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# Organizational Slack, International Expansion and Firm Profitability

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# Organizational Slack, International Expansion, and Firm Profitability

by
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## Abstract

International expansion is a viable growth strategy for firms operating in an increasingly competitive business environment. Understanding the relationship between international expansion and firm performance has been a significant concern for theory development in the strategy and international business literature. The extant literature, however, has paid insufficient attention to the tradeoff between firm growth and profitability that may imply the existence of an optimal rate of growth. Drawing from the Penrosian perspective that emphasizes the role of resources in firm growth, this study investigates whether and how firm slack resources affect the tradeoff between international expansion and profitability. Specifically, this study argues that there is an inverted-U shaped curvilinear relationship between international expansion and firm profitability, and uses resource-based view and agency theories to hypothesize how human and financial slacks affect the relationship.

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# Chapter 1 Objective of This Study

In recent years, scholars in a variety of disciplines have long sought to research on firm growth. For many entrepreneurs, growth is the ultimate goal. Nevertheless, many new ventures experience failure during growth of their business. The work of Penrose (1959) is considered as a very influential force to the growth theory development. In her book *The Theory of the Growth of the Firm,* she pointed out that firms are pursuing growth for long-run development; during the growth process, there are many factors that will constrain the firm growth, such as managerial limitations. However, Penrose was alien to the idea that optimal growth patterns exist (Pitelis, 2003); she claimed that profits and growth in the long term could be seen as equivalent. For sure, Penrose has her unique contribution to the growth theory, yet, growth is not the ultimate goal of a firm, but profit. She ignored the opportunity cost of growth and did not consider the discrepancy between profit and growth.

A firm cannot achieve both growth and profitability at the same time. Short term profit must be sacrificed to some degree due to the fact that expansion needs investment of resources from both managerial and financial part. However, researchers and managers usually pay too much attention on growth, and ignore that there is a tradeoff between firm growth and profitability. This dilemma raises the following two research questions: what is the relationship between firm growth and profitability? If the tradeoff exists, how can we resolve this dilemma and get the total benefit maximized? Although there is extensive research on firm growth and

performance, no consensus results about the relationship between firm growth and profitability have been reached till now.

Also, an emergent dialog within this paradigm is the role of slack resources and their influence on firm performance. Resources are the prerequisites of firm growth and development, because they ensure the managerial and financial support used for building capabilities to achieve organization goals. They also act as inducements to conduct experiments, take risks, and make proactive strategic choices. Scholars have been researching on the relationship between slack resources and performance (George, 2005; Tan 2003), slack and innovation (Nohria and Gulati, 1996), resources and diversification (Chatterjee and Wernerfelt, 1991). Nevertheless, previous studies have not considered how slack resources could affect the relationship between firm growth and profitability, leaving a gap in this research area.

The study of firm growth, profitability and organizational slack is interesting for at least three reasons. Firstly, growth is an everlasting topic for firms and organizations. Firm expansion plays an important role in the business development; while relatively little research has been done to examine the relationship between firm growth and profitability. Secondly, this study is a supplement to previous literature as it considers the function of slack resources of an organization and designs a model of three elements for the first time. Investigating slack as a moderator of firm growth and profitability makes a meaningful interpretation of growth theory. Lastly, firm slack resources affect the tradeoff between firm growth and profitability. The analysis will be useful for firm owners and strategy makers, in the sense that they can assess their

investments better when they are clear about the relationship between firm growth and profitability, and how firm slack resources would affect such a relationship.

Thus this study aims to apply firm growth theory and resource-based view to a yet understudied scope, which separates the growth and profit objectives. We try to unravel the relationship between international expansion and firm profitability, and find out how organizational slack as a moderator will affect the relationship. Aim to give some guidance and suggestions that can help firms to reduce the speed of profit declination after arrival of growing pains.

The thesis is comprised of six chapters. The proceeding section has illustrated the objective of this study. The rest of the paper is organized as follows: Chapter 2 provides a review of literature, raising and discussing key concepts to lay the conceptual and theoretical foundation for this study. Chapter 3 presents related theories, and raises hypotheses on the relationship between international expansion and firm profitability, as well as the role of slack resources. Chapter 4 describes the methodology of the empirical study in details, followed by Chapter 5 which explains the results that we draw from the empirical data. Finally, the thesis is ended with chapter 6, presenting the discussion and conclusions, a summary of the findings, limitations of the present project and recommendations for future studies.

# Chapter 2 Literature Review

*"Growth is not always good. Growth for the sake of growth is the ideology of the cancer cell."*

*----Edward Abbey*

Firm growth is an everlasting topic for the industry and firm itself. For many firms, growth is the most important reward. Managers often cite growth as a desirable goal for their organization. To seek for the leading status, which displays the firms' mightiness and dignity, managers may prefer pursuing high speed growth.

## 2.1 Growth

Nowadays we live in a world which is obsessed with economic growth. Corporations with relentless growth ambitions are trying to grow faster than their competitors. It seems easy enough to grow by launching a new product or entering into a new market. However, such growth initiatives may not be so sustainable or profitable any more when we take a careful and thorough look into the growth itself. Many firms experienced failures in their growth process. When firms are enjoying the achievements that growth brings to them, they are also faced challenges coming along with growth. For example, Slater (1980) pointed out that too rapid a growth may cause loss of coordination throughout the enterprise, with both overhead and current costs being higher than they might otherwise have been.

The collapse of People Express is a vivid example demonstrating the pitfalls of fast growth strategy, which has minimal consideration of profitability. People Express was incorporated in 1980, dedicated to providing low-cost airline service in the eastern United States. The company grew from obscurity to industry prominence in a period of only five years against powerful rivals. However, too rapid growth made the engines of growth out of step. It was nearly bankrupt by September of 1986 due to rapid increased financial problems such as loss of cost control. In this case, ferocious growth turned out to be crippling. In contrast, Southwest airline, which grows slowly and carefully, flourishes in the airline industry till now.

In fact, growth is not a goal itself, but rather an endogenous outcome of intra-firm knowledge generation and a means of achieving maximal possible long-run profits (Pitelis, 2003). Profit maximization is the ultimate goal for firms based on Adam Smith's 'economic man' assumption. As the most widely studied classic growth theory, Penrose's work does not take the differences between growth and profitability into account. She claimed that profit and growth in the long term could be seen as equivalent, and firm is pursuing growth for long-run development. Yet, growth is not the ultimate goal of a firm. She ignored the opportunity cost of growth, and did not consider the discrepancy between profit and growth. Slater (1980) demonstrated that growth-maximizing and profit-maximizing firms will set different outputs using mathematical tool. People Express is just an extreme example of growth-maximizing firms. This finding awakes us that we should take opportunity cost of growth into consideration and then maximize profitability.

For firm growth, there are many forms. Firms typically enter new markets through internal development by diversifications. There are also alternative ways such as merger and acquisition, which are external expansions. Comparing with external expansion, firms are likely to use internal development to enter new markets, because the requirements of diversifications lie close to the existing resources and capabilities (Lee and Lieberman, 2010). Perhaps the most researched linkage in the growth strategy literature is between diversification and performance (Chatterjee and Wernerfelt, 1991). Both international (market) diversification and product diversification play key roles in strategy management.

In the seminal work of diversify strategy, Rumelt (1974), argued that related product diversification provides performance advantage, while unrelated diversification adds more managerial burdens than benefits. Empirically, researchers such as Montgomery and Wernerfelt (1988) have shown that higher returns exist for related diversifications compared to unrelated diversifications. Comparing to the product expansion, a firm would prefer to go abroad based on its existing product that gets success in its own country and saturates in the current market, because new activities closely related to current activities require only a simple replication or relatively easy extension of the current knowledge. Entry into overseas markets by the core business advantage arises as a way for companies to satisfy their firm-specific needs and to better exploit their market potential. Scholars in strategy management and international business have investigated the important role of international expansion and have made it link to firm growth. Herein, we focus on international expansion to study firm growth in this project.

## 2.2 Resource-based View

Most of the growth strategies are based on firm-specific resources, capabilities, available investment opportunities, and so on. Lee and Lieberman (2010) proposed that the motivation of firm growth is result from the resources that hold by firms. Especially, they pointed out that the status of resources (with excess resources or filling resource gaps) decides the growth mode of the firm (through diversification or through external expansion).

As an important perspective, Resource based view is used to interpret growth theory. Penrose's (1959) seminal work of growth theory using resource-based view suggested that a firm can be viewed as "a collection of productive resources" (1959, p.24). In her book *The Theory of the Growth of the Firm*, Penrose pointed out that slack, which is the unused resource, is one of the determinant factors of firm growth. Since then, researchers who are dedicated in organization theories, treat the firm as organism and claim that firms seek survival as the vital goal (Cyert and March, 1963; Salancik and Pfeffer, 1978; Thompson, 1967). In their point of view, organizational slack is the most important precondition for the long-run success of the firm. 'Slack' was first coined by March and Simon (1958). In 1981, Bourgeois revised the concept of slack and defined it as: *'A cushion of actual or potential resources which allows an organization to adapt successfully to internal pressures for adjustment or to external pressures for change in policy as well as to initiate changes in strategy with respect to the external environment. (p.30)'*

So far, many researchers have been researching on the relationship between resources slack and performance. Cyert and March (1963), employing a behavioral theory of a firm, proposed that slack fulfills both a stabilizing and adaptive role by absorbing environmental variability. Jensen (1986), employing an agency theory perspective, argued for a negative relationship between slack and performance by suggesting that managers will abuse these slack resources unproductively. Bourgeois (1981) proposed a curvilinear slack-performance relationship because slack can provide resources for managers to engage in either creative or non-optimizing behavior. In addition, Tan and Peng (2003) demonstrated such an inverted-U shaped relationship using survey data from China. Besides slack's impact on performance, researchers also found other impacts of slack resources. For example, Nohria and Gulati (1996) investigated in the relationship between slack and innovation. Their result supports a curvilinear slack-innovation relationship. It suggests that too little slack inhibits innovation whereas too much obscures investment discipline.

There are also researches who subdivide the slack resource and obtain distinctive findings. For instance, Penrose's (1959) work mainly focuses on human resource part. She pointed out that a fast growing firm is likely to encounter managerial problems because it cannot adjust its managerial resources to the desired level in a short period. The impact of this managerial constraint on the growth of the firm has been cited as the "Penrose effect" in the research literature and has been empirically examined. Tan and Mahoney (2005) examined the Penrose effect in an international business context, and proposed that Penrose effect is more likely to occur in global industries due to the highly interdependent characteristic of international business.

Apart from Penrose's work that emphasizes the managerial issues; other works pointed out that financial slack also has important impact on firm growth (Mishina, Pollock, Porac, 2004; King, Levine, 1993; Obrien, 2003). For example, King and Levine (1993) found that higher levels of financial development are positively associated with faster rates of economic growth. Obrien (2003) noted that financial slack can help sustain the competitive position, and failing to maintain sufficient financial slack can inhibit a firm's growth and profitability.

After the review of firm growth and the role of slack resources, we find that the study of slack and performance, growth and performance are always separated. The relationship among slack resources, growth, and profitability have never been studied before and there is no integrated analysis of these three items, which leaving a gap in this area of study.

# Chapter 3 Theory and Hypotheses

Expansion across the borders of global regions and countries into different geographic locations or markets, namely international expansion, is a growth strategy which has long been investigated (e.g. Grant, 1987; Daniels and Bracker, 1989; Tallman and Li, 1996; Hitt et al, 1997; Gomes and Ramaswamy, 1999; Geringer et al., 2000; Contractor et al., 2003; Lu and Beamish, 2004; Tseng et al., 2007). Centered on the ongoing debate of benefits and costs, the relationship between international expansion and firm profitability is an important topic.

## 3.1 International Expansion and Profitability

International expansion, defined as the decision to expand the scope of a firm's business beyond its domestic market, is a growth strategy that has a major potential impact on firm performance (Capar and Kotabe, 2003). Firms that operate in more than one country are able to reap benefits not available to purely domestic firms (e.g. Gomes and Ramaswamy, 1999; Capar and Kotabe, 2003). Being internationally expanded is supposed to increase profitability for the following reasons:

Firstly, international market diversification permits the exploitation of economies of scale. Domestic market may lack of size to support efficient scale of business operation. While expanding size or scope of markets by entering into different geographic markets helps to achieve economies of scale in manufacturing as well as marketing, R&D and distribution. Firms can spread costs over a larger sales' base, and as a result increase profit per unit.

Secondly, from a comparative advantage perspective, a globally diversified firm can gain a cost advantage by locating each of its value-added chain in the corresponding least cost country (Kogut, 1985), since international diversification grants it access to cheaper and idiosyncratic resources in foreign countries, which could include cheaper raw materials, cheaper labor, better technology, or any country-specific resource. In other words, firms that have operations in multi-countries are more flexible to shift their business from less-profitable ones to more-profitable ones (Thomas and Eden, 2004). The flexibility develops the competitive advantage of the firms. Grant (1987) supported this view by using the data of 304 British manufacturing companies over the period 1972-1984.

Thirdly, foreign exposures provide the opportunities to learn and develop diverse capabilities, which can be deployed across the organization (Ghoshal, 1987; Kogut, 1983). The geographically dispersed firms are able to take advantage of a wider range of opportunities than the domestically specialized firms (Grant, 1987). By entering international markets, ventures can acquire new knowledge and develop new technologies that can be used to build additional value-creating skills.

Considering the advantages that international expansion provides, firms would gain benefits through international expansion. Some studies have shown that there is a positive relationship between internationalization and performance (e.g., Delios and Beamish, 1999; Doukas and Travlos, 1988; Errunza and Senbet, 1984). For example, Bergsten et al. (1978) reported that profits of U.S. industries tend to increase significantly with the extent of their overseas activities. Hymer (1960) hypothesized a

similar relationship between internationalization and performance. Buhner (1987) observed positive relationships between geographic diversification and both market and accounting performance. Grant (1987) and Grant et al. (1988) attested that multinational diversification measured by a ratio of foreign sales to total sales has positive effect on performance level.

However, international expansion is not a one-sided proposition. There are also costs, because cross-border opportunities are not risk free. As the number of foreign countries in which the companies operate increase, too much international expansion will entail burdensome costs. The costs are briefly discussed in the following section.

Firstly, from the external environment, institutional and cultural factors erect formidable barriers to the transfer of competitive advantage among countries (Kogut, 1985). When firms diversify beyond their national borders, they have to adjust themselves to foreign cultures (Barkema et al. 1996). As a firm goes into expansion, it will firstly start with similar countries which share similar infrastructure, distribution channels, marketing approaches, and so on. Once the level of foreign operations becomes large, the company is forced to move to less familiar settings where higher cultural diversification will cause the raising of transaction cost. The company is faced with the costs of adapting to new and more heterogeneous cultures. Empirical research indicates that the liability of foreignness (Zaheer, 1995) increases as firms move to more culturally distant countries (Gomes and Ramaswamy, 1999).

Secondly, from the firm itself, the internal coordinating cost will increase as it grows bigger and bigger. Geographically dispersed operations demand for more complex

organizational structures and more managerial effort to achieve synergy. This implies that the cost of firm governance rises dramatically with cultural, institutional, and geographical distance due to the fact that heterogeneity increases coordination difficulty. Jones and Hill (1988) discussed the transaction cost theory and argued that increasing levels of diversification will raise the governing cost of the firm. Bodnar et al. (1999) hypothesized that the monitoring of managerial decision making can be more difficult in a complex, globally diversified firm. As firms encompass increasingly broader geographic markets, the costs associated with geographic dispersion begin escalating, thus eroding profit margins (Geringer and Beamish, 1989). Then, the potential benefits associated with expansion will decrease due to the increase of coordination cost.

From the discussion above, we can see that costs from both external environment and internal operation are incurred by international expansion itself. The continued positive benefits induce managers to continue expanding internationally. As firms grow bigger and bigger, the pains such as coordination difficulties, information asymmetries and culture differences caused by expansion may emerge. Eventually the positive benefits of international expansion will reach an optimal point and then the negative results dominate (Roth, 1992). In other words, organizational costs will outweigh the benefits when international expansion passes the optimal point. Results of several studies have demonstrated such phenomenon. They have shown that firm performance begins to decline after a certain level of international expansion (Tallman and Li, 1996; Hitt et al., 1997; Gomes and Ramaswamy, 1999; Kotabe et al., 2002). Along with this logic, we hypothesize that:

*Hypothesis 1: The relationship between international expansion and firm profitability is an inverted U-shape; firm profitability is initially positively related to international expansion, but eventually levels off and becomes negatively related as international expansion increases.*

## 3.2 Role of Slack Resources

*"Unused productive services available from existing resources are a 'waste'…but they are 'free' services which, if they can be used profitably, may provide a competitive advantage for the firm possessing them."*

*----Penrose, The Theory of The Growth of the Firm (1959)*

Resources are the basis and facilitator of the implementation of firm expansion. According to Pettus (2001), long-run benefits of growth should lie in the resources of that firm holds, which open up opportunities for firms to grow. Pitelis (2007) indicated "due to the fact that excess resources can provide services at near-zero marginal cost, they motivate managers to apply them to new activities and growth". The quality and amount of slack will also help to bring about the potential rise of profit. We argue that slack resources may overcome the challenges of increased international expansion. In order to better understand the moderating mechanism, I will follow the Mishina and Colleges' (2004) classification which divides the organization slack into human resources slack and financial slack, and investigate these two types of slack separately due to their unique characteristic. Figure 1 below shows the moderation model.

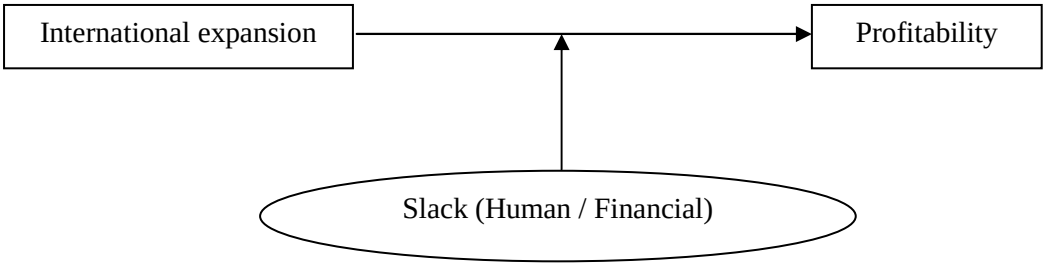


Figure 1: Moderation Relation

### 3.2.1 Human Resource Slack

*"Human, and especially managerial, resources are most important."* Penrose (1959) emphasized the important status of human being in a corporation. She pointed out that even if most resources are available in the market, managerial resource with experience within any given firm can only be found within that firm. Besides, a firm would never have a high degree of confidence in any extensive plan for expansion which is drawn up and executed exclusively by men with no experience within the firm itself. Similarly, Hitt et al.(2001) noted that human resources are more likely to produce a competitive advantage. They are often rare and socially complex. Labor and managerial personnel are counted as the most productive resources, which can be utilized in many different ways and for many different purposes.

First of all, human resources are the pre-condition of implementation of international expansion. The unique characteristic of human resources has strong impact on the decision making about the expansion plans. Before companies really go into international expansion, companies need to evaluate the overseas market. Factors under considerations include foreign demand conditions, related and supporting industries, political and economic risks, and so on. Only with comprehensive

considerations of these factors, companies can finally decide corporation strategy for the expansion, and proceed to it. In this preparation stage, human resource slack is required to do the research and evaluation, without which, international expansion can never be initiated.

More importantly, human resource slack can aid in the profitable execution of its growth strategy by mitigating the coordination cost. As firms go international expansion, companies need to set up the business overseas, such as the framework of business operation, and even the plants for some manufacturing companies. Experienced professionals and specialists with enough knowledge of the company itself would be very supportive during the expansion process. Their capabilities based on firm-specific knowledge and common goal of the organization will reduce the disagreement and increase the efficiency. The storage of internal human resource enables firms to provide more consistent offerings to their customers, and more uniform control procedures to their overseas operations. In Cyert and March (1963)'s work, they stated that slack serves to reduce goal conflict.

In summary, human resource slack will reduce the coordination costs caused by international governance. Along this perspective, we argue that human resource can alleviate the internal cost and propose as follows:

*Hypothesis 2: Interaction of human resource slack and international expansion has a positive effect on firm profitability.*

### 3.2.2 Financial Resource Slack

Financial slack is a financial capability that can be diverted or redeployed to develop other internal capabilities (George, 2005; Nohria and Gulati, 1996). Theoretically, affluent financial resources give firms a greater degree of freedom to contemplate wide-ranging foreign expansion (Tseng, 2007). Scholars have shown that financial slack influences managerial decision making (Singh, 1986). Firstly, a firm's future strategies such as diversification are largely determined by its current portfolio of resources, and more specifically, by its idle financial resources (Penrose 1959). Secondly, financial slack can help ensure that the firm has the financial resources required to implement their strategic decision. Managers are predisposed to expand their markets knowing that they have slack financial resources which they can use to invest in the complementary assets to exploit the opportunities created by expansion.

According to Penrose, "internal obstacles arise when some of the important types of specialized services required for expansion in particular directions are not available in sufficient amounts within the firm…" (Penrose, 1959). As mentioned above, international expansion may induce institutional and cultural barriers. As a firm grows to unfamiliar countries and regions, it needs to rectify its existing infrastructure, distribution channels and marketing approaches, and so on. Financial slack serves as a buffer that allows the firm to adjust to discontinuities in environmental shift with minimal cost (Cyert and March, 1963). What's more, it enables the firm to initiate new strategic postures in response to environmental changes (Tseng, et al., 2007). Firms can use these financial resources to implement market survey, culture learning, and institutions building to mitigate the expansion risk that comes from geographic distance and culture differences. Financial slack shields the firm's core from changes

and stimulates the firm to change in reaction to external influences during international expansion.

As firms expand to more unfamiliar markets where there are more uncertainties and risks compared to the domestic market, firms will face liability of foreignness. It is hard to raise the external fund provided by foreign countries during the initial period. The unsecured financial resources may cause instability in firms' future earnings (Tseng et al., 2007). Thus it requests firms to ensure their financial ability to minimize the risk and have overseas expansion done.

As a result, financial resource slack will reduce the external costs and risks caused by international expansion. Along this perspective, we argue that financial resource can alleviate the external cost caused by international expansion and propose as follow:

*Hypothesis 3a: Interaction of financial resource slack and international expansion has a positive effect on firm profitability.*

However, due to the short-term liquidity and marketability, financial slack can be easily abused by managers who are desperate to expand their business as big as possible and ignore the profitability of the whole organization. Researchers argued that managers sometimes make decisions on their own interests instead of companies' owners (Smith, 1776; Berle and Means, 1932; Marris, 1964; Baumol, 1967; Marris and Wood, 1971).

Based on agency theory, the conflict will arise when principles and agents (e.g. employer-employee, shareholder-manager, and so on) have different goals and preferences (Jensen and Meckling, 1976). For instance, growth sometimes benefits managers rather than stockholders (Brush et al., 2000). At this time, agents may have discretion to pursue their own interests. For example, managers might use slack to engage empire-building (Hiller and Hambrick, 2005) and allow firms to invest in dubious projects, which are harmful for firm's profitability.

When this is the case in our context, managers tend to make decision according to their self-interest, which diverges from the share holder's profit. Financial slack acts as an incentive to cause their firms to grow beyond the optimal size (Jensen, 1986; Murphy, 1985; Brush, Bromiley and Margaretha, 2000). Managers may over use the firm's financial slack, such as free cash flows, to achieve their own-interest such as empire building (Jensen and Meckling, 1976; Nohria and Gulati, 1997), while share holders prefer managers to pay more attention to profitability instead of ever-lasting growth for the sack of growth. I therefore offer the competing hypothesis:

*Hypothesis 3b: Interaction of financial resource slack and international expansion has a negative effect on firm profitability.*

The hypotheses in this chapter are summarized and depicted in two-dimension fugure in Figure 2. The curvilinear line in the center represents the inverted-U relationship between profitability and international expansion, which is our Hypothesis 1. The transaction of the curvilinear line to the dashed line 1 represents the positive moderating effect of organizational slack on such a relationship, which is proposed in

our Hypothesis 2 and Hypothesis 3a, while the transaction of the curvilinear line to the dashed line 2 represents the negative moderating effect of organizational slack, which is proposed in our Hypothesis 3b.

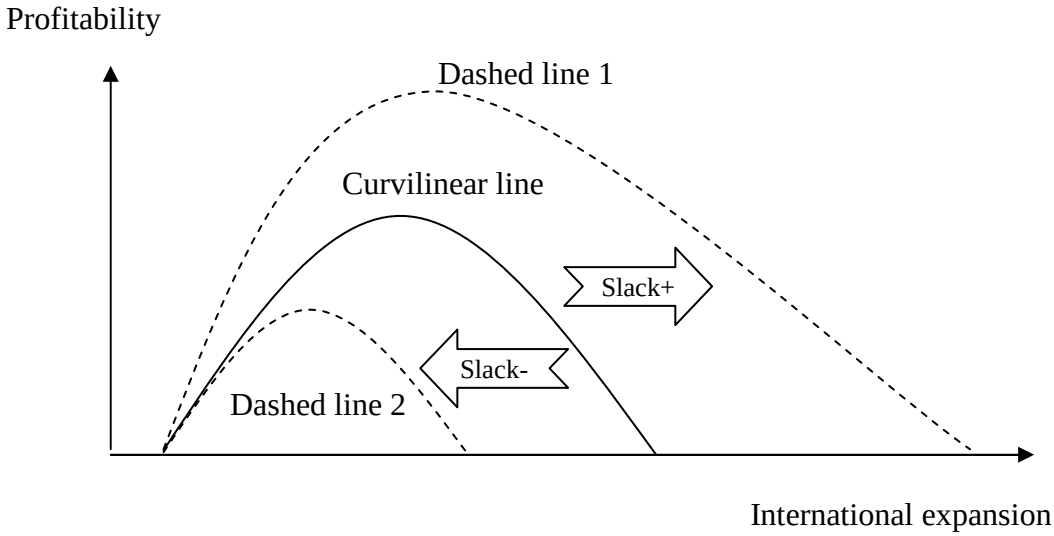


Figure 2: Slack's moderating process on the international expansion vs profitability relationship

# Chapter 4 Methodology

## 4.1 Data

We examined the international expansion of Korean firms in this study. The data consists of Korean firms that were listed on the Korea Stock Exchange (KSE) between 1995 and 2007. The panel data set comprises 12919 observations, but some of them have incomplete information. After removing observations with missing values, we have a usable sample of 1179 firms and 12800 firm-year observations during the 1995 - 2007 periods (unbalanced panel data).

## 4.2 Variables

### 4.2.1 The Dependent Variable

*Firm profitability*

Economic performance "profitability" is the outcome of interest for this study. We employ a market-based measure, average market value (AMV), as the index of *firm profitability.* AMV, measured by market value divided by total assets, represents an average market value that a company creates from one dollar value of assets. Differentiating from accounting-based measures of profitability and performance such as ROA, ROE, and ROS, which focus on last year's profitability, the measure AMV tied to market-based profit and performance, helps better capture the potential benefits from international expansion (Thomas and Eden, 2004; Lee and Park, 2009).

### 4.2.2 Independent Variables

*International expansion*

Consistent with the majority of prior studies, the concept of international expansion is operationalized as the percentage of foreign sales (e.g., Grant, 1987; Habib and Victor, 1991; Tallman and Li, 1996; Capar and Kotabe, 2003; Tseng et al., 2007). Although some scholars have suggested using the multi-item scale (e.g., Sullivan, 1994), it has been argued that a good single estimator may be more reliable than the aggregation of a set of indicators (Ramaswamy et al., 1996). Despite there are other indicators frequently employed in previous research, such as the number of foreign subsidiaries (e.g., Stopford and Wells, 1972), and the number of countries where the firm operates (e.g., Reuer and Leiblein, 2000), due to data availability constraints and for comparison purpose, the percentage of foreign sales to total sales (FSTS) is selected in this study. Thus, our international expansion variable FSTS is continuous and it ranges from zero (purely domestic firms) to one (100 percent internationalized firms).

### 4.2.3 Control Variables

In order to isolate the impacts of international expansion on firm profit, it is important to consider all other variables likely to affect profit. Five variables that are likely to affect the profitability in international expansion are controlled. They are firm size, firm age, and R&D investment, human slack and financial slack. *Firm size is* measured as the logarithm of the number of employees, and it is used to control for the potential effect of scale economy differences. *Firm age* is calculated as the number of years since incorporation of the firm. *Research and develop (R&D) intensity* is measured using the annual R&D expenditure divided by total sales. R&D expenditure may increase profitability, as product innovations may impact on sales (Salomon and Shaver, 2005).

Slack is an elusive construct that is difficult to measure (Penrose, 1959). For our purposes, it is important to consider slack in terms of its ability to influence internal organizational processes. In line with other research, we measure human resource slack and financial slack by the number of excess resources (eg. Mishina, et al., 2004). We calculate human resource slack as the difference between the firm's value of employee number over sales and the industry's value of total employee number over total sales. We use cash flows generated from operating activities after deducting interests and taxes as *financial slack* (George, 2005).

Finally, two dummy variables, *industry dummy* and *year dummy* are used to control for the possible industry effects and calendar-year effects. We use industry dummies to control for differences across international expansion and performance due to the inherent nature of the core industry. We also include 13 year-dummies to control for year effect. The use of dummy variables helps control for unobserved firm-specific and year-specific heterogeneity.

## 4.3 Model Specification

With firm-year records, it is not appropriate to use the ordinary least squares (OLS) method for analysis, because the OLS method does not correct for within-firm autocorrelation and cross-sectional heteroscedasticity. In contrast, generalized least squares GLS) models correct for the presence of autocorrelation and heteroscedasticity in pooled data. The random-effects application minimizes problems with autocorrelation and heteroskedasticity (Bowen and Wiersema, 1999; Sayrs, 1989). Moreover, random-effects models account for both within firm and inter-

organizational variation presenting in the sample (STATA Press, 2007). Thus, we test our hypotheses by using a random-effects GLS regression (Wooldridge, 2002).

# Chapter 5 Results

Descriptive statistics and correlations for the variables are presented in Table 1. The low levels of correlation coefficients among the independent variables suggest that multicollinearity is not a certain concern in the data analysis. We also examined the potential problems of multicollinearity and found that the values of variance inflation factor are well below the cutoff threshold of 10 (all < 9), which indicates that there is no serious multicollinearity problem in our models (Hair et. al., 1998).

Our regression results are presented in Table 2. Model 1 is the baseline model that includes only the control variables (firm size, firm age, R&D investment, human slack, and financial slack). We tested Hypothesis 1 using model 2, in which we built the test of the curvilinear relationship by adding the linear and squared term of international expansion. It shows a positive coefficient on the international expansion and a negative coefficient on its squared term. Both of these two coefficients are statistically significant ($p<0.01$). Thus, our results support H1: firm profitability increases as the expansion index increases, but after a certain point it begins to decrease with further expansion. It is consistent with the findings of Hitt et al. (1997) and Qian et al. (2010).

Hypothesis 2 predicts that human slack will have positive moderating effect on the relationship between international expansion and firm profitability. Model 3 tested Hypothesis 2 by entering the interaction of international expansion and human resource slack. The results of Model 3 suggests that H2 is supported ($p<0.05$). We also conducted Wald test on the significance of the inclusion of the additional

interaction term. As shown in the Wald chi-square statistics in Table 2, the inclusion of the interaction term of human resource slack and international expansion significantly improved model fit. Hence, our H2 is strongly supported: human resources slack will positively affect the inverted-U shaped relationship between international expansion and firm profitability. With human resources slack, the zenith of profitability will rise. The optimal growth point will be increased and growing pains will be postponed due to the shifting of reference point. To illustrate the complex interaction effect, we rely on a surface plot using three standard deviations from the means of human slack and international expansion, as illustrated in Figure 3. International expansion has an inverted U-shaped relationship with long run profit, as human slack increases the positive relationship between international expansion and profitability becomes stronger, and the negative relationship between international expansion and profitability become weaker. Figure 3 provides additional evidence for H2.

Hypotheses 3a and 3b are alternative hypothesis. As reported in Model 4, we found that H3a is supported ($p<0.05$), which means financial slack has positive moderation effect on the relationship between international expansion and profitability. Wald chi-square value also shows improvement of fit after inclusion of the interaction item of financial slack and international expansion. Figure 4 provides additional support for H3a. It is also important to note that the 'main effect' between international expansion and profitability remained robust in all the models when the interaction terms were included.

Furthermore, among control variables, both human slack and financial slack are found to have negative effect on long-run profit. Our findings suggest that human slack and financial slack may not directly lead to the profitability, or even have negative effect on it due to the occupation of resource and not being used at instant, but they are beneficial to the firm if it intents to expand internationally. In other words, slack resources will benefit firm in case of expansion, because of the external resources at a short-period of time is not easy to get or will be hard to get fit into the existing organization.

**Table 1 Descriptive Statistics and Correlations**

| Variable | Mean | S.D. | Min | Max | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.amv | 0.458 | 0.596 | 0 | 4.989 | 1 | | | | | | | | |
| 2.internatial expansion (IE) | 0.265 | 0.307 | 0 | 1 | 0.073 | 1 | | | | | | | |
| 3.firm size* | 5.382 | 1.265 | 0 | 11.359 | -0.019 | 0.205 | 1 | | | | | | |
| 4.firm age | 22.758 | 14.442 | 0 | 112 | -0.065 | 0.048 | 0.478 | 1 | | | | | |
| 5.R&D investment | 0.027 | 0.085 | -0.043 | 3.571 | 0.074 | -0.036 | -0.179 | -0.206 | 1 | | | | |
| 6.Human slack | 1.066 | 1.686 | 0 | 51.957 | -0.068 | -0.037 | -0.101 | -0.164 | 0.259 | 1 | | | |
| 7.Financial slack | 0.035 | 0.25 | -11.288 | 1.965 | -0.049 | 0.038 | 0.151 | 0.025 | -0.277 | -0.191 | 1 | | |
| 8.Human slack*IE | | | | | 0.015 | 0.442 | 0.065 | -0.045 | 0.026 | 0.453 | -0.015 | 1 | |
| 9.Financial slack*IE | | | | | 0.003 | 8.22 | 0.18 | -0.078 | -0.078 | -0.053 | 0.4964 | 0.053 | 1 |

Notes: N=12800. Correlations greater than or equal to 0.07 are significant at $p<0.01$(two-tailed). Correlations greater than or equal to 0.06 are significant at $p<0.05$(two-tailed).*logarithm

**Table 2: Results of GLS of Profitability on International Expansion (IE) and Organizational Slack**

| Variable | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| Intercept | -0.1597**<br>(-2.62) | -0.1596*<br>(-2.57) | -0.1092+<br>(-1.77) | -0.1052+<br>(-1.70) |
| Firm size | 0.0896***<br>(-13.03) | 0.0816***<br>(11.46) | 0.0811***<br>(11.39) | 0.0799***<br>(11.20) |
| Firm age | -0.0056***<br>(-7.36) | -0.0057***<br>(-7.49) | -0.0057**<br>(-7.47) | -0.0057***<br>(-7.46) |
| R&D investment | 0.0414<br>(0.63) | 0.0453<br>(0.69) | 0.0574<br>(0.87) | 0.0357<br>(0.54) |
| Human slack | -0.0152***<br>(-5.09) | -0.0145***<br>(-4.85) | -0.0184***<br>(-5.32) | -0.0146***<br>(-4.90) |
| Financial slack | -0.0914***<br>(-4.62) | -0.0899***<br>(-4.54) | -0.0917***<br>(-4.63) | -0.1145***<br>(-5.12) |
| International Expansion(IE) | | 0.2793***<br>(3.90) | 0.2530***<br>(3.49) | 0.2833***<br>(3.96) |
| $IE^2$ | | -0.2481**<br>(-3.05) | -0.2433***<br>(-2.99) | -0.2622**<br>(-3.22) |
| IE*Human slack | | | 0.0191*<br>(2.26) | |
| IE*Financial slack | | | | 0.1859*<br>(2.37) |
| Wald Chi(2) | 3401.28*** | 3424.68*** | 3430.99*** | 3430.95 |
| R-square | 0.1973 | 0.1994 | 1.9998 | 0.2003 |

Note: Dummy variables for industry and year were included in models but not reported in the table. Standard errors are in parentheses.
+p<0.10, *p<0.05, **p<0.01, ***p<0.001 (two tailed tests for hypothesized effects).

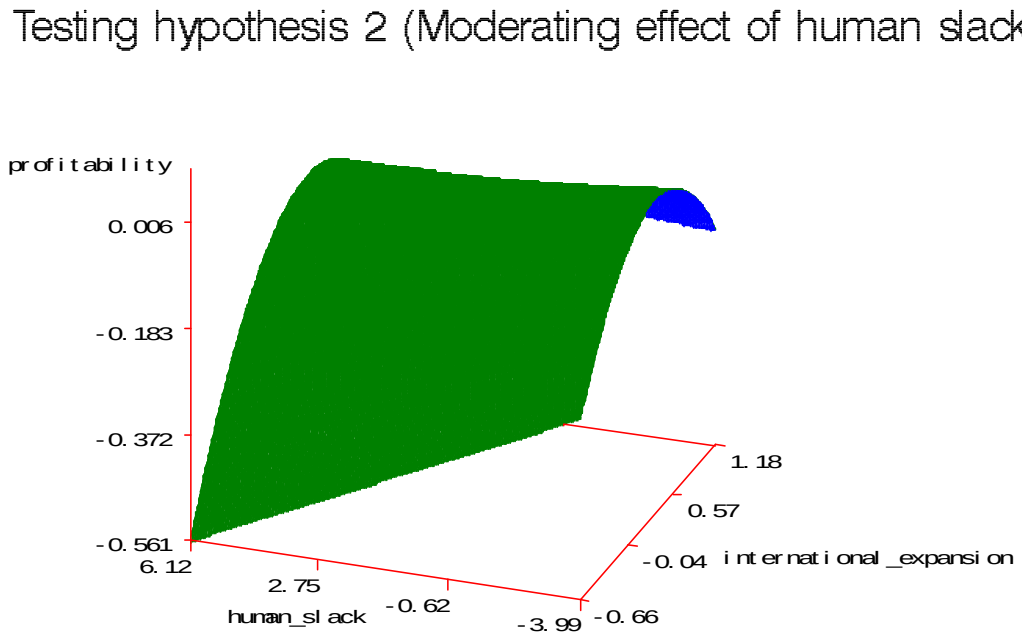


Figure 3: Moderating effect of human slack

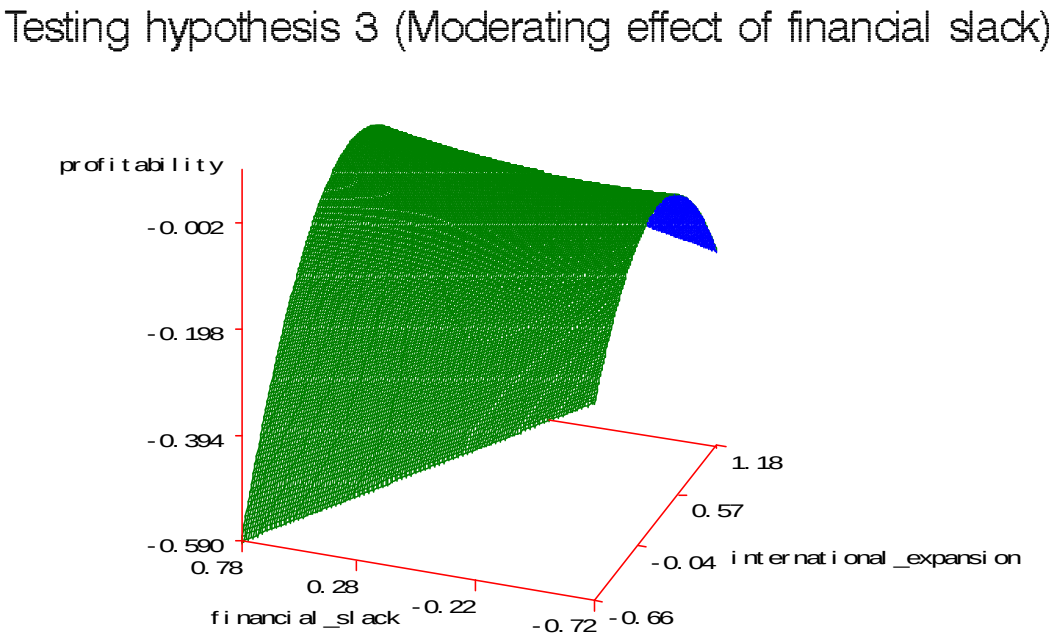


Figure 4: Moderating effect of financial slack

# Chapter 6 Discussion and Conclusions

This study helps unravel the debate over the relationship between international expansion and firm profitability. Previous research has produced conflicting results, with some studies finding a positive, linear relationship, some finding curvilinear relationship and more recent ones finding a sigmoid relationship. Our results indicate an inverted-U shaped nonlinear relationship between international expansion and firm profitability exist. This finding contributes to our understanding of firm strategic behavior by supporting a more moderate path of international expansion may result in higher potential benefit. Besides, the demonstrated positive interaction effects of organizational slack have important theoretical and managerial implications.

We argue that the following two factors may explain for the confusing results in the literature. Firstly, the term “international expansion” means different things to different people. The differences in the understanding and proxy measures used in the analysis models partially contribute to the conflicts in the results. For example, some literatures use Herfindahl index, and some others use entropy measure. In this paper, we follow Thomas and Eden (2004), and use the index FSTS as an indicator of international expansion. Secondly, different measurements are used for the dependent variable firm profitability. Different indicators, which are accounting-based or market-based, short-run based or long-run based, will lead to different results. In this study, we use average market value (AMV) as an indicator of profitability. Comparing with previous studies, which use accounting-based measures, AMV is a market-based measure standing for long-run oriented profitability. It is reasonable to get different results with the different focuses and perspectives. For instance, Lu and

Beamish(2004) who used ROA as the dependent variable obtained a S-curve; Capar and Kotabe (2003) obtained a U-shaped curve with ROS as the dependent variable.

In this paper, we demonstrate the inverted-U shaped relationship between international expansion and firm profitability. It means that profitability will first rise with expansion until an optimal point and then go down. We also find that organization slacks have moderating effects on this relationship. Possession of human slack and financial slack will positively affect the international expansion and then lead to a more profitable result. Even though slack may seems a waste if not put into use instantly, but considering the long-run progress, it will be a very beneficial item.

This research demonstrates that human and financial slack play a critical role in the logic of resource-based theory. While prevailing theory generally suggests that increased levels of human capital investment and financial investment due to the value it yield, this research suggests a caveat to that conclusion. That is, investing to acquire human capital and storage of liquid financial resources may benefit the firm, unless that effort is coupled with deployment decisions that effectively use that investment. In fact, offering simple services to a firm does not fully leverage the value provided by high levels of investment in human resource and financial resource, thereby creating investment inefficiencies. The real outcome, as our research shows, depends on the match between investment and deployment decisions.

We contribute to the literature on international expansion by providing evidence about how international expansion relates to firm profitability. Our findings suggest that international expansion has an inverted-U shaped relationship with firm profitability. By focusing mainly on the linkage between international expansion and firm profitability, prior research has

largely ignored how resources may influence a firm's international expansion. Hence, by developing a theoretical framework and presenting a set of empirical results that address the question of how resource slack may influence the profitability while implementing of international expansion, this paper helped to fill an important gap in the literature. More broadly, our analysis has contributed to the strategy literature by providing a more thorough theoretical framework and empirical investigation of an important and growing corporate strategic phenomenon: international expansion. In this respect, our study demonstrates the need for a more integrative model of a firm's decision to diversity internationally.

Moreover, our research also provides managerial implications. The results suggest that firm owners and managers should not expect that substantial resource investments alone will product high profitability. Having enough human and financial slack might be useful, but they must be employed effectively in order to create value for customers and achieve higher performance. In fact, significant investments in resources that are not deployed effectively can actually undermine rather than enhance performance. Likewise, overly conservative managers may produce false economies by reducing investment too much, and then lead to a restriction of organization growth.

The most notable limitation of this study is that we derived our empirical results from a group of Korea firms, thus raising the concern that the findings might be country-specific. Future research should explore the generalizability of our findings by extending the study scope to examine whether they apply to other economies with similar or different institutional environment. Furthermore more, the variables we picked such as AMV and FSTS may not completely embody profitability and international expansion. They await further conceptualization and analysis. Third, factors other than organizational slack may contribute

to international expansion-profitability relationships. Additional research should examine other factors to advance our knowledge in this area.

In conclusion, this research has potentially significant implications for both strategic management and resource management. It provides empirical support and theoretical understanding of international expansion and the value of firm resources in the implementation of international expansion. It helps us understand more about how managers should shape a resource-based advantage.

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