STRATEGIC BEHAVIOR OF OVER INTERNATIONALIZED COMPANIES

Buigues, Pierre

Toulouse Business School

pa.buigues@tbs-education.fr

Lacoste, Denis

Toulouse Business School

d.lacoste@tbs-education.fr

Lavigne, Stéphanie

Toulouse Business School,

s.lavigne@tbs-education.fr

ABSTRACT

This paper questions if the most advanced companies in terms of internationalization tend to reduce their international exposure overtime. On a sample of highly internationalized multinationals observed over a 10 year-period (1999-2008), we discuss and explore the effects of internationalization on performance and we find an inverted U-shaped relationship between internationalization, confirming the existence of an optimal degree of internationalization. The major finding of this research is that beyond this optimum, the most advanced companies in terms of internationalization tend to reduce their international footprint over time, unlike the other companies.

KEYWORDS

STRATEGIC BEHAVIOR OF OVER INTERNATIONALIZED COMPANIES

INTRODUCTION

Many empirical studies over the last 30 years have examined the relationship between the degree of Internationalization (I) and Performance (P), to test whether internationalization of companies increases their performance. The results of nearly a hundred empirical or theoretical studies in strategy or international business have led to no consensus on this relationship between (I) and (P) (see in particular Ruigrok and Wagner (2003) and their review of 62 studies or Li (2007) and his analysis of 43 studies). However, recent studies seem to converge around a cubic relationship between (I) and (P) and have led to the '3-stage paradigm' of internationalization (Contractor, Kundu, Hsu, 2003; Thomas & Eden, 2004; Lu & Beamish, 2004; Li, 2005; Contractor, 2012)[1]. These studies have identified an S-curve relationship suggesting that companies would experience three stages during their internationalization process and attesting that internationalization is not necessarily a guarantee of success in terms of financial performance. Those recent studies question to what extent should transnational companies continue to expand if this strategy was not always profitable.

Two examples can be highlighted to illustrate this adaptation of strategy decisions to the inverted U relationship between (I) and (P): Carrefour (a services company) and In Bev (a manufacturing company) have both being characterized by a large geographic refocusing movement.

Because of its internationalization's strategy, Carrefour is now the second largest retailer in the world after Wall-Mart. Carrefour has selected the countries for internationalization's strategy on the basis of selected criteria mainly market size, geographical proximity and compatibility of operations. That explains the choice of Belgium, Spain and Italy as ones of the first markets to entry and the importance of these countries even today. Carrefour decided also to go in many other countries, and to develop regional poles in South America (Brazil, Argentina) and in South East Asia (Taiwan, Malaysia, Thailand and Indonesia) and China, as these countries are the most important growth market in the World. Between 1990

---

[1] See Appendix 1.

and 2006, Carrefour entered 29 new countries. However, these markets are characterized by high differences with Europe: regulations in the retail markets vary on the basis of religion, culture and taste. To recover its profitability, Carrefour decided to change its internationalization strategy and to separate from its non-strategic or insufficiently profitable assets. After leaving Hong-Kong in 2000, Chile, Mexico, Japan, South Korea, Czech Republic and Slovakia were sold. The objective was to keep only the subsidiaries which belong to the first three distributors of the market concerned and Carrefour is now quite cautious in its international operations.

AB Inbev is today the number one brewing company in the world that was born as a result of a series of mergers and acquisitions dating back to the 1980's. Among the main mergers, InBev (Belgium company) first merged in 2004 with AmBev (Brazilian brewer), then merged with Anheuser-Busch in 2008 to create AB Inbev. Throughout all the years the company has expanded all over the world having operations in over 30 countries and sales in over 130 countries in the industry of beer. Internationalization was rapidly considered as the determinant of the competitive strategy and the company's success. AB Inbev decided to become a global company expanding mostly in new developing countries from Central and Eastern Europe (Hungary, Croatia, Bulgaria, Romania) in the late 1980s then in Asia and South America in the period 1995-2007. After the takeover of Anheuser-Busch for an amount of $52 billion dollars, In Bev decided to refocus on a limited number of countries to reduce its debt. Between 2007 and 2009, Ab-InBev has refocused in selling breweries in nine countries of Central and Eastern Europe to CVC Capital Partners for more than $8 billion, two regions where the company has started its internationalization in the mid 1990's.

If those two examples and recent theoretical works have questioned the existence of an optimum in terms of geographic expansion, very few works have tried to analyze whether companies take this optimum into account when making strategic decisions. The main purpose of this study is first to test the fit between (I) and (P) and then to analyze over a long period if large transnational companies adjust their degree of multinationality according to its impact on firm performance.

This new empirical study on the relationship between (I) and (P) is original in several respects. It is original first because of the nature of the data: we focus on companies already very advanced in terms of international diversification. Our sample is composed of transnational companies with the highest volumes of foreign assets[i] because we want to understand what happens for companies that may be over-internationalized. Our study is also

original because, contrary to most empirical studies, we do not refer to a single variable measuring only one aspect of internationalization[ii]. In line with certain studies that have proposed a multi-item index to measure internationalization (Thomas & Eden, 2004; Annavarjula & Beldona, 2000; Li & Qian, 2005; Contractor *et al.*, 2003; Goerzen & Beamish, 2003), this study refers to a composite measurement of internationalization namely the Transnationality Index (TNI). Lastly, this study integrates companies of different nationalities whereas almost all previous studies have focused on a single country[iii].

Based on a sample of 521 observations of large multinationals, our study, after validating the existence of an optimum degree of internationalization, shows that among the largest multinationals, companies with the highest degree of internationalization tend, unlike the others, to decrease their level of internationalization over the period (1999-2008).

1. THEORETICAL BASES AND HYPOTHESIS

The idea that internationalization systematically increases companies' profitability was attacked and has led to the conclusion that there is a limit to international growth (Verbeke & Burgman, 2009, Hennart, 2011, Contractor, 2012). In particular, Lu & Beamish (2004) and Contractor (2007, 2012) have developed theoretical models listing the benefits and costs across different stages of internationalization. During early internationalization (Stage 1, called "initial stage), companies generally experience a drop in their performance. Stage 1 is characterized by high costs of learning about a new environment (unfamiliarity of new countries): set-up costs of international operations are high per product sold abroad and are likely to be greater than the benefits. In Stage 2, benefits begin to outweigh costs, as the learning cost about how to establish an affiliate efficiently in a host country is reduced. Stage 2, called 'later internationalization' or "middle stage" is associated with increasing profitability related to internationalization, as companies develop experiential learning and because geographical diversification reduces the overall risks. During Stage 3, called 'excessive internationalization', the effects of internationalization on performance become negative: companies have 'over-internationalized' their activities. Stage 3 is generally characterized by a large number of affiliates that increases the volume of management information and coordination costs. However, most of the studies and in particular recent studies like those of Contractor (2007, 2012) or Hennart (2007, 2011) cannot validate the universality of any list of benefits and costs for all companies. For a company, profits and

costs are not necessarily generated at the same time or at the same stage of its international development.

An optimum point in terms of internationalization has been evidenced by recent empirical studies that result in an inverted U-shaped curve. *"The negative slope on the right hand side of the inverted U-Shaped curve unequivocally means that further multinational expansion (…) is detrimental to profit and performance"* (Contractor, 2012: 36). But what are the main theoretical arguments to justify this optimum level of international diversification? Do managers of large companies know that they have reached this optimum? And do they adapt their strategic decisions when they have reached the optimum in terms of international expansion?

1.1. MORE IS IT SYSTEMATICALLY BETTER? THE COST OF OVER-INTERNATIONALIZATION

A recent group of studies emphasize this idea that multinational companies may reach an optimal degree of international diversification beyond which any increase in the international footprint is detrimental to performance (Hennart, 2007, 2011; Contractor, 2012). At a company level, there should be a maximum number of countries that should be served. Internationalization incurs costs for the expanding companies which explains why over internationalization can have a negative influence on profitability and why over internationalized companies may reduce their degree of internationalization.

There are many reasons why internationalization can generate costs superior to benefits:

- o *Cultural and institutional distance*. The benefits and costs of internationalization will not accrue homogeneously across all countries. The benefits and costs of internationalization will not accrue homogeneously across all countries. As suggested by the Uppsala Model (Johanson & Vahlne, 1977), companies learn from their experience and move to foreign markets incrementally, bearing in mind that internationalization begins with countries close to the domestic market in terms of psychic distance (notion of liability of foreignness)[2]. If multinational companies generally expand one country at a time, countries remain very different in income,

---

[2] Johanson and Vahlne (2009) have more recently proposed a revised version of the model by focusing on the idea that companies are embedded in business networks. The traditional view of entry (i.e. overcoming various barriers) is now thought to be less important and internationalization is contingent on developing opportunities: internationalization is pursued within a network (internationalization depends on a company's relationships and networks). In the revised version of the Uppsala Model, the importance of relationships, opportunities, knowledge and commitments are reasons for location specificity.

culture, and institutions. In his paper "Distance still matters", Ghemawat (2001) points out that distance (whether geographical, cultural, economic or administrative distance) makes foreign markets less attractive. Each additional foreign affiliate in a new market creates additional organizational costs and introduces a disruption of the existing operations of the multinational. Quality control costs increase significantly with institutional and cultural distance between home and foreign affiliate country. That explains the preference of multinationals for investments in countries, geographically, institutionally, and culturally close to their home country. With over internationalization, each new incremental foreign country entails increased incremental costs, as differences in culture and institutions escalate significantly. Distance and differences in culture and institutions will increase the amount of information managers must collect to effectively manage the foreign affiliates.

o *Adaptation to foreign markets*. The products and services that multinationals produce abroad are, to a large extent the same, they produce at home (Hennart 1982, Hennart, Park 1994) but, even in that case producing and selling abroad involve higher costs than doing it at home. It requires modifications in production process and marketing mix to adapt products and services to local conditions (Usenier, 1996). The optimal exploitation of scale and scope economies occurs when companies use abroad exactly the same production process and marketing mix as at home and conversely adaptations to local conditions will lower potential economies of scale. The more local conditions are different from home conditions, the more the cost of adaptation to local conditions increase

o *Coordination costs and organization change*. Beyond a certain level of internationalization, information, coordination and governance costs increase too much with cultural and geographical distance and the number of foreign subsidiaries (Contractor, 2007, 2012; Hennart, 2007). The coordination required for the presence of companies in multiple countries may cost more than the benefits derived from sharing resources and exploiting market opportunities (Hitt *et al.,* 1997). To get the advantages of complex and extensive internationalization transnational companies need to find an appropriate organizational and managerial structure.

o *Expansion into smaller and riskier markets.* Market entry into markets below the top 20 or 30 nations ranking in terms of GDP entails a decrease in expected returns per country (Contractor, 2012). Indeed, the lower-ranked countries are not only small and

less developed markets but are also often politically risky countries. The costs of increased expansion in the lower-ranked countries may be greater than the incremental benefits. "*At certain stages in the firm's international expansion path, the costs of incremental international expansion or the 'liability of foreignness' outweigh the benefits, producing a net negative slope on the performance versus degree of internationalization graph.*" (Contractor, 2012). Beyond this point, after having expanded into the most profitable markets, companies are left with minor or peripheral countries which provide a lower potential profit.

Nevertheless, it can be difficult for managers to assess when it becomes over-internationalized and many firms simply do not know when they are over-extended as underlined by Contractor *el al.* (2003) and Contractor (2012). And if a company has a foreign footprint larger than its optimal size, it can take time to readjust its international profile. As suggested by Hennart (2011), "*firms may differ in how quickly they adjust to their optimal level of multinationality*". It may take longer to adjust for companies with huge fixed assets, such as in the steel or energy industries, than for high-tech companies with more intangible assets.

Consequently, it is crucial to know more about the behavior of companies who are aware that there is an optimal degree of international diversification to be found.

1.2. HYPOTHESES

In this research we suppose that transnational companies already very engaged in internationalization will try to reach the optimum level of internationalization. We also question if highly internationalized companies will reduce the level of internationalization when they have reached the optimum in terms of geographic expansion? Accordingly we propose to test the following hypotheses H_1, H_{1a} and H_{1b}:

Hypothesis H_1. The largest MNCs international diversification fits the inverted U-relationship between (I) and (P)

Hypothesis$_{1a}$. For the largest MNCs, the higher the level of internationalization, the higher the proportion of companies that reduce their level of internationalization

Hypothesis$_{1b}$. Among the largest MNCs, companies with the highest level of internationalization will reduce their international footprint over time

2. DATA AND METHODOLOGY

We examine the I-P relationship for a sample of considerably internationalized companies: the annual ranking of the 100 largest non-financial transnational companies (TNCs) worldwide identified by UNCTAD. UNCTAD publishes a ranking of the largest TNCS in the world based on information collected through annual reports of companies. The ranking refers to the largest companies according to their foreign assets and present data on foreign assets, sales, and employment for the 100 largest worldwide companies (including companies from developing countries and countries in transition). Ranking by another criterion such as foreign sales or foreign employment would give a different picture. For example, ranking companies by foreign sales would give the top positions to petroleum and automobile and ranking by foreign employment would give the top position to retail and food-and-beverage companies. The 100 largest TNCs account for nearly 10% of the total assets of all foreign affiliates of the 82,000 TNCs, 14% of their total employment and 16% of their total sales (UNCTAD, 2008).

We built a database containing the largest TNCs over the period 1999-2008 (1000 year-observations).

For each year, we have a total of 100 multinational companies that are the largest in the world in terms of foreign assets. Some companies may leave the rankings in some years and then reappear a few years later.The database was supplemented by information concerning companies' strategies and performance taken from the Thomson Financial and Thomson Reuters' databases. As some information is missing, the final database includes 521 year-observations[iv].

2.1. VARIABLES

The variables used in this study were operationalized as follows. Our dependent variable is corporate performance. For the measure of *performanc*e, we used Returns On Assets (ROA) calculated as the ratio of net income to total assets, because ROA is the most frequently used variable in Internationalization-Performance studies (Sullivan, 1994a, 1994b, Gomes, Ramaswamy, 1999; Kotabe *et al*, 2002; Thomas, Eden 2004). For the measure of *internationalization*, we used the Transnationality Index (TNI) supplied by UNCTAD. The TNI is the average of three ratios measuring different aspects of internationalization: Foreign Assets to Total Assets (FA/TA), Foreign Sales to Total Sales (FS/TS) and Foreign Employees to Total Employees (FE/TE). TNI is thus a comprehensive measure of internationalization strategy[v].

Consistent with previous studies on the relationship between (I) and (P), the regression models include control variables known to influence either performance or the relationship between (I) and (P): firm size (sales), financial leverage (debt-to-equity ratio), R&D intensity (R&D expenses to total sales), industry and product diversification (the ratio of 1 minus sales from the main activity over total sales).

Firm-size is measured as the logarithm function of sales. We control for firm size because variance in performance is partly explained by firm size (Hitt *et al,* 1997; DeCarolis, Deeds, 1999; Kotabe *et al*. 2002) and this variable allows controlling for economies of scale and scope.

The variable *financial leverage* allows capturing the effect of financial capital structure on performance and financial indebtedness.

R&D intensity and industry: The need to internationalize can be more critical for companies in high technology industries as internationalization allows firms from these industries to share the development of new technologies across many markets and to extend the life cycle of a technology (Doz, Prahalad, 1991; Hsu, 2005). In some industries, critical size is of great importance in terms of production and *R&D.* Firms with strong intangible assets may be much better placed to exploit market imperfections and extensive internationalization. In many high technology sectors, competition has forced companies to increase R&D expenses beyond levels that can be sustained by the domestic market. High-tech firms may thus be better placed for intensive internationalization (Kotabe *et al.,* 2002; Contractor *et al.,* 2003; Contractor, 2007). Finally, there could be an industrial explanation for the existence of an optimal level of international diversification: the benefits and costs of internationalization are contingent on industry characteristics (Elango, 2012). If we capture the influence of industry thanks to *R&D expenditures* (like studies of Delios, Beamish, 1999; Morck, Yeung, 1991; Lu, Beamish, 2004), we also operationalized *industry* using dummy variables.

We also control for *product diversification* as suggested by Hitt, Hoskisson, Ireland (1994) or Oh' and Contractor (2012) as product-diversified companies are more likely to access, to novel knowledge available in distant markets - knowledge that can then be utilized to improve performance worldwide.

2.2. MODELING PROCEDURES.

We analyzed the performance implications of internationalization strategies using a firm-year unit of analysis. To facilitate causal inference, we lagged all the independent variables by one year (Lu & Beamish, 2004).

Table 1 reports descriptive statistics and correlations among variables.

Table 1: Descriptive statistics and correlations

Variables	Mean	s.d.	Variables				
			1	2	3	4	5
1. ROA	6.873	5.685					
2. TNI	.591	.166	.174***				
3.R&D intensity	.025	.043	.186***	-.032			
4. Product diversification	.357	.264	-.034	-.058	-.044		
5. Financial leverage	1.410	2.549	-.195***	-.156***	-.134**	-.026	
6. Size	71.411	73.053	.068	-.186***	-.119**	-.188***	-.007

N= 521
Significant at † 0.1 level, * 0.05 level; ** 0.01 level; *** 0.001 level

4. RESULTS

4.1. Test of the inverted-U relationship between (I) and (P)

Table 2 presents the results of different regression analyses. In Models 1 and 2, we test for the linear effects of (I) on (P). In Models 3 and 4, we add the squared term of internationalization in order to test for a nonlinear relationship. In Models 1 and 3, all the data are measured the same year. In Models 2 and 4, performance is measured one year after all the independent variables in order to take into account time lag effects.

Models 1 and 2 indicate that internationalization has a significant positive impact on corporate performance. R&D intensity, the industry of the company and the year of observation also influence corporate performance.

With Models 3 and 4, we find that the relationship between internationalization of large multinational companies and performance is not linear but inverted U-shaped. This result supports the relationship between I and P identified in the main reference studies.

Table 2: Results of regression analyses of firm performance on internationalization (521 firm-year observations, 1999-2008)[a]

	Model 1 (ROA)	Model 2 (ROA t+1)	Model 3 (ROA)	Model 4 (ROA t+1)
Independent variables				
Intercept	2.567 (1.391)	.604 (.341)	6.073*** (4.136)	3.532* (2.497)
TNI	4.182 ** (2.896)	3.691** (2.66)	.674** (2.821)	.598** (2.599)
TNI squared			-.413* (-2.279)	-.298† (-1.707)
R&D intensity	16.936 ** (3.01)	13.829* (2.56)	15.744** (2.801)	12.969* (2.395)
Product diversification	.551 (.643)	.646 (.785)	.324 (.378)	.483 (.584)
Debt to Equity Ratio	-.779 (-.904)	-.084 (-.996)	-.091 (-1.04)	-.092 (-1.096)
Firm size	.002 (.7)	.003 (1.01)	.003 (.796)	.003 (1.084)
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Models indices				
Nb. of cases	521	521	521	521
F test	12.193***	12.659***	12.586***	13.244***
R square	.304	.299	.311	.322

[a] Unstandardized regression coefficients (t-statistics).

To test the robustness of our results and to better understand the relationship between (I) and (P), we divided the sample into three tertiles based on the degree of internationalization of companies (measured by the TNI). The three groups are of the same size in terms of number of observations. In Models 5, 7 and 9 all the data come from the same year and in Models 6, 8 and 10 there is a one-year time lag between dependent and independent variables.

The results are shown in Table 3. For the first two tertiles, the relationship between (I) and (P) is significantly positive. Conversely, for the third tertile the relationship is significantly negative. These results confirm those from the nonlinear regression and strongly support the existence of a nonlinear, inverted U-shaped relationship between (I) and (P) of large multinational companies.

Table 3: Results of linear regression analyses of firm performance on internationalization for three subgroups (521 firm-year observations, 1999-2008)[a].

	Model 5 (ROA)	Model 6 (ROA t+1)	Model 7 (ROA)	Model 8 (ROA t+1)	Model 9 (ROA)	Model 10 (ROA t+1)
	First tertile		Second tertile		Third tertile	
Independent variables						
Intercept	-3.259 (-.721)	-1.213 (-.279)	-2.76 (-.516)	-5.203 (-1.014)	22.143** (3.092)	14.75* (2.265)
TNI	11.427** (2.575)	6.559† (1.535)	18.772 * (2.321)	22.967 ** (2.957)	- 17.899** (-2.554)	-15.753 * (-2.473)
R&D intensity	29.288** (3.313)	32.241*** (3.788)	9.366 (.989)	-8.079 (-.889)	7.616 (.687)	16.241 (1.612)
Product diversification	-.711 (-.544)	-1.743 (-1.387)	.748 (.517)	1.531 (1.102)	1.547 (.669)	2.082 (.991)
Financial leverage	-.146 (-1.538)	-.145† (-1.585)	.012 (.068)	-.023 (-.134)	.067 (.197)	-.022 (-.071)
Size	.01 (1.599)	.008 (1.362)	.001 (.216)	.005 (.811)	-.004 (-.615)	-.006 (-1.055)
Industry	No	No	Yes	Yes	Yes	Yes
Year	Yes	Yes	No	Yes	Yes	Yes
Models indices						
Nb. of cases	174	174	174	174	173	173
F test	6.818***	5.638***	4.992***	7.117***	4.643***	6.507***
R square	.426	.381	.352	.437	.337	.416

[a] Unstandardized regression coefficients (t-statistics).

Our results indicate that, for the largest multinationals, the relationship between (I) and (P) is positive but nonlinear: internationalization first increases performance and then has a negative impact on it, attesting to the existence of an optimal level of internationalization. Below this optimum, the benefits of internationalization are higher than costs and companies can enhance their performance by increasing their level of internationalization. Beyond this optimum the costs are higher than benefits, and companies may be tempted to enhance their performance by reducing their international exposure.

These results remain valid when a time-lag is introduced between (I) and (P).

It is therefore interesting to check whether companies are aware of the existence of an optimum and take it into account when defining their strategy of geographic diversification.

4.2. HOW DO COMPANIES BEHAVE WHEN THEY REACH THE OPTIMUM IN TERMS OF INTERNATIONALIZATION?

In order to investigate this question, we selected those companies for which we had information concerning the degree of internationalization over the period 1997-2008, a total of 95 companies.

We computed the average level of internationalization of each company in the first half of the period (1997-2002) and in the second half of the period (2003-2008). In the same way, we divided our sample of 95 companies into three groups on the basis of the level of internationalization of each company in the first sub-period.

This enabled us to analyze the evolution of the internationalization for each group: companies less advanced in terms of internationalization, companies with a level of internationalization comparable to the average level of the sample, companies very advanced in terms of internationalization. The results of this analysis are provided in Table 4. In this table we indicate the level of internationalization for each of the three groups during the first period (TNI_1, 1997-2002) and during the second period (TNI_2, 2003-2008). For each company and each period, the TNI is the mean of the six annual TNIs. We also indicate for each group the number of companies for which TNI has decreased between Period 1 and Period 2.

.

Table 4: Evolution of the TNI index of 82 companies (1999-2008)

	TNI$_1$ (1997-2002)	TNI$_2$ (2003-2008)	Change	# of companies	% of companies showing a decrease in TNI
Group 1	32.15	41.97	30.5 %	31	3.2%
Group 2	55.06	59.68	8.4 %	32	28.1 %
Group 3	77.97	76.73	-1.6 %	32	46.9 %
Group 3a.	70,28	71,98	2.42 %	16	31.25 %
Group 3b.	85,66	81,49	-4.87 %	16	62.5%

Note : Same calculations were made by dividing the period into three sub-periods: 1997-2000, 2001-2004 and 2005-2008. The results are identical to those observed with the two sub periods.

The results support hypothesis H$_1$, H$_{1a}$ and H$_{1b}$. Companies with a "relatively low" level of internationalization generally increase this level over the period. Companies with a "moderate" level of internationalization increase this level as well but at a lower rate. For the group of the "most internationalized" firms, the average level of internationalization decreases. Interestingly, the proportion of companies showing a decrease of TNI increases with the level of internationalization:

3.2 % for the first group, 28.1 % for the second and 46.9 % for the most internationalized companies.

If we split this third group into two subgroups of the same size, using the same criteria (TNI 2003-2008), the specific strategy of the most highly internationalized companies is even more evident. More than 60% of the companies of Group 3b reduce their level of internationalization over the period. It therefore seems that managers of these companies develop a strategy in accordance with the observed inverted U-Shaped relationship between (I) and (P). When the marginal effect of internationalization is weaker, the increase of internationalization is generally lower and when the effect becomes negative, many companies decrease the level of their internationalization.

Figure 1 summarizes the major findings of the research. The figure depicts a relationship between corporate performance and internationalization that is first positive, then negative as internationalization increases. For large and very advanced companies in terms of internationalization, the relationship between ROA and TNI is positive but nonlinear, inverted U-shaped. The figure also shows that companies' behavior is in accordance with this relationship. The "slightly" or "moderately" internationalized companies increase their level

of internationalization over the period and the "highly" internationalized companies decrease their level of internationalization[vi].

Figure 1: Relationship between TNI and ROA and visualization of firms' behavior over time (arrows)
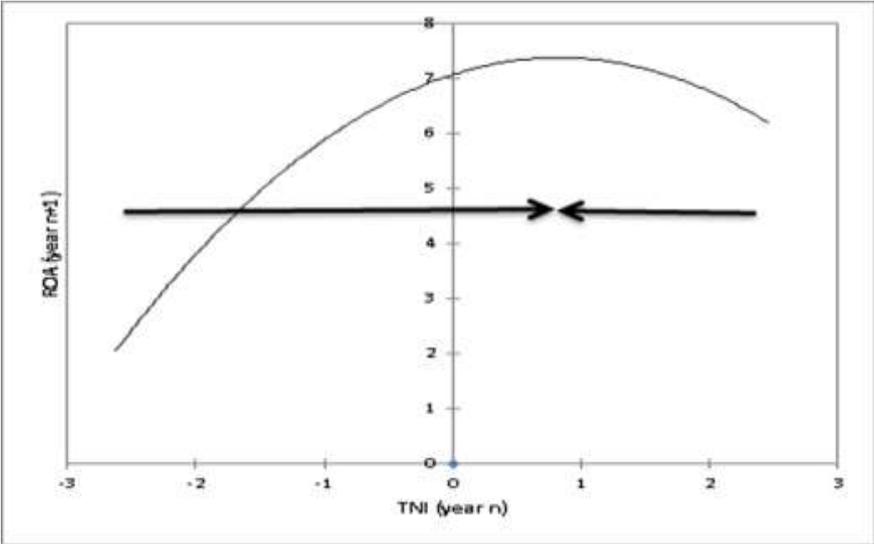
5. CONCLUSION AND DISCUSSION

The purpose of this study was to build upon existing research and to examine if strategic decisions of companies already very advanced in terms of internationalization adapt to the relationship between (I) and (P). The study is a longitudinal one, where the internationalization process of individual company is followed for several years and therefore, provides rich conclusions on the strategic behavior of over internationalized companies.

The study first validates the existence of a negative relationship between (I) and (P) for companies with the highest degree of internationalization attesting to the existence of an optimum level of internationalization. The incremental costs of higher internationalization for companies with the highest degree of internationalization become larger than the benefits if internationalization is pushed beyond an optimal point. We therefore found that companies' strategic decisions are in accordance with the observed relationship between (I) and (P). When their level of international diversification is below the optimum, companies generally pursue their geographic expansion. Conversely, when the level of internationalization is above the optimum a majority of companies decrease their international footprint. These results confirm that internationalization is not a linear process for companies, as multinationals permanently implement strategies to restructure their international production system.

Our results suggest that the largest multinational companies are able to identify an optimum in terms of internationalization implying a form of rationality of managers: managers are driven to reduce their level of internationalization when company's performance decreases and when they have reached the optimum. Managers finally adapt their strategic decisions to the inverted U relationship between (I) and (P) and have understood that searching for international large size does not necessarily lead to better performance and success.

This study questions the nature of an optimal level of internationalization. One possible approach may be to look for a universal optimum that could be applied across all companies. Another approach could be that there is no universal optimum and then requires the firm-specification of optimal diversification. Transaction cost and internationalization theory have argued for firm-specific optimal multinationality (Hennart, 2007, 2011).

This study also highlights the need to further explore the conditions under which companies decide to reduce their international footprint. Are these decisions of refocusing only taken by rationale managers who have understood the existence of an optimum in terms of internationalization and who know that pursuing geographic expansion will result in poor performance? Or is it rather stakeholders and in particular shareholder who compel managers to refocus from a geographic point of view? Shareholders, like institutional investors with short term focus, may indeed not validate the expansion of a company in a larger number of countries if this growth strategy is not synonymous with high and immediate financial returns. In other words it could be interesting to analyze up to which point shareholders (and what kind of shareholders) validate the pursuit of geographic diversification in companies in which they hold stocks? We believe that future research could question the relationship between ownership structures and the strategy of internationalization of transnational companies.

In terms of future research, our study may open up new avenues for a closer examination of case studies to provide critical information about the process of trial and error followed by managers to specifically identify the optimum level of international diversification. In particular, it could be interesting 1) to analyze the case of companies that have conducted geographic refocusing strategies after having reached poor performance; 2) to analyze whether this strategy of refocusing on a smaller number of countries has finally led to an increase in performance.

References

Annavarjula, M. and Beldona, S. (2000), Multinationality-performance relationship: a review and reconceptualization. International Journal of Organizational Analysis, 8(1): 48-67.

Berry H., Guillen, M. and Zhou, N. (2010), An institutional approach to cross-national distance, Journal of International Business Studies, 41: 1460-1480.

Bodnar, G., Tang, C.and Weintrop, J. (2003), The Value of Corporate International Diversification, Working Paper, John Hopkins University.

Brewer, H. (1981), Investor benefits from corporate international diversification. Journal of Quantitative Analysis, 16: 113-126.

Buehner, R. (1987), Accessing International Diversification of West German Corporations. Strategic Management Journal, 8 (1): 25-37.

Capar, N.and Kotabe, M. (2003), The relationship between international diversification and performance in service firms. Journal of International Business Studies, 34: 345-355.

Chiang, Y.C.and Yu, T.H. (2005), The relationship between Multinationality and Performance of Taiwan Firm? Journal of American Academy Business, 6(1): 130-134.

Click, R. and Harrison, P. (2000), Does Multinationality Matter? Evidence of Value Destruction in U.S. Multinational Corporations. Working Paper 21, US Federal Reserve Board 2000.

Collins, JM. (1990), A market performance comparison of US firms active in domestic, developed, developing countries. Journal of International Business Studies, 21(2): 271-87.

Contractor, FJ. (2007), Is International Business Good for Companies? The Evolutionary or Multi-Stage Theory of Internationalization vs. the Transaction Cost Perspective. Management International Review, 47(3): 453-475.

Contractor, F.J., Kundu, S.K. and Hsu, C.C. (2003), A three-stage theory of international expansion: the link between multinationality and performance in the service sector. Journal of International Business Studies, 34: 5-18.

Contractor, F.J. (2012), Why do multinational firms exist? A theory note about the effect of multinational expansion on performance and recent methodological critiques. Global Strategy Journal, 2: 318-331.

Decarolis, D.M. and Deeds, D.L. (1999), The impact of stocks and flows of organizational knowledge on firm performance: an empirical investigation of the biotechnology industry, Strategic Management Journal, 20: 953-968.

Delios, A. and Beamish, P.W. (1999), Geographic scope, product diversification and corporate performance of Japanese firms. Strategic Management Journal, 20: 711-727.

Denis, D., Denis, D. and Yost K. (2002), Global diversification industrial diversification and firm value. Journal of Finance, LVII(5):1951-1979.

Doukas, J. and Travlos, G.N. (1988), The effects of corporate multinationalism on shareholders' wealth: evidence from international diversification. Journal of Finance, 43(5): 1161-1175.

Doz, Y.L. and Prahalad, C.K. (1991), Managing DMNCs: a search for a new paradigm. Strategic Management Journal, 2(1): 145-164.

Dunning, J.H. (1988), The eclectic paradigm of international production: a restatement and some possible extension. Journal of International Business Studies, 19: 1-32.

Elango, B. (2012), How industry dynamics influence the internationalization-performance relationship: evidence from technology intensive firms. Thunderbird International Business Review, 54(5): 653-665.

Elango, B. and Sethi, S. (2007), An exploration of the relationship between country of origin (COE) and the internationalization-performance paradigm. Management International Review, 47(3): 369-392.

Errunza, V.R. and Senbet, L.W. (1984), International corporate diversification, market-valuation and size-adjusted evidence. Journal of Finance, 39(3): 727-743.

Geringer, J.M., Beamish, P.W. and Da Costa, R.C. (1989), Diversification Strategy and Internationalization: Implications for MNE Performance. Strategic Management Journal, 10(2): 109-119.

Geringer, J.M., Tallman, S. and Olsen, D.M. (2000), Product and International Diversification among Japanese Multinational Firms. Strategic Management Journal, 21(1): 51-80.

Glaum, M. and Oesterle, M.J. (2007), Forty years of research on internationalization and firm performance: more question than answers? Management International Review, 47:307-317.

Goerzen, A. and Beamish, P. (2003), Geographic scope and multinational enterprise performance. Strategic Management Journal, 24(13): 1289-1306.

Gomes, L. and Ramaswamy, K. (1999), An empirical examination of the form of the relationship between multinationality and performance. Journal of International Business Studies, 30(1) 173-188.

Grant, R.M. (1987), Multinationality and performance among British manufacturing companies. Journal of International Business Studies, 18(3): 79-89.

Grant, R.M., Jammine, A.P. and Thomas, H. (1988), Diversity, diversification, and profitability among British manufacturing companies 1972-84. Academy of Management Journal, 31(4): 771-801.

Han, K.C., Lee, S.H. and Suk, D.Y.. (1998),. Multinationality and firm performance. Multinational Business Review, 6(2): 63-70.

Hennart, J.F. (1982), A Theory of Multinational Enterprise. Ann Arbor: University of Michigan Press.

Hennart, J.F. (2007), The Theoretical Rationale for a Multinationality-Performance Relationship. Management International Review, 47(3): 423-452.

Hennart, JF. (2011), A theoretical assessment of the empirical literature on the impact of multinationality on performance. Global Strategy Journal, 1(1-2): 135-151

Hennart, J.F.and Park, Y.R. (1994), Location, Governance and Strategic Determinants of Japanese Manufacturing Investment in the United States, Strategic Management Journal, 15(6): 419-436.

Hitt, M.A., Hoskisson, R.E.and Ireland, R.D. (1994), A mid-range theory of the interactive effects of international and product diversification on innovation and performance. Journal of Management, 20(2): 297-326.

Hitt, M.A, Hoskisson, R.E. and Kim, H. (1997), International diversification: effects on innovation and firm performance in product-diversified firms. Academy of Management Journal, 40(4):767-798.

Hsu, C.C. (2005),. Internationalization and performance: the S-curve hypothesis and product diversify effect. The multinational Business Review, 14(2): 29-46.

Hsu, C.C. and Boggs, D.J. (2003),. Internationalization and performance: traditional measures and their decomposition, Multinational Business Review, 11(3): 23-50.

Johanson, J. and Vahlne, J.E. (1977), The Internationalization Process of the Firm - a Model of Knowledge Development and Increasing Foreign Market Commitments, Journal of International Business Studies, 8(1): 23-32.

Johanson, J. and Vahlne, J.E. (2009), The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership, Journal of International Business Studies, 40: 1411-1431.

Kim, W. and Lyn, E. (1986), Excess market value, the multinational corporation and Tobin's q ratio. Journal of International Business Studies, 17: 117-126.

Kim, W.C., Hwang, P. and Burgers, W.P. (1989), Global diversification strategy and corporate profit performance. Strategic Management Journal, 10(1): 45-57.

Kotabe, M., Srinivasan, S.S. and Aulakh, P.S. (2002), Multinationality and firm performance: the moderating role of R&D and marketing capabilities. Journal of International Business Studies, 33(1): 79-97.

Kumar, M.S. (1984), Growth acquisition and investment: an analysis of the growth of industrial firms and their overseas activities. Cambridge, UK: Cambridge University Press.

Lee, I.H. (2010), The M curve: the performance of born-regional firms from Korea, Multinational Business Review, 18(4): 1-22.

Li, L. (2005), Is regional strategy more effective than global strategy in the US service industries? Management International Review, 45(S1): 37-57.

Li, L, Qian, G. (2005), Dimensions of international diversification: the joint effects on firm performance. Journal of Global Marketing, 18(3/4): 7-35.

Li, L. (2007),. Multinationality and performance: a synthetic review and research agenda. International Journal of Management Reviews, 9(2): 117-135.

Li, J. and Yue, D.R. (2008), Market size, legal institutions and international diversification strategies: Implications for the performance of multinational firms. Management International Review, 6: 667-688.

Lu, J.W. and Beamish, P.W. (2001), The internationalization and performance of SMEs. Strategic Management Journal, 22(6-7): 565-586.

Lu, J.W. and Beamish, P.W. (2004),. International diversification and firm performance: the S-curve hypothesis. Academy of Management Journal, 47(4): 598-609.

Michel, A. and Shaked, I. (1986), Multinational corporations vs. domestic corporations: financial performance and characteristics. Journal of International Business Studies, 17(3): 89-100.

Miroudot, S., Lanz, R. and Ragoussis A. (2009), Trade in Intermediate Goods and Services, JOECD Trade Policy Working Papers, n° 93,OECD Publishing.

Morck, R. and Yeung, B. (1991), Why investors value multinationality? Journal of Business, 64(2): 165-187.

Pantzalis, C. (2001), Does location matter? An empirical analysis of geographic scope and MNC market valuation. Journal of International Business Studies, 32(1): 133-155.

Oh, C.H. and Contractor, F.J. (2012), The role of territorial coverage and product diversification in the multinationality-performance relationship. Global Strategy Journal, 2(2): 122-136.

Qian, G. (2002), Multinationality, product diversification, and profitability of US emerging and medium sized enterprises. Journal of Business Venturing, 17(6): 611-634.

Ramaswamy, K., Kroeck, K.G. and Renforth, W. (1996), Measuring the degree of internationalization of a firm: a comment. Journal of International Business Studies, 27(1):167-177.

Ramirez-Aleson, M. and Espitia-Escuer, M.A. (2001), The effect of international diversification on performance. Management International Review, 41: 291-315.

Riahi-Belkaoui, A. (1998), The effects of the degree of internationalization on firm performance. International Business Review, 7(3): 315-321.

Rugman, A.M., Lecraw and D.J., Booth, L.D. (1985), International business: firm and environment. New York: McGraw-Hill.

Ruigrok, W.and Wagner, H. (2003), Internationalization and performance: an organizational learning perspective. Management International Review, 43(1): 63-83.

Severn, A.K. and Laurence, M.M. (1974), Direct investment, research intensity, and profitability. Journal of Financial and Quantitative Analysis, 9(2):181-190.

Siddharthan, N.S. and Lall, S. (1982), Recent growth of the largest US. multinationals. Oxford Bulletin of Economics and Statistics, 44(1): 1-13.

Sullivan, D. (1994a), Measuring the degree of internationalization of a firm. Journal of International Business Studies, 25(2): 325-342.

Sullivan, D. (1994b), The 'threshold of internationalization': replication, extension, and reinterpretation. Management International Review, 34(2):168-182.

Tallman, S., Li, J.T. (1996), Effects of international diversity and product diversity on the performance of multinational firms. Academy of Management Journal, 39: 179-196.

Thomas, D.E. and Eden, L. (2004), What is the shape of the multinationality-performance relationship? Multinational Business Review, 12(1): 89-110.

Thomas, D.E. (2006), International diversification and firm performance in Mexican firms: a curvilinear relationship. Journal of Business Research, 59(4), 501-507.

Usenier, J.C. (1996), Marketing Across Cultures. Second Edition, London: Prentice-Hall.

Verbeke, A. and Brugman, P.(2009), Triple-testing the quality of multinationality-performance research: an internalization theory perspective. International Business Review, 18(3): 265–275.

Verbeke, A. and Zaman Forootan, M. (2012), How good are Multinationality-performance (M-P) empirical studies? Global Strategy Journal, 2: 332-344.

Vernon, R. (1971), Sovereignty at Bay: the Multinational Spread of US Enterprises. New York: Basic Books.

Xu, D., Shenkar, O. (2002), Institutional Distance and the Multinational Enterprise. The Academy of Management Review, 27(4): 608-618

Zaheer, S. (1995), Overcoming the liability of foreignness. Academy of Management Journal, 38(2): 341-363.

Zahra, S.A., Ireland, R.D.and Hitt, M.A. (2000), International expansion by new venture firms: international diversity, mode of market entry, technological learning, and performance. Academy of Management Journal, 43(5): 925-950.

Wiersema, M.F. and Bowen, H.P. (2011), The relationship between international diversification and firm performance: why it remains a puzzle, Global Strategy Journal, 1(2): 152-170.

Appendix 1: Relationship between Internationalization (I) and Performance (P): main references

The literature on the relationship between (I) and (P) is very dense (with more than 100 empirical studies published in academic journals) and has led to conflicting results because of heterogeneous samples and different methodologies (Glaum, Oesterle, 2007; Contractor, 2012; Verbeke & Zaman Forootan, 2012).

Studies have shown a non-significant relationship (Morck & Yeung, 1991; Bodnar, Tang, Weintrop, 2003), a negative relationship (Chick & Harrison, 2000; Denis, Denis, Yost, 2002), a linear positive relationship (Kim & Lyn, 1986; Tallman & Li, 1996; Grant, Jammine, Thomas, 1988), a U-shaped effect (Lu & Beamish, 2001; Ruigrok & Wagner, 2003; Capar & Kotabe, 2003; Elango & Sethi, 2007), an inverted U-shaped effect (Geringer, Beamish, Da Costa, 1989; Hitt, Hoskisson, Kim, 1997; Gomes & Ramaswamy, 1999)[vii] or a 4-phased M curve (Lee, 2010). Many recent studies have led to the idea that the relationship between (I) and (P) could be an S-curve and seven reference studies confirm the existence of a sigmoid curve (Riahi-Belkaoui, 1998; Contractor *et al.*, 2003; Lu & Beamish, 2004; Thomas & Eden, 2004; Li, 2005; Contractor, 2007, 2012). If those conflicting results can be explained by heterogeneous samples and different methodologies (Glaum, Oesterle, 2007; Contractor, 2012; Verbeke & Zaman Forootan, 2012), in his study, Contractor (2007) concludes that the results of all empirical studies on the question can be reconciled by a '3-stage theory of international expansion', as U-shaped and inverted U-shaped relationships could be subsets of the general '3-stage' sigmoid curve.

No or insignificant relationship	Severn& Laurence (1974), Brewer (1981), Kumar (1984), Dunning (1988), Rugman *et al.* (1985), Collins (1990), Morck & Yeung (1991), Qian (1998), Bodnar, Tang, Weintrop (2003)
Negative relationship	Siddharthan & Lall (1982), Michel & Shaked (1986), Geringer, Tallman, Olsen (2000), Click & Harrison (2000), Denis, Denis, Yost (2002)
Positive Linear Effect	Vernon (1971), Hugues *et al.* (1975), Errunza &Senbet (1984); Kim & Lyn (1986), Doukas &Travlos (1988), Grant, Jammine, Thomas (1988), Buehner (1987), Grant (1987), Kim Hwang, Burgers (1989), Tallman & Li (1996), Han *et al.* (1998), Delios & Beamish (1999), Zahra, Ireland, Hitt (2000), Ramirez-Aleson & Espitia-Escuer (2001), Qian (2002), Kotabe *et al.* (2002), Goerzen & Beamish (2003)
U-Shaped effect	Lu & Beamish (2001), Ruigrok &Wagner (2003), Capar & Kotabe (2003), Thomas (2006)
Inverted U-shaped effect	Geringer, Beamish, Da Costa (1989), Hitt, Hoskisson, Ireland (1994), Sullivan (1994b) Ramaswamy (1995), Hitt, Hoskisson, Kim (1997), Gomes & Ramaswamy (1999), Hsu

	& Boggs (2003), Li & Qian (2004)
Horizontal S-curve, sigmoid	Sullivan (1994), Riahi-Belkaoui (1998), Contractor, Kundi, Hsu (2003), Thomas & Eden (2004), Lu & Beamish (2004), Li (2005)
Inverted S-curve	Chiang &Yu (2005)
4-phased M curve	Lee (2010)

List based on the number of citations of studies.

---

[i] The sample is composed of the annual ranking of the100 most internationalized companies identified in the World Investment Report (WIR). The WIR presents a ranking of multinational companies by the amount of foreign assets owned.

[ii] Internationalization is often measured by the ratio Foreign Sales/Total Sales (FS/TS) (Geringer, Tallman, Olsen, 2000; Capar & Kotabe, 2003; Qian, 2002; Ruigrok & Wagner, 2003; Li, 2007), an indicator of foreign market penetration that has recently been criticized (Hennart, 2011). Internationalization is also often measured by the number of subsidiaries and the number of host countries (Pantzalis, 2001; Lu & Beamish, 2001, 2004; Zahra, Ireland, Hitt, 2000).

[iii] Only U.S. firms for Kotabe, Srinivasan, Aulakh (2002), Thomas & Eden (2004), Li & Qian (2005), Contractor *et al*. (2003) and Li (2005); only Japanese firms for Geringer *et al*. (2000) or Lu & Beamish (2001, 2004); only German firms for Capar & Kotabe (2003) or Ruigrok & Wagner (2003).

[iv] Missing information mainly concerns R&D or product diversification data.

[v] Note that the three measures of internationalization are highly correlated (higher than 95% for our sample). Another issue could concern the question of value creation and particularly the organization of the value chain of large companies. For multinationals, value chains are now geographically dispersed over several nations, which explain why more than half of trade between developed nations is in intermediate and not in finished products (Miroudot, Lanz, and Ragoussis, 2009). Yet a large majority of empirical studies have measured the degree of internationalization in terms of the sales of the finished product (Wiersema and Bowen, 2011), which may not be the good measure of internationalization when multinationals have worldwide activities.

[vi] What is noteworthy is that this study was conducted before the economic and financial crisis linked to the subprime mortgages. Since 2008, a growing number of large companies were led to reduce their degree of internationalization: transnational companies have re-profiled their investment overseas including divestments, relocation or restructuring of assets.

[vii] We refer to the most cited studies. The Appendix provides a more detailed list of empirical studies on the relationship between (I) and (P).