RESEARCH-DEVELOPMENT ACTIVITIES FINANCING OUT OF PRIVATE SOURCES

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Abstract: *Research-development activity financing was always a hot subject because, most of the times, it is expected that the said financing be done from budget sources but, lately, economic entities which have such research-development activity have looked up to provide this funding also from private sources. Presently, there are several ways of financing such activity on the funding market, the entities having the possibility to choose the one which fits best their organization also (bank credits, bond loans, leasing etc.). Even if sometimes these financing sources are expensive for the moment, in the long run they may be beneficial for the entities as the procurement of new products allows them either to enter new markets or corner a more significant part of the market on which they are.*

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JEL classification: *G32; G39; O32; O39.*

1. Introduction

For the accomplishment of the strategic fundamental objective of an economic entity, that of maximizing its market value, the said entity has to develop a profit making activity and make sure such activity provides both a short and a long term yield. This presumes the achievement of a profit sufficient enough for the distribution of dividends and, simultaneously, for the reinvestment of part of it in research-development activities.

From the ground up of its activity, a company needs an initial capital which is set up either directly, as financial contribution, or indirectly, by the contribution of assets in kind. The share capital set up upon the company registration will be used for the running of the current activity and/or investments. At the same time, the share capital represents the company warranty in its relations with the creditors to whom the company will turn to in order to complete the financing resources it needs for its activity.

Concomitantly with the activity development and, mainly, for its extension, it appears the necessity of the capital accretion, both through endogenous financing sources as well as through exogenous sources. The main endogenous sources are self-financing, assets transfer and disinvestment. By their nature, such financing sources are long term ones as they highlight the capitalization of a part of the net profit as well as of the depreciation by which the physical and moral wear and tear of the company assets are compensated.

The company capital may, in fact, increase with the aid of the exogenous sources which may be long term ones, such as, share issue, contributions in kind, reserves incorporation, dividends payment in shares, bank credits, long term bond loans, leasing, factoring, and, the short term ones may, most of the times, take the shape of short terms bank credits.

2. Financing from internal (endogenous) sources

For all the companies, internal or self-financing represents the oldest financing way which provides for the renewal of the productive potential, both with a view to the conservation of the patrimony and its increase by economic growth.

The importance of this way of financing raises when a company does not have access or limited access to the capital of the monetary or capital markets.

Certain companies, mostly small and medium sized or start-ups depend exclusively on internal financing because the cost of the borrowed capital is high and they avoid running into debt. But, for companies having a good financial standing, which make important cash flows (profit), internal financing is a basic alternative of the financing. (Pirtea, M. et al., 2010)

From the structural point of view, internal financing is based on depreciation and undistributed benefits. Depreciation is used as financing source in the case of the remaking of the capital invested for the preservation of the patrimony level. In turn, for the increase of the capital invested with a view to the growth of the patrimony, most of the times, companies resort to undistributed benefits as a source of internal financing.

The capital which is frozen in tangible and intangible assets loses from its value due to their use but such loss is recovered by its inclusion in the operating costs making the accrued depreciation which stays at the disposal of the company. Physical depreciation is determined by the use of the assets and the moral one is determined by technical progress.

By depreciation one estimates the value of the depreciation of the capital which is frozen in tangible and intangible assets but what needs to be taken into account is that, due to technical progress and inflation, the accrued depreciation may have a value below the monetary resources which are necessary for the assets renewal, both tangible and intangible.

The balance of the foreign operations of the companies is given by the balance of the monetary elements of the profit and loss account. It makes the monetary surplus resulted from the use of the production factors in exploitation and investment activities. The undistributed benefits are represented, on one side, by the balance of the non-monetary elements. Such elements are found in several balance sheet items: legal reserves, reserves provisioned by the company deed of establishment, other reserves as well as the result carried forward, the last up to the distribution moment.

The profit of the exercise represented by the total amount of the same sign inflow variable constitutes the base of the internal financing, taking into consideration, on one hand, that there are no lags between income and expenditure (accounting approach) and, on the other hand, there are no lags between inflows and payments (financial approach) (Pirtea, M. *et al*, 2010).

3. Financing from external (endogenous) sources

3.1. Financing by bank credits
In the course of its activity, a company needs financing. If it cannot provide it from internal sources then the company resorts to external sources. A way of providing the financing needs is bank credits.
In such a context, for companies, irrespective of their organization form, commercial banks have a role of active partners which may grasp, when there is the case, the companies financing necessity, thus preventing the occurrence of phenomena which would generate risks for the companies' activity. But, in order to be able to intervene and grant credits to companies, the said entities must operate a profitable activity, they must have an adaptability to the market conditions and, when need arises, they must be able to restructure their activity at any moment.
Taking these company features into consideration, it is considered that banks have a unique or special role as compared to other entities of the financial sector and, the importance of the said role is given by the banks main functions:

- An allocation as efficient as possible of the monetary availabilities by granting credits to the real economy;
- A monetary transfer between companies due to an adequate monetary policy of the central bank;
- Providing deposit operations for companies and entities as a proof of trust in the banking system stability and liquidity etc.

Banks have a special statute in the relations they intermediate between the participants in economic transactions, a statute conferred by the actual functions they have. Thus, the size of the crediting resources and the risk assumed by the banks, as well as the nature of the credit transactions made banks become the most informed segment of the economic environment, owner of a huge potential in the transfer of information to the clients in order to minimize the costs of the business and to render efficient the ratio between the saved funds and those invested in the economy.

3.2. Bond loan – alternative of exogenous financing
The bond loan represents a solution to procure financial resources, both medium and long term, in a high volume, necessary for economic development and/or the quittance of payment obligations assumed by the issuers. At the same time, this financing source is a credit contract between a mass of creditors and one sole debtor (the bonds issuer).
Big companies in terms of turnover and personnel and with a certain impact on the market resort, in certain positions, to bonds issue as an alternative to bank credit. In such a case, the warranty of such a loan is done by the issuer's reliability status as well as with the future income which will be obtained subsequent to the investments achieved on the basis of the procured funds.
As buyers of the bonds, i.e. creditors, appear the investors that may significantly influence the market evolution. Those investors may be both natural and legal persons. The reasons which determine such persons to acquire the position of investors in those placements are the level of the afferent interest and the possibility of transacting them on the secondary market, at the stock exchange, transactions

by which they capitalize the favourable price balance between the moment of the purchase and that of the bonds sale.
In countries with market economy, Romania included, along the companies comes the state or its various entities which run into short term debts, by treasury bills and medium and long terms debts for which it goes on the financial market. Being an important bond issuer, the state, by this bond issue, aims to secure the necessary resources to fund public objectives, to cover the budgetary deficit, etc., through the collection of the liquidities existing on the market.
In the case of functional market economies, the development of the bond loans is the consequence of multiple causes, such as: issue terms which are attractive to investors, owed to the severe competition between the bond issuers; the existence on the financial market of negotiable instruments big collective placement entities which represent and operate for several subscribers/issuers, including the case of smaller companies; the advantage of the interest rate decreasing, during certain periods, for short term placements, a thing which determines the subscribers to look for medium or long terms placements.

3.3. Factoring – financing modern alternative

Due to the fact that the world economy tends more and more towards globalization and the capital markets develop increasingly we are in the situation in which various more special financing forms are sought for and factoring comes amongst such forms, with a view to the provision of liquidities necessary for the companies and the appeal to such alternative sources follows and ascending trend.
By the advantages it offers, factoring became an important financing source as it is efficient and, as such, it is preferred by more and more companies. There is no unanimously accepted definition in the specialized literature due to its functions and to the variants in which it may be used. Still, a definition which comes closer to its role is that which says that factoring is a contract between a party called adherent, goods supplier or services provider and a banking company or a specialized financial entity, called factor, contract by which the latter provides financing, debts follow-up and preservation against credit risks and the adherent transfers as a sale, the debts generated by the sale of goods or services rendering to third parties" (Law no. 469/2002 July 9)
From the definition it results that factoring is both a business and a financing source which consists of the acquisition of debts resulted from goods delivery and services provision to a factoring company.
Due to a more and more aggressive competition on the market that the companies have to cope with, the said companies have an ever increasing acute need of their own financial capital and, in order to cover this financing need they resort to new financing instruments. Combining both the financial and economic interests of an economic circuit, factoring answers those requirements and the achievement of those interests shows the efficiency itself of the use of this exogenous financing instrument of the companies.
Thus, in an entrepreneurial economic approach, the financing by factoring represents the exogenous financing of the company, from the fiscal point of view it represents an income and not a loan or a debt, it represents a way of achieving the financial funds necessary to continue the activity and, from the point of view of the financial capital it is the company's own financial capital and not a borrowed one and, from the point of view of the financing duration it is a short term financing

3.4. Leasing – efficient financing way

The leasing activity has its origin, as well as other activities and instruments of the market economy like marketing, factoring and franchising, in the United States of America. The starting point of this financing way was represented by the decision to extend the tenancy and rental operations of consumption and real estate goods to the area of industrial investment goods.

In time, the goods selling system was also extended over their processing possibilities by the tenancy agreement for a determined period. Goods producers, especially those who produced items for investments realized that it was more advantageous for them to use the leasing than to resort to the rental or tenancy of the goods they produced as a means of financing. By the leasing instalments, the good was paid and the afferent interest was at a level which satisfied both parties of the leasing agreement.

Besides the three parties in the composition of a leasing transaction, there is a fourth one which usually intervenes and that is the insurance company which signs with the good owner an insurance agreement of the said good, issues an insurance policy and pays, should there be the case, the value of the said good (Molico, T. & Wunder, E., 2003)

In practice, in leasing agreements the most frequently met goods are industrial equipment, machinery and installations, means of transport, computer technique and office supplies, medical equipment, air conditioning equipment, industrial and commercial buildings as well as administration ones. It results that goods of any branch of activity can make the object of a leasing agreement. What must not be omitted is the fact that, sometimes, the leasing object is given by complex equipment and machinery, of great value, items that the lease may not be interested to purchase because it needs them just to obtain a certain product.

According to the financial nature of a leasing agreement we see two forms of it: financial and operational leasing.

3.5. Risk Capital – exogenous source of financing

The risk capital represents an investment in companies which are not listed at the stock exchange done by companies with risk capital which, acting like a manager, administer their own (internal), individual or institutional money. The risk capital includes financing for the beginning phases (initial and start up) and for the extension of a business. The risk capital is a professional capital jointly invested with the entrepreneur to finance a business in its first three stages of its evolution.

The risk capital is necessary and attractive mostly for new companies which have a brief history of operations and which are too small to be listed on the stock exchange markets or they may not fall within the criteria which are necessary to gain access to a bank credit or for bonds issuance. That is why, for the risk they assume subsequent to investments in such companies, the risk capital investors claim the possession of an important part, sometimes the majority of the capital and, at the same time, the control on the decisions of the company.

As a rule, risk capital investors purchase at least 40% of the company capital and appoint some members in the Board of Administration. At the same time, those investors receive preferential shares which provide a privileged position in relation to the other shareholders in the case of the company liquidation or sale. (Onofrei, M. & Anton, S.G., 2010)

The risk capital, as company alternative source of financing, has a special importance for those economies in which prevail small and medium sized companies, like those in Europe, where such companies represent over 90% and employ about two thirds of the employees of the private sector. The improvement of those companies' access terms to sources of financing would represent an important factor for the businesses extension, jobs creation and, implicitly, economic growth.

4. Discussions

After all, we need to expressly mention that the field of research-development and innovation may not benefit of foreign credits or EU funds under the shape of national subsidies, just as it happens, for instance, in agriculture. In that sense, an exception is represented by the structural funds of that domain. Access to funds coming from the EU is done only on a competition basis within the funding programs of the community area. Due to that fact, in order to increase the volume, quality and competitiveness of the Romanian research-development and innovation activities, consistent with the evolution and exigencies of the European level, it is imperiously necessary their stimulation within the framework of economic entities. The cooperation between companies, universities and research-development and innovation entities is necessary, especially for the fast research results implementation in economy.

Amongst the first ten companies of the world which invest huge amounts in the research-development activity we find companies which understood what progress and staying on a very competitive market means: Toyota, the Japanese automotive producer, Nokia, the cell phones producer, Johnson & Johnson, the cleaning products producer, Ford General Motors, the automotive producer, Roche, the Swiss pharmaceutical products producer, but also the German automotive producers Volkswagen and Daimler.

All those companies included in this top invested in research and development amounts in the vicinity of the value of 5 billion Euros. Five of the world's main ten investors in research-development come from the United States. Out of the first 50 companies of the world, 18 are from the European Union, 20 from the United States and 9 from Japan (www.ec.europa.eu/scoreboard/research).

Thus, at the European level, the great producers of the building materials industry allocated significant budgets for the research-development activity (the Lafarge Group allocates almost 1% of the amount of the income) (Rus M.I., 2012: 237) but they continued to allocate important budgets both during the economic crisis started in 2008 and after the said crisis as they realized that the new products achieved from research-development activities may bring them benefits as well as a better place on the respective market. (Rus M. I *et al.*, 2014: 652)

Internationally, the majority of the developed countries admitted that, though the world's crisis appeared, they still considered scientific research and technological development as important activities associating them to the "economics based on knowledge". This does not mean anything else but the fact that research-development activities may be considered both a drive of economic boost which may be of help to escape from the crisis and a strategic necessity which may result in a sustainable development in a period not far away.

In exchange, about the Romanian industry one cannot say anything else but the fact that for the last 20 years it was systematically rifled and destroyed, especially through privatization and the small innovative companies which should have replaced them are, usually, subscribers to the funds coming from the state budget and they do not manage to produce something or provide competitive services. This is why, with some exceptions, on the “domestic market” the offer of the economic entities of the research-development sector is very poor due to the lack of capital and the “foreign market” is very difficult to approach both due to the lack of funds and to the infrastructure which does not match the level of potential partners in a research project.

5. Conclusions

The dimensions, financing and legal form of the scientific companies are, to a great extent, governed by the expenses generated by communication and this communication implies, both, the models advertising, that of the verifications results, of the colleagues review and publication, these facts being their main reason of existence. Also, a long time, the communication manner of the research-development activity results were shaped under different forms: meetings (conferences), their proceedings, letters, publications in magazines, bulletins, books, formal observations reports, scientific anagrams, secret deposits of documents, patents, e-mail messages, each of them corresponding to a specific literary genre. All these communication ways show us that there is a communication and records infrastructure composed of commercial publishing houses, libraries, organizations that maintain electronic archives and databases, physical and electronic mail services, patent offices etc.
Unfortunately, to economic analysis are accessible just defining facets of the research system. For example, it is easy to notice that the funds granted to the research system have three specific destinations: the salaries of the system employees, communication expenses (including trips and documentation) investment expenses and consumables. Salaries are spent on consumer’s goods and services. Communication expenses are, in fact, acquisitions of the publishing, tourism and communication economic entities.
The immediate impact of investments in research on industrial development is indirect, especially through the acquisition of specific devices, installations, services and consumables.
The funds with that destination granted to research institutes reach the producers or sellers of such devices, installations, software and consumables of a new type. If this market of the research laboratories would not exist, the majority of the new products would not take the leap from being a prototype to being a product on a general market. The healthy objective for an industry which generates new products is to satisfy a demand, a new industry presumes a demand of new products and a capacity of the clients to assess them, and, such demand is, normally, created by the system of the research-development activity.

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