

SEED CAPITAL – LIMITS AND OPPORTUNITIES FOR FINANCING THE START-UPS

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1. Introduction

Transforming the research, development and innovation projects on success business depends largely on financing in the early stages of a company. In this stage, a company will use the funding (called "seed capital") for research and development, for a prototype of the business concept/idea or for market research.

Technology transfer is the transfer of research results obtained by universities or research centers to the market and transferring of know-how, technology or expertise from an organization to another or the technology transfer from one industry to another.

In recent years, the technology transfer was considered an important tool for promoting growth and creating jobs. Although Europe has a strong scientific and technological base, this potential is not used properly and the main cause is the lack of investment funds, especially in the early stages of business development. This shortage was reinforced by the effects of international financial crisis, felt by most Member states.

2. Pre-seed and seed capital stages

The "pre-seed" stage is the phase where the concept is evaluated and the stage "seed" is actually the first phase of development of a company.

The "pre-seed" capital is necessary for a training period of 2-3

years before the establishment of a new company in order to finance a minimum market analysis, a competitive analysis and to ensure the access to intellectual property rights. Generally, such capital is financed from public sources (EC, 2006a)

The "seed" capital is intended for research and development of an initial concept before reaching the start-up stage. Therefore, the financing of type seed capital is required when creating spin-out companies (ie, a new company founded to commercialize the research results of research institutes/ centers).

The concept of spin-out has emerged as a feature of the spin-off and the difference between them is that a spin-out is completely independent from the entity it was separated off. Thus, the spin-out companies get the intellectual property, the technology and existing products from the parent organization from which they were separated, and they will turn them into products or services.

3. Valorization of the research results - influence factors

Despite a high potential, the exploitation degree of research results is quite low in Europe and the inadequate provision of seed capital is a major contributing factor in this respect.

The marketing of research results in the U.S. is superior to the European countries and this can be explained by the existence of significantly large budgets for research development and to the advantage provided by homogeneous market goods for and services. Also,

compared with U.S. the infrastructure of technology transfer is quite fragmented European countries.

At European level there are many structural economic and legal barriers, which hinder the spin-out initiatives. Thus, academic institutions often do not have managers with business skills and in addition, must be solved the complex issue of intellectual property rights.

An important factor in explaining the difficulties faced by the research institutions is the lack of appropriate funding sources.

In the early stages of business, the access to finance is crucial and this is the main barrier for entrepreneurs from the academic institutions. Investors are not interested to finance academic spin-outs if the inventions are not patented. The lack of seed capital is due to high risks associated with financing in the early stages of business along with registration of low profitability rates.

In addition, entrepreneurs seeking to create a spin-out often lack the skills needed to present invention in a way more attractive to investors. The entrepreneurs need to understand the process that lead to a successful investment through the "investment readiness" programs which refers to the ability of entrepreneurs seeking for funding resources to understand the specific needs of the investor and to be able to answer them by providing relevant and reliable information that can determine the investors to finance the project or business.

In Europe, the university funds come mainly from public sources, although depending on country or university, they can be supplemented with other research income, tuition fees or donations. In some countries, the public funds were diverted for research projects that present more opportunities for commercial exploitation. However, the impact of public funding initiatives in technology transfer is highly dependent

on the structure and quality of management.

4. Technology transfer – financing sources

Technology transfer can be financed by the universities from own resources. Also, academic institutions try to solve the problem of financing forming alliances with other research institutions in an effort to attract and interest potential investors.

In order to attract the attention of the industrial firms, universities try to increase the transparency of research results. In some states, the academic institutions provide to researchers the necessary infrastructure (technology incubators or technology transfer centers) to facilitate marketing initiatives.

Technology transfer should be a fertile ground for investors because the higher education institutions have innovations that can be turned into successful products. However, the relative lack of funding with venture capital funds for academic spin-outs can be explained by the high risks associated with technology transfers. The technologies need financial resources in their early stages when investors are unwilling or unable to provide them. The main reasons generating this are the followings (EC, 2006b):

- *The time gap.* The academic spin-outs are often associated with a high degree of uncertainty because they do not have a business idea confirmed by the market and regard a long period for the investment. First, the technology companies should develop and commercialize their business idea and the market certifies the business. It usually takes a long time before the company will achieve sufficient revenues to be redistributed to investors;

- *The financial gap.* In general, venture capital funds seeking for less risky projects based on ideas already proven that promise quick return and

focuses mainly on investment in the later stages of business development.

These differences emphasize the importance of informal investors, and business angels are individual investors who provide equity capital for a business managed by someone else.

Thus, business angels can complete lack of investment resources and can fill the resources gap that usually occurs between the personal resources of entrepreneurs and venture capital and are more willing to invest in early stage development companies. In addition, they have the experience and management experience to invest in technology transfer projects. The amounts invested by business angels are much lower than the investment made by venture capital and therefore are better suited for initial funding of the business. Moreover, business angels can be an important source of capital for pre-seed type investment.

Bank loans are a primary source of funding used by start-ups companies but the risks and uncertainties restrict the lending of spin-out companies. These companies have no history in order to estimate future cash flows and have no assets to provide the guarantees required by credit institutions. For these reasons, even when bank loans are available, the interest rates are very high.

Researchers often need small amounts of money, micro credits of 25,000 Euro or less. However there are difficulties even in this case because of information asymmetry and the fact that lenders often perceive micro credit as a high-cost activity.

The non-reimbursable grants are a popular form of public financing programs for the creation of new firms. In order to facilitate the technology transfers, governments can provide guarantees, can take some of the risks or can use mechanisms to reduce taxes.

For seed capital, the association of financial resources with assistance or counseling can be an efficient formula.

Because the persons involved in spin-outs have technical knowledge but have not the necessary skills to establish an efficient company, providing assistance in this area being often a success factor. For this reason, some seed funding and grant schemes include business counseling as part of the offered package.

5. Conclusions

Europe has a strong scientific and technological base but this potential is not used properly and the main cause is the lack of investment funds, especially in the early stages of business development.

Due to lack of private sector involvement, the EU and national authorities play an important role in providing seed financing resources.

Therefore, at European and national level, have been taken initiatives for providing public funds for pre-seed projects and to support the development of business angels networks or new seed capital funds. The co-investment schemes publicly sustained could have an important role in encouraging the private sector.

The role of structural funds is essential in stimulating the seed capital funding in many Member States. There is a permanent commitment of the EU policy to develop seed capital funds in the period 2007-2013:

- Structural and Cohesion Funds (including JEREMIE);
- European Investment Fund (Technology Transfer Accelerator - a new tool for investment in technology transfer);
- Competitiveness and Innovation Framework Programme;
- Other European Union programs for seed capital schemes.

These measures and programs should combine financial instruments necessary in the early stages of business

development with other interventions such as guarantees offered for start-ups.

measures aimed to ensure a favorable tax environment for business angels and for funding activities of seed capital.

Also, the initiatives at European level must be linked with national

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