CEO EXPERIENCE AND FIRM GROWTH IN SMALL FAMILY FIRMS

Eddy Laveren (University of Antwerp), Arthur Limère (Limburg University Centre - LUC) and Ellen Vanbilsen (LUC) [1]

ABSTRACT

The primary purpose of this paper is to examine the relationship between firm performance (measured as growth in value added) and the depth of the experience of the Chief Executive Officer. Based on a sample of 511 small family firms, the research results show that the relationship between firm performance and CEO experience is not as clear-cut as was previously assumed. The results suggest curvilinearity to exist. Experience is contributive to the growth in value added of a firm up to a certain level of CEO-ship and dissimilar industry tenure after which it then becomes counterproductive. In addition the results show that firms with CEOs currently holding multiple directorships are found to generate significantly higher performance levels and that growth rates appear to lessen according to the age of the CEO.

Keywords: Firm performance, firm growth, management experience

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INTRODUCTION

There is general recognition of the fact that firm performance is influenced by the expertise and behaviour of the founder (Chandler, 1996). Literature review concerning the impact of founders', entrepreneurs or management teams experience on venture performance however show inconsistent and inconclusive results. But even if no relationships are found, researchers hesitate to consider experience or the lack of it insignificant or inconsequential (Roure and Keeley, 1990). The inconsistency of the findings seems to indicate that the transfer of knowledge, skills and abilities from a pre-ownership setting to a new business setting is not as straightforward as is conventionally assumed and that is necessary to question the linearity of the relationship (Reuber and Fisher, 1999).

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If one would be able to fully assess the predictive power as well as the curvilinearity of the kind and amount of experience on firm performance, it could more effectively be used as a criterion by venture capitalists, financial institutions and/or policymakers in evaluating business plans, loan applications, policy measures and the like. Prospective or seasoned business owners could also use the criterion as a measure against which they could assess their own accumulation of (contextual) knowledge, skills and abilities and to act accordingly. They would be able to evaluate whether they have gathered enough experience, to identify what kind of experience they have mastered and can capitalize on, to identify shortages and thus to determine their readiness and ability to venture out on their own (Reuber and Fisher, 1999). The criterion could also be useful in discussions about succession in family firms.

The article is structured as follows. In the first section an overview is given of the results of former studies about the relationship between firm performance and CEO experience and the hypotheses are formulated. In the second section the methodology is described. In the last section the results are presented.

LITERATURE REVIEW

This section presents an analysis of previous empirical work examining the effect of experience on firm performance.

Management experience as a correlate of firm performance

Generally speaking there are three dimensions of management experience being entrepreneurial, industrial and managerial. Entrepreneurial experience refers to the number of previous new venture involvements and the level of the management role played in such ventures (Stuart and Arbetti, 1990, Davidsson, 1991). Industrial experience refers to experience in the business, which the venture is in. Managerial

experience is the total experience in management regardless of the industry (Lee and Tsang, 2001). Our study focuses on the last two categories.

As far as the stock of experience is concerned, Reuber and Fisher (1999) make a distinction between depth and breath of experience. The depth of experience refers to tenure in certain professional fields and is normally expressed in number of years of experience. The breath of experience refers to the number of functional areas, industries or organisations in which one has had experience (Duchesneau & Gartner, 1990), The scope of our research did not allow studying the breath of experience and therefore our study is limited to the depth of the stock of experience.

Industrial experience

The first dimension concerns knowledge and assessment of the context within which the venture operates: its technology, suppliers, customers and competitors. According to Vesper (1990) entrepreneurs starting a business closely connected to their prior activities will have developed a network of suppliers, clients and distributors which gives them the necessary credibility and enhances their chances to obtain credit, to realise sales and to engage in various forms of cooperation.

Cooper et al. (1994) used a three-item scale measuring the similarity in services, customers and clients as an indicator of whether the entrepreneur had started an organisation closely related to the work he did in the past. They found this variable to exhibit a positive relationship with firm growth. Also Siegel, Siegel & MacMillan (1993) found experience in a related industry to positively influence firm growth.

Based on the former discussion the following hypotheses were formulated:

Hypothesis 1:
The number of years of company-own experience of the CEO is positively related to the growth of the firm.
Hypothesis 2:
The fact as to whether the CEO has worked in another company of the same industry is positively related to firm growth.
Hypothesis 3:
The number of years the CEO has worked in another company of the same industry is positively related to firm growth.

Managerial experience

The second dimension refers to specific management skills that the entrepreneur acquired in the current or the 'incubator firm'. Managerial experience, which is not industry- or business-bound, better prepares managers for the broad range of problems with which new or growing firms are faced (Brüderl et al., 1992). It allows managers or entrepreneurs to be better able to monitor diverse functions, to negotiate with various constituents and to develop contacts with potential clients and suppliers.

Begley and Boyd (1985) defined managerial experience as the length of time the CEO had already been in a CEO-position and the length of time the CEO had been with the company. They found a negative relationship between the second measure and the growth of the company. Dyke et al. (1992) used a composite measure of the number of years of previous managerial experience and the number of years of experience with similar products or services (industrial experience). They found this composite variable to be positively related to firm performance. Sandberg and Hofer (1987) also used a composite measure, but a dummy one indicating whether the owner had prior managerial experience in a related industry. The dummy variable did not turn out to have a significant impact on firm performance. Stuart and Arbetti (1990) tried to capture managerial experience with a variable indicating the owner's highest management level in the previous business. This variable showed a positive relationship with firm performance.

Hypothesis 4:
The fact as to whether the CEO currently holds a CEO-position in another company is positively related to firm growth.
Hypothesis 5:
The fact as to whether the CEO has worked in another company of another industry is positively related to firm growth.
Hypothesis 6:
The number of years the CEO has worked in another company of another industry is positively related to firm growth.

Hypothesis 7:
The number of years the CEO has spent in a CEO-position is positively related to firm growth.

Firm performance and the role model effect

Former research has shown the propensity to start up new ventures to be higher amongst individuals that grow up in a family with a high-performing entrepreneurial role model (Krueger, 1993, Scherer et al. 1989). Entrepreneurs with (formerly) self-employed parents will have had the opportunity to gather knowledge on all the aspects of doing business, which speeds up their own entrepreneurial

process. Cooper et al. (1994) could not find empirical backing for their argument that firms of entrepreneurs with parents that had owned a business performed better. Ooghe et al. (1994) on the other hand did find a higher percentage of entrepreneurs with self-employed parents in the group of successful firms compared to the not-successful ones. Also according to the results of Duchesneau and Gartner (1990) successful entrepreneurs were more likely to have entrepreneurial parents.

Hypothesis 8:
The fact as to whether the firm has a CEO with (formerly) self-employed parents is positively related to firm growth.

Could the age of the CEO be a correlate of firm performance?

Wisdom comes with age so one says. But does entrepreneurial performance really improve as an entrepreneur ages? Begley and Boyd (1985), classifying CEO age as a demographic rather than an experience-indicator, found a negative relationship between CEO age and the growth of the firm. Stuart and Arbetti (1990) did categorize age as an experience indicator but could not find a significant relationship with performance. Van der Wijst (1989) found that the age of the CEO is found to be negatively related to the use of debt. Older entrepreneurs are less and less interested in investments and will therefore resort less to debt financing. Sherr et al (1993) add to this argument the fact that banks and credit institutions are more reluctant to grant credit to older entrepreneurs. Older entrepreneurs thus have less and less aspirations to grow and if they do, they are hypothezised by the lack of debt capital.

Hypothesis 9:
The age of the CEO is negatively related to the growth of the firm.

Questioning the linearity of the relationship

The general view in the literature is that the more experienced the entrepreneur, owner or manager, the higher the chance of good firm performance. Starr and Bygrave (1991) however have suggested that experience encompasses liabilities as well as assets and that the assets don't always offset the liabilities. They distinguish as assets expertise and wisdom, network relationships and reputation, which should lead to a reduction of the liabilities of smallness and newness of the new firm. However, entrepreneurs have mastered certain skills through previous entrepreneurial activities, but they are subjected to biases and blind spots because new environmental factors shape new conditions in which former "ways of doing things" may not apply the next time round. The lack of breeching the strong ties formed in "club"-like networks can also negatively influence the performance of subsequent ventures. Former success stories can also give entrepreneurs a sense of invincibility. They themselves but also outsiders believe that they can repeat their success.

Experience and firm performance may not be linearly related because of the learning curve effect (Reuber and Fischer, 1999). The most intense learning period and the strongest willingness to change being situated in the beginning of tenure in a particular context and becoming less intense with the years.

To date there exist however no empirical studies that try to determine the cuvilinearity of the relationship between firm performance and the experience level in terms of tenure in the company, a similar or dissimilar industry or a CEO position. Chandler (1996) found the interaction term between experience (a composite variable reflecting depth and breath of experience) and skills and ability similarity to exhibit a curvilinear relationship with sales/earnings and growth. His results indicated that transfer of skills and abilities are inadequate at low levels of experience and similarity interaction, at high levels on the other hand entrenchment effects cause firm performance to be negatively affected.

Hypothesis 10:
There exists a curvilinear relationship between the level of the depth of CEO experience and firm growth..

METHODOLOGY

Data set

For our research purposes we used a combination of quantitative financial statement data and qualitative data resulting from a large-scale survey held in April 2001. The quantitative data originate from a huge dataset of 21.640 Flemish companies that met the following criteria: they survived the whole of the period 1993-1999, they didn't change their legal status within this period, from 1996 on they published their social balance sheet and their published financial statements (accounting closing date: 31 December of each year) were available in good time for the full 7 years. This dataset includes about 18% of all incorporated Flemish companies in 1997. The qualitative data were gathered through an extensive survey. For this we selected companies in the manufacturing, trade and services sectors with an employment of at least 5 full-time equivalent employees. 8367 companies of the original dataset met these requirements and were sent a survey. The mailing was addressed to the President of the firm, the CEO or the Financial Director. We received 896 filled-out questionnaires of which 57 anonymous.

The primary purpose of this study is to examine the relationship between firm growth in the period 1998-2000 and depth of CEO experience at the beginning of the period of growth. In order to capture this cause and effect relationship we thus further

selected those companies with company accounts for the year 2000 as well as those in which the CEO was with the company for at least 3 years and had at least 3 years of CEO–ship experience. After this selection the dataset consisted of 696 firms. Finally we reduced the dataset to small family firms defined by the following criteria:

- the CEO perceives the firms as a family firm;
- one family owns 50 % or more of all shares;
- the number of employees is 100 or less.

The final dataset consisted of 511 small family firms.

Representativeness and non-response bias

The hundred earliest and hundred latest respondents were compared with respect to their answers to the questionnaire. Chi square tests, t-tests and Mann-Withney tests revealed no statistically significant differences between the early and late respondents. Further chi square analyses were conducted to detect bias between the respondents (839 firms) and non-respondents (7444 firms) with regard to employment and asset size of the company, sector, location of the business and growth performance.

Employment and asset size was found to be significantly (< 1%) larger for the respondents compared to the non-respondents. With respect to the scale of companies our sample thus demonstrates an under-representation of small companies and an over-representation of large companies (sign. < 1%) compared to the non-respondents. In our opinion this kind of bias is inevitable in survey research.

Almost all economic activities are included in the sample. The regional distribution over the results is quite similar. No significant differences are found.

Dependent variable

The definition of performance used in this paper is the average growth rate in value added over the period 1998-2000 (GRVA). The authors consider growth to be one of the most important performance measures, because of its significance to all the stakeholders of the company being the entrepreneur, the shareholders, the employees and none of the least society as a whole.

Independent variables

Experience variables

Several variables were constructed to measure the significance and the nature of the relationship between experience and firm performance. The basic units of analysis therefore consist of the years of employment (‘tenure’) in either the current company (CURCOMP), in another company of the same industry (SAMEIND), in

another company of another industry (OTHERIND) and the number of years in a CEO position (CEOPOSITION) at the 1st of January 1998. In order to test the hypothesis that the relationship is curvilinear, squared variables ($CURCOMP^2$, $SAMEIND^2$, $OTHERIND^2$ and $CEOPOSITION^2$) were included in part of the analysis. Further dummy variables were derived to classify firms into one of two groups dependent upon whether the CEO did or did not have experience of some kind (SAMEINDDUMMY, OTHERINDDUMMY, CEOOTHERCOMP, SELFEMPL). Because of privacy considerations the age of the CEO variable (CEOAGE) was restricted to a 4 point scale indicating whether the CEO aged less than 35 years, between 36 and 50 years or 50 and 60 years or more than 61 years.

<< Insert table 1 here >>

Control variables

Given the empirical literature on factors conducing or impeding firm performance, several independent variables are included in the analysis to control for factors, which may be important determinants of growth in value added.

The resource-based perspective of firm growth, which focuses on the internal strengths of the firm, stems from the seminal work of Penrose (1959). Growth, Penrose argues, originates from the expansion of assets controlled by the firm. The profits that are reinvested into the firm will allow the firm to obtain additional resources and grow. The control variable PROFITABILITY is thus introduced to capture this profit-growth relationship.

The control variable AGE is the age of the company calculated by substracting the year the business was founded from 1998, the first year of the growth period. This variable was included because prior research found company age and firm performance to be negatively related (Begley and Boyd, 1985, Dunne and Hughes, 1994). The average in total assets variable (SIZE) is included to reflect size. Indeed questioning Gibrat's Law of proportionate growth numerous researchers have found a negative size-growth relationship (Evans, 1987, Variyam and Kraybill, 1992, Dunne and Hughes, 1994, Wagner, 1992, Hart and Oulton, 1996). Due to the skewness of the distribution of the continuous variables LNAGE and LNSIZE, the natural logs of these variables were used in the analysis.

The variable SSCONTRIBUTIONS measures the firm's 'social security premiums pressure' and is measured as the ratio of the social security contributions to value added averaged over the period 1993-1997. Belgium is known to have extremely high personnel costs. These tend to impact the competitive position of Belgian companies. This variable was included to capture the height of personnel costs.

The variable SOLV was included in order to capture the pecking-order theory (Myers, 1984). In former research of the authors this variable appeared to be very significant in logit and discriminant analysis discriminating between fast and weak growing companies. Based on Belgian company accounts of 370 SMEs generating growth levels exceeding sustainable growth, Durinck et al. (b1997) showed that the faster the growth, the less firms used retained earnings and the more firms used external financing. The amount of external equity financing however did not show a significant increase. Certain truncation effects are thus at work certainly for small and medium sized firms.

The variable HISTGROWTH was introduced to capture the evolution of the life-cycle theory. It will give an indication as to the stage the firms in the dataset are in.

The economics degree variable (ECDEGREE) is introduced because in literature, knowledge, skills, problem solving capabilities, discipline, motivation and confidence are frequently argued to be formed by education as well as by experience. All of these characteristics allow the entrepreneur to be better armed to confront possible problems and to be more successful. Davidsson (1989), Brüderl et al. (1992), Cooper and Gimeno-Gascon (1992) and Ooghe et al (1994) all found a significant positive relationship between growth and the level of education.

The independent variables are thus defined as indicated in **Table 1**.

Empirical method

The first stage of the study consists of a preliminary analysis of the hypotheses through cross-tabulations between the dichotomised dependent variable (fast growing companies-weak growing companies) and the experience variables. The empirical analysis further consists of a series of OLS regressions of the dependent variable 'growth in value added' on the experience related variables (AGECEO, CURCOMP, SAMEIND, OTHERIND, SAMEINDDUMMY, OTHERINDDUMMY, CEOOTHERCOMP, CEOPOSITION and SELFEMPL). First these OLS regressions were executed in linear form, after which polynomials of the non-dummy variables were introduced to capture the curvilinearity of the experience-performance relationship. In order to avoid multicollinearity, the potentially correlated experience variables are used in separate OLS regressions.

RESULTS

Cross-tabulations

By means of cross-tabulations we tried to establish whether the number of 'fast growing companies' and 'weak growing companies' significantly differentiated according to the experience of the CEO in charge and whether any pattern of curvilinearity was present in the data. Fast growing companies were defined as those companies having an average growth rate (in value added) higher than the third quartile of the population and weak growing companies as those having an average growth rate lower than the first quartile of the population.

<< insert table 2 here >>

As shown by the results in **Table 2** the cross-tabulations of 'fast growing companies' and 'weak growing companies' against the age of the CEO (AGECEO), current company tenure (CURCOMP) and self-employment of the CEO's parents (SELFEMPL) are significant at a 1 % level of confidence. Those against CEO tenure (CEOPOSITION), similar industry tenure (SAMEIND), the similar-industry-experience-dummy (SAMEINDDUMMY) and dissimilar industry tenure (OTHERIND) are significant at a 5 % level of confidence. For OTHERINDDUMMY and CEOOTHERCOMP no significant relationship could be detected.

The results show that the growth prospect of firms with a CEO of 51 years or more gradually decreases. The figures also indicate that there seems to exist a curvilinear relationship between company-own experience on the one hand and growing ones business on the other hand. CEO's having spent less than 5 years in the current company only head fast growing companies in 64,0 % of the cases. The largest amount of fast growing companies (84,5 %) are found in the category of CEOs having 6 to 10 years of company-own experience. The percentage amount drops to 62,5 % and 48,8 % for firms in which the CEO has been engaged with the company for 11 to 15 years and 16 to 20 years respectively. For firms headed by a CEO who has been with the company for more than 21 years the figure decreases sharply.

The results indicate curvilinearity to be present between firm performance and dissimilar industry tenure. For similar industry tenure the relationship is less straightforward. Further the dummy variable distinguishing similar-industry-experienced CEOs from those without similar industry experience (SAMEINDDUMMY) shows the growth rate of the former group to be significantly higher than that of the latter group. For dissimilar industry tenure on the other hand the largest amount of fast growing companies can be found in the category of firms with a CEO having had 6 to 15 years of work experience in another industry. Dissimilar-industry-experienced CEOs do however not seem to generate significantly

higher growth rates than do CEOs without dissimilar industry experience (see OTHERINDDUMMY).

The results also show that the fact as to whether the CEO is currently and simultaneously CEO of more than one firm (CEOOTHERCOMP) has a positive - though not significant in this cross-tabulation - effect on the growth of the firm.

As far as tenure in a CEO position is concerned, once more the evidence shows curvilinearity to be present. The length of time the CEO holds its CEO position has a positive effect on growth up to about 10 years of experience. Beyond this point however the number of fast-growing firms decreases sharply.

Contrary to what had been expected we do not find that CEOs that descent from self-employed parents significantly outperform CEOs without this kind of role model influence (SELFEMPL). On the contrary, the amount of fast growing companies is highest amongst firms with CEOs without self-employed parents. 74,1 % of them belong to the fast growing category as compared to 49,0 % of those with a CEO who has (had) self-employed parents.

These results are all contributive to the notion that experience and firm performance are not linearly related as was put forward by many authors. This indicates that firm performance might indeed be strongly influenced by the liabilities of CEO-experience namely strong ties, the success syndrome and biases and blindspots (Starr and Bygrave, 1991). The results warrant further research into the moment at which experience seems to become counterproductive and what liabilities are responsible for this process. The make-up of the study does not permit to resolve the second issue, but can give a tentative answer to the first question. OLS regression analysis was used to further investigate the curvilinear relationship.

OLS-regressions

The second stage of the study examines the relationship between the firm performance expressed in terms of growth in value added (GRVA) and CEO experience by regressing GRVA against the experience and control variables described in **Table 1**. In table 3 the results are shown of these OLS regressions. In order to capture the non-linearity of the relationship, the square of CURCOMP, SAMEIND, OTHERIND and CEOPOSITION were incorporated into the analysis. The regressions labelled I and II are OLS regressions in linear form, those labelled III, IV and V in curvilinear form.

<< Insert table 3 here >>

As shown by the results in **Table 3**, the regression I explains approximately 28,2 % of the variation in the dependent variable. 5 variables are significant at a 1 %

level of confidence and 2 variables, the age of the CEO and the social security contributions are significant at a 5 % level of confidence. There is evidence of a positive relationship between growth (GRVA) and both dummy variables for the CEO having been employed in another company of a similar or dissimilar industry. The age of the CEO on the other hand is found to be negatively correlated with firm growth. The fact as to whether the CEO has (had) self-employed parents (SELFEMPL) as well as the fact as to whether the CEO has an economics degree (ECDEGREE) or currently holds a CEO position in another company (CEOOTHERCOMP) did not show significant results but both variables did show the sign as indicated by the cross tabulations of **Table 2**. The other variables significant in the regression results reported in **Table 3** are age (LNAGE), solvency (SOLV) and historic growth (HISTGROWTH). The results show that the more profitable the firm in the pre-growth period, the higher the growth rates generated afterwards. The results also show growth rates to be highest amongst firms having experienced strong historic growth and low solvency rates in the pre-growth period. Especially surprising is that firms in the higher social contributions range show stronger growth rates than do firms without such a high social security premiums pressure in the pre-growth period. This result is surprising because former research has consistently shown social contributions pressure to be a highly significant impediment to growth.

Regression II and III include the number of years of company-own tenure of the CEO. In the linear form of the regression (see regression II) CURCOMP shows a negative sign, and is significant at the 5 % level of confidence. The dummy variables SAMEINDDUMMY and OTHERINDDUMMY remain significant and hold their sign. Also the fact as to whether the CEO holds a CEO-position in another company (CEOOTHERCOMP) turns significant in this regression indicating that multiple directorship has its benefits for firm growth. In this regression the 'SELFEMPL'-variable did once again not show a significant sign. Further the significant variables are as before age, solvency, social security contributions and historic growth. Regression III in Table 3 indicates that allowing for the possibility of a curvilinear relationship decreases the explanatory power (in terms of the adjusted R^2) of the equation from 28.7 % to 28,5 %. The results thus show no evidence of a curvilinear relationship between firm growth and the number of years the CEO is with the company. Age, solvency and historic growth remain significant.

In regressions IV and V the SELFEMPL variable has a negative and significant (5% level of confidence) coefficient in both the linear and curvilinear form of the regression. The CEOOTHERCOMP coefficient shows a positive and significant sign in both regressions. A CEO holding multiple directorships thus positively influences current firm performance. As far as the number of years in CEO position (CEOPOSITION) is concerned as well as for dissimilar industry experience (OTHERIND), the results present strong evidence of a curvilinear relationship as the coefficients of CEOPOSITION and OTHERIND in the curvilinear form of the regression are positive and significant whilst the (smaller) coefficients on the

CEOPOSITION² and OTHERIND² are negative and significant. The similar industry experience variables SAMEIND and SAMEIND² show the same signing, but appear insignificant in the curvilinear form. The findings thus suggest that for this dataset the growth of the firm first increases up to a level of 11,81 years of tenure in a dissimilar industry and 19,42 years of CEO-ship experience after which it then decreases. The results thus indicate that up to the optimal number of years of tenure CEO-ship experience and dissimilar industry experience positively influence firm performance. Beyond this point the influence becomes negative. Allowing for curvilinearity increases the explanatory power of the model from 26,8 % to 32,4 %.

Overall the results suggest a significant curvilinear relationship to exist between firm performance and its CEO's depth of experience measured as the tenure (number of years) in a firm of dissimilar industry and the number of years the CEO is in a CEO position. The CEO's tenure in the current company does not show to be curvilinearly related to firm growth, but shows a significant negative relationship with firm growth. Experience in and industry-related company on the other hand shows a positive relationship with firm performance. Moreover firm performance is positively related to the CEO holding directorships in other companies and negatively related to him having (had) self-employed parents. And finally growth rates lessen with the age of the CEO.

As far as our hypotheses are concerned the above conclusion states that hypotheses 2, 3, 4, 5, 6, 7 and 9 are supported by the evidence. For hypotheses 1 and 8 no empirical evidence was found to corroborate the hypothesized arguments. Hypothesis 10 arguing the existence of curvilinearity for depth of experience-growth relationships, in this dataset appears to true for CEO-ship experience and dissimilar-industry experience only.

DISCUSSION

This paper has investigated the relationship between the dept of CEO experience and firm performance. In contrast to prior research on the matter in which the relationship was too often assumed to be linear, the research effort made here is a first tentative step at unravelling the exact nature of the relationship between CEO experience and firm performance. Following Reuber and Fisher (1999), the authors hypothesized the relationship to be curvilinear rather than linear. And indeed the research results show that the relationship between firm performance and CEO experience is not as clear-cut as was previously assumed. The results suggest curvilinearity to exist for two experience variables being the number of years of employment in a firm of a dissimilar industry and the number of years the CEO is in a CEO position. The results are thus consistent with the suggestions put forward by Reuber and Fisher (1999) and increase the credibility of the point suggested by Starr

and Bygrave (1991) concerning the potential detrimental effect of liabilities of experience.

First of all it would be very interesting to know whether the here found relationships hold in foreign country settings as well. Secondly further research is warranted into the 'why' of curvilinearity i.c. the nature of the liabilities of experience and the moment at which they become counterproductive to firm performance. This entails research into amongst others entrenchments effects, willingness to invest, willingness to learn, adaptability, acquiescent behaviour. The implications of these kinds of studies should be important for entrepreneurs, venture capitalists and policy makers. Entrepreneurs should be aware of the potential detrimental effects attached to experience. Venture capitalists should probable revise their common practice of selecting the entrepreneurs with the most elaborate resume concerning experience. Policy makers should take into account the research results when formulating new policy measures aimed at stimulating economic growth.

In spite of the strong empirical results we do however have to acknowledge the shortcomings of this study. First of all the data set concerned firms from all industries and sizes (from 5 employees on) which may disguise differences in the nature of the relationship in small firms and large firms and between industries. Cooper (1993) and Davis et al. (1996) have however highlighted the use of small and focused samples and their lack of generalizebility as one of the problems with studies focusing on firm growth and performance. We did also not account for the aging of the experience. Having had 15 years of experience say 10 years ago or the same amount of experience in the last 16 years could exert a quite different influence since changed economical and environmental conditions could make this kind of experience less valuable over time. Finally we did not consider the breath of experience nor the'venture's stream of experience' as was put forward by Reuber and Fisher (1999). The breath of experience refers to the number of functional areas, industries or organisations in which one has had experience (Duchesneau & Gartner, 1990). The experience curves could exhibit different shapes taking into account the diversity of management, industry or business experience. The venture's stream of experiences is a continuous and ever changing process of experimentation and learning. The research efforts for studying the venture's stream of experiences were however far beyond the scope of this study.

REFERENCES

Begley, T.M. en D.P. Boyd (1985), “Company and Chief Executive Officer Charateristics Related to Financial Performance in Smaller Business.”, *Frontiers of Entrepreneurship Research*, Wellesley, Mass., pp. 452-467.

Brüderl, J., Preisendörfer, P. en R. Ziegler (1992), “Survival chances of newly founded business organizations”, *American Sociological Review*, May/June, pp .30-50

Chandler, G.N. (1996), “Business Similarity as a Moderator of the Relationship between Pre-Ownership Experience and Venture Performance.”, *Entrepreneurship Theory and Practice*, 20 (3), pp. 51-65.

Cooper, A.C. and F.J. Gimeno-Gascon (1992), “Entrepreneurs, Processes of Founding, and New Firm Performance.”, in D. Sexton and J. Kasarda (Eds.), *The State of the Art in Entrepreneurship*, Boston, MA: PWS Kent Publishing, pp. 301-340.

Davidsson, P.(1991), “Continued entrepreneurship: ability, need and opportunity as determinants of small business growth”, *Journal of Business Venturing*, 6, pp. 405-429.

Davidsson, P; (1989), “Continued entrepreneurship and small firm growth.”, Doctoral dissertation, Stockholm School of Economics, Stockholm.

Donckels, R. (1998), “Ondernemen in het familiebedrijf”, in : Sherjon, D. en A. Thurik (red), *Handboek Ondernemers en Adviseurs in het Midden- en Kleinbedrijf*, Kluwer bedrijfsinformatie, Deventer, 161-183.

Duchesneau, D.A. and W.B. Gartner (1990), “A profile of success and failure in an emerging industry.”, *Journal of Business Venturing*, 5, pp. 297-312.

Dunkelberg, W.C. and A.C. Cooper (1982), “Patterns of Small Business Growth.”, in K.H. Chung (Ed.), *Proceedings of the Academy of Management 1982*, New York: Academy of Management, pp. 409-413.

Dunne, P., Hughes, A. (1994), ″Age, size, growth and survival : UK companies in the 1980s″, *The Journal of Industrial Economics*, XLII, pp. 115-140.

Durinck, E., Laveren E., Lybaert N. (b1997), "The impact of sales growth above a sustainable level on the financing choice of Belgian Industrial SME’s.", Working Paper, UFSIA, Antwerpen.

Dyke, L.S. , Fisher E.M., and A. R. Reuber (1992), “An inter-industry examination of the impact of owner experience on firm performance.”, *Journal of Small Business Management*, 30 (4), pp. 72-87.

Evans , D.S. (1987), ″The relationship between firm growth, size, and age : estimates for 100 manufacturing industries.″, *The Journal of Industrial Economics*, XXXV, pp. 567-581.

Hart, P., Oulton, N. (1996), “Growth and Size of Firms”, *The Economic Journal*, 106, September, pp. 1242-1252.

Jo, H. and J. lee (1996), “ The relationship between an entrepreneur’s background and performance in a new venture”, *Technovation*, 16 (4), pp. 161-171.

Krueger, N. (1993), “Growing up entrepreneurial: Developmental consequences of exposure to entrepreneurship.”, *Academy of Management Best Papers Proceedings*, Atlanta, GA: Omni Press, pp. 80-84.

Lee, D.Y. and E.W.K. Tsang (2001), “The effects of Entrepreneurial Personality, Background and Network Activities on Venture Growth*.”, Journal of Management Studies*, 38, pp. 583-600.

Myers, S.C. (1984), “The Capital Structure Puzzle”, *Journal of Finance*, pp. 575-592.

Ooghe, H., C. Van Wymeersch, M. Ernst en P. Van Den Bossche (1994), "Empirical Analysis of the Difference between Successful and Unsuccessful New Enterprises.", *Accountancy en Bedijfskunde, kwartaalschrift*, jrg. 19 (1), pp. 3-15.

Penrose, E.T. (1959), *The theory of the growth of the Firm*, Oxford: Oxford University Press.

Reuber, A.R. and E. Fischer (1999), “Understanding The Consequences of Founder’s Experience.”, *Journal of Small Business Management*, 37 (2), pp. 30-45.

Roure, J.B. and R.H. Keeley (1990), “Predictors of Success in New Technology Based Ventures.”, *Journal of Business Venturing*, 5, pp. 210-220.

Sandberg, W.R. and C.W. Hofer (1987), “Improving New Venture Performance: The Role of Strategy, Industry Structure and the Entrepreneur.”, *Journal of Business Venturing*, 2, pp. 5-28.

Scherer, R., Adams, J., Carley, S. and Wiebe F. (1989), “Role model performance affects on development of entrepreneurial career preferences.”, *Entrepreneurship Theory and Practice*, 13 (3), pp. 53-71.

Scherr, F.C., Sugrue T.F. and Ward, J.B. (1993), “Financing the Small firm Start-up: Determinants of Debt Use”, *Journal of Small Business Finance*, 3 (1), pp. 17-36.

Siegel, R., Siegel, E. en I.C. MacMillan (1993), “Characteristics distinguishing high-growth ventures”, *Journal of Business Venturing*, 8, pp. 169-180.

Starr, J. en Bygrave W. (1991), “The assets and liabilities of prior start-up experience: An exploratory study of multiple venture entrepreneurs.”, in N.C. Churchill, W.D. Bygrave, J.G. Covin, D.L. Sexton, D.P. Slevin, K.H. Vesper en W.E. Wetzel, eds. *Frontiers of Entrepreneurship Research 1991*, Wellesley, MA: Babson College, pp. 213-227.
Stuart, R. W. and P.A. Arbetti (1990), “Impact of entrepreneurial and management experience on early performance.”, *Journal of Business Venturing*, 5, pp. 151-162.
Van der Wijst, D. (1989), “Financial Structure in Small Business”, Lecture Notes in Economics and Mathematical Systems, Berlin, Springer-Verlag, 320, 181 p.
Variyam J.N., Kraybill, D.S. (1992), ″Empirical evidence on determinants of firm growth.″, *Economic Letters,* 38, pp. 31-36.
Vesper, K.H. (1990), “*New venture strategies*”, Englewood Cliffs, NJ: Prentice Hall.
Wagner, J. (1992), ″Firm Size, Growth, and Persistence of Chance : Testing GIBRAT’s Law with Establishment Data from Lower Saxony, 1978-1989″, *Small Business Economics,* 4, pp. 125-131.

CONTACT: Eddy Laveren; University of Antwerp, Department of Accounting and Finance, Prinsstraat 13, B-2000 Antwerp, Belgium; tel + 32 3 220 40 86; fax + 32 3 220 40 64; eddy.laveren@ua.ac.be

Table 1: List of independent variables.

Experience variables:	
AGECEO	Age of the CEO: <35 years, 36-50 years, 51-60 years, > 60 years
CURCOMP	The number of years the CEO was with the current company at the 1st of January 1998
CURCOMP²	Square of the number of years the CEO was with the company at the 1st of January 1998
SAMEINDDUMMY	1 is the CEO has worked in another company of the same industry 0 otherwise
SAMEIND	Number of years the CEO has worked in another company of the same industry
SAMEIND²	Square of the number of years the CEO has worked in another company of the same industry
OTHERINDDUMMY	1 is the CEO has worked in another company of another industry 0 otherwise
OTHERIND	Number of years the CEO has worked in another company of another industry
OTHERIND²	Square of the number of years the CEO has worked in another company of another industry
CEOOTHERCOMP	1 if CEO holds a CEO position in another company 0 otherwise
CEOPOSITION	Number of years in a CEO position (years) at the 1st of January 1998
CEOPOSITION²	Square of the number of years in a CEO position (years) at the 1st of January 1998
SELFEMPL	1 if CEO had parents that were self-employed 0 otherwise
Control variables:	
PROFITABILITY	Average profitability over the period 1993-1997
LNAGE	Natural logarithm of the age of the company at the 1st of January 1998
LNSIZE	Natural logarithm of the average in total assets over the period 1993-1997.
SSCONTRIB	Ratio of the social security contributions to value added averaged over the period 1993-1997
SOLV	Average solvency over the period 1993-1997
HISTGROWTH	Average growth in value added over the period 1993-1997
ECDEGREE	1 if CEO has a degree in economics 0 otherwise

Table 2: Cross-tabulation of Fast Growing Companies and Weak Growing Companies in value added versus CEO's depth of experience.

		Weak growing C.		Fast growing C.	
AGECEO**	< 35 y.	6	28,6%	15	71,4%
	36-50 y.	55	40,1%	82	59,9%
	51-60 y.	35	50,7%	34	49,3%
	>60 y.	17	73,9%	6	26,1%
CURCOMP**	< 5 y.	9	36,0%	16	64,0%
	6-10 y.	9	15,5%	49	84,5%
	11-15 y.	18	37,5%	30	62,5%
	16-20 y.	21	51,2%	20	48,8%
	21-25 y.	25	75,8%	8	24,2%
	26-30 y.	18	66,7%	9	33,3%
	> 30 y.	13	72,2%	5	27,8%
SAMEINDDUMMY*	1	27	34,6%	51	65,4%
	0	86	50,0%	86	50,0%
SAMEIND*	< 5 y.	6	24,0%	19	76,0%
	6-10 y.	8	30,8%	18	69,2%
	11-15 y.	4	44,4%	5	55,6%
	16-20 y.	1	12,5%	7	87,5%
	> 20 y.	8	80,0%	2	20,0%
OTHERINDDUMMY	1	24	39,3%	37	60,7%
	0	89	47,1%	100	52,9%
OTHERIND*	< 5 y.	14	58,3%	10	41,7%
	6-10 y.	5	26,3%	14	73,7%
	11-15 y.	1	9,1%	10	90,9%
	16-20 y.	2	40,0%	3	60,0%
	> 20 y.	2	100,0%	0	00,0%
CEOOTHERCOMP	1	46	40,4%	68	59,6%
	0	66	49,6%	67	50,4%
CEOPOSITION*	< 5 y.	12	40,0%	18	60,0%
	6-10 y.	23	32,9%	47	67,1%
	11-15 y.	24	44,4%	30	55,6%
	16-20 y.	16	47,1%	18	52,9%
	21-25 y.	19	57,6%	14	42,4%
	26-30 y.	13	76,5%	4	23,5%
	> 30 y.	6	50,0%	6	50,0%
SELFEMPL**	1	98	51,0%	94	49,0%
	0	15	25,9%	43	74,1%

Pearson Chi square: * Significant, $\alpha = 5\ \%$; ** Significant, $\alpha = 1\ \%$

Table 3: OLS regression estimates – linear and curvilinear form

	Dependent variable = growth in value added. Estimated coefficient (t-statistic)				
	I	II	III	IV	V
CONSTANT	10.137	8.952	8.088	9.071	3.783
	(1.524)	(1.364)	(1.192)	(1.342)	(0.551)
PROFITABILITY	0.139	0.140	0.138	0.154	0.139
	(1.622)	(1.653)	(1.625)	(1.813)	(1.644)
LNAGE	-6.592	-6.209	-6.236	-5.963	-6.167
	(-3.919**)	(-3.663**)	(-3.673**)	(-3.767**)	(-3.932**)
LNSIZE	1.710	1.580	1.651	1.035	1.503
	(1.308)	(1.223)	(1.269)	(0.795)	(1.166)
SOLV	-5.842E-02	-5.670E-02	-5.769E-02	-6.103E-02	-6.144E-02
	(-2.656**)	(-2.598*)	(-2.630**)	(-2.823**)	(-2.874**)
SSCONTRIB	0.173	0.180	0.179	0.147	0.141
	(2.347*)	(2.463*)	(2.438*)	(1.982*)	(1.917)
HISTGROWTH	0.147	0.139	0.140	0.171	0.163
	(4.317**)	(4.061**)	(4.074**)	(4.876**)	(4.722**)
ECDEGREE	-9.942E-03	-0.237	-0.260	1.425	1.500
	(-0.010)	(-0.241)	(-0.264)	(1.427)	(1.525)
AGECEO	-1.360				
	(-2.047*)				
CURCOMP		-0.141	-5.015E-02		
		(-2.442*)	(-0.267)		
CURCOMP²			-2.283E-03		
			(-0.511)		
SAMEINDDUMMY	3.245	2.529	2.517		
	(2.805**)	(2.232*)	(2.218*)		
SAMEIND				0.201	0.490
				(2.183*)	(2.011)
SAMEIND²					-1.548E-02
					(-1.290)
OTHERINDDUMMY	4.638	3.905	3.964		
	(4.022**)	(3.322**)	(3.352**)		
OTHERIND				0.312	0.847
				(2.971**)	(2.810**)
OTHERIND²					-3.585E-02
					(-1.982*)
CEOOTHERCOMP	1.570	1.818	1.789	1.842	1.647
	(1.672)	(1.974*)	(1.937)	(1.999*)	(1.794*)
CEOPOSITION				4.258E-02	0.463
				(0.837)	(2.742**)
CEOPOSITION²					-1.192E-02
					(-2.591*)
SELFEMPL	-2.116	-1.626	-1.645	-2.683	-2.285
	(-1.853)	(-1.453)	(-1.467)	(-2.407*)	(-2.060*)
Adjusted R²	0.282	0.287	0.285	0.268	0.324
F	11.427	11.736	10.827	10.840	9.807
Sig.	0.000	0.000	0.000	0.000	0.000

Pearson Chi square: * Significant, $\alpha = 5$ %; ** Significant, $\alpha = 1$ %