

Financing High Technology Startups In Belgium: An Explorative Study

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ABSTRACT. The results of an explorative study on the financing of 18 high technology Belgian startups are reported. On a counts basis, the most important sources of financing at the startup are the entrepreneurs and the banks, but the sources that provide the largest amounts of funds are the venture capital companies and private investors. Private investors and venture capitalists have a complementary role, with the former investing mostly at the startup and the latter financing the early growth. The role of the government, universities and other companies is limited.

1. Introduction

Innovative and high technology companies are considered to be the driving force behind the future growth of any economy (Bhide, 1994). Starting and growing a new business, however, consumes a considerable volume of financial resources. Besides the normal financial requirements that any new company faces, a high tech company needs additional money for its R&D in order to develop new products and markets. Lack of financial resources is one of the major problems which these companies face (Moore, 1994). In the U.S., one of the important sources of money for these companies is the venture capital industry. In Europe, however, the venture capital industry is less likely to fund high technology companies than in the U.S.; there is even an aversion for these risky investments (Murray and Lott, 1994).

Besides venture capital, a variety of other sources of finance are potentially available to the startup company (Timmons et al., 1985). These include in the first place the personal savings of the entrepreneurs themselves, occasionally sup-

plemented with capital or loans from family or friends. Bank financing is limited to loans in Belgium, but is likely to be more important than in the U.S. Indeed, several banks have set up lending schemes targeted at startup companies in the eighties. They were recognised as being important future clients, that had to be tied to a bank very early in their life.

Private individuals unrelated to the entrepreneurs, the so-called business angels, are important providers of money in the U.S., the U.K., Canada and Scandinavia (e.g. Freear and Wetzel, 1990; Landström and Olofsson, 1996; Mason and Harrison, 1993; Riding and Short, 1987). No study on their activity exists in Belgium, although some newspaper reports signal their existence. We therefore recognise that they may be important, but at this point, we are unable to assess their role in funding Belgian new technology based companies (NTBFs).

Other non-financial companies may also provide financial means for startups (Siegel, Siegel and MacMillan, 1988). It is not uncommon to see the parent company, where the technology was developed, but not commercialised, take a stake in the startup. Other companies may wish to invest in order to get a "window on the technology" (Siegel et al., 1988) or to control an important customer or supplier (Segers, 1993). The potential benefits of this type of financing source are both financial and strategic for the startup company: it has access to technical and industry experience, to marketing resources and to management expertise (McNally, 1994).

Institutional investors, such as insurance companies and pension funds, face heavy regulatory requirements and are therefore not willing or not allowed to invest directly in risky startups; they sometimes invest indirectly through venture capital funds. Universities may play a role when

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the technology was developed in their institution. Finally, Bhidé (1992) points at the importance of 'bootstrap finance' for startups. He emphasises the fact that, apart from the above mentioned traditional and structural sources of finance, creative financing methods, such as the extensive use of trade credit or credit cards, are a key factor in the survival of startups in their early life.

Going public was not a possible alternative for Belgian NTBFs during the period of our study, as the law required that a company had to be profitable during at least three years before being listed. This made it impossible for new companies to get an official listing in Belgium, contrary to the situation in the U.S., where the Nasdaq is a viable alternative for promising ventures. In 1996, the Brussels stock market and the laws governing the introduction on stock exchanges is changing dramatically, but it remains very difficult for new companies to raise capital in this way.

Most of the studies on the financing of entrepreneurial, high tech companies have been done in the U.S. As Harrison and Mason (1994) point out, it is not clear that the American situation is readily transposable to the European context. Major differences are (1) the fact that the venture capital industry is longer established and larger in the U.S. than in any other country, although the European countries are catching up relative to their GDP (Ooghe et al., 1991); (2) the secondary stock market, NASDAQ, is much more important than its European counterparts; (3) the development of new industries largely occurs through new firms in the U.S. and through large, existing companies in Europe (Harrison and Mason, 1994).

The goal of this study is to find out which financing sources are used by high tech, independent startups in their startup and early growth phase in a small, open European economy, namely Belgium. Questions to be answered are: What is the importance of the venture capital industry, the banks, the private investors and the government in financing high tech startups? Do these financing sources have different roles and fulfil different needs? Do they provide more than money alone? Besides studying the actually observed financing patterns, we will explore the motives of the entrepreneurs for choosing one source of financing rather than another. Due to the fact that no studies on these subjects exist in Belgium, we were unable

to formulate propositions; we approach the subject with an open, explorative mind.

2. The research method

Several empirical studies of financial sources used by companies have been carried out, e.g. Dunkelberg and Cooper (1983) in the U.S. and Cressy (1993) and Moore (1994) in the U.K. The most important sources of financing are the entrepreneurs themselves, as well in the U.S. (they are the most important source in 47% of the companies) as in the U.K. (43%). Thereafter come the institutional investors in the U.S. (28%) and the banks in the U.K. (28%) (Cressy, 1993). It is furthermore common to have only one or two different financial sources at the startup (Dunkelberg en Cooper, 1983; Cressy, 1993). Once the initial startup phase is completed, banks are the most important providers of financial means in the early growth phase in the U.S. (Petersen and Rajan, 1994).

That the entrepreneurs themselves are the most important financiers, is also a valid statement for high tech companies (Bruno and Tyebjee, 1985; Freear and Wetzel, 1990; Moore, 1994). Business angels and venture capitalists come in second place (Freear and Wetzel, 1990; Wetzel, 1994), in contrast to the banks who are the second most important financiers for the population of all young companies. This is a first sign that the financing patterns of high tech and non high tech companies differ. It appears moreover that venture capitalists and business angels are not direct competitors, but complementary (Freear and Wetzel, 1990): private individuals are most likely to invest in the pre-startup phase (Gaston, 1989; Mason and Harrison, 1993) and they invest smaller amounts than the professional capital providers. A venture capital company is more likely to invest in later stages, in a smaller number of companies, but supplies a large amount of money per company than other financiers (Dunkelberg en Cooper, 1983). It appears, moreover, that venture capitalists have a positive impact on the further evolution of the company (Bruno and Tyebjee, 1985): venture backed companies have more sales and a higher growth of their sales.

In order to study how Belgian high tech companies are financed at the startup and early growth

a qualitative survey was carried out in 1995 with 18 high tech companies who were founded at most 10 years ago. In order to classify a company as 'high tech', an ad-hoc approach is used: only manufacturers in the electronics, computer technology (hard- and software), biotechnology, medical technology, energy and environmental technology sectors are selected (cf. Freeman, 1985). We focus on manufacturing companies, because they need more financial resources than service companies (Moore, 1994). A drawback of this sampling technique is the fact that companies that use a high tech production process are excluded (Alderman et al., 1988).

31 high tech companies were identified in newspapers, specialised trade journals, etc. and contacted for the study; 21 of them agreed to cooperate. Three of them were deleted from the sample after the interview, because they were distributors or consultants, leaving a useable sample of 18. We do not expect the non-response bias to be significant, as the study is qualitative. A more important bias is the fact that only surviving companies are represented in the sample. Companies that did not survive their early years

of operation are excluded; it is, however, possible that these companies used other financing sources. We are not able to detect this with this research design.

A questionnaire was developed, pre-tested on two high tech entrepreneurs (not included in the final sample) and adapted. We conducted structured, non-standardised interviews (Kerlinger, 1973, p. 481) with (one of) the initial founder(s) of the company or the financial manager; the interviews lasted between one hour and two and a half hours. The use of interviews has as major advantage that we were able to probe the motives of the choice of a particular financing source.

Table I shows some characteristics of the companies in the sample. Most of the companies are active in the electronics sector. The companies represented are diverse in magnitude. The sales generated during the first year varies between 37,500,000 ECU and more than 1 million ECU (median: 187,500,000 ECU). The startup capital varies between 10,000 ECU and more than 5 million ECU (median: 46,250,000 ECU). The relatively high number of companies with a startup capital of 18,750,000 ECU and 31,250,000 ECU

TABLE I
Characteristics of the sample^a

Sector	Startup year	#Entrepreneurs	Sales 1st year	Earnings 1st year	Startup capital
Biotech	1984	3	412.5	-462.5	762.5
Biotech	1985	2	500	-1750	5350
Software	1987	2	N.A.	-475	300
Electronics	1987	2	225	-217.5	750
Software	1988	1	1195	-35	500
Electronics	1989	1	80	7.5	18.75
Software	1990	2	N.A.	-50	31.25
Electronics	1990	1	262.5	-145	31.25
Electronics	1990	4	57.5	0	50
Electronics	1990	2	625	-112.5	31.25
Electronics	1990	1	275	0	18.75
Software	1991	2	112.5	3	75
Electronics	1991	1	87.5	-25	42.5
Software	1991	4	150	6.25	10
Software	1992	4	125	-120	200
Electronics	1992	2	37.5	0	18.75
Medical	1993	1	N.A.	N.A.	18.75
Environment	1993	5	N.A.	N.A.	75
Median			187.5	-50	46.25

^a Sales, earnings and capital are expressed in thousands of ECU (a conversion rate of 40 BEF per ECU is used throughout the whole period of the study).

is due to legal requirements: it is the minimum capital required in Belgium to start a company with the legal form of 'BVBA', respectively 'NV'. The gains or losses in the first year vary between -1.75 million ECU and 7,500 ECU (median: -50,000 ECU). This confirms the fact that high technology companies do not generate early profits.

The number of entrepreneurs per company varies between 1 and 5, amounting to a total of 40 entrepreneurs. Twentyfive of them are engineers and 7 have a graduate degree in the natural sciences. This is consistent with the findings of Bruno and Tyebjee (1985) that high tech companies are typically started by engineers or scientists. Thirty entrepreneurs worked in the same sector as the one in which they started the company; eleven had previous experiences with

startup companies. Their age at startup varies between 24 and 60.

3. The results

Table II gives an overview of the long term financing sources that were used by the companies in the sample; as well the initial capital as the long term loans are included. Four entrepreneurs got a personal loan from the bank, that they used as startup capital; this is included as 'bank loan' and not as a personal capital. Table III gives an overview of the number of financial sources used at the startup and the combination of the different sources.

The entrepreneurs are the most important providers of financial resources at the startup; this is comparable to the Anglo-Saxon studies (Cressy,

TABLE II
Long term financing sources used at startup^a

	Companies ^b	Median amount	Average amount	Comments
Entrepreneur(s)	16	31.25	302.5	
Bank	8	31.25	57.5	4 personal loans
Private individual	3	755	535	
Other company	3	150	165	1 loan, 2 equity participations
University	3	24	57.5	
Venture capital	2	1312.5	1312.5	
Friends and family	2	7.5	7.5	

^a All amounts are expressed in thousands of ECU.

^b The total number of companies is larger than 18, as companies can use several sources simultaneously (see Table III).

TABLE III
Number of financing sources at startup^a

# Companies	# Sources	Median amount	Average amount	Sources
5	1	18.75	30.75	3x entrepreneurs 2x bank
7	2	43.75	81	3x entrepreneurs + bank 2x entrepreneurs + university 1x entrepreneurs + family 1x entrepreneurs + other company
6	3	625	1327	1x entrepreneurs + private individuals + family 1x entrepreneurs + private individuals + VC 1x entrepreneurs + private individuals + bank 1x entrepreneurs + VC + other company 1x entrepreneurs + other company + bank 1x entrepreneurs + university + bank

^a All amounts are expressed in thousands of ECU.

1993; Bruno and Tyebjee, 1985; Freear and Wetzel, 1990; Moore, 1994). It is interesting to note that there are two companies where the entrepreneurs did not bring in any personal capital: the startup equity was entirely covered by a personal loan, given by a bank. These entrepreneurs claim that they did not have enough personal liquid wealth available at that moment to finance the company at the startup. They do, however, bear personally the total risk of failure, because these bank loans are heavily secured by personal assets of the entrepreneurs. If the project fails, their personal wealth will be at stake. All the entrepreneurs thought it normal to participate in the capital of the startup and bear the risk and rewards of failure and success of the company that they intended to develop.

All entrepreneurs brought their money in as equity capital. There are only two startups where different types of shares were created; this happened twice at the explicit demand of the participating venture capitalists, in order to differentiate the rights and plights of the different categories of investors. The other entrepreneurs aimed to keep the financial structure of the company as simple as possible.

In Table III, the 18 companies (column 1) are broken down by numbers of sources of finance used by each (column 2), and the particular combinations indicated (column 5). Thus, for example, 7 companies used just two sources at startup. Of those, 3 companies used the entrepreneurs' own funds combined with bank loans, 2 companies used the entrepreneurs' own funds combined with university funds and so on. When only one source of financing was used at the startup (Table III), it was always either the capital of the entrepreneurs or a personal bank loan. Table III shows clearly that the number of financial sources grows as the initial capital grows. Again there is a simplicity in the way the startups are financed: if the required amount of capital can be gathered from a limited number of sources, then no other sources will be brought in. This would only unnecessarily complicate the deal.

The banks were the second most important providers of financial means in this sample (measured as the number of companies that got bank financing): almost half of the companies got some kind of long term bank financing at the

startup. This is higher than reported in the Anglo-Saxon studies (Moore, 1994). Banks were thus important partners for risky, high tech companies in Belgium. Four companies got a long term investment loan at startup and four entrepreneurs got a personal bank loan that they put in the company as (additional) capital. It is important to note that all the bankers except one required some kind of collateral: either a personal guarantee of the entrepreneur(s), a mortgage on the real estate of the company or the accounts receivable, or a guarantee by a third party. Only one company got a loan for an amount of 25,000 ECU without collateral, from a bank that had a special financing program for startup companies, where they – among others – required only some educational degree of the entrepreneur(s) in order to grant an unsecured loan up to a certain amount. It is, however, remarkable that only one company could profit from this special program for startups; this is probably due to the fact that these programs were not specifically targeted towards the larger startups, but rather to the smaller, mom-and-pop stores.

The motivation to apply for bank loans was for five of the eight companies the fact that they were unwilling to open their capital for third parties. Their independence was vital to them and this precluded other financial sources. It is interesting to note that these five companies were the smallest in the sample, with respect to initial capital and the evolution of the sales, but they are also the most profitable (in the short time frame of this study). Two other companies that used bank loans considered these loans as only their second choice: they first tried to attract venture capital, but without success. The entrepreneur of the eighth company that used bank loans was able to provide all the necessary capital personally, but chose to bring in a bank in order to spread his personal risk. The fact that bank financing was so important, was thus not a matter of chance, as it reflected in six of the eight cases a deliberate choice of the entrepreneur(s).

The eight companies that got bank loans, had on average applied for loans at three banks, of which on average two were willing to grant the loan. The banks were then chosen on the basis of earlier dealings of the entrepreneur(s) with the bank or because of their good reputation. In only

one of the cases was the specific bank program for startups the most important factor for the choice. The reason why some banks refused the loans, was mostly the high riskiness of the project or the fact that the entrepreneurs were unable to put up the desired collateral.

Three of the entrepreneurs who did not apply for bank loans at the start of their company, did not want to burden the company with loans and the fixed repayments that are attached to them; one wanted to start with a 'nice balance sheet. The others were reluctant to start with bank loans because of the heavy personal collateral that would be asked and/or because this would endanger the future possibility of getting loans to finance further growth. Two entrepreneurs did never consider bank loans, because they found enough financing from other sources.

Other sources of capital were used rather sparsely. Private individuals, unrelated to the entrepreneurs, provided equity capital to three of the eighteen companies, but they never provided loans. Two of them invested in biotechnological companies, the other in a software company. The private individuals were the most important providers of capital in one of the companies and were one of the three equally important financial sources in the two others. It is remarkable to note that the three companies that were partly financed by private individuals are amongst the biggest in the sample. The investors were found by the entrepreneurs through "word of mouth": they were "acquaintances of acquaintances". The private investors never wanted to have an active role in the investee company. Only one entrepreneur said that his investment proposal was rejected by an individual, because of its riskiness. The other entrepreneurs did not actively approach private individuals as a financial source for their company, mainly because they did not know any wealthy individual. Four of them explicitly state that, even if they knew a wealthy individual, they would not ask him or her to participate, because they do want to remain totally independent.

The previous remarks show that the phenomenon of private investors is not so widespread in Belgium as it is in the U.S., the U.K., Canada or the Scandinavian countries. It is not clear from this small sample whether this is due to a lack of potential investors who are willing to accept this

kind of risk, to a lack of entrepreneurs who are willing to accept private individuals as investors in their companies or to the limited scope of the sample. It is however, comparable with the other countries where the phenomenon has been studied in that the private individuals, who are willing to invest, are difficult to find (Gaston, 1989; Mason and Harrison, 1993). Much depends on good luck; a guided search strategy is very difficult to implement. Moreover, research has found that business angels prefer to invest in industries in which they are familiar (Mason and Harrison, 1994); as the number of Belgian high tech companies is limited, the number of business angels willing to invest in high tech startups may also be limited.¹

Other (non-financial) companies invested in three of the eighteen companies in the sample, with as primary goal to get a window on technology (Siegel *e.a.*, 1988). The technology of the startup company was developed in two of the companies that invested in the startup. The parent companies, however, did not want to commercialise the technology and bear the whole risk, but were willing to back an independent startup. The third company was a commercial partner of the company where the technology was developed; this company acquired the startup company from the entrepreneurs after two years of successful operations. None of the entrepreneurs was actively seeking for a non-financial partner. On the contrary, the entrepreneurs of two of the three companies that were financed by another company, were initially seeking for venture capital, but they did not get it because of the riskiness of the project. In this limited sample, it appears that the non-financial companies are willing to accept more risk than venture capital companies. This might be due to the fact that the former are more knowledgeable about the particular industry and technology and its potential success (McNally, 1994) than the latter, who are more financially oriented in Belgium. The technology seems to be the primary investment criterion, rather than the possible financial return.

The university was an important financial partner for three companies in the sample; all of them commercialised technological discoveries that were carried out in the university. The role of the university was, however, broader than being merely a financial partner: four of the eighteen

companies were located in a university innovation or incubation centre, where they got limited administrative support, one was a spin-off from a university and a final one used university laboratories to test new products. The other companies in the sample did not approach universities at the startup, because they were not related to one. Universities are thus able to play an important role in the valorisation of the R&D that they carry out, but not for totally unrelated companies.

Venture capital was an important source of financing at the startup for only two of the companies; in both cases they provided straight equity. The first company approached six different venture capitalists, the second two; all venture capitalists were willing to invest in both companies. In both cases, attracting venture capital was a thoroughly prepared process; the venture capitalists were moreover the first sources of external financing that the entrepreneurs looked for. The main reason to apply for venture capital was the professional advice and the management support that the venture capitalists provide after the investment is made; this is an important added value of the venture capitalists, compared to other financiers. The entrepreneurs, who looked for venture capital, did not fear losing the control over their company, because they made clear and satisfactory arrangements at the time of the investment.

Two other entrepreneurs wanted to attract venture capital at the startup for the same reason, but failed to do so. Both gave as main reason for their failure the risky nature of the project. One of them has succeeded in attracting international venture capital financing after three years of successful operations, while the other one got enough financial resources from other parties.

Half of the entrepreneurs who did not try to attract venture capital at the startup, did not want to lose control of their company and therefore did not allow third parties to participate in the capital, even if this would allow them to expand the scope of their company. The growth of the company was important to them, but was not a goal as such. Having a small company, that is completely their own, was more important to them than owning a part of a larger company. Some other entrepreneurs thought that their financial needs and their growth prospects were too limited to interest

venture capitalists. A final entrepreneur even thought that venture capitalists are not interested in startup companies.

Family and friends participated in only two of the companies; in both cases, they provided capital. In one of these two their participation was rather symbolic, compared to the amounts got from other sources. Although it appears at first sight to be very easy to attract capital from family and friends, it seems that this source is seldom used for this kind of startup. Eleven entrepreneurs said they did not want to mix their private and business matters: they feared that their personal relationships would be hurt if the business turned out less successful than hoped. Others did not want to implicate family and friends, in order not to burden them financially or because of the fact that the project is too technical and the family would not understand the business. In this sample, the statement found in many brochures for startup companies, namely, that parents often finance the projects of their children with capital or loans without interests, is not confirmed. This again emphasises that bank programs for startup companies are aimed at smaller companies, rather than at the more important ones.

Investment companies and institutional investors were not used as financial partners in this sample. One company tried to get a participation from an investment company, but the managers found the project too risky. None of the entrepreneurs considered institutional investors as possible partners for their companies.

Table II shows furthermore that the relative importance of each financial source varied widely. Although venture capital funds only invested in two of the companies in the sample, they provided the largest amounts of financing. The same phenomenon as in the U.S. or U.K. is thus found in Belgium: venture capital companies invest only in a very limited number of companies, but when they invest, they supply large amounts of money. The second most important category of investors were the private individuals. They invested smaller amounts than the venture capitalists in the startup phase, but significantly larger amounts than the other categories. The third most important category were the non-financial companies. The amounts provided by the entrepreneurs themselves, the banks, universities and family and

friends, were marginal compared to those of the other sources. Anglo-Saxon studies are confirmed here: when large amounts of financing are needed, it is best to look for professional investors or private individuals; when only smaller amounts are needed, other sources are better suited.

The direct role of the government was relatively unimportant. Subsidies are mostly given in the form of a lowering of the interest rate on bank loans; the government never takes a direct equity stake in a startup company. The indirect role of the government is more important in that respect: the government has funded large venture capital companies in the Northern and the Southern part of Belgium and in Brussels. This, however, has been treated under 'venture capital' in this study. Thirteen of the eighteen companies have sought help from the government at the startup; ten of them have got some kind of subsidies. In all cases, the bank took the lead in applying for the subsidies. The subsidy system is very complicated in Belgium; specialists are needed to know whether or not a company can apply for it. Banks seem to play an important role here. Only two of the companies got the subsidies from the European Union, through some R&D program (Eureka, Brite). A problem with these programs is the fact that it takes approximately two years between approval and the time the money is available for the company. A startup company thus cannot really count on that money to fund the early survival phase; this is comparable to the situation in the U.K. (Moore, 1994).

The entrepreneurs who did not apply for some kind of subsidies, were often not aware of the fact that they were eligible for one of the different programs. Three of them explicitly stated that they did not apply for government aid, because they resented the extensive administrative process that was required, even if the amounts they might receive from the government are considerable. There seem to be three main problems with government aid: first, the different programs are not known by the entrepreneurs (although there are special governmental agencies, that have as main goal to inform and help entrepreneurs), second, the process is too bureaucratic and third, the process takes too long. Government aid seems to become more important after some years of operation.

A potential important source of financing,

known as 'bootstrap finance' (Bhide, 1992) has not been considered in our study, as our research design was not adequate for detecting this. The main purpose of bootstrap finance is to minimise the need to raise finance from external sources at startup through the extensive use of trade credit, the use of credit cards, the delay of payments and even the slow payment of the personnel. The entrepreneurs found it very difficult to recall ex-post how much they used these techniques, except for one entrepreneur. He was indeed very proud that on a couple of critical occasions, his highly skilled employees accepted that their payments were delayed for several months. In return, they got a small part of the equity of the company. This fact has become part of the 'legend' of the company.

4. Financing early growth

In this section, we will briefly discuss how the further growth is financed. We do not consider here the four companies that were started in 1992 and 1993, as the time frame during which these were active is too short. This reduces the sample to fourteen companies.

A first important consideration is the fact that neither the entrepreneurs themselves, nor private individuals, universities, family and friends, brought in new capital. This shows that these non-professional financial sources were particularly important during the startup phase, but not for the further development of the company. In that phase, professional financiers became the dominant providers of capital.

All companies in the sample used long term and/or short term bank financing in their early growth phase; this is comparable to the U.S. situation (Petersen and Rajan, 1994). Seven companies applied for new or additional venture capital financing after one to four years of operations; six of them effectively got financing. The two companies that got venture capital financing at the startup, got both second- and even third round venture capital financing. One of the companies that was not successful in attracting venture capital at the startup, succeeded after one year of operations. It is not possible to extrapolate the high percentage of companies that got venture

capital financing to the whole market, as the sample is very small and probably biased.

The amounts that the venture capital companies supplied are considerable: they varied between 0.5 million ECU and 7.5 million ECU. These high amounts were not provided by a single venture capital company, but by a syndicate of several Belgian and international companies. In all but one of the cases the funds were invested as equity; there was only one convertible loan. This limited sample shows clearly that venture capital is more important for the early development of high tech companies than for their inception.

The use of venture capital had a positive effect on the growth of the financed companies, comparable to the situation in the U.S. (Bruno and Tyebjee, 1985). The sales of the six companies that got venture capital were significantly higher (measured after two years of operations) than those of the companies that did not use venture capital. The growth of the sales after the venture capitalists invested was also higher for the former than for the latter. Profits, however, were lower for the venture backed companies than for the non-venture backed ones. Three quarters of the latter were break-even or had slight losses after a couple of years, but the venture backed companies had still considerable losses two years after the participation of the venture capitalists. This indicates that venture capital has a positive influence on the growth of the companies, but not on the early profitability. It is to be hoped that the profitability improves after a longer period of operation.

Two companies got additional financing from other, non-financial companies, while a third one was bought and financed further by the company that initially financed the startup. Contrary to the participations at startup, that were merely due to chance, we see that in the further growth phase the participations were carefully planned and the potential partner carefully screened. The companies expect more than capital from these partners: they have to fit strategically and have to be able to provide knowledge and competence.

5. Conclusions

In this study, we looked at how high technology startup companies are financed in Belgium.

Qualitative interviews with entrepreneurs of eighteen high technology companies show that the major patterns that emerge are consistent with those found in American and British studies. The most important source at startup, measured by the number of companies in which it is used, was the personal wealth of the entrepreneurs themselves, followed by bank financing. These were the most common sources of finance and all entrepreneurs were willing to use them. An important drawback of bank financing was the fact that significant collateral was required.

It seems that the attraction of other financial sources was not carefully planned, except when professional financiers such as venture capitalists were considered. When another company, a private individual or a university participated in the capital of a startup, this seemed to be more a matter of luck rather than the result of a well thought-of financial strategy. Attracting venture capital, however, was given considerable thought and was a deliberate choice. It is remarkable that many entrepreneurs resent bringing in external (professional or non-professional) partners, even if this implies that the growth of the company will have to be tempered, because they fear losing their independence.

We found that private individuals invested considerable amounts in the startups; the highest amounts, however, were invested by venture capital companies. The other sources of finance were by comparison relatively limited. They were thus acting as complementary sources, a fact that has also been found in the U.S. (Freear and Wetzel, 1990). Venture capital companies had a specific role in the early growth of the companies as providers of large amounts of money. They seemed to invest more readily in the early growth phase, rather than in the startup phase of the companies. It is remarkable that the non-professional financiers, such as the entrepreneurs, private individuals or universities, restricted their role as financiers to the startup phase: they did not invest further during the growth phase of the company. Venture capital companies and private individuals, whose roles in financing startups are often compared, seemed to have a complementary rather than a competitive role in Belgium: private individuals invested primarily in the most risky phase, i.e. at the startup, while the venture capital

companies financed primarily the early growth. Banks were important throughout the whole process, but the amounts that they provided were smaller and the loans they provided were heavily collateralised.

Government may play an important role in the financing of high technology startups through subsidies of all kinds and through the financing of R&D. Entrepreneurs were not fully aware of the possibilities that the national and European programs offer and even when they were aware of them, the associated administrative burdens and the time consuming process of application deterred them from applying. We conclude that the best solution is to let the banks perform the administrative work.

It is often said that a lack of financial resources is a major impediment for starting companies. As we could not study the unsuccessful startup attempts, we are unable to confirm or refute this statement. We are, however, able to conclude that the search for capital is not well planned. A better financial strategy and action-plan would probably enhance the success-ratio (Hustedde and Pulver, 1992). It appears, moreover, that many entrepreneurs are extremely reluctant to open their capital for third parties, even if this attitude hampers the growth of the company, because they fear to lose their independence. This should not necessarily be the case, if the deal is well-structured. A problem is the fact that private investors, who prove to be valuable partners for startups, are difficult to find. The use of this important financial source will therefore remain a question of good luck.

Note

¹ We thank a reviewer for pointing this out.

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