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**FIRM INTERNATIONALIZATION AND
COMPETITIVE ADVANTAGE:
a financial indifference analysis.**

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ABSTRACT

Stemming from the studies concerning the internationalization of the firm we aim to deepen the relationship between this strategy and the firm's quest for competitive advantage.

The complexity of the global economic scenario and the so called "obliquity" of competitive advantage (Vicari, 1989) oblige the firm's top management to search for adequate decision support tools for the internationalization choice.

In this context, building on Golinelli's (2000) financial leverage theory, a quantitative model is proposed which helps to accurately evaluate the convenience of an internationalization choice.

In particular, our model permits to determine an indifferent point (expressed as ROI and ROE) thus providing the decision maker with a useful information in order to assess the competitive consequences related to the two alternative strategic choices, national vs. international growth.

KEY WORDS:

International growth, competitive advantage, financial leverage, indifference point analysis.

I. INTRODUCTION

Now more than ever, the modern firm is required to make important decisions regarding the right size it should assume in order to participate actively in competition; it has definitively lost its national characteristics, permanently taking on international dimensions instead. In other words, given that “competitive advantage has obliquity and cannot therefore be confined to a single country”¹ (Vicari, 1989), one may aptly infer that appropriate planning of the internationalization process is an essential step in the firm’s interpretation of this renewed dynamic of competitive advantage as it seeks to ensure its survival. That is, the need of the decision-maker to be able to take advantage of adequate decision support tools to govern the dynamics of international competition.

In line with what has been said, the following work (section II), by briefly going over existing major literary contributions that deal with the subject of international expansion, attempts to interpret the role of internationalization strategies within the context of the new configurations of competitive advantage, through a qualitative theory capable of comparing the size of the firm and the degree of advantage that the firm itself wishes to achieve by means of the expansion project.

Secondly (section II), in order to arrive at a greater intelligibility of the foreign expansion process, a new quantitative model is proposed, based on Golinelli’s (2000) financial leverage theory, so that it may prove useful in making the choice of the international option. This usefulness is exposed through the detection of the so-called “area of financial convenience” in a foreign expansion initiative, which is delineated by determining the indifference point (ROI/ROE of indifference) between the financial structures

¹ Vicari S., (1989), *Nuove dimensioni della concorrenza. Strategie nei mercati senza confini*, Milano Egea, p. 125.

of an expansion project put into effect both within and without national boundaries.

II. INTERNATIONALIZATION AND COMPETITIVE ADVANTAGE STRATEGIES: A NECESSARY BINOMIAL

Once the internationalization process is begun, it is undeniable that the decision-making process is strongly strategic; therefore, the fact that the firm's competitive position is directly influenced by this is apparent. The latter finds its roots in the definition of strategy itself: "the system of choices and actions that enables the firm to simultaneously and dynamically attain and maintain a position in the outlet market, on the various markets that supply the factors of production, and with respect to its main non-commercial interlocutors, so as to guarantee it a defensible competitive advantage and, consequently, the achievement of three types of balance that ensure its survival and development: economic, financial and patrimonial balance"².

Having accepted this definition for strategy, one may comprehend how setting and developing upon it correctly can determine a firm's position with respect to all its markets: the outlet market, the supply market, the know-how market, the labour market, and the capital of risk and credit market; thus, a simultaneous equilibrium on these may be created. Added to this is the necessary condition that the strategy presents the premises so that another equilibrium point may form, with respect to all the other non-commercial interlocutors (e.g. public institutions, sector governing bodies, etc). It is therefore clear how strategy leads to the finding of a simultaneous and dynamic equilibrium point, identifiable as the strategic equilibrium³.

The aforementioned concept of equilibrium becomes more complex in the case of a strategy belonging to an internationalization project, of one that

² Cf. Dematté C and F. Peretti, (2003), *Strategie d'internazionalizzazione*, Milano, Egea, p. 5

³ Dematté C., (2003), *op.cit.*

comprises the expansion of the firm beyond the boundaries of the national territory.

The formation of strategic equilibrium comes hand in hand with the management of a combination of greatly volatile and aleatory variables, and its detection involves managerial consequences that become more pronounced within an external expansion process. Due to this, the stand-points given in literature are quite varied; this variety is justified by the different degrees of importance each author assigns to that which determines the success or failure of the applied strategy. There are some who, like Forrester⁴, make the focal point of their studies the firm's managing body, which necessarily must face the omnipresent limitations of the availability of information and of techno-elaborating tools that allow it to manage the strategic processes. Other authors, who belong to the school of thought of the so-called "logical normatives"⁵, place the problem itself at the core of their research, and attempt an accurate reconstruction of it based on its structure.

Kogut⁶ has made an interesting contribution to the studies of the phenomena of internationalization: he combines Ricardo's theory of nations' comparative advantage with Porter's (1980, 1985) theory of competitive advantage in order to answer the following research questions: 1. which activities should firms allocate their resources in; 2. where the activities of the value chain ought to be expanded to an international level. Due to the fact that nations' comparative advantage, location-specific advantage, influences the firms' decisions regarding the placement of the various activities that make up its value chain, and given that firms' comparative advantage, firm-specific advantage, affects the firms' decisions in relation to the identification of the processes on which it should concentrate most of its investments, the

⁴ Forrester J.W., (1992), "The CEO as organization designer", *The McKinsey Quarterly*, n. 2.

⁵ The most representative authors of this school of thought are: Ansoff H.I., (1965), *Corporate Strategy*, New York, McGraw-Hill; Porter E.M., (1980), *Competitive Strategy, Techniques for Analysing Industries and Competitors*, New York, The Free Press.

⁶ Kogut B., (1985a), "Designing global strategies: Comparative and Competitive value-added chain", *Sloan Management Review*, 26(4) and Kogut B., (1985b), "Designing global strategies: Profiting from operational flexibility", *Sloan Management Review*, 27(1).

final outcome is that there is a tendency to shift those activities that compose one's value chain over which one holds competitive advantage towards nations that have a comparative advantage within the same sector. This results in vertical and horizontal integration of the firm, highlighting extremely complex forms of international development, which comprise a greater degree of strategic flexibility⁷.

When considering the correlation between competitive advantage and internationalization, it must be noted how the international expansion strategy is included within the generic geographical developmental strategies; in fact, a development process may be classed as international based on the relationship that the firm establishes with space. An expansion in size that does not involve the surpassing of territorial boundaries clearly cannot qualify as an internationalization process. This obvious statement makes it so that a foreign expansion process demonstrated a structure which is identical to a simple geographic expansion process; in other words, it is possible to utilize those strategies already in use on a domestic level that have shown strong elements of discontinuity with regards to, for example, distributional structures, ways of production, and culture.

Having said this, it must also be specified that, even though internationalization is included within the generic circumstances of geographical development, differences are present that are important also regarding the effects of acquirable competitive advantage. These differences may be traced back to the inherent discontinuity of the context⁸ with which one intends to engage with respect to one's own market; the discontinuity can be so pronounced (e.g. exchange rate restrictions, differences in norms and jurisdiction, differing languages, varying demand, size of the competitors) that it can cause changes to the critical factors for success, and to the disposition of the firm that is required for competition. Based on the above, it

⁷ By strategic flexibility, Kogut means the possibility to exploit various arbitrage and leverage opportunities, respectively brought about by the use made of differences between international markets in the cost of factors, and through the formation of a specific market due to the global status of the firm.

⁸ Dematté C. and F. Perretti, (2003), *op. cit.*, p.13.

is apparent how the ability to be able to take advantage of a larger firm size, achieved through previous processes of internationalization, results in the firm having a different attitude towards the planned process of foreign expansion, which in turn affects competitive advantage. Figure 1 compares the size of the firm and the qualification of competitive advantage, identifying the firm's intended correlated behaviour during the internationalization process.

Fig. 1

The figure shows six quadrants, where each one represents the different behaviours in response to the specific process:

- Quadrant I: a situation is displayed here where an internationalised firm finds itself in trouble compared to its competitors, a condition which worsens and might even go as far as to threaten the firm's survival. In this case, the response of the firm and its governing body will be to abandon the prospective of a further foreign expansion. In other words, a large firm organization can afford not to undertake any further foreign expansion and instead focus its resources on existing national and foreign activities thanks to the diversification it has already undergone.
- Quadrant II: what is meant by a passive behaviour towards internationalisation processes is a circumstance within which a SME⁹ is forced outside its country choosing neither its geographical field, nor the type of clients and suppliers it wishes to obtain, in order to prevent exiting its market. Environmental conditions may present the enterprise with specific conditions and opportunities that will compel it to internationalise simply to avoid being pushed out of the market.
- Quadrant III: the non-internationalised SME, or one that has had only brief and rare encounters with foreign markets, will opt for a more

⁹ For a deepen analysis of internationalisation SME's processes, see Zucchella A. and M. E. Maccarini, (1999), *I nuovi percorsi d'internazionalizzazione. Le strategie delle piccole e medie imprese italiane*, Milano, Giuffrè.

reactive attitude towards the expansion process if it is seeking to affirm its competitive advantage. It is therefore motivated to look abroad only if the stimuli come from without. In this case, it is usual to find that the SME acts as a follower to its internationally expanding competitors, as it views other's internationalisation as a threat¹⁰. In other words, in many cases an SME's course is devoid of any systematic analysis of the international scenario, and relies instead on sporadic instances of contact with the foreign dimension. These instances result in a homeostatic learning mechanism, inspired by a rationality that is achieved along the way as opposed to being predetermined (i.e. there is a lack of a long-term strategic vision).

- Quadrant IV: the conditions shown are similar to those explained in the previous quadrant – however, they cannot be applied integrally to the case in question. When an SME is attempting to increment its competitive advantage, the only integration that can be done concerns the different types of competitive drive that trigger the internationalization process. Basically, the SME tends to react to foreign competitive drives in a largely unplanned manner, which can even become purely casual at times; this is because access to necessary information is a difficult one, and therefore implies high costs. This gives development only a short run perspective due to reasons existing within the firm itself, such as the opportunity to make use of cost leadership, or of an element of uniqueness perceived within the good or service.
- Quadrants V and VI: a large firm's development pathway is shown in these quadrants, and its behavior may be termed proactive since settlement into a third country would influence the national situation¹¹;

¹⁰ Cf. Saviolo S., *Avvio e sviluppo del processo d'internazionalizzazione*, p. 83, in Dematté C. and F. Perretti, (2003), op. cit.

¹¹ For a more in depth analysis of the relationship between the multinational and its influence on local firm, see Schillaci C.E., (2003), "Radicamento delle multinazionali e impatto sulle imprese locali", *Sinergie*, (60). Regarding the relationship between the transnational

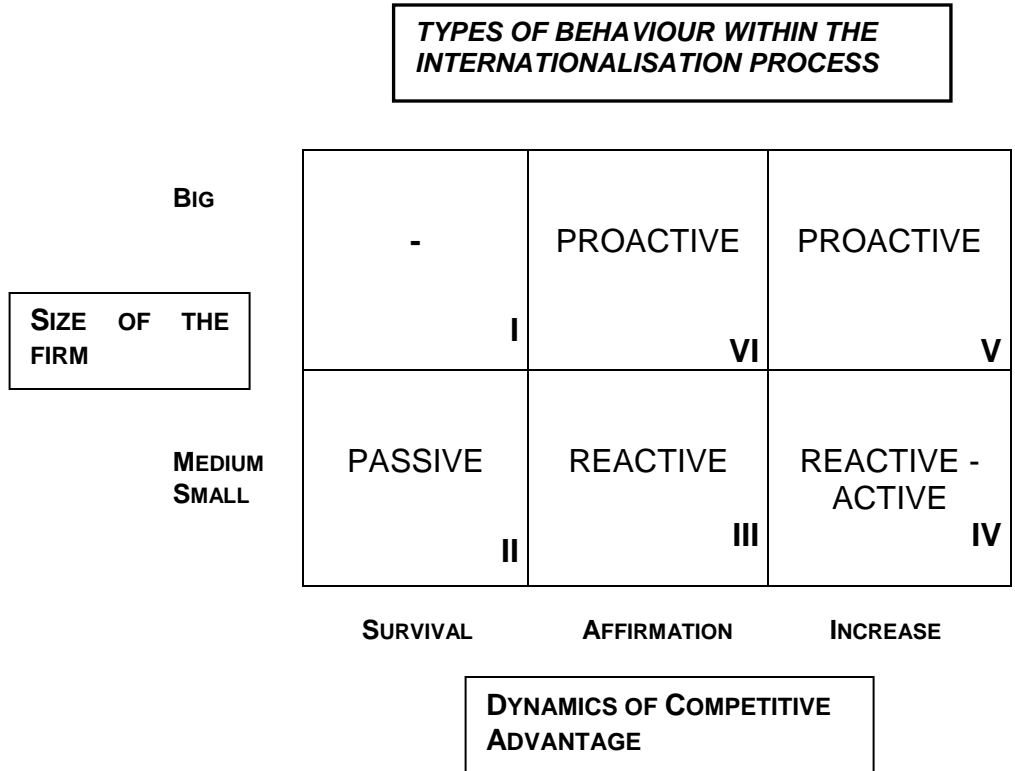
this type of action is typical of large multinational and transnational firms¹². In this case, the propulsion towards an increased involvement abroad comes from within the enterprise, which establishes itself in the chosen area based on the competitive advantage it already has, on its supply and how it is perceived on international markets. The establishment occurs through complex modes of settlement¹³ (direct export, FDI), and therefore involves a marked use of technical, human and financial resources.

The analysis of the proposed diagram suggests that the various types of behaviour described have the following differing characteristics: 1. the motivations that activate the process of internationalisation (both of internal and external nature); 2. the ability to acquire and manage all the information needed for an effective and efficient foreign expansion project; the latter is most apparent in firms that are already internationalised. Obviously, the categories represented by each of the quadrants must not be taken as standard; however, the behaviours described are the inevitable results of internal motivations (constituted by a greater degree of rationality, as they may be detected through the use of information already available to the firm) and external ones, which lead the firm to respond to the stimuli in a reactive and therefore unplanned manner.

enterprise and the local context, see Sanguigni V., (2005), "Imprese transnazionali e contesto locale", Brescia, *Sinergie Annual Conference*.

¹² For a theoretical framework about the transnational firm, see Ietto-Gillies G., (2005), *Imprese transnazionali. Concetti, teorie, effetti*, Roma, Carocci.

¹³ Doukas J. A. and L.H.P. Lang, (2003), "Foreign direct investment, diversification and firm performance", *Journal of International Business Studies*, (34).



Source: our elaboration

Figure 1: Firm size and competitive advantage

III. FINANCIAL INDIFFERENCE ANALYSIS AS A SUPPORT TOOL TO THE FORMATION OF THE STRATEGIC INTERNATIONAL CHOICE.

PREFACE: THE FINANCIAL VARIABLE IN THE INTERNATIONAL DEVELOPMENT PROCESS.

Based on the considerations made in the previous section, and continuing to focus the study on the choices made by the firm’s governing body to attain the affirmation or increase in its competitive advantage, the analysis will now concentrate on the financial dimension. This entails the range of external and internal motivations/opportunities that arise at the moment in which the financial function is internationalised too.

In other words, the choice to equip oneself with a specific financial structure takes into account the trade-off between two objectives: 1. minimizing debt cost after taxation; 2. maintaining risk at an acceptable level. Given this, it is evident that the financial function, due to the fact that it must cohere with the foreign expansion strategy in its approaches and aims, will also veer towards internationalisation. Thus, the governing body will be compelled to make choices taking into consideration the optimisation of the costs of financial sources that the firm will access, and of the financial burdens it will have to withstand outside its country of origin.

In the dynamics of financial and fiscal choices, the firm's ability to gather necessary and, more importantly, relevant information for the implementation and management of the internationalisation process, plays a fundamental role (as is outlined in section I). This role becomes more concrete with respect to the financial structure that the firm intends to adopt and, consequently, to the determination of the financial sources it will target. The latter statements must be contemplated keeping in mind the size of the enterprise at the moment of foreign expansion. Taking into consideration Harzing's conclusions¹⁴ (where the size of the firm represents one of the chief factors upon which to base the choice between a Greenfield or an acquiring FDI), an average size, which is usually representative of under-capitalization, can entail an element of discrimination or, more exactly, a restricted access to outside financing sources. One can therefore find themselves faced with increased costs due to the incongruities in information derived from the fact that the firm is not widely known of. Due to an increase in the risk perceived by the financing entities, this could then confront the firm with the following consequences: the payment of larger financial burdens on debt or, if the firm intends to finance the initiative through risk capital, the recognition of a reward to revenue (in the form of reduced share prices).

¹⁴ Cf. Harzing A. W., (2001), "Acquisitions versus greenfield investments: international strategy and management of entry mode", *Strategic Management Journal*, (23).

In financial theory, in the presence of markets of perfect capitals, any firm possessing investment opportunities with a positive net present value should be able to obtain the necessary financial resources at a competitive price¹⁵. In reality, however, the financing of firms in the international arena is characterized by conditions that go beyond the presence of more or less efficient markets. It is not at all unusual for stable relations with the financing entities to become the determining factor in overcoming incongruent information; therefore, access to credit and interest rate negotiations can depend upon the quality-density of relations that the firm's governing body may utilize. The latter is even more true and relevant when the request for financing is made to international entities.

In the situation that has just been described, financial transactions may be strongly influenced by their "embeddedness" within the socio-economic system that one wishes to enter, and of which the future financing entities are a part of. Therefore, what one can infer from this is that those firms able to combine typical transactions between the bank and the consumer with social connections will have more immediate access to credit, and lower interest rates.

This concept is backed up by a study made by Uzzi (1999)¹⁶, where a description is given of how a firm's social integration in the local environment of investment influences the acquisition of capital, and the price of borrowing it. The study arrives at the conclusion that those firms with a mixture of embedded¹⁷ and arm's - length type links with their various financial operators, the latter being based on the proximity of the firm to the relevant economic entities, will have easier access to credit, and obtain a lower interest rate on the amount borrowed. This is justified by the fact that,

¹⁵ Oriani R., (2002), *Il ruolo della funzione finanziaria nei processi d'internazionalizzazione delle PMI: vincoli e opportunità*; in Caroli M. and A. Lipparini., (2002), *Piccole e medie imprese oltre il confine. Competenze e processi d'internazionalizzazione*, Roma, Carocci.

¹⁶ Uzzi B., (1999), "Embeddedness in the making of financial capital: how social relations and network benefit firms seeking finance", *American Sociological Review*, vol. 64.

¹⁷ By embedded links, what is meant are social links that latch on to connections of a commercial type. This relationship, brings cumulating advantages over time, and consolidates the link itself.

whereas arm's length links facilitate the access to information regarding financial markets and different financing opportunities, embedded links facilitate aid the effective employment of the forms of financing deemed most in line with the intended investment. It is through the activation of the relations with the relevant¹⁸ subject available to the firm that all this may occur; along with the presence of factors other than relations (such as the asset make-up and existing debt levels), this will then produce a financial structure that distinguishes itself for a mean cost that is lower than it would have been had the firm remained more anonymous to its financiers.

The considerations that have been made thus far can become particularly relevant for those firms that aim at increasing their foreign involvement; in fact, when the firm directly establishes itself abroad through commercial investment (direct exporting) or productive investment (FDI), not only does it come to be a part of the economic network, but also of the more social and relation-based one, thus beginning to forming stable connections with suppliers, clients and banks¹⁹.

Finally, in relation to the financial variable, it would be apt to place emphasis on the role played by the so-called "financial leverage" as a tool for the optimisation of the result of an international development initiative. Kogut (1985b) himself speaks of the full exploitation of "arbitraging opportunities over institutional factors", including the minimization of fiscal levies²⁰

THE FINANCIAL LEVERAGE MODEL: THEORETICAL FRAMEWORK²¹

¹⁸ In order to deepen the meaning of relevance see Golinelli G.M., 2002, "*L'approccio sistemico vitale al governo dell'impresa*", Tomo I, Cedam, Padova, pag. 192.

¹⁹ Cf. Caroli M. and L. Fratocchi, (a cura di) (2000), *Nuove tendenze nelle strategie di internazionalizzazione delle imprese minori*, Milano, Franco Angeli.

²⁰ In attempting to increase their *vis attractiva* various countries tend to use the fiscal factor by decreasing the mean fiscal rate, or by diminishing the amount of taxable income. (Cfr., to this end, see Borghi M., Di Vita A. and M. A. Vinza, (2002), *Manuale di pianificazione finanziaria e fiscale*, Milano, Il Sole 24 Ore, p. 489).

²¹ The financial leverage model in question, is the one proposed by Golinelli G.M., (2000), *L'approccio sistemico al governo dell'impresa*, vol. II, Cedam, Padova.

A firm's financial structure may be characterized and represented by three fundamental elements:

The indebtedness quotient q ;

The cost of borrowed capital i ;

The mean fiscal rate t .

By means of the financial leverage model, it becomes possible to express the possibility for return of one's capital, once one has relied on indebtedness²². An essential condition for the desired positive effect on returns to one's own equity (ROE), is that operating return (ROI), related to the total growth of resources invested in the firm (expressed as K by convention), must be consistently over the interest rate i , which expresses the cost of debt. Examining the types and degrees of variation in the three components of the financial structure, it is therefore possible to discover the different effects in terms of net return.

The financial leverage model used in this work develops by identifying the leverage effect through an initial change in the indebtedness change by itself, $\Delta q = q_1 - q_2$, following an investment initiative, which therefore leads to an increase in operating return, i.e. $\Delta ROI = ROI_2 - ROI_1$. The change in q brings about a rise in returns to equity, $\Delta ROE = ROE_2 - ROE_1$, that is greater than the one that would have been attained had the indebtedness quotient remained stable, $\Delta ROE' = ROE'_2 - ROE_1$ (Fig. 4); in this case the leverage effect reveals itself in its simplest and clearest version, since it is not affected by the deviating factors brought about by the variations of the other elements of the financial structure.

FIG. 2

Contrarily to what has been said above, unless the variations in q are contained, there will be a simultaneous variation in the cost of credit capital provision; this circumstance indicates that the existing relationship between incrementing changes of operational and net returns is influenced by it, thus

²² Colombi F., (1989), *Strategie & Finanza. Modelli interpretativi e funzioni direzionali per i comportamenti finanziari dell'azienda*, Milano, Etas Libri, p. 303.

creating a distortion with respect to the leverage effect characterized by the change in the indebtedness quotient by itself.

In this case, consider an increase:

- in invested assets ΔK ;
- in the indebtedness quotient q , where $\Delta q = q_1 - q_2$, along with which an increase in the cost of the debt occurs, changing i_1 to i_2 , with $i_1 < i_2$;
- in equity, $\Delta E = E_2 - E_1$;
- in operating returns $\Delta ROI = ROI_2 - ROI_1$.

The positive change in returns with respect to one's own means, in association with the ΔROI , works out to be more contained than that which would have resulted from an unvaried interest rate on the borrowed capital, $\Delta ROE' = ROE'_2 - ROE_1$; this is because, as is demonstrated in Figure 5, the greater cost associated to the increment in debt annuls part of the leverage effect created by the small increase in q , thus creating returns to equity, in differential terms, not re-dimensioned.

FIG. 3

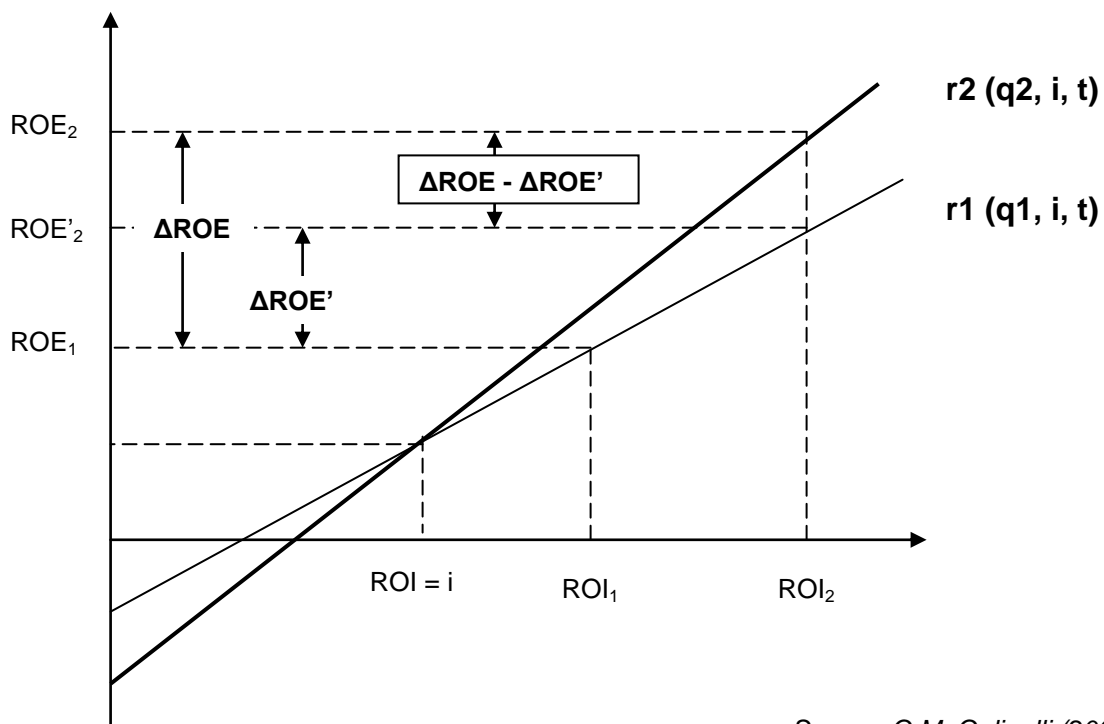
There is one final parameter that needs to be considered in order to obtain a correct representation of all the variables that compose a firm's financial structure. This parameter is the mean fiscal rate t , and through its optimization it becomes possible to gain advantages directly on net returns, which become more pronounced where the financial leverage effect is present²³.

As proof to these statements, consider a development project that involves an increment in operational returns and in the indebtedness quotient, thus producing a change in ROI such as $\Delta ROI = ROI_2 - ROI_1 > 0$. Fixing the cost of borrowed capital so that $\Delta i = 0$, the augmenting change in net returns, $\Delta ROE' = ROE'_2 - ROE_1$, will be greater than that which would result from constant indebtedness, as has already been illustrated. When the

²³ Cf. Golinelli G.M., 2000, *Op. Cit.*, pag. 228.

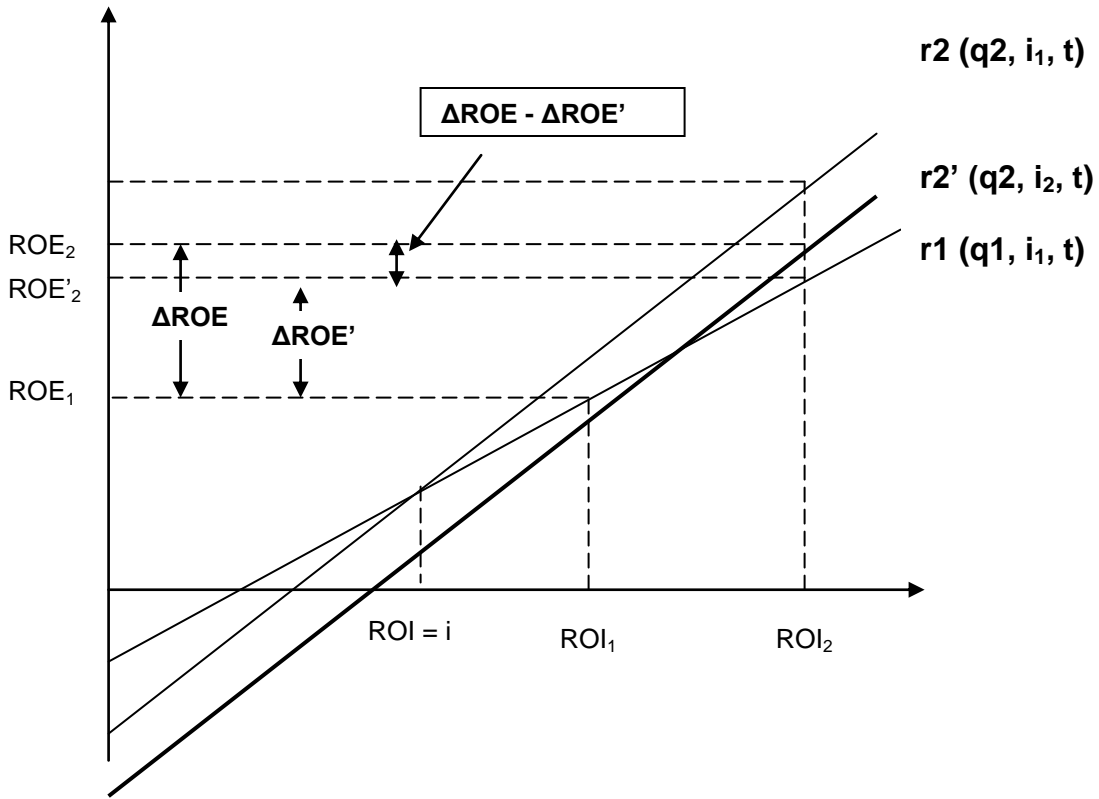
fiscal rate is decreased from t_1 a t_2 with $t_1 > t_2$, the consequent change in the ROE with the change in ROI, $\Delta ROE = ROE_2 - ROE_1$, will be more emphasized in comparison to that which would have resulted from a stable fiscal rate: the leverage effect will therefore be expressed by $\Delta ROE - \Delta ROE'$ (see Fig. 6). In other words, the resulting outcome is produced by the synergic combination of the classic leverage effect caused by the increase in q , and the direct influence of a decrease in fiscal rate in terms of net returns, a decrease which can be derived both from motivations external to the firm (such as decisions regarding economic and fiscal policy), and from its managing body's skill to fully exploit and optimize the fiscal opportunities inherent in the norms of the taxation system.

Fig. 4



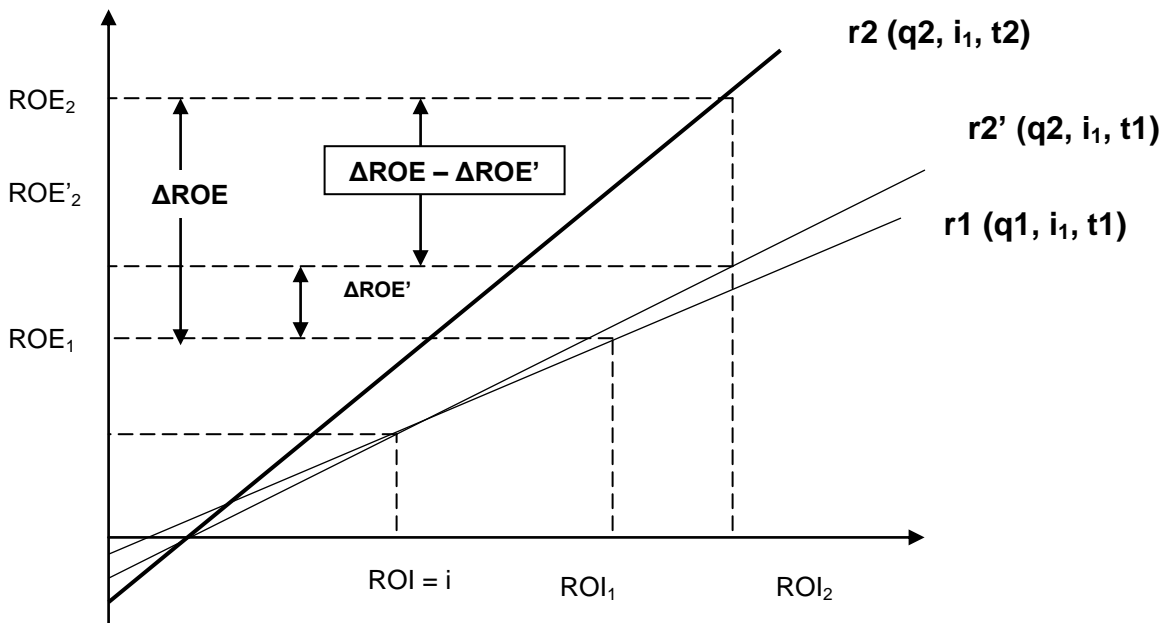
Source: G.M. Golinelli (2000)

Figure 2. Financial leverage where only q changes.



Source: G.M. Golinelli (2000)

Figure 3. Financial leverage where q and i change.



Source: G.M. Golinelli (2000)

Figure 4. Financial leverage where q , i and t change.

THE FINANCIAL INDIFFERENCE ANALYSIS

The financial leverage model described thus far may prove a valid aid in the determination of the convenience of a foreign expansion project through the comparison of the financial structures that emerge from the same growth initiative, which is to be developed within and without national boundaries.

The basic criteria of the model are as follows:

- investment is localized to the Eurozone, so as to avoid exchange rate fluctuations;
- the increase in the indebtedness quotient is the same for the two development scenarios, expressed in symbols as:

$$\Delta q_{INT} = \Delta q_{LOC}$$

A) Investment initiative located and confined to the firm's national boundaries.

The assumptions are as follows:

- a change in q , Δq , which causes an increase in the average price of borrowed capital, which goes from i_1 to $i_{2\text{ LOC}}$ with $i_{2\text{ LOC}} > i_1$;
- a change in equity, in symbols: $\Delta E = E_2 - E_1$;
- an expected change in operating returns, in symbols: ΔRoI^{24} ;
- a fixed fiscal rate t , set by the country's fiscal policy.

FIG. 5

B) Investment initiative located abroad.

The assumptions are as follows:

- a change in q , Δq , which causes an increase in the average price of borrowed capital, which goes from i_1 to $i_{2\text{ INT}}$ with $i_{2\text{ INT}} > i_1$; $i_{2\text{ INT}}$

²⁴ Golinelli G.M., (2000), *Op. Cit.*, p. 217-218.

represents the mean interest rate offered to the firm in the case of foreign development;

- a change in equity, in symbols: $\Delta E = E_2 - E_1$;
- an expected change in operating returns, in symbols: ΔRoI ;
- a decrease in fiscal rate t , caused by the firm's ability to seize the opportunities offered by the difference in the fiscal norms between the country origin and the country of choice for the investment. Therefore, $t_2 < t_1$.

FIG. 6

C) Comparison of the two development situations.

FIG. 7

Analyzing Fig. 7, the following can be deduced:

- when the cost of debt capital for foreign investment is less than the cost of capital of others undertaking the same initiative within national boundaries, the intersection of the two lines (green and blue) results in the point **Str. Fin.**^{*2}, representative of the **financial indifference structure** with regards to an initiative of expansion within national boundaries, and one abroad. One may observe how the positive effect of indebtedness, corroborated by a lower fiscal rate (compared to the one attainable with the national taxation system), creates a situation where, for any given value of $RoE > 0$, a location abroad always turns out to be more convenient. The situation described accounts for the expansion processes of large firms that already possess internationalized assets which, as discussed in Section III, are able to make it so that the foreign financiers allow access to financial sources at a rate lower than the national one thanks to their value and the value acquired.

- If, instead, the case is that the interest rate on the growing debts for a foreign investment is more than the cost of capital of others undertaking the same initiative within national boundaries, then the intersection of the two lines (blue and red) gives the point **Str.Fin.*1**. This, too, is a financial indifference structure, but the international choice proves advantageous only in relation to the values of $ROI > ROI^*$ and therefore of $Roe > Roe^*$; on the other hand, for smaller values (with respect to the Roi/Roe of indifference), it is the national investment option that proves more convenient.

The case in question is representative of the internationalization processes of SMEs; in fact, even with the awareness of what has been described in the previous pages, the smaller size acts as an obstacle to the obtainment of an average cost of credit capital for foreign development (i_{2int}) which is less than the average cost of credit capital for development within borders (i_{2loc}).

Again examining Fig. 7, keeping in mind the aforementioned evaluative points, it is possible to identify the values of the ROI and the ROE corresponding to the indifference point of the financial structure **Str.Fin.*1**²⁵, by means of the mathematical equations by which they are expressed; in other words starting from the equations for the two lines $r4(q_2, i_{2INT}, t_2)$ and $r3(q_2, i_{2LOC}, t_1)$, the following system will be set up:

$$\left\{ \begin{array}{l} ROE_2 = \frac{1-t_2}{1-q_2} (ROI_2 - i_{2int} q_2) \quad \text{Blue line (r3)} \\ ROE_2 = \frac{1-t_1}{1-q_2} (ROI_2 - i_{2loc} q_2) \quad \text{Red line (r4)} \end{array} \right.$$

²⁵ In the formulation of the algebraic and mathematical equations that determine the indifference point, it was found preferable to concentrate exclusively on the Str.Fin.*1, as it is deemed more significant in terms of the finding of an area of financial convenience of the foreign option with respect to an area of inconvenience.

and equating the two equations, the result will be:

$$\frac{1-t_2}{1-q_2} (ROI_2 - i_{2int} q_2) = \frac{1-t_1}{1-q_2} (ROI_2 - i_{2loc} q_2)$$

$$ROI_2 (t_1 - t_2) - i_{2int} q_2 + t_2 i_{2int} q_2 + i_{2loc} q_2 - t_1 i_{2loc} q_2 = 0$$

placed :

ROI₂ = ROI*₂ e **t₁ - t₂ = Δt** what will be obtained is:

$$ROI_2 (t_1 - t_2) = i_{2int} q_2 - t_2 i_{2int} q_2 - i_{2loc} q_2 + t_1 i_{2loc} q_2$$

$$ROI^*_2 = \frac{i_{2int} q_2 (1 - t_2) - i_{2loc} q_2 (1 - t_1)}{\Delta t} \quad (1)$$

Expressing the previous system as functions of ROE₂, one will have

$$\left\{ \begin{array}{l} ROI_2 = i_{2loc} q_2 + ROE_2 \frac{1-q_2}{1-t_1} \quad \text{Blue line} \\ ROI_2 = i_{2int} q_2 + ROE_2 \frac{1-q_2}{1-t_2} \quad \text{Red line} \end{array} \right.$$

Again, equating the two equations will give:

$$i_{2loc} q_2 + ROE_2 \frac{1-q_2}{1-t_2} = i_{2int} q_2 + ROE_2 \frac{1-q_2}{1-t_1}$$

the evaluation of which will give:

$$[q_2 (1-t_2) (1-t_1)] (i_{2int} - i_{2loc}) + ROE_2 (1-q_2) (t_2 - t_1) = 0$$

$$ROE_2 (1-q_2) (t_2 - t_1) = - [q_2 (1-t_2) (1-t_1)] (i_{2int} q_2 - i_{2loc} q_2)$$

$$\text{ROE}^*_2 = \frac{- [q_2 (1- t_2) (1- t_1)] (i_{\text{int}} q_2 - i_{2\text{loc}} q_2)}{(1-q_2) (t_2 - t_1)} \quad (2)$$

Therefore, the possibility to utilize the relations that characterize the indifference point of the financial structure, increases the depth at which the graph in Fig. 7 is understood, and includes the observations made on it. In other words, examining the formation of equation (1), it becomes clear how an increase in the denominator Δt results in a fall in the ROI of indifference; this is because a gradual lowering of fiscal rate t_2 , would always render the foreign option, in comparison to other conditions, more advantageous, which would have the overall effect of a correction to the fall in the level of the ROI^*_2 and, afterwards, of the ROE^*_2 level. At this point, it will be possible to argue that the area of financial convenience (see Fig. 7), with respect to a foreign investment initiative, will tend to expand, as it is made up of values of ROE^*_2 and of ROI^*_2 which are lower, and therefore give an indifference point of the financial structure closer to the x-axis.

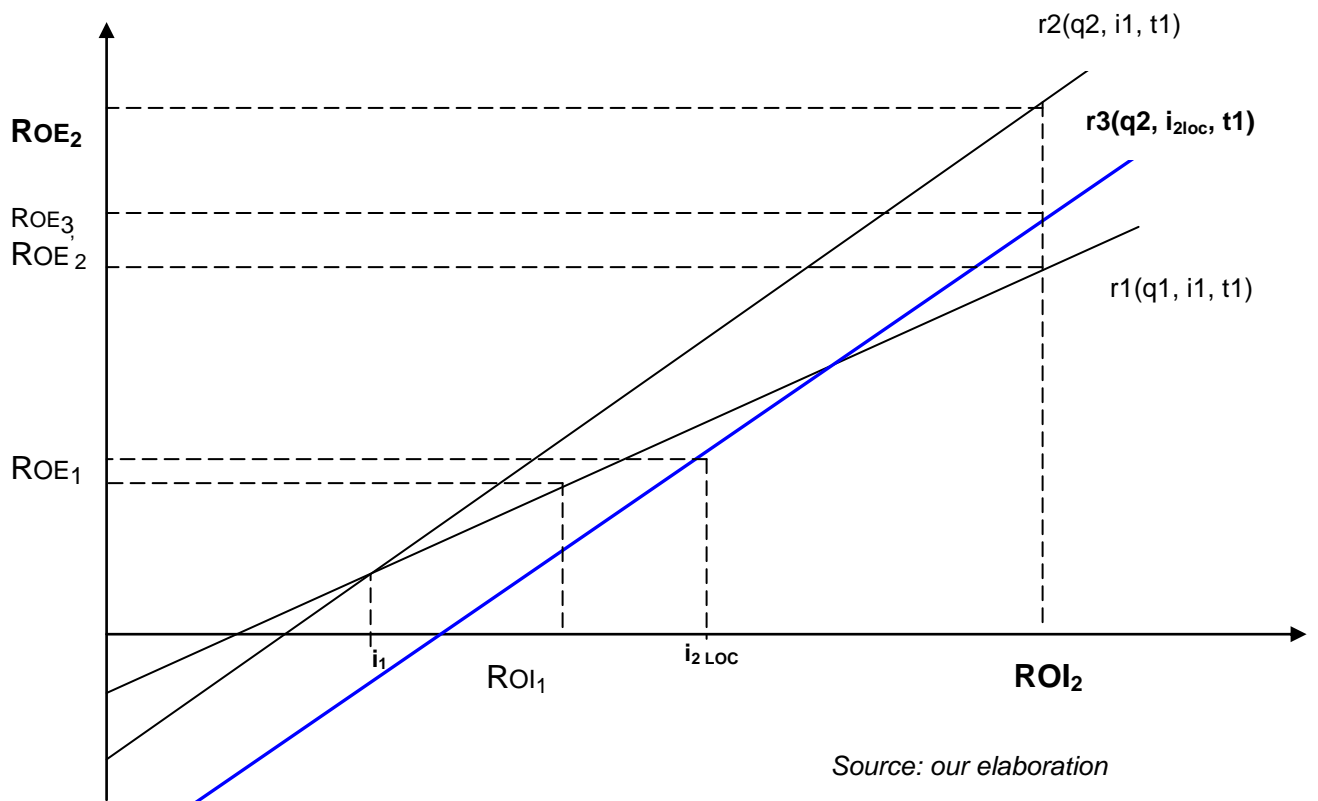


Figure 5. Financial structure of the national initiative

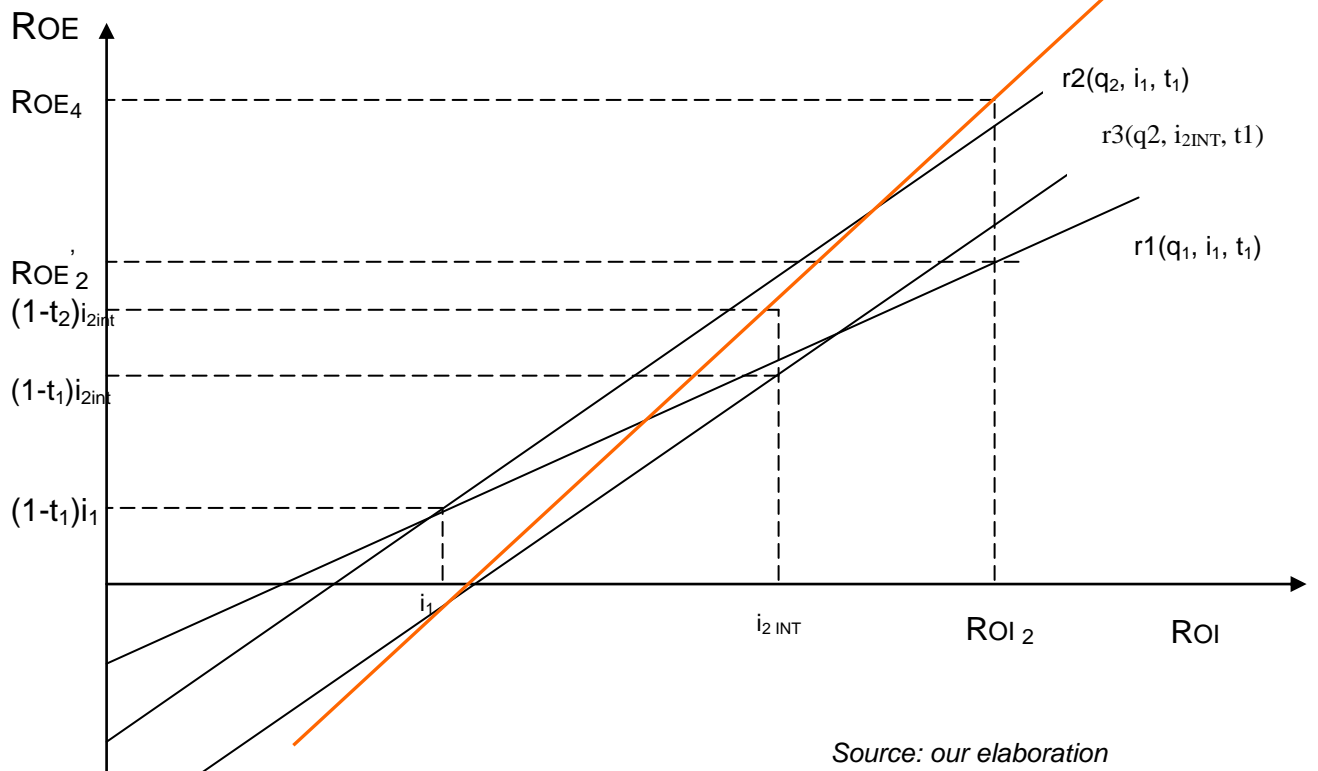


Figure 6. Financial structure of the foreign initiative

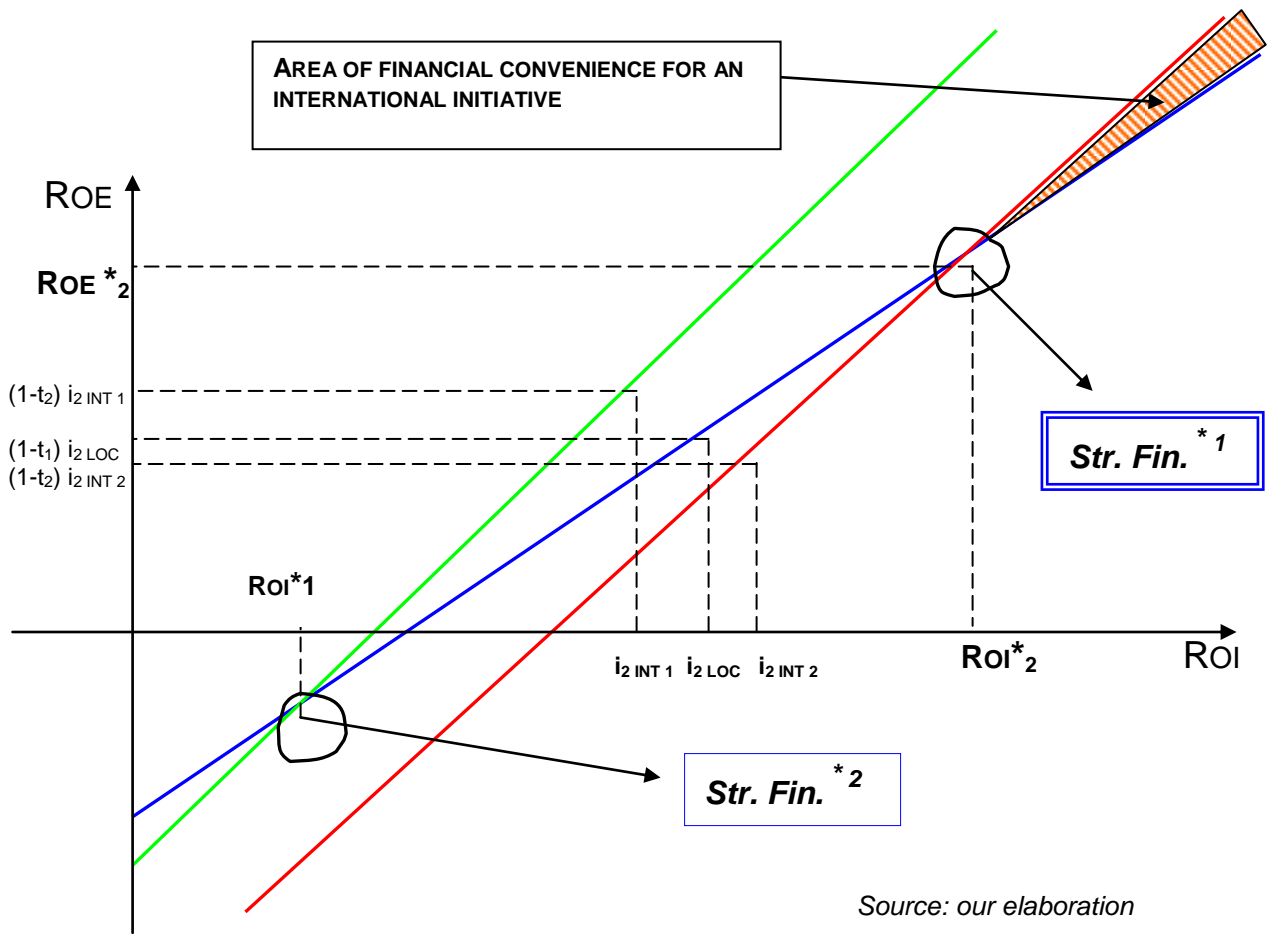


Figure 7. Indifference point of the financial structures

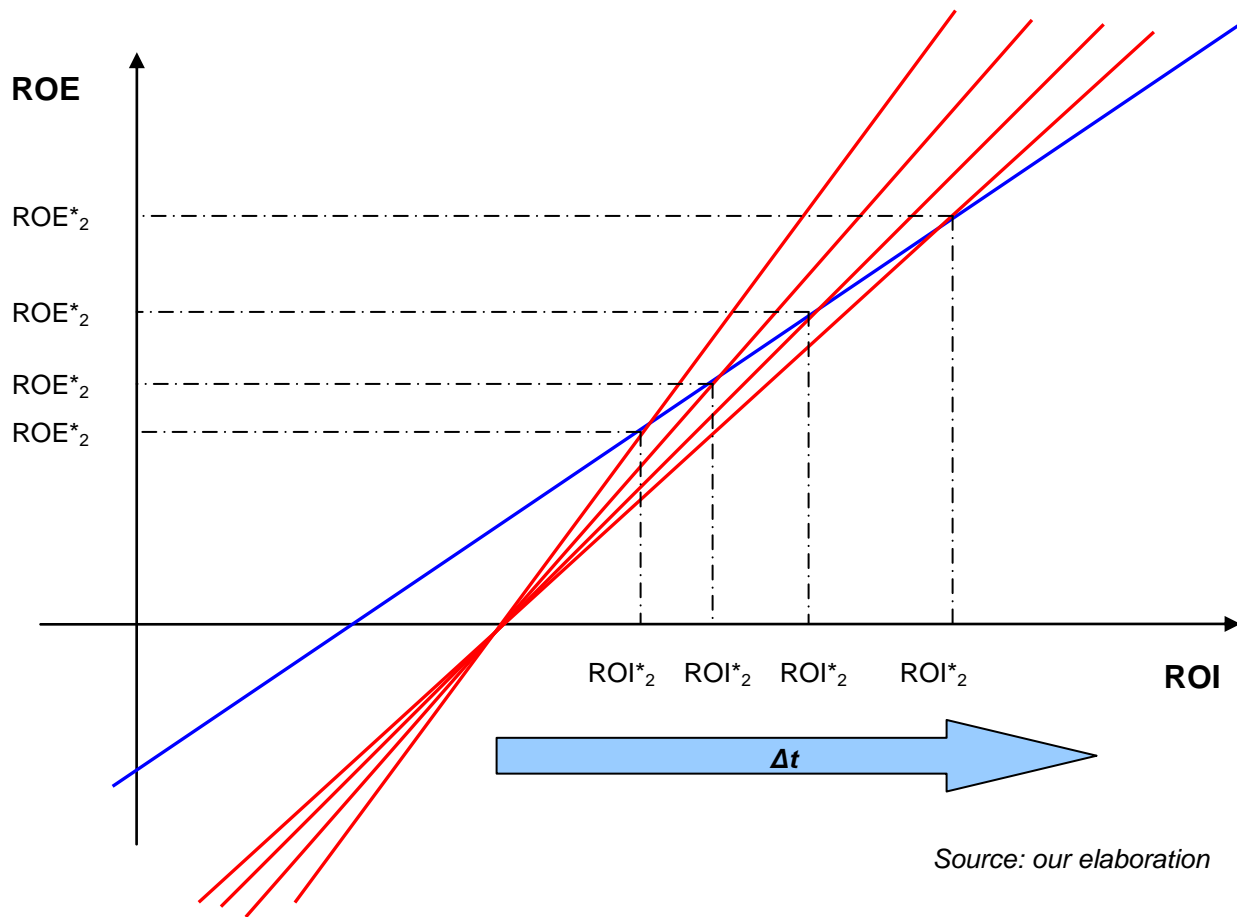


Figure 8. Indifference point, and decrease in t .

IV. CONCLUSION

In the relationship between internationalization and the maintenance of competitive advantage, the financial function²⁶ plays a relevant part and may also represent a pathway to foreign development, especially when it is an SME that wishes to undertake it²⁷.

The model of the indifference point of financial structures is proposed precisely as a tool able to provide quantitative information, based on which

²⁶ By financial function, what is meant is the function aimed for the realization of the optimal financial structure, therefore including the leverages that may be activated towards: indebtedness (q), cost of credit capital (i), and mean fiscal rate (t).

²⁷ Cf. Caroli M. and A. Lipparini, (2003), *Piccole imprese oltre il confine. Competenze e processi d'internazionalizzazione*, Roma, Carocci.

the advantageousness of the expansive process (in a purely financial sense) may be determined.

Naturally, the model presents some limitations, particularly in the initial assumptions (most obviously there is the equality in variation of the indebtedness quotient of the two expansion projects, national and international), and further refinements can be made to it, so as to augment its significance and permit it to be used in the evaluation of more complex expansion possibilities²⁸.

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²⁸ The increased complexity may be traced back to, for example, the comparison between national/foreign development initiatives characterized by a different level of indebtedness.

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