
The Route to High Growth: Patterns of Financial and Operational Decisions for New Firms in France

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Abstract

Using a longitudinal dataset on a set of firms established, continuing, and closing over the period of 2002–2007 in France, we explore how a young firm’s financial policy and product market strategy may affect its growth path, as measured by employment growth. Financial decisions affect operational decisions. The aggressiveness of the firm is a means to obtain additional liquidities through higher sales levels, which then alleviates financial constraints allowing for additional operational spending. The “risk shifting” due to limited liability may also lead an entrepreneur to behave in a more aggressive manner and to promote a growth strategy. Our findings show that a small subset of new firms in France, exhibiting particular operational and financial patterns, has been at the origin of roughly 50 % of jobs created by the cohort within a 6 year period. We also find that certain entrepreneurial behaviors on the part of the founder/s are favorable for survivor firms to belong to the class of high-growth firms existing at the end of the observation.

Keywords

New Firm • Growth • Debt • Strategy • Entrepreneurship

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1 Introduction

Young, entrepreneurial firms have been one of the engines of economic growth in France for over a decade, serving as an integral part of the national transition process from an industrial-based to an entrepreneurial-based economy (Bonnet et al. 2010). They generate a disproportionate amount of new technologies and patents and a large proportion of new employment (Henrekson and Johansson 2010; Falkenhall and Junkka 2009). In the case of France, high growth new firms contribute to the reduction of unemployment in Île-de-France, the region including Paris that is also the most important technological region of France representing one third of the national GDP (Abdesselam et al. 2014; Aubry et al. 2015).

The growth of a young firm, as well as its failure and closing, can be tied to both financial factors (access to external sources of financing, cost of capital, bank loan repayment schedules. . .) and operational factors (opportunities perceived, willingness to grow, product market competition, marketing approach, hiring policies, the cost of production. . .). The actual market and financial policies implemented by the entrepreneur matter for the growth path, including the possibility of moving to a high growth position. We investigate these issues in this research using a national longitudinal census survey dataset on new firms in France, 2002–2007 (SINE Survey: *Système d'informations sur les nouvelles entreprises*).

Research has shown that success in running small businesses, including survival of the new firm, may be influenced by financing liquidity constraints (Evans and Jovanovic 1989) even if greater human capital diminishes credit constraints (Bates 1990; Holtz-Eakin et al. 1994; Cressy 1996). The hypothesis of low credit rationing for example (Freimer and Gordon 1965), recommends that in cases where the firm is denied the full credit it requests, higher costs of credit and sub-optimal operating decisions may result. Firms' difficulties in accessing external financing may also result in a deterioration of the growth trajectory of the firm (Whited 2006).

Financial decisions affect operational decisions. This is especially true when the financial structure is used as a strategic variable in product market competition (Franck and Le Pape 2008). In industrial organization the seminal papers of Brander and Lewis (1986, 1988) underscore the linkage between the mode of financing (the debt/equity split) and the aggressiveness of a firm towards its competitors, i.e., the firm's degree of commitment to compete for market share. From this perspective, the aggressiveness of the firm in such cases is a means to obtain additional liquidities through higher sales levels, which then alleviates financial constraints allowing for additional operational spending. Furthermore, having a levered capital structure may motivate a firm to be a more aggressive competitor in the product market because the entrepreneur does not carry the full cost of bankruptcy (John et al. 2005). More precisely, when the entrepreneur is protected by limited liability and when the firm's operating profit falls short of the debt obligation (the definition of bankruptcy), the entrepreneur receives a zero payoff (and loses the limited initial amount), while debt holders become the residual claimants. In this way, the entrepreneur is partially protected from losses but remains a residual claimant to high earnings. This "risk shifting" may lead an

entrepreneur to behave in a more aggressive manner and to promote a growth strategy. In this paper we test these ideas and we develop complementary work in an area little explored: how a young firm's financial policy and product market strategy may affect its growth path.

Our findings show that a small subset of new firms in France exhibiting particular operational and financial patterns has been at the origin of roughly 50 % of jobs created 6 years later. We also find that entrepreneurial behavior on the part of the founder/s is favorable for survivor firms to belong to the class of high growth firms existing at the end of the observation.

The paper is organized as follows. In Sect. 2 we present the database and the key variable measures: aggressiveness, intensity of resorting to debt, and the building of the classes of growth. Section 3 is devoted to methods and results. Section 4 includes a discussion of findings and concluding thoughts.

2 Database and Key Variable Measures: Growth, Aggressiveness and Intensity of Resorting to Debt

2.1 Database and Selected Sample

Data is drawn from a 2002 survey (SINE 2002-1) conducted by the French National Institute of Statistical and Economic Studies (INSEE), which includes French firms set up or taken over during the first half of that year. Businesses are required by law to complete the surveys and therefore the sample should be considered extremely robust. A follow-up survey, carried out in 2005 (SINE 2002-2), delivers information about the status of the same firms 4 years later (closed down or still active). We will integrate market policies and financial policies during these stage 2 years (2004–2005) in our discussion. Finally, with the last survey of the cohort (SINE 2007-3), we will consider the survival of the firms according to their strategies, and for the firms still alive, the growth of the firms at the final date of observation in 2007.

In order to have a homogenized population of new firms representing entrepreneurship in France, we consider independent *ex nihilo* start-ups in 2002–2007 (subsidiaries and takeovers are excluded), in French regions (overseas departments are excluded) under the limited liability status.¹ In France this status reflects a more business-oriented enterprise. This is demonstrated by 6-year growth rates exhibited in Table 1. Theoretically, firms evolving under limited liability are assumed to be more prone to exit because of lower exit costs and they are linked to higher survivor firm growth rates due to their propensity to engage in higher risk projects (Harhoff et al. 1998). However, in our sample we find survival rates for limited liability firms

¹ We confirmed that the limited liability status has a strong explanation for the total variance of the different classes of growth (cf. *infra*). Thus, retaining only the limited liability status ensures a more homogenized population as regards growth.

Table 1 Job creation and classes of growth for firms with initial owner investment, and without

	Firms that have not invested during 2004–2005		Firms that have invested during 2004–2005						Sum/Average
	Ceased ^a	Alive	Ceased ^b	Ceased ^b	HG	AG	AD	HD	
Number of firms	7323	3662	1096	2136	2727	6170	364	1145	24,623
<i>Proportion</i>	29.7 %	14.9 %	4.5 %	8.7 %	11.1 %	25.1 %	1.5 %	4.7 %	100.2 % ^c
Employees ^d	17,214	7310	2187	4935	4970	12,238	1997	3958	54,809
<i>Proportion</i>	31.4 %	13.3 %	4.0 %	9.0 %	9.1 %	22.3 %	3.6 %	7.2 %	99.9 % ^f
Employees ^e	–	9806	2858	6223	17,099	15,768	1761	2839	56,354
<i>Proportion</i>	–	17.4 %	5.1 %	11.0 %	30.3 %	28.0 %	3.1 %	5.0 %	99.9 % ^f
Employees ^f	–	10,564	–	–	24,568	16,203	1483	1322	54,140
<i>Proportion</i>	–	19.5 %	–	–	45.4 %	29.9 %	2.7 %	2.4 %	99.9 % ^f
Average initial size of firm employment	2.8	2.0	2.0	2.3	1.8	2.0	5.5	3.5	
Average size at the second survey	–	2.7	2.6	2.6	6.3	2.6	4.8	2.5	
Average size at the third survey	–	2.9	–	–	9.0	2.6	4.1	1.2	

^aBefore the second survey^bBetween the second and the third survey^c100 % not achieved due to rounding^dWhen setting up^eAt the second survey^fAt the third survey

to be slightly superior, on average (57.1 % versus 55.1 %). Cressy explains this result by the fact that legal status may serve as proxy for or signal aspects of firm quality. “A limited liability company is, in the view of bankers and others, a more sophisticated business than a Sole Trader or Partnership. Its owners are more likely to have a strategy for success and can deal with the additional tax complexities and administrative issues it involves. Hence it signals both greater human capital and business acumen and predicts a higher survival rate” (Cressy and Bonnet 2012). Once the deletions described above are carried out, the sample stands at 24,623 firms (see Table 1).

Between survey 1 (2002) and survey 2 (2005), 7323 firms (or 29.7 % of the total start) ceased to exist. These firms were dropped from the analysis, leaving a sample of 17,300 firms. Because we rely on firms that have invested during 2004–2005² and that are still surviving in 2007, we removed 4758 firms that have not invested (3662 + 1096) and 2136 firms that have invested but had disappeared between 2005 and 2007. This reduced the sample to 10,406 firms that had invested and were still surviving in 2007 including 2727 High Growth firms -HG- (they represent 11.08 % of the selected sample at the date of creation), 6170 Average Growth firms -AG- (25.1 % of the selected sample at the date of creation), 364 Average Decrease firms -AD- (1.48 % of the selected sample at the date of creation), and 1145 High Decrease firms -HD- (4.65 % of the selected sample at the date of creation).

2.2 Definition of Growth

A commonly used variable to measure firm growth is change in the labor force (Brüderl and Preisendörfer 2000; Birch 1987; Autio et al. 2000; GEM 2005). Growth in employment delivers economic and more general social value as jobs are created leading to additional economic spending and household and community vitality. Taking advantage of the variables provided by the SINE database, we consider this variable as the total salaried and non-salaried employment of the firm to include the:

- Non-salaried manager (business manager or co-business manager with majority ownership),
- Co-worker spouse and/or family members giving assistance (full time or part-time),
- Salaried manager, not already designated above,
- Permanent salaried employment contract and fixed-term salaried employment contract, not already designated above,

² We select firms that have invested to follow the theoretical models.

- Other salaried people including a trainee with a contract, apprentices, contracts of qualification, and contracts of employment initiatives, not already designated above.

To consider changes in the rate of growth of employment over the study period, we first create two categories defined by whether the firm employment grew or declined from launch over the study period. Then, we split each of these categories into two further groups in terms of the rate of growth (or decrease) over the period. This results in four study categories:

- **High Growth (HG)** = 100 % growth and more
- **Average Growth (AG)** = zero to 100 % growth
- **Average Decrease (AD)** = less than zero to 50 % decline
- **High Decrease (HD)** = 50 % and more decline

Table 1 shows that for all firms launching with the first survey, 4.7 % of limited liability firms persisting through the full study period showed a decrease in employment of over 50 % (HD), 1.5 % a decrease to 50 % (AD). On the growth side, 25.1 % of firms showed an increase to 100 % (AG) and 11.1 % showed an increase over 100 % (HG). Please see Annex 1 for more information on the building of classes of growth.

A final variable, firm survival, is a necessary pre-condition to studying firm growth. By the end date of the 5-year study, 42.9 % of the firms that launched had ceased to exist (Table 1). For this study, non-survival was determined by the cessation of activity—voluntary or involuntary.

2.3 Classes of Entrepreneurial Behavior as a Proxy of Product Market Strategy

A variable is constructed to express the strength of the firm's entrepreneurial behavior in its market based on five questions of the follow-up survey carried out in 2005 (SINE 2002-2). These questions are related to the market policy implemented by the new firm during the years 2004–2005. The items measure efforts for increasing the activity, advertising, prospecting of clients, price increases and development of sub-contracting work given to other firms,³ all of which serve as growth indicators. An entrepreneurial behavior (EB) score represents the summation of the values of the index that indicate growth behavior from a high of 5 to a low of 0 (Table 2).

Then six dummy variables are built representing each total score 5-0:

³ Except for classical duties that may be subcontracted like accounting, business administration, transport etc.

Table 2 The construction of an entrepreneurial behavior (EB) score index

Questions	Modalities of reply	Entrepreneurial behavior index
What has been your behavior over the last 2 years?	Increasing the activity	1
	Maintaining the activity at its level	0
	Attempting to safeguard the activity	0
Have you made advertising efforts over the last 2 years?	Yes	1
	No	0
Have you made efforts to prospect new clients over the last 2 years?	Yes	1
	No	0
Have you decreased prices over the last 2 years?	Yes	1
	No	0
Have you regularly given subcontracting work (to other firms) over the last 2 years?	Yes	1
	No	0

- EB5: very high level of market entrepreneurial behavior
- EB4: high level
- EB3: medium level
- EB2: weak level
- EB1: very weak level
- EB0: lack of market entrepreneurial behavior

We also gather the EB scores 3–5 to distinguish market aggressive firms against EB scores 0–2 representing market non-aggressive firms.

2.4 Classes of Intensity of Resorting to Debt as a Proxy of the Financial Decisions

The SINE database does not provide firm quantitative financial data, so in contrast to previous studies that are based on accounting data (Honjo 2000; Prantl and Almus 2002), we build a qualitative financial variable, “intensity of resorting to debt”. This variable is assumed to represent the financial policy of the firm during the first years of life, i.e., the entrepreneur’s willingness and ability to go into debt. The variable is built from the SINE 2002-2 survey responses reflecting entrepreneur activity in the years 2004–2005.

The policy of indebtedness is estimated in a qualitative way. The mode of management of the cash requirement and the main financing mode of investments over the 2 years are combined to measure the propensity to indebtedness of the firm. In terms of the management of the cash requirement, we synthesize the information into three main financing modes as follows:

- “**Equity Capital Mode**” (D1), includes entrepreneurs/firms that exclusively finance the firm with one or several types of equity capital
- “**Mixed Debt and Equity Mode**” (D2 and D3) represents joint debt and equity mode of financing
- “**Debt Mode**” (D4) category represents the entrepreneur who exclusively resorts to one or several types of borrowing

This variable then represents the propensity of resorting to debt in managing cash requirements and in financing investments. The priority has been given to the financing mode of investment in the construction of this variable. We consider that for firms financing their investments only through equity capital, the management of the cash requirement is not important. We then distinguish four main classes of intensity of resorting to debt.

- **D₁: minimal intensity of resorting to debt:** The firm never resorts to debt or the firm resorts to debt only for its cash requirement
- **D₂: medium intensity of resorting to debt:** The firm finances its investments through both equity capital and debt
- **D₃: high intensity of resorting to debt:** The firm always resorts to debt to finance its investments
- **D₄: maximal intensity of resorting to debt:** The firm always resorts to debt to finance its investments and its cash requirement

We then proceed to investigate in which ways the debt/entrepreneurial behavior combinations alter the firm’s growth outcomes (Chart. 1).

2.5 Descriptive Analysis

Among firms that survived to the end of the observation, we see that firms which belong to the HG category are, on average, more aggressive than the other classes. Also, the share of market aggressive firms is higher for the medium intensity of

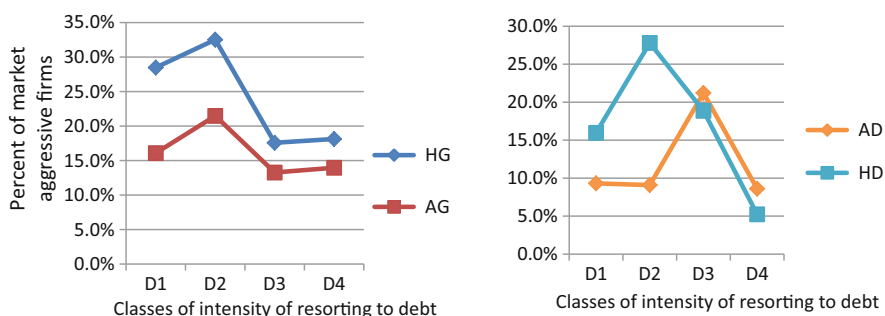


Chart. 1 Percent of market aggressive firms according to the categories of growth for each class of intensity of resorting to debt

resorting to debt, except for the AD category. The AG category has the same pattern as the HG category, but with some lesser degree of entrepreneurial behavior. AD and HD categories display a very low entrepreneurial behavior for the maximal intensity of resorting to debt.

3 Method and Results

We use a multinomial logic analysis for firms that survive to 2007. We use an unordered model (proc Catmod in SAS) because the test upon the same effects of the explanatory variables regardless of the dichotomization of the dependent variable does not hold (Table 3). We also retain a set of control variables.

Numbers represent the exponential of the coefficients of the regression. They can be interpreted as odds of appearance of the modality regarding the population considered and taking into account the reference class. We present only the comparison between the class of HG (high growth) firms with the others.

If we consider the intensity of resorting to debt, we can see that this variable is important in splitting the categories of HD (high decrease) and HG (high growth) firms, with HD firms more prone to go into debt. This is the same result for maximal

Table 3 Financial policy, entrepreneurial behavior and firm growth

Model 1 ^a	Modalities	Comparison classes of growth		
		AG/HG	AD/HG	HD/HG
Intensity of resorting to debt	D4	1.38***	1.140	1.32**
	D3	1.072	0.873	1.45***
	D2	Réf. class	Réf. class	Réf. class
	D1	1.99***	2.05***	2.36***
Model 2	Modalities	Comparison classes of growth		
Entrepreneurial behavior: Five classes	EB5	1.01	0.49	ns
	EB4	0.39***	ns	0.32***
	EB3	0.35***	0.19***	0.26***
	EB2	0.50***	0.41***	0.30***
	EB1	0.66***	0.53***	0.68***
	E.B.0	Réf. class	Réf. class	Réf. Class
Model 3	Modalities	AG/HG	(AG-AD-HD/HG)	
Intensity of resorting to debt*EB in two classes	D4 Réf. class Non aggressive	0.75**	ns	
	D3 Réf. class Non aggressive	0.71*	ns	
	D2 Réf. class Non aggressive	0.55***	ns	
	D1 Réf. class Non aggressive	0.50***	0.218***	

^aFor results on control variables, see annex 2, Table 4.

intensity of resorting to debt for AG (average growth) firms against HG firms. For example for the maximal intensity of resorting to debt, the probability to belong to the category of AG firms is 38 % greater than to belong to the class of HG firms. On the other side, a weak intensity of resorting to debt is also always the signal for not belonging to HG firms. It appears that the reference modality, i.e. “medium intensity of resorting to debt”, is the most favored class of debt for HG firms. This suggests that a financial structure including a reasonable level of debt is a determinant of firm growth.

When the number is less than 1 we take into account the complement. For example, for the high level of the variable, Entrepreneurial Behavior (EB4), in the comparison of the category of AG firms against the category of HG firms, we can interpret the result as follows: for the firms that set up a high level of entrepreneurial behavior (EB4), in comparison with doing nothing (category EB0), the probability to belong to the HG firms class is 61 % ($1-0.39$) higher than to belong to the category of AG firms.⁴ Whatever the subpopulations, entrepreneurial behavior characterizes firms belonging to the class of high growth firms. As a consequence, when the entrepreneur adopts a proactive attitude, s/he is more prone to conduct a firm which grows.

With the Entrepreneurial Behavior variable measured in two classes, we perform several regressions splitting each reference class (one for each class of debt) between aggressive and non-aggressive firms. We find that entrepreneurial behavior improves the probability of a firm belonging to the category of high growth firms for three classes of financial structure: the class “weak intensity of resorting to debt”, for the class “medium intensity of resorting to debt”, and for the class “maximal intensity of resorting to debt”. Because several models imply that getting into debt induces aggressiveness, we implement a correction for endogeneity (Lollivier 2001). Results are not modified, only for the class “high intensity of resorting to debt”, for which now, aggressiveness does not improve the probability to belong to HG firms.

4 Discussion

For new firms in France which have invested, the proportion of firms that display entrepreneurial behavior is greater for those firms that have a medium intensity of resorting to debt (D2 firms). These D2 firms have access to the widest financing range (both debt and equity capital) and they set up sizable investment projects on launch. D2 firms also show the highest level of initial capital invested. Indeed, 26.3 % of the firms of this class had a level of invested capital greater than 40,000 euros for 21.2 % of the total population. Furthermore, small projects (less than 7623 euros) are under-represented: 30.2 % in the class and 37.1 % in the total population. Consequently, among all classes of financial structure, the D2 firms can be identified as the most dynamic new firms in France in 2007.

⁴The odds of belonging to the class of AG firms at this level of aggressiveness is 39 % of the odds of an enterprise that has a level EB0. It means that the odds of belonging to AG firms when EB0 is 2.56 times ($1/0.39$) more than belonging to the group of AG firms when EB level is 4.

A reduction of the proportion of market aggressive firms linked with an increasing intensity in acquiring debt can be noticed from D2 to D4 (i.e. the debt category representing the entrepreneur who exclusively resorts to one or several types of borrowing). Two interpretations may be suggested for firms belonging to the higher classes of debt: either these firms cannot afford to sustain an entrepreneurial behavior or they fear exposing themselves to a greater risk of exit in case of a high market aggressiveness. Another explanation could be that, due to the insolvency risk, the interest rate on the debt increases with the amount of the debt, which in turn induces a reduction in the scope of the entrepreneurial behavior.

Once the entrepreneurial decision is taken, a proactive attitude insures a net and clear prevalence of the probability to belong to the class of high growth firms. This entrepreneurial orientation can be related to some advantages, perhaps a better recognition of market opportunities that allows these firms to benefit from first mover advantages (better knowledge of the market, creation of entry barriers, reputational advantage...), i.e., the Stackelberg advantage. On the other hand, there may be a true uncertainty about the acceptance of the new product/service by customers. Sometimes this increases the success odds for the second or the third entrant in the market. In that sense the companies that have a better chance of strong growth may be the most deviant, the most risk engaged, the firms better able to adapt to uncertainty. Still, financial means are crucial as they allow the entrepreneur to implement the firm's market strategy.

When comparing the category of high growth firms to average growth firms, some interesting characteristics are found with control variables (Annex 2, Table 4). For example, high growth firms are not allied with a main motivation to resolve unemployment or to take advantage of an identified opportunity. Rather, a taste for entrepreneurship and independence is identified as leading to a firm's placement in the category of firms most successful in creating jobs over time.

The probability to belong to the high growth firm category is more likely for an entrepreneur who has work experience—in the same branch of activity—obtained within a large firm or a firm of medium size. Additionally, having launched an average project increases the chance of launching a high growth venture as compared to an average growth. Further, belonging to the branches of industry that are considered as innovative by the French National Institute of Statistical and Economic Studies (INSEE) is not associated with the high growth firm category. Yet high growth is related to the implementation of organizational innovations. If innovation is also a strong characteristic of these firms, the innovation does not necessarily proceed from a new technology.⁵

Finally, these entrepreneurs are in the middle age range (30–50 years) and they are not distinguished across the two growth categories by level of education. They

⁵ We acknowledge the importance of marketing and organizational innovations (for example, low cost air transport, models permanently renewed -ZARA-, public transportation -Vélib). The performance of a company in innovation is not defined by its number of patents. According to the European Commission 36 % of patents are not used.

are more likely to be men than women. Limited access to networks, specifically financial networks, constitutes a serious impediment to female entrepreneurship and especially for high growth new ventures (Bel 2009; Nelson and Vosmek 2014). Further, being a craftsman, i.e. belonging to the *Chamber of Métiers*, is associated with high growth firms in all cases.

5 Conclusion

With the database SINE we have the possibility to measure how new firms create employment over time in the national French case. The challenge is important due to the weak entrepreneurship propensity in France (Abdesselam et al. 2004) and the low levels of development of these new firms (Abdesselam et al. 2014; Schane 2009), despite strong national interest in promoting this type of entrepreneurship.

Building more entrepreneurship in the high growth category requires that we look at entrepreneurial spirit at the individual, generational level. We may need new training and a new outlook on entrepreneurship from those new to the labor market. For now, this research shows that in recent years, high growth entrepreneurship is most likely the path of those holding other types of work experience aged between 30 and 50.

A more favorable social climate for new businesses will also require improvements in the skills of European entrepreneurs and support from the infrastructure that includes government, large firms and other entrepreneurs. Development in these areas may eliminate the obstacles to new firm creation and may build interest in the growth of companies. It is a question of filling the gap which exists between the perception of the desirability to become an entrepreneur and the real acting out to undertake the management of firms for growth.

Our findings show that a small subset of new firms in France, exhibiting particular operational and financial patterns, have been at the origin of roughly 50 % of jobs created by the cohort within a 6-year period. We also find that certain entrepreneurial behaviors on the part of the founder/s is favorable for survivor firms to belong to the class of high-growth firms existing at the end of the observation.

This leads to a recommendation for the increased development of incubators as well as continued support for the creation and growth of seed money and private financing networks of venture capitalists and business angels (Aernoudt 2004). A recent study in the case of France (KPMG 2010) points out that some characteristics are to be found among gazelles.⁶ They have a conquest stance with a focus on growth. They also have the capability and the willingness to take risk.

⁶The methodology does not retain only young firms but firms that have a turnover between 10 million and 300 million euros and have registered a growth of their turnover of at least 4 times more than the average growth in their branch of activity since 2001. 2000 firms have been identified, among them young firms (less than 15 years) have a higher growth rate.

Annex 1: Classes of Growth

Considering that it is easier to register a high growth firm, if the initial size is low, we correct the rate of growth according to the initial size of the firm. The correction is the following: for the category of high growth firms (HG), the rate of growth must be superior or equal to one, if the initial size of the labor force is 5 or more employees, that is to say that the firm has to at least double its number of employees. If the initial size is 4 employees, the rate of growth must be superior or equal to 1.25 (from 4 employees to 9, at least). If the initial size is 3 employees, the rate of growth must be superior or equal to 1.33 (from 3 employees to 7, at least). If the initial size is 2 employees, the rate of growth must be superior or equal to 1.5 (from 2 employees to 5, at least). If the initial size is 1 employee, the rate of growth must be superior or equal to 2 (from 1 employee to 3, at least). These growth rates can be translated into compounded annual growth rates: 1–3 is equivalent to + 24.7 % per year, 2–5 is equivalent to + 20.11 % per year, 3–7 is equivalent to + 18.46 % per year, 4–9 is equivalent to + 17.6 % per year and finally up to 5 and more to double the initial size is equivalent to an annual growth of 14.87 % per year.

Annex 2: Control Variables

Table 4 Results for the control variables (Model 1)

Variables	Modalities	AG/HG
Motives of the start-up	Motive new idea	1.01
	Motive taste for independence	1.14**
	Motive taste for entrepreneurship	0.81***
	Motive opportunity	1.072
	Example of surrounding	1.043
	Unemployed, choice	1.15*
	Unemployed, constraint	0.86
	Other motive	1.20**
Age	Less than 30 years old	0.89
	30–50 years old	0.84**
	More than 50 years old	Ref Class
Gender	Woman	1.17**
	Man	Ref Class
Level of education	No diploma	0.96
	Up to bachelor	0.93
	Bachelor and more	Ref Class
Nationality	French	1.06
	Foreign from European Union	1.25
	Foreign from outside European Union	Ref Class

(continued)

Table 4 (continued)

Variables	Modalities	AG/HG
Experience of Entrepreneurship	Never	1.01
	Has already started up a firm	Ref Class
Duration of experience in the same branch of activity * Size of the firm where the experience was acquired	Less than 3 years, less than 10 employees	0.83
	Less than 3 years, 10–250 employees	0.78
	Less than 3 years, more than 250 employees	1.03
	3–10 years, less than 10 employees	0.82**
	3–10 years, 10–250 employees	0.63***
	3–10 years, more than 250 employees	0.57***
	More than 10 years, less than 10 employees	0.98
	More than 10 years, 10–250 employees	0.87*
	More than 10 years, more than 250 employees	0.70***
	No experience	Ref Class
Innovative branch	Belonging to innovative branches of activity	1.13
	Not belonging to innovative branches of activity	Ref Class
Types of innovation	Introduction of innovative products, marketing concepts, new services	0.92
	Introduction of new methods or processes	0.90
	Introduction of a new organization	0.79***
Amount of money invested to set-up the firm	Less than 8000 euros	1.00
	Between 8000 euros and 40,000 euros	0.83***
	More than 40,000 euros	Ref Class
Obtaining public financial aid	Public financial aid obtained	1.01
	Public financial aid not obtained	Ref Class
Structure of capital	80–100 % of debt	0.99
	60–80 %	1.07
	40–60 %	0.87*
	20–40 %	1.14
	–20 % of debt	0.92
Employees at the beginning	One salaried and more	0.71***
	No employee	Ref Class
Craftsman	Craftsman	0.77***
	No craftsman	Ref Class

(continued)

Table 4 (continued)

Variables	Modalities	AG/HG
Subcontracting work done	Subcontracting work done, main source of turnover	1.07
	Subcontracting work done, secondary source of turn over	0.96
	No Subcontracting work done	Ref Class
Competition	Weak feeling of the competition	1.35***
	Medium feeling of the competition	0.95
	Strong feeling of the competition	Ref Class
Branch of industry	Food industry	0.57**
	Industry	0.81**
	Transport	0.58***
	Construction	0.33***
	Catering	0.87
	Household services	0.84*
	Services for the enterprises	0.74***
	Education, health	0.61***
	Trade, Repair	Ref Class
Province	Belonging to non-entrepreneurial regions	1.12**
	Belonging to entrepreneurial regions (Île-de-France, Rhône-Alpes, Midi-Pyrénées, Languedoc-Roussillon, Provence-Alpes-Côte-D'azur, Aquitaine)	Ref Class
Intercept		8.95***

*, **, *** means the rejection of the null hypothesis at the 10 % level (respectively 5 %, 1 %)

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