of enterprises in the DRC. They employ more than two-thirds of the active population and generate more than 65% of Gross National Product (GNP) [5]. Second, Congolese owner-managers are mostly reluctant to resort to formal external financing [6]. This situation impedes the ability of family SMEs to reach their full potential as they are deprived of financial resources that would allow them to achieve their growth objectives.

This study provides several theoretical contributions. First, by focusing on a single dimension of the family's socio-affective needs, this research dresses a more accurate view of their impact on financial choices, prior works aggregating them under the unidimensional concept of socioemotional wealth [7]-[4]. Second, this research emphasizes the importance of social-affective factors in explaining the financial structure of family SMEs. This paper thus goes beyond previous works that have long argued that only financial factors are decisive in explaining family SMEs' debt levels [8]-[2].

The structure of this paper is as follows. First, the literature on financial structure in family SMEs is discussed before introducing the role of family solidarity in shaping financial choices. Then, the sampling procedure and the method used to analyze the data are presented. Afterwards, the results are reported. Finally, the key findings, the theoretical and practical implications as well as the limitations and avenues for future research are highlighted.

II. FINANCIAL STRUCTURE OF FAMILY SMES

The financing structure of family SMEs differs from other firms, mainly because of their long-term vision [9]. This long-term orientation reflects a strong ownership of the family SME by its managers and a strong desire to safeguard the management control of the firm across generations [10]. This attachment to the firm explains in part why some family SMEs would prefer the use of internal sources of financing [11]- [12] over external funding. Indeed, the owner-manager who is attached to his company would be reluctant to external funds to avoid losing social-affective values [13]. Such managers work hard to keep the firm independent and thus aspire to moderate and controlled growth that does not require external sources of funding [14]- [7]. Family SMEs that use debt do so only to penetrate profitable market niches [16]. In this perspective, previous studies argue that family firms adopt defensive strategies to circumvent losing the family's socio-emotional wealth across generations [10]. These arguments indicate that the particularity of the financial structure of family firms lies in the prioritization of socio-emotional wealth factors and therefore prove their importance in explaining the financial structure of family SMEs [9]. Thus, considering family solidarity in the explanation of the level of indebtedness seems important.

III. RELATIONSHIP BETWEEN FAMILY SOLIDARITY AND TOTAL DEBT LEVEL

Family solidarity represents a sense of moral duty that allows family members to cover their vital and financial needs [17]. Regarding the relationship between family solidarity and the level of total debt, it is argued that family members are willing to sacrifice part of their wealth to perpetuate the firm's activities when these are potentially threatened [18]-[19] or when it comes to financing its growth [20], which would increase the level of total debt of the family SME. The argument is that family solidarity between family members and the owner-manager allows them to federate their efforts for the continuity of the firm and the creation of wealth, which would encourage them to integrate new market segments for the growth of the family SME and the preservation of its autonomy [21]. Indeed, family solidarity would allow family members to build an effective network of relationships that could facilitate access to external financing resources to finance the growth of the family SME [13]. Family solidarity would thus become a solidarity guarantee that would stimulate family members to self-monitor, to act collegially to favour the business and avoid the risk of financial distress [12]. Hence, the following hypothesis can be made: family solidarity has a positive influence on the total debt level of family SMEs.

IV. SAMPLE AND DATA

The quantitative survey was conducted among 675 owners and managers of SMEs located in the in eastern of the DRC, specifically in the cities of Bukavu, Goma and Uvira. The data were collected using both reasoned choice and non-proportional stratified sampling. The selected SMEs should meet a classic family business definition based on three criteria: (1) the family controls at least 50% of the firm's equity; (2) the family holds at least 50% of the firm's management positions; and (3) the owner's family members represent more than 50% of the employees [18].

Data collection was conducted directly face-to-face at the headquarters of the SMEs or at the homes of the owner-managers. 575 questionnaires were completed and returned, from which 53 SMEs did not meet the criteria for the family SMEs, resulting in a final sample of 522 family SMEs. Among the respondents, 79.3% are in the commercial sector. Of these, 63.5% admitted to having used informal financing to fund their activities during the year. Most of them (63.98%) acknowledged having faced constraints in accessing formal external financing.

V. MEASUREMENT OF VARIABLES AND DATA PROCESSING TECHNIQUES

Data processing was obtained using exploratory principal component, confirmatory factor analyses, and multiple regression. Exploratory and confirmatory factor analyses were used to identify the items and factor structure related to the latent variable, family solidarity [22]. The family solidarity is measured by means of a measurement scale composed of 18 items divided into three dimensions [17]. The KMO test (KMO ≥ 0.50), Bartlett's Sphericity test (χ^2 significant at the 0.05 threshold) and Cronbach's alpha (α≥ 0.6) were used to confirm the adequacy of the data to the exploratory factor analysis and the internal consistency of the different items of the constructs [5]. The scale met all these three conditions (KMO =81.8 ; Barthelet's test of sphericity with χ^2 = 1995.94 and Cronbach's alpha= 0.862). The iterative approach has been clarified this scale by using commonality (≥ 0.50), structural coefficient (≥ 0.50) on one of the components, and an eigenvalue (Eigenvalues > 1) as criteria for both selecting the items and components representing the latent construct, respectively. Varimax rotation was used to maximize the chance that each variable would be correlated to a single component [22]. We thus obtained a scale composed of 9 items explaining 71.3% of the variance. The scale was tested by means of a confirmatory factor analysis to confirm its unidimensionality and to demonstrate that the dimensions and items resulting from the exploratory factor analyses really characterize the latent construct [5]. The results in Table 1 confirm that each item has a structural coefficient greater than 0.50 and that the estimated model relating to the construct under analysis is well fitted and presents satisfactory fit indices (χ^2 =167.00 ; P=0.000 ; CFI=0.96 ; IFI=0.96 ; RMSEA=0.1 ; NFI=0.95 ; GFI=0.93 ; AVE= 0.68 ; CR=0.88).

Table 1. Exploratory and confirmatory factor analysis report (N=522)

Description of variables		Structural coefficients		*CR*	*AVE*
Family Solidarity (α=0.862 ; KMO=0.818; Χ²= 167.00 ; p=0.000 ; CFI=0.96; IFI=0.96; RMSEA=0.1; NFI=0.95; GFI=0.93)		*AFE*	*AFC*		
Mutual aid				**0.865**	**0.62**
SOLID7	Mutual support between family members	0.727	0.70		
SOLID8	Mutual aid between family members at work	0.766	0.75		
SOLID11	Family members' contribution to events	0.752	0.65		
SOLID13	Family members' participation in events	0.716	0.69		

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Affection between family members				**0.89**	**0.63**
SOLID4	Affection of family members to the firm	0.858	0.82		
SOLID5	Retaining control through generations	0.851	0.89		
SOLID6	Occupation of strategic posts by families	0.707	0.66		
Protection of family values				**0.87**	**0.68**
SOLID17	Power protection across generations	0.857	0.85		
SOLID18	Family value protection across generations	0.879	0.81		

Ordinary least squares multiple regressions were used to evaluate the main effects of family solidarity on the total level of debt. Robust standard error estimation was used to avoid problem of heteroscedasticity in the residuals and facilitate statistical inference. The percentage of shares held by family members (PPDMF) and the fact of having faced constraints in accessing formal external financing (CACFOR) were used as control variables.

VI. RELATIONSHIP BETWEEN FAMILY SOLIDARITY AND TOTAL DEBT LEVEL

The results of Table 2 show a significant positive relationship between facing constraints in accessing formal external financing and the level of total debt. (β= 6.74; t = 4.69; p= 0.000).

Table 2: Results of the model

Variables	**Total debt level**		**Total debt level**	
	Coefficient (T value)	S.E. Robuste HC	Coefficient (T value)	S.E. Robuste HC
Constant	4.54 (4.28) ***	1.06	-11.51 (3.45) ***	3.45
CACFOR	7.03 (5.19) ***	1.36	5.76 (4.25) ***	1.36
PPDMF	-0.15 (0.31)	0.50	-0.18 (0.34)	0.54
SOLF			4.87 (4.71) ***	1.03
F stat	13.52***		16.29 ***	
Prob> F	0.000		0.0000	
R^2	0.051		0.11	

With () = T value ; *** significant level α=1% ; ** α=5% et * α=10%

It also appears that family solidarity (SOLF) significantly and positively influences the total debt level of the family SMEs in the Eastern region of DRC (β= 4.87; t =4.71; p= 0.000). These results confirm the hypothesis of this research and reveal that for every 1% increase in the family solidarity score, the total debt level increases by 4.87%.

VII. DISCUSSION AND CONCLUSION

The positive impact of family solidarity on the level of total debt is in accordance with the literature [17] showing that through family solidarity, family members feel unified and concerned to secure their intergenerational well-being, which motivates them to build networks that facilitate access to financial resources. This is in line with the socioemotional perspective which suggests that transgenerational nonfinancial prerogatives might drive specific attitudes [12] that facilitate access to external sources of financing [7]. Family solidarity seems to encourage the family to be concerned about the sustainability of the business in order to maintain the collective well-being of the family. In the context of the DRC, these results are even more logical since most managers are reluctant to formal external debts and complete their financing needs by resorting to the family circle [6]. In such a context, family solidarity favors the dissemination of information on the evolution of the enterprise's financial situation, which encourages the development of relationship networks to access financial resources [1].

This study's focus on the social-affective component in explaining the financial structure of family SMEs justifies its contribution on the existing literature [11]-[4]. Indeed, most previous work explains the financial structure of family SMEs by focusing on socio-emotional wealth as a unidimensional construct that encompasses many affective considerations [21]-[15]. By analyzing family solidarity, this work provides an opportunity to understand the heterogeneity in financial structure of family SMEs by incorporating a specific non-financial prerogative that governs their strategic orientations [19]-[13].

The results of the study have also practical implication for family SME managers in the DRC, which reveals the relevance of developing systems of transmission and dissemination of information that amplify the identification of family members in the enterprise. The study therefore shows that owner-managers must develop attitudes that encourage harmonious relations to mobilize family members around a common objective. They must take advantage of family solidarity to organize the family circle in order to facilitate their access to external financing resources, ensure their growth and maintain the collective well-being across generations.

This study has the following limitations. First, it only focused on cross-sectional data; a study integrating longitudinal data would thus be necessary to understand variation in financing choices of family SMEs over time. Secondly, this research does not integrate the factors related to the life cycle of the family SME, a study incorporating aspects related to succession would therefore be interesting. Third, this study only addresses the impact of one socio-affective component on financing structure; the integration of other nonfinancial components would allow a better appreciation of how these factors interact in explaining the debt levels of family SMEs.

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