




RESEARCH ARTICLE

# The role of organisational factors and environmental conditions on the success of newly founded firms

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## Abstract

This study examines the influence of founding conditions and decisions on new companies' performance, analysing how both environmental context and organisational dynamics interact to determine their success. It distinguishes between two different success indicators: survival and profitable growth. An empirical study conducted using a sample of 3,722 new agri-food companies in two different periods, one of economic stability and the other of recession, showed that founding conditions had long-lasting effects on post-entry performance. The economic context acted as a moderator of the relationship between individual factors and success. Adverse environmental conditions were also a determinant of success, making surviving firms more competitive and resilient. The results reflect the survival of the fitter principle by showing that early profitability reduced the risk of failure and made firms more likely to become profitable in the medium term. Internationalisation strategies developed organisational capabilities that created an imprint for adaptability and growth.

**Keywords:** Agrifood industry; bankruptcy; environmental factors; financial ratios; performance; profitable growth; survival analysis

## Introduction

In most sectors, failure rates of new firms are significantly higher than those of established companies (Jones, 1987). According to Eurostat (2021), around 60% of firms survived at least 3 years and fewer than half survived 5 years over the previous decade. The effects of the conditions in which firms are founded have been shown to have a substantial influence on exit rates and subsequent performance. Indeed, these can persist for several years and may even matter more than current conditions (Farinha, 2005; Geroski, Mata, & Portugal, 2010). They can be conceptualised at micro and macro levels (Davidsson & Wiklund, 2001). Researchers have emphasised individual- and micro-oriented factors in explaining post-entry success, focusing on financial performance, firm-specific factors and strategic choices.

The theory of organisational ecology (Hannan & Freeman, 1977; Hannan & Freeman, 1984) highlights how environmental conditions at the time of a firm's founding can impact survival. It argues that weak companies (e.g., because they have financial difficulties) disappear through a process of market natural selection; firms that are healthy at their founding tend to last longer (Coad, 2007; Delmar, McKelvie, & Wennberg, 2013; Fuertes-Callén, Cuellar-Fernández, & Serrano-Cinca, 2022).

Empirical research on the effect of the macroeconomic environment on firms' success has received less attention than the impact of micro determinants. Scholars have focused on the study of its influence on firm survival. Romanelli (1989); Honjo (2000); Box (2008); Geroski,

Mata, and Portugal (2010) and Chatzoudes, Chatzoglou, and Diamantidis (2022), amongst others, have shown that macroeconomic conditions at firms' founding (and over time) have an impact on their capacity to survive. Thus, those established in adverse environments have lower survival rates. Some studies have shown that firms that manage to survive under adverse conditions have lower mortality rates than those founded in more favourable environments (Swaminathan, 1996). Organisational resilience, which has been defined as the property of an organisation to withstand severe shock and rebound (Mokline & Abdallah, 2021), can be the explanation. Organisational resilience, in its two dimensions, relational and operational, contributes to organisational and sustainability survival (Yılmaz Börekçi, Rofcanin, Heras, & Berber, 2021). Adverse external conditions may induce firms to restructure processes, for example, adjusting costs or increasing productivity, which then makes them more competitive and resilient.

Economic recession can also influence the relationship between firm-specific factors and post-entry performance. Thus, the size, liquidity or financial structure of a new firm can be decisive in turbulent environments. Recent studies have shown that the 2008 global financial crisis impacted the growth and performance of companies, particularly small and young ones (Ferrando, Marchica, & Mura, 2017). Profit effects are likely to be positive in an environment that encourages investment and growth. If the business climate is not favourable to investment, the link between profits and growth becomes weaker (Lee, 2014). Some researchers have argued that small firms have high failure rates in downturns (Box, 2008; Peric & Vitezić, 2016), though Varum and Rocha (2012) claimed that large size may be responsible for firm inertia and an inability to adapt optimally to adverse conditions. Though the latter can impose severe constraints, they may impel companies to reorganise. In severe downturns, some firms grow rapidly but many fail (Peric & Vitezić, 2016). According to the resource-based view (RBV) (Wernerfelt, 1984), companies own heterogeneous resources that contribute to differences in performance, such that some can deal with crises better than others (Coad & Hözl, 2012; Naidoo, 2010; Wernerfelt, 1984).

Therefore, numerous studies have demonstrated that macro factors at the time of a firm's establishment, its characteristics, and the strategies it adopts can affect survival and performance. However, the literature has yet to address the joint effects of environmental conditions and organisational characteristics on the success of new firms. The present study uses organisational ecology theory to fill this gap. It integrates the macro and micro determinants of new firms' success and considers whether the economic climate at the time of their founding is a moderator of the relationship between initial organisational factors and survival and performance.

The study analysed the evolution over 8 years of a sample of 3,722 new Spanish agrifood manufacturing companies (created at different periods). Our model, which was based on the *survival of the fitter* principle, included profitability and financial strength at the firms' founding as determinants of success. It also took into account the firms' strategies. Two aspects of the success were examined: survival and profitable growth.

The study's contribution to the literature is threefold. First, it used two cohorts of newly created companies in two different periods (of economic stability and economic crisis) to show that founding conditions were an important determinant of a new firm's success. Second, the economic environment at founding was examined and shown to moderate the relationship between a firm's characteristics and strategies and its success. Third, founding factors had long-lasting effects on the performance of new firms, though these differed according to the dimensions of success that were being analysed.

The study is organised as follows: second section comprises a literature review and an outline of the development of the hypotheses; third section, the findings; and fourth section, a discussion and a conclusion.

## Literature review and hypotheses development

### Literature review

Numerous theories have been developed that explain the growth and survival of companies. All of them seek to uncover the determinants of firm success. Two of the most widely referenced theories are organisational ecology and the RBV. Studies based on the perspective of the latter have stressed the importance of firm-level resources as predictors of firm performance, while those based on the former have highlighted the impact of environmental conditions (Geroski, Mata, & Portugal, 2010). The RBV, which was posited by Wernerfelt (1984), is built upon the idea that a firm's success is largely determined by the resources it possesses and controls (Galbreath, 2005). Firms represent heterogeneous bundles of resources and capabilities that are the result of their strategic choices and commitments over time, and these can be significant factors in securing sustainable competitive advantage and superior performance (Barney, 1991; Coleman, Cotei, & Farhat, 2013; Wernerfelt, 1984). Firms succeed or fail according to their ability in obtaining and combining critical assets that offer a temporary advantage (Heine & Rindfleisch, 2013).

The organisational ecology approach has its theoretical basis in the structural and functional assumptions of organisational change. It applies evolutionary theory to explain how natural selection within a population of organisations – which is the main driving force of change – influences their social behaviour and structure (Carroll, 1984; Hannan & Freeman, 1977). The business environment selects fit companies and removes the unfit ones. Numerous studies have tested this principle (Coad, 2007; Delmar, McKelvie, & Wennberg, 2013; Dosi, Pugliese, & Santoleri, 2017; Fuertes-Callén, Cuellar-Fernández, & Serrano-Cinca, 2022).

Organisational ecology underlines the effect of the initial founding conditions of organisations on their future development. This concept has its theoretical roots in Stinchcombe's (1965) study. The author suggested that the social environment at the time of founding imprints initial structures on organisations. These persist because of inertia and institutionalisation, despite subsequent significant environmental changes (Marquis & Tilcsik, 2013). Organisational ecologists elaborated on Stinchcombe's work by investigating the effect of the environment on the survival of new ventures (Soto-Simeone, Sirén, & Antretter, 2020) arguing that environmental forces are the main drivers of organisational selection processes (Brüderl, Preisendörfer, & Ziegler, 1992). An organisation's success is not only the product of internal resources; internal factors play a role in how it adapts to the external environment, thereby influencing its survival (Bertoni, Colombo, & Quas, 2019).

Several studies focused on identifying the determinants of new firms' success from a macro- and a micro-perspective. Most of them based their evidence on samples of established firms. Table 1 draws together the main studies on success factors in the performance of new firms and their conclusions. After reading the literature reviews by Santisteban and Mauricio (2017) and Soto-Simeone, Sirén, and Antretter (2020), we grouped the determinants of new firms' success into three categories: environmental factors; attributes, structural characteristics and strategies; and individual characteristics.

As can be seen, numerous studies have examined the positive influence of characteristics such as size, profitability, liquidity and solvency. However, the effect on growth and profitability is not so defined; some studies show a positive impact and others the opposite; this is also the case with size. The role played by leverage is also unclear; some authors have argued that debt is an indication of the promising nature of a start-up, even though it increases risk. Numerous studies have referred to the competitive advantage wrought by internationalisation and innovation while stressing the risk and costs involved.

As has been noted, research has shown that the environment at the time of a firm's founding can have a critical impact on post-entry performance. Numerous studies (Bhattacharjee, Higson, Holly, & Kattuman, 2009; Box, 2008; Chatzoudes, Chatzoglou, & Diamantidis, 2022; Honjo, 2000;

**Table 1.** Studies on determinants of new firms survival and performance

Determinants		Survival	Effect	Performance	Effect
Firm attributes and structural characteristics	Size	Aldrich and Auster (1986)	+	Fariñas and Moreno (2000)	Growth (employees)-
		Laitinen (1992)	-	Schutjens and Wever (2000)	Growth (employees) +
		Mata and Portugal (1994)	+	Harada (2003)	Growth (sales) and profit +
		Cressy (1996b)	+	Yasuda (2005)	Growth (size)-
		Audretsch, Santarelli, and Vivarelli (1999)	No effect	Capelleras and Rabetino (2008)	Growth (employees)-
		Fotopoulos and Louri (2000)	+	Huynh and Petrunia (2010)	Growth (sales)-
		Fariñas and Moreno (2000)	+		
		Agarwal and Audretsch (2001)	+		
		Geroski, Mata, and Portugal (2010)	+		
		Mas-Verdú, Ribeiro-Soriano, and Roig-Tierno (2015)	+		
		Jung, Tae Hwang, and Kim (2018)	+		
		Fuertes-Callén, Cuellar-Fernández, and Serrano-Cinca (2022)	+		
	Age	Freeman, Carroll, and Hannan (1983)	+	Fariñas and Moreno (2000)	Growth (employees)-
		Fariñas and Moreno (2000)	+	Yasuda (2005)	Growth (size)-
		Geroski et al. (2010)	+	Huynh and Petrunia (2010)	Growth (sales)-
		Delmar, McKelvie, and Wennberg (2013)	+	Rannikko et al. (2019)	Growth (sales, employees)-
		He and Yang (2015)	+		
		Wennberg, Delmar, and McKelvie (2016)	+		

		Grashuis (2020)	+		
		Jung, Tae Hwang, and Kim (2018)	No effect		
		Rannikko et al. (2019)	No effect		
Profitability		Fotopoulos and Louri (2000)	+	Delmar, McKelvie, and Wennberg (2013)	Growth (sales) +
		Wiklund, Baker, and Shepherd (2010)	+	Lee (2014)	Growth (sales, employees)–
		Delmar, McKelvie, and Wennberg (2013)	+	Federico and Capelleras (2015)	Growth (sales) no effect growth (assets) +
		Laitinen (2017)	+	Razaq and Akinlo (2017)	Growth (revenues) no effect
		Dosi, Pugliese, and Santoleri (2017)	No effect	Dosi, Pugliese, and Santoleri (2017)	Profit +
		Fuertes-Callén, Cuellar-Fernández, and Serrano-Cinca (2022)	+	Bărbuță-Mișu, Madaleno, and Vasile (2019)	Profit +
		Cuellar, Fuertes, and Serrano (2021)	+	Tong and Saladrigues Solé (2022)	
Financial slack	Leverage	Laitinen (1992)	–	Huynh and Petrunia (2010)	Growth (sales) +
		Cooper, Gimeno-Gascon, and Woo (1994)	+	Robb and Robinson (2014)	Growth (revenues, employees, assets) + ; profits no effect
		Fotopoulos and Louri (2000)	–	Cole and Sokolyk (2018)	Growth (revenues) +
		Wiklund, Baker, and Shepherd (2010)	–	Andrieu, La Rocca, La Rocca, and Staglianò (2021)	Growth (sales, employees, assets) +
		Huynh and Petrunia (2010)	–	Tong and Saladrigues Solé (2022)	Profit–
		Robb and Robinson (2014)	+		
		Cole and Sokolyk (2018)	+		

(Continued)

**Table 1.** (Continued.)

Determinants		Survival	Effect	Performance	Effect
		Fuertes-Callén, Cuellar-Fernández, and Serrano-Cinca (2022)	–		
		Tong and Saladrígues Solé (2022)	+		
	Liquidity and solvency	Laitinen (1992)	+	Saridakis et al. (2013)	Growth (revenues) no effect
		Holtz-Eakin, Joulfaian, and Rosen (1994)	+	García-Appendini and Montoriol-Garriga (2013)	Profit +
		Huyghebaert et al. (2000)	+	Khidmat and Rehman (2014)	Profit–
		Becchetti and Trovato (2002)	+	Rhaman (2017)	No effect
		Wiklund, Baker, and Shepherd (2010)	+	Bărbuță-Mișu, Madaleno, and Vasile (2019)	Profit +
		Saridakis, Mole, and Hay (2013)	+		
		Fuertes-Callén, Cuellar-Fernández, and Serrano-Cinca (2022)	+		
Organisation strategy	Innovation and new technology	Cefis and Marsili (2005)	+	Zahra and Bogner (2000)	Profit +
		Esteve-Pérez and Mañez-Castillejo (2008)	+	Stam and Wennberg (2009)	Growth (employees) +
		Audretsch, Coad, and Segarra (2014)	+	Segarra and Teruel (2014)	Growth (employees, sales) +
		Boyer and Blazy (2014)	–	McKelvie, Brattström, and Wennberg (2017)	Growth (sales) +
		Hyytinen, Pajarinen, and Rouvinen (2015)	–	Tong and Saladrígues Solé (2022)	Profit +
		Zhang, Zheng, and Ning (2018)	+	Paoloni, Modaffari, Paoloni, and Ricci (2022)	Profit +

		Grashuis (2020)	–		
	Internationalisation	Zahra, Ireland, and Hitt (2000)	+	Zahra, Ireland, and Hitt (2000)	Profit +
		Sapienza et al. (2006)	–	Sapienza et al. (2006)	Growth +
		Coucke and Sleuwaegen (2008)	+	Li, Qian, and Qian (2012)	Profit +
		Lee, Kelley, Lee, and Lee (2012)	+	Yan and Williams (2021)	Growth (revenues)–
		Puig, González-Loureiro, and Ghauri (2014)	+		
		Yan and Williams (2021)	–		
Environmental factors	Macroeconomic conditions	Honjo (2000)	Crisis periods–	Capelleras and Rabetino (2008)	Growth (employees) +
		Box (2008)	Crisis periods–	Abaidoo and Kwenin (2013)	Profit–
		Bhattacharjee et al. (2009)	Crisis periods–	Peric and Vitezić (2016)	Growth (revenues)–
		Geroski, Mata, and Portugal (2010)	Crisis periods–	Sedláček and Sterk (2017)	Growth (employees)–
		Varum and Rocha (2012)	Crisis periods–	Bărbuță-Mișu, Madaleno, and Vasile (2019)	Profit (roa)–
		Simón-Moya, Revuelto-Taboada, and Ribeiro-Soriano (2016)	Crisis periods–	Tong and Saladríguez Solé (2022)	Profit +
		Deloof and Vanacker (2018)	Crisis periods–		
		Chatzoudes, Chatzoglou, and Diamantidis (2022)	Crisis periods–		
		Lladós-Masllorens (2022)	Crisis periods–		
	Industry characteristics and dynamics, technological factors, political and legal factors and social factors	Romanelli (1989) Mata and Portugal (1994) Shane and Foo (1999) Mahmood (2000) Littunen (2000) Ndife (2014)	Resource and competitive conditions + Sector growth rate, extent of entry + Institutional factors +	Molina-Morales (2001) Acquaah and Chi (2007) Saridakis, Lai, Mohammed, and Hansen (2018)	Growth (sales, assets), profit + Profit + Growth (revenues) +

(Continued)

Table 1. (Continued.)

Determinants		Survival	Effect	Performance	Effect
		Jung, Tae Hwang, and Kim (2018) Rannikko et al. (2019)	Scale economies, market growth, tech, size + Local environmental characteristics + Political and economic environment + and socio-cultural envir. No effect Industry innovation + Sector size, growth rate and innovation +	Pervan, Curak, and Pavic Kramaric (2018) Rannikko et al. (2019)	Growth (sales), profit – Growth (sales, employment) –
Human capital	Entrepreneur previous experience, formation and abilities	Cressy (1996b)	+	Cressy (1996b)	Growth (cash flow) +
		Gimeno et al. (1997)	+	Peña (2004)	Growth (employees, sales) and profit +
		Delmar and Shane (2006)	+	Delmar and Shane (2006)	Growth (sales) +
		Hove and Tarisai (2013)	No effect	Capelleras and Rabetino (2008)	Growth (employees) +
		Cassar (2014)	No effect	Robb and Watson (2012)	Size + ; profit +
		Boyer and Blazy (2014)	+	Batjargal, Hitt, Tsui, Arregle, Webb, and Miller (2013)	Profit +
		Freeland and Keister (2016)	+	Zhao, Song, and Storm (2013)	Profit +
		Shu and Simmons (2018)	+	Cassar (2014)	Profit +
		Linder, Lechner, and Pelzel (2020)	+	Neville, Orser, Riding, and Jung (2014)	Growth +
		Dalocchio, Caputo, Tron, and Colantoni (2022)	+	Weinzimmer, Michel, and Robin (2021)	Growth and profit +
		Dalocchio et al. (2022)	Profit +		



Varum & Rocha, 2012) have indicated that macro-economic instability raises the probability of exit during slowdowns and recession periods. Industry, as a contextual condition, has also been considered a key determinant of new firm survival. The specific characteristics of the industry, particularly the underlying technological regime, its location in the value chain, the extent of economies of scale, and capital intensity can explain the variation in survival rates across industries (Audretsch, 1991 and Stearns, Carter, Reynolds, & Williams, 1995). Such evidence seems to corroborate the organisational ecology theory.

The literature has also investigated the role of founding teams. This has usually been measured in terms of abilities, education and experience, each of which can help a new venture overcome birth pangs.

### **Model and hypotheses**

By applying the organisational ecology perspective to our study, we hypothesised that two sets of factors – initial firm characteristics and strategies and environmental conditions – would significantly influence new firms' success. In the case of the former, we examined performance, financial strength and internationalisation. In the case of the latter, we examined the economic environment.

It is important to define the concept of success in the present context. It seemed logical that survival would be the main consideration. However, thereafter, the goal became less clear. Economic theory often assumes firms wish to maximise profits, but this is contingent on growth (Davidsson, Steffens, & Fitzsimmons, 2009). For small firms, growth may require economies of scale, network externalities, outsourcing and so on (Markman & Gartner, 2002). But growth is a risky strategy that requires investment and changes in organisational structures. Research has shown that companies that prioritise growth maximisation in the beginning often perform poorly and are less profitable in subsequent years (Davidsson, Steffens, & Fitzsimmons, 2009).

As numerous researchers have stated (Davidsson, Steffens, & Fitzsimmons, 2009; Raisch, 2008; Zhou, Ho Park, & Ungson, 2013), profitable growth (the most desirable goal) should be considered simultaneously, so we define new firm success as the survival and achievement of profitable growth.

Figure 1 provides a summary of our framework. It comprises two categories of hypotheses: organisational orientation and environmental moderation.

In the firm-specific factors category, the first hypothesis concerned the influence of initial profitability. As has been noted, organisational ecology theory argues that the market will eliminate weak companies through natural selection. Thus, the survival of the fitter principle suggests that firms that are healthy at the beginning (e.g., in financial terms) are more likely to survive (Coad, 2007). According to Penrose (1952), positive profits can be regarded as a criterion for natural selection.

The concept of resilience (Holling, 1973), which is drawn from organisational ecology theory, is another factor in success. Making early profits, having a comfortable liquidity position and exhibiting financial strength to deal with future risks lead to organisational resilience (Cuellar, Fuertes, & Serrano, 2021).

The obtaining of profits is an element in most models of survival and bankruptcy. Profitable firms are less likely to fail, as they are more able to generate positive cash flows and accumulate slack resources to fund competitive actions such as exporting and R&D investment, which in turn provide them with greater growth potential (George, 2005; Geroski, 1995). Delmar, McKelvie, and Wennberg (2013) state that increases in profitability indicate the efficiency of operation of a new firm by achieving a match between cost structures and market acceptance of prices. In light of the above, the following hypothesis was proposed:

Hypothesis 1a: Initial profitability has a positive influence on a new firm's success.

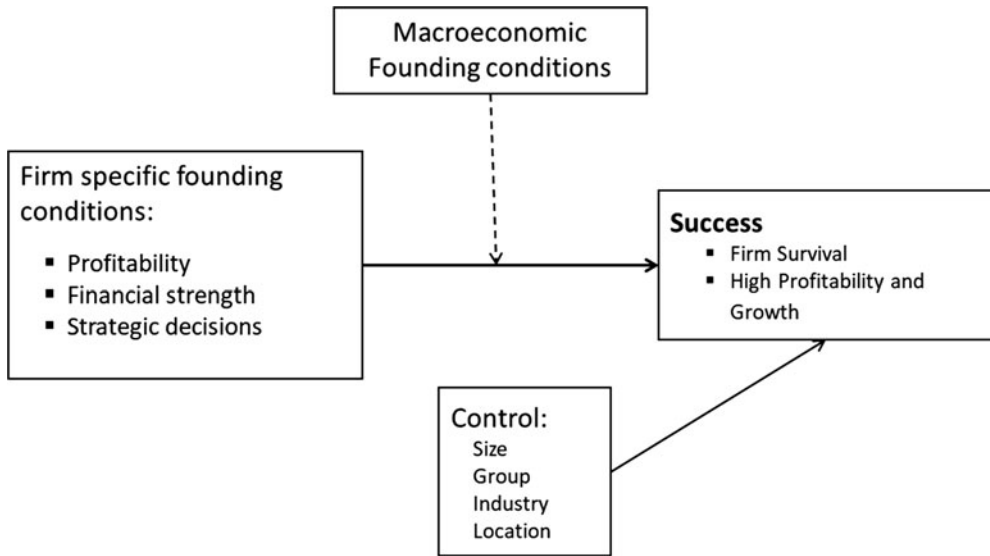


Figure 1. Proposed framework for success of newborn firms.

Profitable companies fail occasionally due to a lack of liquidity. Liquidity difficulties make new firms more vulnerable to external shocks. Saridakis, Mole, and Hay (2013) argued that liquidity constraints in the first year were critical to survival and subsequent resilience. Studies on the survival of start-ups have found that higher liquidity is associated with a lower probability of failure (Huyghebaert, Gaeremynck, Roodhooft, & VandeGucht, 2000; Saridakis, Mole, & Hay, 2013; Wiklund, Baker, & Shepherd, 2010). Liquidity indicators also indicate the ability of a start-up to grow. If a firm has considerable cash reserves, it may expand rapidly (Santisteban & Mauricio, 2017).

Solvency, as liquidity, measures a company’s financial health, but the focus is on long-term stability. Solvency is, therefore, a core measure since it indicates a company’s capacity to manage its operations in the future and represents its capital structure (Robinson, Henry, Pirie, & Broihahn, 2015). The capital structure choices that firms make in their initial year play also an important role in post-entry success (Robb & Robinson, 2014). A higher proportion of capital relative to debt can be interpreted as a defence that can make access to external financing easier in cases of adverse shock, and may even enable a firm to survive during a period of temporarily negative profits. On the other hand, a high percentage of shareholder capital contributions may indicate that a bank does not support the firm’s business plan (Cole & Sokolyk, 2018).

A lack of external financing is usually a reason why entrepreneurs abandon the start-up process. However, as Fotopoulos and Louri (2000) suggested, new firms may not survive if they immediately expose themselves to excessive liabilities. The theory of organisational ecology explains the positive relationship between debt and failure: a negative business cycle combined with an unfavourable environment could mean that a highly leveraged firm is unable to meet its debt service requirements, leading to bankruptcy (Miller, 1988).

Considering the financial strength of new companies measured by their liquidity, and solvency, the following hypothesis was proposed:

Hypothesis 2a: Initial financial strength has a positive influence on a new firm’s success.

Some authors have tested the resilience of *unfit* firms by examining the reasons why some under-performing firms do not exit the market (Dosi, Pugliese, & Santoleri, 2017; Gimeno, Folta,

Cooper, & Woo, 1997). They have argued that organisational survival is not strictly a function of economic performance; other micro founding conditions must be considered, such as initial strategic choices.

Many new firms consider beginning their activities as internationalised companies. International entrepreneurship research has shown that new ventures initiate international activities earlier in their life cycle in pursuit of growth opportunities by taking advantage of their ability to innovate (Sapienza, Autio, George, & Zahra, 2006).

The effect of the early internationalisation of new ventures on survival and performance has attracted the attention of a growing number of researchers (see Fariborzi & Keyhani, 2018 for a literature review), though the findings have been inconclusive. The process theory of internationalisation and the new venture internationalisation framework (McDougall, Shane, & Oviatt, 1994) are two of the most widely employed theories in this area. While the former warns of the potentially negative consequences of early internationalisation for firm survival (due mainly to the new costs associated with the liability of foreignness; Johanson & Vahlne, 1990), the latter focuses on the positive results that can pertain, arguing that indecision may mean lost opportunity. Sapienza et al. (2006) posited that the earlier a firm internationalises, the more deeply imprinted its dynamic capability for exploiting opportunities in foreign markets will be.

Organisational ecology theory provides further justifications. In an environment characterised by increasing competition, many companies find a niche by exporting local products to distant markets or importing products from abroad. Having several logistics providers also increases resilience and the probability of survival (Hazen & Byrd, 2012). Similarly, if the internal market fails, foreign markets can provide sufficient revenue for the company.

Consequently, the following hypothesis was proposed:

Hypothesis 3a: Internationalisation strategy has a positive influence on a new firm's success.

The second category of hypotheses in our proposed framework concerns the role of environmental conditions. Firms, whether new or mature, interact with the environment, which provides both opportunities and challenges (Box, 2008). The concept of organisational imprinting stresses the importance of external environmental forces in shaping firms' initial structures and the persistence of these patterns over time. Thus, organisations founded in the same period tend to display similar features. Audretsch (1991) stated that the determinants of new firms' survival depended on the period in which survival is measured. Similarly, Wagner (1994) highlighted the convenience of analysing several cohorts, since the year of foundation may be important in explaining their success (Esteve-Pérez & Mañez-Castillejo, 2008).

The ecological perspective does not deny the role of the actions of individual firms. Indeed, it emphasises the limits on the influence of firm choices and actions and the principal role of the environment (Baum, 1996). In conditions of uncertainty, implementing changes that improve organisational success and the chance of survival can be difficult (Baum & Amburgrey, 2002).

Mellahi and Wilkinson (2004) stated that there are significant differences in the outcomes of the same internal factors across firms in different business environments and vice versa. Therefore, any effort to explain organisational failure would not be complete without taking into account the interaction between contextual forces and organisational dynamics.

There is extensive literature on economic downturn and firm performance. Authors such as Alvarez and Görg (2012), Bhattacharjee et al. (2009) and Cheong and Hoang (2021) found that macroeconomic instability had a more significant impact on a firm's performance than internal factors. Another stream of studies considered that in periods of decline, macroeconomic factors such as industry and country, and their interaction effect, weaken, firm-specific characteristics being the most important determinants of their survival (Bamiatzi, Bozos, Cavusgil, & Hult,

2016). Therefore, authors stress the need for firms' better management of internal resources as a survival mechanism in times of crisis (Chatzoudes, Chatzoglou, & Diamantidis, 2022; Naidoo, 2010).

Firm characteristics and decisions that are recommended in one economic phase may not be appropriate in another. Thus, the firm size advantage might disappear in a period of economic downturn, as large firms cannot adapt quickly to the changing situation due to their complex structure (Smallbone, Deakins, Battisti, & Kitching, 2012). Bărbuță-Mișu, Madaleno, and Vasile (2019) investigated how the 2008–2009 global crisis influenced the relationship between financial variables (profitability, leverage, liquidity and solvency) and firm performance, finding that, when the effect of the crisis is taken into account, the explanatory power of these internal factors is modified.

The financial crisis resulted in greater obstacles to firms' access to credit, along with a contraction in domestic demand that had a deep impact on firms' performance. There is evidence that a lack of liquidity or high dependence on external financial sources worsen firms' chance of resisting the pressures of an economic recession (Bărbuță-Mișu, Madaleno, & Vasile, 2019; García-Appendini & Montoriol-Garriga, 2013). Debt financing during the crisis made companies more susceptible to refinancing risks and to borrowing at higher costs, which, in turn, could worsen their performance. However, the tightening of access to bank debt caused its use to decrease significantly for start-ups founded in crisis years relative to start-ups founded in pre-crisis years, forcing them to seek alternative sources of funding (Deloof & Vanacker, 2018). This may explain why the debt factor dilutes its explanatory capacity during downturns, other internal factors being the true determinants of company performance (Cressy, 1996a).

The role of strategic business decisions, such as innovation and internationalisation, for firm performance can also differ in a recession. The economic literature underlines the existence of a positive relationship between competitiveness and the degree of internationalisation of a company, as well as higher performance in terms of productivity and profitability. Thus, internationalisation could help new firms manage unfavourable periods, providing them with some flexibility to adapt to unexpected downward shifts in demand by shifting sales from less profitable markets to new customers in other more beneficial markets (Lee & Makhija, 2009). However, it depends on the form of internationalisation adopted, the geographical structure of export activities, and the conditions of the economic cycle abroad. The 2008–2009 global crisis led to drastic changes in environmental conditions, which had a major impact on international demand and consumers' purchasing behaviour. Spanish agri-food firms had to operate outside their traditional European zones, which were also immersed in the crisis, facing much more protected markets with more entry barriers, increasing the risk of this strategy (Serrano, Fernández-Olmos, & Pinilla, 2018).

In view of previous evidence, the environmental context must therefore be considered in the relationship between micro and macro factors and the success of a company, without being able to hypothesize the extent of the possible moderating effect. Consequently, the following hypotheses were proposed:

Hypothesis 1b: The macroeconomic context at foundation moderates the positive influence of initial firm profitability on success.

Hypothesis 2b: The macroeconomic context at foundation moderates the positive influence of initial financial strength on new firm success.

Hypothesis 3b: The macroeconomic context at foundation moderates the positive influence of internationalisation strategy on new firm success.

## Empirical study

### Sample, variables and methodology

The present study analysed a sample of Spanish agrifood manufacturing companies. The agrifood industry is the main manufacturing sector in the European Union (EU), both in terms of employment and value added (Eurostat, 2022). Spain is the fourth largest agrifood power in Europe in terms of turnover, representing 9% of the added value of the industry. It is the largest manufacturing sector, with a turnover of more than €119,000 million (2% of GDP) and an active population of close to 500,000 people (Spanish Institute of Foreign Trade [ICEX], 2021).

In the agrifood industry, internationalisation is becoming a crucial strategy for success. Spain is the fourth largest exporter in the sector in the EU. The increase in internationalisation in the past decades has been due mainly to technological innovations, lower transaction costs resulting from the removal of trade barriers and the uniformity of food safety regulations in the EU (Schiefer & Hartmann, 2008; Serrano, Fernández-Olmos, & Pinilla, 2018).

The Spanish agrifood sector comprises more than 31,000 food and beverage companies, of which 96% are small to medium-sized enterprises (Spanish Federation of Food and Drink Industries, 2020). It is a very dynamic sector. In the last decade, around 5,800 companies have been created. In general, the agrifood industry is characterised by a low cyclicality because demand for food products is inelastic (Lienhardt, 2014), the sector is open to foreign markets, and companies exhibit a high degree of resilience in adverse periods. In the last decade, the survival rates of new companies in the European agrifood manufacturing industry were, on average, 5% higher than those of other sectors (Eurostat, 2021). However, the sector has suffered from external shocks, such as the COVID-19 pandemic and the global financial crisis of 2008, when there was a large increase in bankruptcy rates (Aleksanyan & Huiban, 2016). The survival rates of agrifood start-ups in Spain were in line with those of countries with above-average survival rates of start-ups in the sector in Europe-27 during the crisis period (Eurostat, 2021).

The determinant role of the agrifood sector in the economy, the dynamism of its firms and its specific characteristics make it an interesting subject for study. We selected a sample of companies created over two different periods, the first covering the years 2000–2002 and the second covering the years 2008–2010. These two cohorts, therefore, experienced an economic upswing and a severe downturn resulting from significant external variations.<sup>1</sup>

The data for the present study were obtained from the Spanish database Sabi of Bureau van Dijk (BVD), distributed worldwide by Moody's, which takes accounting information from the national commercial register (Spanish Companies House) as well as non-financial information from other official sources. We selected code numbers 10, 11 and 12 of the Statistical Classification of Economic Activities (NACE), which correspond to food, drink and tobacco production. All the companies were filtered and a maximum of 8 years of annual statements were selected. The final sample comprised 3,722 companies (2,340 firms founded between 2000 and 2002 and 1,382 between 2008 and 2010). This sharp decrease of 60% is a reflection of the impact of the crisis on the creation of new companies.

For the survival analysis, a company was considered to have failed if it had entered statutory bankruptcy proceedings. The Sabi database provides details about companies' administrative status. Table 2 shows the number of new firms and the percentage of bankruptcies each year according to the time of foundation. The crisis period (cohort 2) saw the founding of around 50% fewer companies than in the period 2000–2002. On average, 3.1% of the companies went bankrupt each year in cohort 1 and 4.7% in cohort 2. The cumulative percentage of companies that survived for 8 years after their foundation was 62.13% during the economic crisis and 75% in the period of stability. The date of foundation of the companies correlated with their survival.

<sup>1</sup>The average annual growth rate of the Spanish GDP was 3.93% in the period 2000–2002 and –0.9% in the period 2008–2010.

**Table 2.** Number of newborn firms and percentage of bankruptcies (panel A) and high profitable growth firms (panel B),  $n$ -years after foundation year ( $t$ )

Cohort 1											
Foundation year ( $t$ )	Num. firms	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+6$	$t+7$	$t+8$	Accumulated	
										Failed	Survival
2000	863	1.04%	2.55%	2.67%	4.06%	3.36%	2.78%	3.01%	2.90%	22.37%	77.63%
2001	747	.94%	2.68%	3.21%	2.01%	3.08%	4.95%	4.15%	2.95%	23.97%	76.03%
2002	730	1.10%	2.81%	2.88%	2.47%	1.92%	3.84%	3.15%	5.48%	28.65%	71.35%
Mean		1.03%	2.68%	2.92%	2.84%	2.79%	3.86%	3.44%	3.77%	23.33%	75.00%
Cohort 2											
2008	424	2.12%	4.72%	5.42%	6.37%	4.72%	4.48%	4.72%	3.07%	35.62%	64.38%
2009	464	3.45%	4.74%	4.31%	6.47%	5.17%	3.88%	4.74%	4.74%	37.50%	62.50%
2010	494	3.64%	5.06%	5.67%	6.88%	2.83%	4.45%	3.85%	8.10%	40.48%	59.52%
Mean		3.07%	4.84%	5.13%	6.57%	4.24%	4.27%	4.43%	5.30%	37.87%	62.13%
Cohort 1											
Foundation year ( $t$ )	Num. firms	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+6$	$t+7$	$t+8$		
2000	863	7.27%	5.45%	7.53%	7.07%	10.91%	8.18%	10.08%	8.11%		
2001	747	7.76%	8.70%	8.30%	9.24%	11.64%	9.50%	10.85%	9.10%		
2002	730	7.53%	7.26%	9.73%	9.86%	12.05%	9.04%	7.40%	9.33%		
Mean		7.52%	7.14%	8.52%	8.72%	11.53%	8.91%	9.44%	8.85%		
Cohort 2											
2008	424	3.77%	5.90%	6.60%	6.37%	7.55%	5.42%	6.13%	8.02%		
2009	464	6.03%	6.47%	8.41%	10.13%	10.34%	9.48%	9.48%	10.34%		
2010	494	5.26%	7.89%	9.72%	9.11%	12.15%	11.74%	12.75%	8.50%		
Mean		5.02%	6.75%	8.24%	8.54%	10.01%	8.88%	9.46%	8.96%		

To measure firm success, we focused on firm growth and profitability, defining the status of the high profitable growth of a firm (*HPrGr*). To identify a company in the *HPrGr* category, we divided the sample according to the variables sales growth and profitability. Highly profitable growth companies belong simultaneously to quartiles 3 and 4 in both categories. The rest of the companies were categorised as non-high profitable growth firms (*Non-HPrGr*). We ruled out companies that were in the highest quartile for one of the variables and in the lowest quartile for the other indicator, given that their more radical strategies may have distorted the results by either growing with losses or being profitable without growing. Table 2 (panel b) presents the number of new firms and the percentage of high profitable growth firms each year at the time of foundation. The percentage of *HPrGr* companies is slightly lower in cohort 2 than in cohort 1 until year  $t + 5$ , after which the percentages are equal.

Following Davidsson, Steffens, and Fitzsimmons (2009) and Delmar, McKelvie, and Wennberg (2013), we operationalised financial performance by the most common measure used as a proxy for financial performance: return on assets (ROA). We also use *PROFIT*, a dummy variable that indicates the presence of profits. Beaver, Correia, and McNichols (2012) included the same dummy variable in their bankruptcy prediction model, arguing that the indicator variable permitted different intercepts and different slopes for loss versus non-loss firm years.

Financial strength was operationalised by ratios (Fuertes-Callén, Cuellar-Fernández, & Serrano-Cinca, 2022) that measure the percentage of debt (*DEBT*), the initial capital relative to debt (*E/D*), a sufficiency of profits to pay interest (*EBITDA/D*) and liquidity. Liquidity was measured by the working capital to total assets ratio (*WC/TA*). Negative working capital may indicate the presence of financing constraints, as firms whose current liabilities are higher than their current assets may be unable to pay back creditors in the short term. In other words, it is a symptom of insufficient liquidity, and it can lead to bankruptcy (Ding, Guariglia, & Knight, 2013).

A dummy variable equal to 1 if the company performed import/export activities was used to measure internationalisation (*INTER*). We investigated the influence of the date of founding on survival and success using a dummy variable (*FY*) that indicated cohorts of different economic periods. *FY* is equal to 1 if the firm was founded in the 2008–2010 period and zero otherwise.

The analysis also included several control variables: size, business group affiliation, shareholder and board structure, industry sub-sectors and location. While small companies face severe cost disadvantages, suffering from the liability of size and greater restrictions on access to finance, large companies have positional advantages, such as economies of scale and scope, which provide monetary reserves they can use to cope with periods of difficulty. Entry size might also be interpreted as a signal of self-awareness of entrepreneurial capability (Aldrich & Auster, 1986; Mata & Portugal, 1994).

Second, affiliation with a business group is often considered to be beneficial to a new firm. It can provide financing advantages, improve operating efficiency, promote R&D investment and knowledge spillovers, leverage the group's internal capital market and reputation and share risk amongst group members (Ahmad, Oláh, Popp, & Máté, 2018; Khanna & Yafeh, 2005). Several studies have suggested that business groups are beneficial in firms' success, especially during adverse economic conditions (Bamiatzi, Cavusgil, Jabbour, & Sinkovics, 2014; Santioni, Schiantarelli, & Strahan, 2020). Previous literature also has evidenced the relevance of board structure and ownership structure for the survival and performance of companies (Chancharat, Krishnamurti, & Tian, 2012; Ghahroudi, Hoshino, & Fakhræi, 2019; Parker, Peters, & Turetsky, 2002). In general, a larger board increases the resources and expertise available to the firm, in addition to reducing the ability of CEOs to control it. The ownership structure could reduce agency costs. A more diversified and independent ownership structure will avoid excessive power of control over the executives and interference by larger shareholders of start-up companies, where sometimes there may even be overlapping of functions. Finally, we controlled for effects on subsectors and location. Industry characteristics (e.g., economies of scale, sunk cost,

barriers to entry and concentration) have been shown to impact failure rates and profitability (Mahmood, 2000; Mata & Portugal, 1994; Mata, Portugal, & Guimaraes, 1995; Rannikko, Tornikoski, Isaksson, & Löfsten, 2019). Location affects access to external resources, costs, transportation, human resources and so on. The present study focused on a single but broad local industry consisting of multiple and varied subsectors in different regions. For this reason, we considered it important to control their effect on the survival and success of new firms.

Firm size was measured by total assets (*TA*). *GROUP* was a dummy variable equal to 1 if the company belonged to a business group and zero otherwise. The control variables for industry subsectors (*SECTOR*) were two numerical codes of the NACE classification and the *LOCATION* variable referred to the 17 Spanish autonomous communities. *SIZE\_B* (size of the board) is the number of directors that compose it. *SHLDR* (shareholders) is the number of shareholders. The independence of shareholders (*INDEP\_S*) is measured by the ownership BvD independence indicator available from SABI. The BvD independence indicator classifies companies into five levels, considering the number of shareholders and the percentage of their individual and collective holdings. The 'A' independence indicator denotes independent companies, where no shareholder has more than 25% ownership of the ultimate voting rights. Independence indicator 'B' (medium–low ownership concentration) denotes companies in which there are no shareholders with more than 50% but there is one shareholder with voting rights of between 25.1 and 50%. For a company to be classified with independent indicator 'C' (medium–high ownership concentration), the company must have a registered shareholder with total or calculated ownership of 50.1% or more, while independence indicator 'D' denotes concentrated companies – i.e. when a registered shareholder demonstrates direct ownership of more than 50% with foreign subsidiaries and companies. Finally, independent indicator 'U' is applied when a company does not fall into the previous categories. Table 3 shows the variables used to test the hypotheses and their definitions.

For survival analysis, we used the Cox (1972) proportional hazards model. This enabled us to examine how several factors could influence simultaneously the probability of an event (failure) happening at a particular point. This probability, referred to as the hazard rate, is estimated as follows:

$$h(t/Z) = h_0(t) \exp(\beta^t Z) \quad (1)$$

where  $h(t/Z)$  is the hazard function,  $t$  is the survival time,  $Z$  represents the covariate, and  $\beta = (\beta_1, \beta_2, \dots, \beta_p)$  are the estimated coefficients.  $h_0(t)$  is the baseline hazard function at the time  $t$ . It is the value of the hazard if all covariates are zero.

The quantities  $\exp(\beta_i Z_i)$  are the hazard ratios (*HR*). A hazard ratio above 1 indicates a covariate that is positively associated with the event probability, and hence negatively associated with survival. A *HR* equal to 1 indicates that the covariate has no effect and a *HR* of less than 1 indicates that as the value of the covariate increases, the hazard of the event declines and the probability of survival increases.

We estimated Cox models in which a failure event could occur 2 (in the short term), 5 (medium term) or 8 years (long term) after foundation. Thus, the dependent variable could reach a maximum of 730, 1,825 and 2,920 days in the case of a 2-, 5- and 8-year survival period, respectively. The covariates were the financial ratios and the remainder of the indicators measured at the end of the first year of a firm's life.

We also assessed the extent to which the founding conditions and decisions of newly created companies could be integrated into models that might predict whether they would achieve high profitable growth. Multivariate logistic regressions were carried out. The dependent variable took a value of 1 when the company was classified as a high profitable growth company at 2, 5 or 8 years after foundation.



**Table 3.** Variables employed for the hypotheses' testing and their definition

Variable	Definition
Dependent variables	
<i>SURV</i>	Survival time. A continuous variable that computes the amount of time for which companies have survived, expressed in days
<i>FAILED</i>	A dummy variable equal to 1 if the company went bankrupt
<i>HPrGr</i>	A dummy variable equal to 1 if the firm archived a high profitable growth. HPrGr companies are those that simultaneously belong to quartiles 3 or 4 of distribution of ROA and growth variables
Independent variables	
ROA	Return on assets (profitability ratio): earnings before interest and taxes/total assets
PROFIT	Dummy variable equal to 1 if <i>Earnings before interest and taxes</i> is positive
WC/TA	Working capital ratio (liquidity ratio): (current assets–current liabilities)/total assets
DEBT	Debt ratio: total debt to total assets
E/D	Total equity to total debt ratio
<i>EBITDA/D</i>	Debt service coverage ratio: earnings before interest, taxes, depreciation and amortisation to total outstanding debt payments
INTER	Internationalisation activity: a dummy variable equal to 1 if the firm performs import or export activities
FY	Economic context: a dummy variable equal to 1 if the firm was founded in the 2008–10 period and zero if the firm was founded in the 2000–02 period
Control variables	
TA	Size: total assets
<i>SIZE_B</i>	Number of Board of Director members
<i>SHLDR</i>	Number of shareholders
<i>INDEP_S</i>	BvD ownership independence indicator: A = low ownership concentration, B = medium low ownership concentration C = medium high ownership concentration, D = high ownership concentration, U = none of above categories
<i>GROUP</i>	Dummy variable equal to 1 if the company belongs to a business group
<i>SECTOR</i>	Agrifood industry subsectors: two numerical codes of the NACE classification (10, 11 and 12)
<i>LOCATION</i>	Company location, 17 Spanish autonomous communities

## Results

Tables 4–6 display the results of the exploratory analysis of the independent variables. The data correspond to 1 year after the food companies were founded. They have been winsorised at the 99th percentile to avoid the pernicious influence of atypical values.

Table 4 shows the descriptive statistics for the complete sample of companies and the two cohorts. The results indicate that differences were statistically significant across most of the variables. The companies founded in cohort 2 were more liquid than firms created in cohort 1 and their mean ratio E/D was higher. Cohort 2 firms also had a smaller median size but a higher dispersion in the data for total assets. Finally, the percentage of profitable new firms was higher in cohort 1; no differences were observed in the rates for internationalised companies.

Table 5 provides descriptive evidence on whether surviving and failed firms 2, 5 and 8 years after foundation showed systematic differences in their first year financial ratios and indicators. Those that survived were larger and more profitable and had less external financial support.

**Table 4.** Descriptive statistics for all sample and the two temporal cohorts

	All ( <i>n</i> = 3,722)			Cohort 1 ( <i>n</i> = 2,340)			Cohort 2 ( <i>n</i> = 1,382)			MW test
	Median	Mean	St. dev.	Median	Mean	St. dev.	Median	Mean	St. dev.	
ROA	.002	−.062	.313	.003	−.046	.263	.001	−.089	.382	.493
WC/TA	.002	−.055	.488	−.016	−.068	.458	.027	−.034	.534	14.98***
DEBT	.884	.838	.457	.889	.823	.426	.876	.864	.506	.910
E/D	.123	1.495	8.44	.112	.861	2.092	.141	2.589	13.60	2.106
EBIDTA/D	.029	.017	.649	.034	.045	.498	.019	−.050	.842	6.119**
TA (th euro)	203.22	1,447.4	5,003.5	224.62	1,314.54	4,217.54	181.04	1,676.64	6,122.64	8.685***
SIZE_B	2	2.55	2.219	2	2.635	2.318	2	2.464	2.100	2.272
SHLDR	1	1.830	1.547	1	2.022	1.766	1	1.534	1.057	8.516***
										<i>Chi test</i>
PROFIT		48.49%			50.27%			46.84%		2.95*
INTER		16.70%			17.01%			16.14%		.476
GROUP		25.90%			24.10%			28.80%		9.812***

The variables (defined in Table 3) were measured at the end of the first year of a firm's life. MW test: Mann–Whitney *U* test. Chi test: Pearson's  $\chi^2$  test. \**p* < .10; \*\**p* < .05; \*\*\**p* < .000.

**Table 5.** Descriptive statistics for failed and non-failed firms

	Failed <i>t</i> + 2 ( <i>n</i> = 233)			Failed <i>t</i> + 3- <i>t</i> + 5 ( <i>n</i> = 436)			Failed <i>t</i> + 6- <i>t</i> + 8 ( <i>n</i> = 434)			Non failed ( <i>n</i> = 2619)			MW test		
	Median	Mean	St. dev.	Median	Mean	St. dev.	Median	Mean	St. dev.	Median	Mean	St. dev.	<i>t</i> + 2	<i>t</i> + 3, <i>t</i> + 5	<i>t</i> + 6, <i>t</i> + 8
ROA	-.046	-.217	.454	-.011	-.143	.424	-.001	-.086	.307	.006	-.031	.266	18.96***	27.34***	25.58***
WC/TA	-.045	-.128	.663	-.016	-.126	.640	-.017	-.081	.483	.005	-.032	.434	.64	1.04	2.24
DEBT	.962	.993	.651	.959	.949	.594	.928	.881	.428	.863	.797	.403	3.41**	19.34***	29.06***
E/D	.035	2.459	14.179	.038	2.093	12.18	.076	1.153	7.446	.153	1.359	6.999	4.47**	24.29***	36.18***
EBITDA/D	-.031	-.089	.734	.004	-.074	.790	.016	-.054	.597	.039	.053	.617	16.98***	27.18***	26.69***
TA (th euro)	103.92	994.08	3,611.64	134.01	726.96	3,008.9	166.24	1,701.7	6,074.1	247.97	1,579.5	5,201.5	18.64***	40.36***	48.68***
SIZE_B	2	2.298	2.052	2	2.609	2.443	2	2.582	2.578	2	2.586	2.151	3.91*	.53	.19
SHLDR	1	1.422	.843	1	1.637	1.066	1	1.912	1.683	1	1.889	1.631	7.52***	6.47**	3.462*
													<i>Chi test</i>		
PROFIT		34.2%			32.6%			44.7%			52.4%		14.75***	26.26***	29.64***
INTER		7.3%			6.2%			8.5%			20.6%		15.76***	59.94***	98.39***
GROUP		18.5%			13.8%			15%			30.4%		7.13***	46.68***	92.56***

The variables (defined in Table 3) were measured at the end of the first year of a firm's life. MW test: Mann-Whitney *U* test. Chi test: Pearson's  $\chi^2$  test. \**p* < .10; \*\**p* < .05; \*\*\**p* < .000.

Internationalised companies had a greater probability of survival than those that neither exported nor imported. The survival rate for companies belonging to a business group was also higher.

Table 6 displays the differences between *HPrGr* companies and *Non-HPrGr* companies at 2, 5 and 8 years after foundation. *HPrGr* firms were more profitable and more internationalised and belonged in greater proportions to a business group than *Non-HPrGr* companies. There were no significant differences in liquidity ratio between the two categories. In the short term, companies that achieved high profitable growth in 2 years had more debt than *Non-HPrGr* companies, but there were no differences of note between the 5- and 8-year analyses.

Table 7 shows the results of the Cox models estimations (i.e., the estimated coefficients, hazard rates and significance). A hazard ratio lower than 1 indicates that as the variable increases, the probability of survival increases. Columns 1, 3 and 5 show the results for the estimation of multivariate models without interaction terms.

The regression coefficients estimated for *ROA*, *SIZE*, *PROFIT* and *INTER* were significant in the 2-year survival model (column 1). The more profitable and larger the companies were in the beginning, the greater the probability of survival. The risk of failure for profitable food firms (*PROFIT*) was 34.8% lower than for unprofitable firms, keeping the rest of the variables constant. Internationalised companies were 68.4% less liable to go bankrupt (100–hazard ratio × 100) than domestic companies; this result was highly significant ( $p < .000$ ).

When extending the survival analysis to 5–8 years (columns 3 and 5), the results show that, in addition to the above variables, *DEBT* and belonging to a business group (*GROUP*) were also statistically significant. The relationship between *DEBT* and default was positive, indicating that the greater the external financing, the lower the probability of survival. An increase of 1% of the debt to assets ratio increased the probability of exit in 5 or 8 years by 21.87 and 21.2%, respectively.

To establish whether the main effects of independent variables on survival were contingent upon the economic context in the foundation year (*FY*), we included interaction terms in the models. If the interaction terms were statistically significant, differences in estimated coefficients across both cohorts were significant. Hence, the environment moderated the relationship between independent variables and survival. Columns 2, 4 and 6 show the results.

In the 2-year model, the interaction between profits and year of foundation is significant at the 10% level (estimated coefficient = .518,  $p < .10$ ), and the interaction between internationalisation strategy and year of foundation was significant at the 5% level (estimated coefficient = 1.373,  $p < .05$ ). These findings reveal that economic context at firm foundation moderated significantly the relationship between initial profits and short-term survival and the relationship between internationalisation and survival.

The estimated coefficient for profits for firms created in the 2000–2002 period was  $-.695$  (hazard rate = .499) and the estimated coefficient for profits for firms created during the crisis was calculated as  $-.695 + .518 = -.177$  (hazard rate = .838). Unfavourable economic context lowered the effect of achieving profits on survival. To evaluate the magnitude of the moderation effect, we compared the estimated coefficients of *PROFIT* × *FY* and *PROFIT* and tested the statistical significance of *PROFIT* in the crisis period by drawing on standard errors of their estimated coefficients, as calculated from the variance–covariance matrix of regression coefficients. The *t*-test was calculated as following:

$$t = \widehat{PROFIT} + \widehat{PROFIT} \times FY / \sqrt{s_{PROFIT}^2 + s_{PROFIT \times FY}^2 + 2s_{PROFIT, PROFIT \times FY}}$$

where  $s_{PROFIT}^2$  is the variance of estimated coefficient for *PROFIT*;  $s_{PROFIT \times FY}^2$  is the variance of estimated coefficient for *PROFIT* × *FY*; and  $s_{PROFIT, PROFIT \times FY}$  is the covariance between *PROFIT* and *PROFIT* × *FY*. The value of the *t*-test was  $-1.030$ ,  $p > .10$ , so making a profit 1 year after birth was not a firm-specific factor relevant to survival in firms established during the economic crisis.

**Table 6.** Descriptive statistics for HPrGr and non-HPrGr firms

2 years	HPrGr (n = 259); ROA = .116; gr = 2.535			Non-HPrGr (n = 628); ROA = -.078; gr = .095			MW test		
	Median	Mean	St. dev.	Median	Mean	St. dev.			
ROA	.031	.012	.205	.013	-.031	.207	14.19***		
WC/TA	.002	-.055	.367	-.153	-.072	.365	.518		
DEBT	.899	.866	.297	.863	.841	.346	1.635		
E/D	.112	.427	1.160	.124	.841	3.633	1.683		
EBITDA/D	.073	.145	.370	.043	.041	.459	6.74***		
TA (th euro)	319.49	1,594.6	5,161.08	319.4	2,085.4	6,388.7	2.58*		
SIZE_B	2	2.789	2.342	2	2.534	2.121	.068		
SHLDR	1	1.920	2.536	1	1.855	1.536	2.16		
HPrGr (n = 351); ROA = .117; gr = .663      Non-HPrGr (n = 770); ROA = -.029; gr = -.019									
5 years	Median	Mean	St. dev.	Median	Mean	St. dev.	MW test		
ROA	.018	.024	.185	.013	-.019	.239	12.34***		
WC/TA	.024	.006	.357	-.016	-.052	.393	4.99**		
DEBT	.817	.772	.320	.878	.812	.372	13.55***		
E/D	.222	1.270	7.282	.139	1.720	10.888	13.45***		
EBITDA/D	.063	.169	.583	.029	-.013	.702	10.97***		
TA (th euro)	242.087	1,203.9	4,061.02	309.48	2,292.1	6,454.71	2.17		
SIZE_B	2	2.782	2.411	2	2.573	2.211	.004		
SHLDR	1	1.912	1.720	1	1.867	1.512	.04		
HPrGr (n = 352); ROA = .124; gr = .251      Non-HPrGr (n = 798); ROA = -.026; gr = -.098									
8 years	Median	Mean	St. dev.	Median	Mean	St. dev.	MW test		
ROA	.024	-.002	.214	.014	-.008	.217	13.37***		
WC/TA	.016	-.021	.385	.003	-.024	.394	1.061		
DEBT	.858	.814	.337	.848	.768	.379	6.31**		
E/D	.161	1.141	7.485	.178	1.902	10.194	6.79***		
EBITDA/D	.082	.125	.511	.036	.009	.694	18.09***		
TA (th euro)	274.33	1,277.48	3,961.91	301.42	2,131.36	6,362.64	5.37**		
SIZE_B	2	2.541	1.984	2	2.610	2.325	.06		
SHLDR	1	1.845	1.466	1	1.925	1.424	.450		
2 years			5 years			8 years			
	HPrGr	Non HPrGr	Chi test	HPrGr	Non HPrGr	Chi test	HPrGr	Non HPrGr	Chi test
PROFIT	63.53%	47.47%	6.06**	58.43%	50.76%	7.60***	62.76%	48.91%	14.32***
INTER	34.75%	15.33%	28.95***	30.77%	17.93%	56.89***	33.05%	16.46%	61.72***
GROUP	39.77%	24.83%	7.60***	36.75%	25.06%	32.25***	41.88%	23.65%	55.06***

The variables (defined in Table 3) were measured at the end of the first year of a firm's life. MW test: Mann-Whitney U test. Chi test: Pearson's  $\chi^2$  test. \* $p < .10$ ; \*\* $p < .05$ ; \*\*\* $p < .000$ .

**Table 7.** Estimated coefficients and hazard ratios for the Cox proportional hazard model

Predictors	2 years				5 years				8 years			
	Coef	Hazard ratio	Coef	Hazard ratio	Coef	Hazard ratio	Coef	Hazard ratio	Coef	Hazard ratio	Coef	Hazard ratio
ROA	-.771*** (.178)	.462 (.082)	-.664*** (.175)	.514 (.090)	-.651*** (.133)	.521 (.069)	-.657*** (.148)	.518 (.077)	-.559*** (.085)	.571 (.049)	-.560*** (.128)	.571 (.073)
PROFIT	-.426** (.191)	.652 (.123)	-.695** (.283)	.499 (.142)	-.337** (.129)	.713 (.092)	-.440*** (.121)	.643 (.078)	-.274*** (.053)	.760 (.040)	-.334*** (.048)	.751 (.034)
WC/TA	.074 (.127)	1.077 (.135)	.079 (.129)	1.083 (.139)	-.038 (.054)	.963 (.053)	-.041 (.057)	.959 (.054)	-.070 (.076)	.932 (.070)	-.071 (.076)	.931 (.071)
DEBT	.237 (.163)	1.267 (.206)	.235 (.159)	1.265 (.201)	.247** (.108)	1.280 (.139)	.152** (.162)	1.164 (.188)	.239*** (.078)	1.270 (.099)	.305*** (.015)	1.357 (.206)
E/D	.015 (.006)	1.016 (.005)	.016 (.006)	1.015 (.006)	.012 (.003)	1.012 (.003)	.012 (.003)	1.012 (.003)	.008 (.004)	1.008 (.004)	.008 (.004)	1.008 (.004)
EBIDTA/D	.201 (.108)	1.223 (.133)	.196 (.112)	1.217 (.136)	.096 (.036)	1.101 (.040)	.092 (.035)	1.097 (.039)	.007 (.053)	1.007 (.054)	.014 (.051)	1.013 (.051)
INTER	-1.151*** (.401)	.316 (.126)	-1.893*** (.567)	.150 (.085)	-1.121*** (.251)	.326 (.082)	-1.796*** (.314)	.166 (.052)	-1.025*** (.165)	.358 (.059)	-1.631*** (.216)	.196 (.042)
SIZE	-.095* (.057)	.909 (.052)	-.091 (.086)	.912 (.079)	-.081* (.047)	.922 (.044)	-.081** (.041)	.922 (.037)	-.043 (.037)	.958 (.036)	-.059 (.050)	.941 (.047)
GROUP	-.400 (.310)	.670 (.208)	-.406 (.314)	.665 (.209)	-.721*** (.182)	.490 (.080)	-.715*** (.182)	.489 (.089)	-.808*** (.104)	.446 (.046)	-.814*** (.102)	.443 (.046)
SIZE_B	.011 (.027)	1.011 (.027)	.012 (.029)	1.013 (.030)	.038** (.018)	1.039 (.018)	.040 (.018)	1.041 (.019)	.026 (.022)	1.026 (.023)	.029 (.022)	1.029 (.023)
SHLDR	-.259 (.091)	.771 (.070)	-.261 (.091)	.770 (.070)	-.165** (.072)	.847 (.061)	-.164** (.073)	.848 (.062)	-.098*** (.019)	.906 (.018)	-.098 (.020)	.906 (.018)
FY	.345** (.211)	1.412 (.238)	.201** (.253)	1.527 (.206)	.531** (.087)	1.702 (.148)	.371*** (.126)	1.449 (.183)	.493*** (.063)	1.638 (.104)	.363*** (.098)	1.437 (.144)
ROA × FY			-.231 (.190)	.797 (.151)			.010 (.221)	1.010 (.223)			-.009 (.268)	.991 (.266)
PROFIT × FY			.518* (.336)	1.679 (.564)			.213 (.142)	1.238 (.176)			.126 (.156)	1.135 (.172)
DEBT × FY							.182 (.207)	1.199 (.247)			-.132 (.244)	.876 (.214)
INTER × FY			1.373** (.669)	3.942 (2.644)			1.146** (.455)	3.148 (1.433)			1.102*** (.311)	3.011 (.938)
SIZE × FY			.002 (.125)	1.001 (.125)			.003 (.047)	1.001 (.048)			.035 (.060)	1.038 (.063)
INDEP_S	Yes		Yes		Yes		Yes		Yes		Yes	
Sub-sector	Yes		Yes		Yes		Yes		Yes		Yes	
Location	Yes		Yes		Yes		Yes		Yes		Yes	
Log likelihood	-1,172.25		-1,169.27		-3,719		-3,714.15		-5,878.03		-5,869.47	
Num obs	2,654		2,654		2,654		2,654		2,654		2,654	
Num failures	156		156		497		497		788		788	
Wald chi <sup>2</sup> (p-value)	.000		.000		.000		.000		.000		.000	

Predictors were measured at the end of the first year of a firm's life. \* $p < .10$ ; \*\* $p < .05$ ; \*\*\* $p < .000$ .

Our findings also revealed that *FY* moderated the impact of internationalisation strategy on post-entry firm survival. The estimated coefficient for internationalised new firms in the crisis period was  $-1.893 + 1.373 = -.520$  (hazard rate = .595), which was lower than the estimated coefficient for internationalised new firms in the expansive context. We then evaluated the magnitude of the moderation effect. The *t* value for *INTER* + *INTER* × *FY* regression coefficients was  $-1.11$ ,  $p > .10$ , so the unfavourable economic context decreased the effect of internationalisation strategy on new firms' survival; being an import and/or export company was not a relevant strategic factor for survival in the short term.

In the 5- and 8-year models, the estimated coefficient for *INTER* × *FY* was positive and significant and its absolute value was smaller than the coefficient of *INTER*. This result shows that the negative economic context reduced the differences in the probability of survival between internationalised and local new firms. The *t* value for the sum of estimated coefficients *INTER* + *INTER* × *FY* was  $-2.03$  and  $-2.54$   $p < .010$  in the model at 5 and 8 years, respectively. These results suggest that internationalisation was a relevant factor for survival in both economic environments, but its impact was less in companies founded in the crisis. In the 5-year model, the probability of bankruptcy of internationalised firms in cohort 1 was 83.4% ( $100 - \text{hazard rate} \times 100$ ) lower than the probability of domestic firms. In cohort 2, this probability fell to 47.8%. The results were similar in the 8-year survival model. The probability of bankruptcy of internationalised firms created in cohort 1 was 80.4% ( $100 - \text{hazard rate} \times 100$ ) lower than of domestic firms. In cohort 2, this probability decreased to 41.1%.<sup>2</sup>

Table 8 displays the results of our multivariate logistic regressions. The dependent variable took a value of 1 when the company was classified as a high profitable growth (HPrGr) company and zero otherwise. As in the survival analysis, the first columns of Table 8 show the results for the 2-year term, the following columns for the 5-year term and the last two columns for the 8-year term.

For the 2-year term, the estimated coefficients *ROA*, *DEBT*, *INTER* and *GROUP* were positive and statistically significant. A company that was immediately profitable, internationalised and belonged to a business group was more likely to become a HPrGr company in 2 years. Having more external financing was also found to be important. The estimated coefficient for *SIZE* was negative ( $-.142$ ,  $p < .05$ ), indicating that small size facilitated profitable growth. The next column presents the results for the model that includes the multiplicative terms with *FY*. The coefficient of *FY* is negative, showing that the probability of achieving high profitable growth status was lower during the economic crisis.

The *ROA* × *FY* and *DEBT* × *FY* terms were positive and statistically significant in terms of their moderating effect. These results indicate that for the companies created during the crisis, profitability and external debt increased the probability of a company achieving high profitable growth.

The next two columns display the estimation results for the 5-year time horizon. In these models, in addition to the independent variables already defined, the first and second lags of the dependent variable (*HPrGr-1* and *HPrGr-2*) were included to test the persistence over time of high profitability and growth. Both *HPrGr* lags were positive and statistically significant ( $1.804$  and  $.599$ ,  $p < .001$ ), so persistence was verified. *ROA*, *INTER*, *SIZE* and *DEBT* were also statistically significant. *ROA* and *INTER* presented the positive expected sign. The *SIZE* estimated coefficient was negative. With respect to financial strength, the debt ratio estimated coefficient, in contrast to the above, was negative ( $-.516$ ,  $p < .05$ ), suggesting that, for the 5-year period, the more solvent a company was in its first year of life the more likely it was to become a HPrGr company. More external financing, which in the first years of a company's life helps it to grow

<sup>2</sup>Following the recommendation of an anonymous reviewer, the Altman Z-score was considered in the Cox proportional hazards models. To avoid multicollinearity problems, *ROA*, *PROFIT*, *WC/TA* and *E/D* were removed in these models. Our findings, not tabulated for brevity, evidenced a main effect of Z-score on survival weaker than the effect of removed variables. The estimated coefficients for the other covariates (*INTER*, *SIZE*, etc.) were in line with those reported in Table 7.

**Table 8.** Results of the logit regression

HPrGr	2 years		5 years		8 years	
<i>HPrGr<sub>-1</sub></i>	–	–	1.804*** (.308)	1.986*** (.490)	1.289*** (.265)	1.118*** (.217)
<i>HPrGr<sub>-2</sub></i>	–	–	.599*** (.269)	1.017*** (.466)	1.161*** (.259)	1.218*** (.446)
<i>ROA</i>	2.258*** (.372)	1.192** (.548)	.940*** (.384)	.830*** (.547)	.213 (.798)	.123 (.674)
<i>PROFIT</i>	–.099 (.324)	–.132 (.341)	–.409 (.295)	–.468 (.293)	–.090 (.205)	–.122 (.183)
<i>WC/TA</i>	.014 (.189)	.017 (.201)	.165 (.436)	.177 (.393)	–.207 (.294)	–.183 (.248)
<i>DEBT</i>	.933*** (.203)	.574** (.306)	–.516** (.262)	–1.462*** (.299)	.334 (.540)	.391 (.546)
<i>E/D</i>	–.176 (.168)	–.074 (.102)	–.050 (.025)	–.013 (.019)	–.085 (.069)	–.079 (.105)
<i>EBIDTA/D</i>	–.000 (.000)	–.000 (.000)	.041 (.008)	.058 (.004)	.000 (.000)	.000 (.000)
<i>INTER</i>	1.101*** (.213)	.799*** (.219)	.807*** (.275)	1.051*** (.390)	.475*** (.250)	.782*** (.195)
<i>SIZE</i>	–.142** (.083)	–.193** (.087)	–.305*** (.087)	–.418*** (.117)	–.145** (.057)	–.119** (.052)
<i>GROUP</i>	.570*** (.199)	.541*** (.189)	.059 (.170)	.008 (.192)	.190* (.148)	.204 (.151)
<i>SIZE<sub>B</sub></i>	–.006 (.041)	–.002 (.044)	.022 (.060)	.029 (.055)	.021 (.063)	.019 (.070)
<i>SHLDR</i>	.008 (.079)	.006 (.067)	.040 (.090)	.052 (.081)	–.193*** (.064)	–.166** (.069)
<i>FY</i>	–.490* (.266)	–1.445** (.716)	–.203* (.189)	–2.007*** (.488)	–.256 (.132)	1.104 (.881)
<i>HPrGr<sub>-1</sub> × FY</i>		–		–.156 (.788)		.572 (.424)
<i>HPrGr<sub>-2</sub> × FY</i>		–		–.834 (.607)		–.297 (.794)
<i>ROA × FY</i>		3.372*** (.868)		.755 (1.095)		.070 (1.339)
<i>DEBT × FY</i>		.836** (.442)		1.815*** (.682)		–.067 (.913)
<i>INTER × FY</i>		.731 (.606)		–.807 (.597)		–.943** (.496)
<i>SIZE × FY</i>		.169 (.168)		.265*** (.099)		–.061 (.081)
<i>Intercept</i>	–.881*** (.272)	–.162 (.425)	–.430 (.506)	.171 (.496)	–2.381*** (.501)	–2.512*** (.433)



<i>Sub-sector</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Location</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Time</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>INDEP_S</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Pseudo R<sup>2</sup></i>	.104	.121	.196	.238	.200	.207
<i>Num obs</i>	771	771	621	621	568	568
<i>Log pseudolikelihood</i>	-419.60	-411.49	-312.38	-300.00	-273.68	-271.35

Dependent variable HPrGr, equal 1 if firms is a HPrGr firm (3 or 4 quartile of both ROA and growth rates simultaneously) and 0 otherwise. Firms that were in the highest quartile for one of the variables and in the lowest quartile for the other indicator were eliminated. Predictors were measured at the end of the first year of a firm's life. \* $p < .10$ ; \*\* $p < .05$ ; \*\*\* $p < .000$ .

and be profitable, seemed to be a limitation for sustaining high profitability and growth in the medium term.

When the models included interaction terms, the estimated coefficient for *FY* was negative and significant ( $-2.007, p < .001$ ). The relationship between *SIZE* and the probability of being a *HPrGr* firm for companies created in the crisis was negative, as it was for companies founded in the expansionary period, but the effect of this variable was smaller (estimated coefficient =  $-.418 + .265 = -.153, t = -1.80, p < .05$ ). The effect of external financing (*DEBT*) to become a *HPrGr* firm was different for firms created in the two periods. In the non-crisis period ( $FY = 0$ ), *DEBT* significantly reduced the probability of becoming a highly profitable growth firm (estimated coefficient =  $-1.462, p < .001$ ); however, in the crisis period ( $FY = 1$ ), the joint estimates of  $DEBT + FY \times DEBT$  ( $-1.462 + 1.815 = .356; t = .617, p > .10$ ) revealed that when entry took place during a recession, the effect of *DEBT* changed completely and there was no longer an overall negative effect. During the financial crisis, the credit crunch made it difficult for companies, especially start-ups, to access financing. Banks opted to finance companies with a healthier economic and financial position and better prospects. In this context, the *DEBT* variable could be a proxy for the potential of companies during the crisis period, a latent variable not directly observable which would explain why higher indebtedness does not have a negative effect on the profitable growth of companies.

Finally, for the 8-year term, three results are remarkable. First, the variables performance and financial strength in the first year were no longer relevant factors in *HPrGr* status; that is, being fitter no longer mattered. However, it was more important to have reached *HPrGr* status in previous years, because this led to higher profitability and growth in the later years; in other words, current performance was more relevant than during the early months of foundation. Second, *FY* was not statistically significant in long-term high profitable growth. Third, international strategy effect was moderated by *FY*. The estimated coefficient of *INTER* was positive and statistically significant in the model without interactions ( $.475, p < .001$ ). When incorporating the multiplicative term, the estimated coefficient of *INTER* for firms established during the crisis became negative and statistically insignificant ( $.782 - .943 = -.164; t = -.30; p > .10$ ). In sum, internationalisation helped firms founded in the expansive economic cycle to reach *HPrGr*, but not those founded during the crisis.

When interpreting the results of the long-term models, the possibility of survival bias had to be considered. We selected all the population of Spanish agrifood companies founded in the periods 2000–2002 and 2008–2010 to avoid potential selection bias. However, in the long-term estimated *HPrGr* models, survival bias may have been present because survival was a necessary (but not sufficient) condition to achieve high profitability and growth. Table 7 shows that achieving profits and *ROA* increased the probability of survival and *DEBT* reduced it. However, in the 8-year model (Table 8), the estimated coefficients were not statistically significant. We conclude that higher profitability and lower leverage in the first year enabled some firms to survive but were not sufficient to reach high profitable growth amongst the surviving companies represented in the present analysis.

In sum, Hypotheses 1a, 2a and 3a were confirmed; early profitability and international orientation explained particular firms' survival, the effects of which persisted for up to 8 years. Indebtedness as a variable of financial strength was statistically significant in the 5- and 8-year survival models. Meanwhile, international activity increased the probability of high growth and profitability in the short and long term. The hypotheses relating to profitability and financial strength were confirmed for the 2- and 5-year models. Finally, the results support the moderation hypothesis, although the moderating effect of the environment depended both on the moderated variables and on the particular measure of success that was being analysed.

## Discussion, implications and conclusions

### Discussion

There appears to be a consensus that the success of a new business is conditioned by contextual (e.g., economic) factors that vary over time. The particular stage of the economic cycle in which a

firm is established plays an important role in performance. The food industry has traditionally exhibited low sensitivity to external environments, mainly because of the inelastic character of its markets and its importance beyond economies (Lienhardt, 2014). Despite this, our findings confirmed the results of previous studies of other countries, such as the bankruptcy risk faced by agrifood companies during the 2008 economic crisis (Aleksanyan & Huiban, 2016). The mean for exit rates in the years of crisis was 14.5% higher than the mean in the expansive period. We also found evidence that the macroeconomic context and companies' decisions were determinants of survival and profitable growth.

Decisions and conditions had long-lasting effects on the post-entry performance of new firms. In the former, early internationalisation was the most significant factor in long-term survival. Crises positively impacted this relationship, albeit decreasing the probability that firms during such times would survive. Credit constraints and a decrease in demand (the result of poor international trading performance) meant that domestic-orientated firms tended to be less resilient. Internationalisation may have been an effective strategy for risk diversification.

Early profitability reduced the risk of failure at 2, 5 and 8 years. Initial financial strength was less relevant; only indebtedness had a significant impact. Firms that relied more on debt than equity financing were more likely to fail within the medium and long term. The results show that the effects of these factors on survival were important in different economic contexts. This is consistent with the idea that properly managed internal resources and the current environment determined survival.

According to our results, if a new company wishes to achieve high profitable growth in the short term, it should commit to early internationalisation, external financing and excellent performance, and resist the temptation to expand. Financial resources and profitability were more relevant in the adverse economic context, and the banks seemed focused on approving business projects that were promising in the short term.

The effects of founding conditions vanished over time and according to particular contexts; for instance, current performance mattered more than initial values. Initial leverage, while having a positive benefit for the 2 years after foundation, had a limiting influence in sustaining high profitability and growth at 5 years. Internationalisation decisions or small size only helped companies to grow in an expansive economic cycle (when, in general, the environment encouraged investment and growth).

The present study's short-term (within 2 years of a firm's founding), medium-term (up to 5 years) and long-term (up to 8 years) analysis ensured its robustness. In line with the results showed by Geroski, Mata, and Portugal (2010), we have provided evidence that the effects of initial conditions and decisions on survival persisted up to 8 years after foundation. By contrast, while initial financial performance was important for predicting short- and medium-term high profitable growth, its effect gradually disappeared over time. In sum, the persistence of the effects under study varied.

### **Theoretical and practical implications**

The present study expands on existing research on organisational ecology. The findings show that organisational ecology theory can be applied to explain the dynamics of new firms, supporting the survival of the fitter and *growth of the fitter* principles. Making profits and exhibiting financial strength in the early stages lead to success in favourable economic contexts and organisational resilience in adverse conditions.

Stinchcombe's (1965) imprinting concept showed that, at the time of founding, entities develop characteristics that reflect the environment and persist, even in the face of any subsequent changes to said environment. The present study indicates that firm success is not only the product of the external context; internal factors play a key role in how firms adapt to the external environment and influence survival and profitable growth over the short, medium and long term. This accords with findings in organisational ecology (Bertoni, Colombo, & Quas, 2019).

The results of the study have practical implications for new entrepreneurs in the agrifood sector, external investors and policymakers. Attention should be focused on how initial decisions and profit-making amongst newly created firms contribute to their success. Examining accounting information for the first few years has been questioned (Miloud, Aspelund, & Cabrol, 2012) in favour of the use of other types of data. We found it worthwhile for analysts to examine the accounting statements provided by companies in their early years.

Concentrating on companies in a single sector also allowed us to draw conclusions that might help policymakers. For instance, public funding programmes should target internationalising projects with the highest survival rates. Insights into how adverse environments impact firm dynamics could be used to make decisions that improve economic conditions for new firms.

### Conclusions

Using data from newly created companies in the Spanish agrifood manufacturing industry, the present study extended existing research on the influence of founding conditions on firms' survival and profitable growth, focusing on the interaction between organisational and environmental factors. The results show the effects of initial performance, financial strength and strategic decisions 2, 5 and 8 years following establishment and the moderating effects of existing environmental conditions. Initial founding conditions had long-lasting effects on survival and post-entry performance. Finally, adverse environmental conditions were an important determinant of success, making surviving firms more competitive and resilient.

The present study indicates the need for multidimensional research on survival and profitable growth constructs. Future studies might focus on different national contexts, especially emerging countries, and evaluate the extent to which our findings can be generalised by controlling for cultural, political and institutional factors and assessing other periods characterised by economic crisis, such as the recent pandemic. Exploring different configurations of environmental conditions and inherent factors in the current global economic system would allow for the identification of taxonomies of success and the design of roadmaps to achieve this. Finally, future researchers might evaluate sustainable strategies in the innovation, production, commercialisation and distribution that could give agrifood firms a competitive edge.

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