Chapter 9
International Effect on Family SME Financial Distress Prediction

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EXECUTIVE SUMMARY

Understanding the reasons of default risk is crucial to avoid the firm's bankruptcy. The purpose of this work is to analyze the impact of internationalization on firm's probability of distress. For it, this chapter aims to propose a model to predict default specific to family SMEs (small and medium enterprises). An unbalanced panel of 10,832 firms over the period from 2012-2018 is analyzed. Ex-ante criteria to classify firms in default or compliant is used. International SMEs have lower probability of default than domestic firms, and compliant firms export more. Results show that export ratio is an important determinant of the probability of default. Moreover, the ratios of liquidity, profitability, size, leverage, efficiency, cash flow, and age are also relevant. Moreover, these ratios explain default risk of both groups international and domestic SMEs. The proposed model has an accuracy of 92.9%, which increases to 95.6% if only export SMEs are analyzed.

INTRODUCTION

Globalization has brought several challenges that a firm has to face today. It includes increased pressure and global competition that has forced many firms to look for new business opportunities. Firms have moved from competing locally to competing worldwide (Roy, Sekhar, & Vyas, 2016). Globalization has led to a change in corporate strategies, which have come to view going abroad as a growth and survival strategy, especially when domestic markets are tight.

DOI: 10.4018/978-1-6684-3550-2.ch009

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Singh, Pathak, and Naz (2010) consider that firms internationalize to surpass the disadvantages of operating only in the domestic market. According to these authors, these disadvantages are namely the domestic market saturation and the increased competition, especially critical for SMEs.

The internationalization brings diverse opportunities as firms can increase their sales volume, benefiting from cost efficiency and economies of scale, and reduce the risk to sell only to one country (Gupta, Wilson, Gregoriou, & Healy, 2014). Firms can also benefit from tax saving and can have easier access to capital, particularly when it comes to integrated financial markets. Although, internationalization also brings some uncertainties, not only because firms are exposed to multiple political environments and foreign exchange risk, but also because their financial needs are different (Arslan & Karan, 2009), which can impact the firm's probability of distress.

Firm size has always been considered to play an important and decisive role for a firm to decide to internationalize. However, with globalization, the SMEs also felt the need to internationalize to assure the business success and growth (Roy et al., 2016). In fact, SME are more vulnerable not only to globalization, but also to the speed of technological change and the scarcity of resources (Valentim, Lisboa, & Franco, 2016).The point is that these firms have capital and often knowledge constraints that affect the internationalization process and the potential benefits.

Family firms are a specific group of firms, with singular characteristics that also have some constrains and benefits that can influence its internationalization process. Basly (2007) argues that family firms' internationalization depends on its tolerance to external financial intervention. These firms have valuable knowledge that is passed down from generation to generation which can help in the internationalization process.

In this context, given the advantages and disadvantages of internationalization and the particularities of family SMEs, this chapter aims: 1) to define a way to classify distress specific to SMEs, that can be used by future researchers; 2) to establish a model to predict financial distress accurate to family SMEs; 3) to analyze the impact of internationalization on firm's probability of distress.

Ex-ante criteria are used to classify firms in solvent or distress. A Logit model is applied to develop the distress prediction model for family SMEs. Eight financial ratios (liquidity; profitability; size; indebtedness; efficiency; cash flows; age; and exports intensity) are analyzed. A sample of Portuguese SMEs, more precisely from Leiria region, over the period from 2012 till 2018 is studied. It is a non-balanced panel data analysis over 10,832 non-financial SMEs.

In 2017, Portugal was the 44º world country with more exportations (OEC, 2019). Moreover, in 2015, exports represented 40% of the Gross Domestic Product (AICEP, 2016). Hence, understanding the effect of internationalization is particularly relevant for Portuguese firms.

There is an extensive empirical literature on detecting firm's default risk (e.g. Altman, 1968; Ohlson, 1980; Altman, Iwanicz-Drozdowska, Laitinen, & Suvas, 2017). Although, most studies focus on public or large size firms, and not include the impact of internationalization. SMEs represent the majority of firms all over the world and correspond to two-third of the total employment (Gupta et al., 2014). In Portugal, SMEs represent 99.9% of Portuguese firms (Pordata, 2020a). Moreover, the sample focuses on a specific group of SMEs, family-owned firms. Family firms are around 70%-80% of Portuguese firms (Felicidade, 2019) and about 90% of firms from Leiria region (Lisboa, 2019a).

This work contributes to the literature in several aspects. Namely in the literature on SMEs by analyzing the impact of internationalization on the distress risk of family SMEs in the Portuguese market. Few studies focus on the analysis of this impact, but conclusions are relevant to help managers and shareholders on their decision-making process. Particularly, it is important to analyze if the internationalization

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