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Does Internationalization give firms a second life? Evidence from turnaround attempts of declining firms during performance decline

Abstract

Based upon a sample of 97 US public firms that attempted turnaround from performance decline, we tested the influence of internationalization on the outcomes of turnaround attempts of firms. We found that internationalized firms had a better chance to recover from performance decline than their domestic counterparts. In addition, the greater the degree of internationalization, the better chance a firm would recover from performance drop. The chances of recovery do not demonstrate a tendency to decrease even as a firm moves into very high stages of internationalization.

Keywords: turnaround, internationalization operation, strategic option

Introduction

Researchers have pointed out an interesting dynamics of risk exposure vs. risk control abilities in international operation. On one hand, international operation exposes firms to additional uncertainties and risks such as currency fluctuation and trade wars (Johanson and Vahlne, 1977). On the other hand, internationally established firms may possess some abilities that allow them to explore these uncertainties and deal with such risks more effectively than their domestic counterparts (Kogut and Kulatilaka, 1994). When a firm is hit by performance decline, do these benefits of risk control outweigh the downside of risk exposure in international exposure? Past research on advantages of international operation, has not generated direct, empirical evidence for answering this question. Empirical studies in the past have been overwhelmingly focused on growth and exploration of opportunities associated with internationalization; relatively much less work has been done on the risk-reduction and derived defensive benefits of international operation that may help answer our opening question. Moreover, the limited empirical studies on risk reduction consequences of internationalization have produced mixed results. For example, an early study of Fortune 500 companies in 1966 by Rugman (1976) reported that international operation reduces fluctuation in firm profit, or an inverse relationship between internationalization and risk reduction. In contrast, Reuer and Leiblein (2000) reported that greater multinationality, a stage of advanced internationalization, does not help reduce firm downside risk, or failure to perform as expected, but are associated with higher bankruptcy and income stream risks. Some later empirical works adopting a real option perspective of internationalization has discovered a more complex relationship between international operation and firm downside-risk (e.g.

Tong and Reuer, 2007). A real option represents a firm's investments in physical or human assets (as opposed to financial assets), which generate opportunities for the firm to respond to future contingencies, such as decline situation (Bowman and Hurry, 1993). A firm's ability to leverage options is subject to many boundary conditions, such as labor cost specificities and expatriate assignments (Belderbos, Tong and Wu, 2014). Lee and Makhija (2009) observe that the empirical evidence on risk-reduction effects of internationalization is still limited and mixed.

On the theoretical side, while abundant implications can be drawn from traditional and contemporary perspectives of international advantages for answering the opening question, these implicative answers are largely mixed as well, with some in conflict with each other. Severe performance decline is essentially a result of a firm's inability to control over or adapt to external uncertainties (Cameron and Zammuto, 1983). According to turnaround scholars (Robbins and Pearce, 1992; McKinley, Latham and Braun, 2014), flexibility and innovation are critical for declining firms to stabilize performance, identify path to recover, and eventually regain competitiveness. The geographic diversification perspective of internationalization indicates that internationalization would increase the chance of firm recovery from performance drop because of two eminent benefits brought by multiple market presence, flexibility in operational and strategic repositioning (Kim, Hwang and Burgers, 1993; Ghoshal, 1987) and chances to learn and to become more innovative, thanks to multinational firms' exposure to heterogeneous domestic product and factor markets (Hitt, Hoskisson and Kim, 1997; Kim, Hoskisson and Lee, 2015). A More recent theory of international operationpoints out that internationalized firms would have embedded themselves in much bigger internal and external networks of

organizations (Gupta and Polonsky, 2014). Such extended networks may offer more business opportunities to explore and resources to draw upon (Johanson and Vahlne, 2009) and thus, help a firm to recover after decline.

On the other hand, however, classic Uppsala School of internationalization has indicated that international operational exposes a firm to moreuncertainties and risks (Johanson and Vahlne, 1977). The complexity and distance in international operation creates significant transaction costs (Buckley and Casson, 1976). In addition, multinational operation has been said to notoriously cause governance costs such as opportunistic costs and administrative costs. These costs are extra burdens for international firms to absorb and they are unlikely to decrease as internationalization expansion goes further (Hitt et al. 1997; Contractor, 2007; Awate, Larsen and Mudambi, 2015). As such, multinational firms may overload themselves with costs and uncertainties that increase the chance of failure. This negative influence of internationalization on firm recovery also has some support from early resource-based views of firm growth, which generally perceives global expansion to be a risk-seeking move, instead of a risk-reduction move (Penrose, 1959).

Hence, neither empirical studies nor theoretical perspectives of internationalization have been able to provide us a direct and clear answer to the question of how internationalization might influence chance of firm recovery from performance decline. This has resulted in our insufficient understanding of risk control potential of internationalization in extreme performance decline. Overall, there is a lack of evidence-based suggestion for some conservative managers who might be particularly interested in the influences of internationalization on firm survival and the stability of performance.

According to March and Shapira (1987) and others (i.e. Miller, 1992), managers generally view business risk as losses. Empirical explication of the connection between internationalization and firm recovery from performance decline and losses may provide critical information for managers, especially those risk averse ones, to rationalize their decisions about internationalizing their businesses.

This paper is motivated by our intent to fill the above gap in the literature of internationalization as to the influence of internationalization on the chance of recovery from severe performance drop. Based upon a unique sample of 97 publicly listed, US manufacturing firms that declined during a period between 1997 and 2003, we studied the turnaround attempts of these single business firms and found that the degree of internationalization of these decline firms, measured as the percentage of foreign sales (Zahra, Ireland, and Hitt, 2000), is positively related to the chance of recovery of these firms. This positive influence of internationalization on firm recovery seems to be resilient even when internationalized firms experienced decline at some high stages of internationalization where risk and costs of internationalization are supposed to outplay the benefits of flexibility and growth options. Our finding supports that internationalization increases the chance of recovery after firms experienced severe performance decline. This results suggest overall that the benefits of internationalization outplay the liability of internationalization when firms experience death threatening performance difficulty.

The rest of paper is organized as follows. We first discuss relevant theoretical perspectives and their implications for how internationalization may influence the recovery of decline firms. Then we review empirical studies on the relationship between

internationalization and risk reduction and survival of internationalized firms. Next, in the empirical part of this paper we report our methodology and results. We conclude the paper with a discussion of the implications of our findings for practitioners and limitations of this study.

Literature review on internationalization and firm survival

Turnaround is defined as having survived a threat to survival and regained profitability in a sustainable way (Barker and Duhaime, 1997; Pearce and Robbins, 1993). Scholars of firm decline and turnaround have argued that a successful turnaround attempt critically relies on a decline firm's abilities to stabilize the decline and to strategically reposition itself in a new competitive landscape (Robbins and Pearce, 1992; Arogyaswamy, Barker and Yasai-Ardekni, 1995). Stabilizing decline generally calls for a firm to retrench its operation through operational initiatives such as asset selling, expense cutback and layoff, so that firms can 'stop bleeding' and be able to hold on to defensible competitive advantages and achieve temporary breakeven in performance (Pearce and Robbins, 1993). Retrenchment represents a major approach of turnaround called operational turnaround (Hofer, 1980). A second major approach of turnaround is called strategic turnaround, which includes repositioning and reorientation. Repositioning refers to a firm's move to change its competitive position by modifying competitive dimensions, such as switching from a cost leader to a focus strategy, or from a focus strategy to a differentiation. Reorientation means that a firm changes its competitive landscape by entering new markets or withdrawing from old markets. Decline firms may need to manage the retrenchment and repositioning/reorientation so that they mutually enable each other in a way that retrenchment creates resources needed for repositioning while

repositioning ensures resources created from retrenchment are deployed in a way to ensure firm competitiveness (Schmitt and Raisch, 2013; O'Kane & Cunningham, 2014). Those declining firms that have both options of retrenchment and reposition will have a better chance to recover.

In the discussion below, we elaborate what international operation implies for a firm's flexibility in adjusting to performance fluctuation in three areas, operational flexibility, strategic flexibility and entrepreneurial potential, which connect with different turnaround approaches decline firms can rely upon to recover. While it is notable in the literature that these three risk-defying mechanisms are related and even overlapped conceptually, in order to clearly and fully show these derived advantages of internationalization, we conceptualize them somewhat narrowly. Operational flexibility, according to Kogut and Kulatilaka (1994), refers to the options derived from ownership that multinationals are able to move production factors among subsidiaries relatively freely across national borders. Strategic flexibility refers to a firm's ability to timely respond to competitive pressure through changing its competitive positions or product portfolio through overcoming exit or entry barriers (Harrigan, 1980). At the execution and activity level, these two flexibilities are largely overlapped, but they differ with respects to orientation, time horizon, and intent of activities. Regarding orientation, operational flexibility has an internal focus in execution while strategic flexibility is more externally oriented. Strategic flexibility is also targeted at longer period of firm success, while operational flexibility seeks more immediate results. In the end, strategic flexibility helps a firm gain competitive advantages and overall performance goals such as sales and market share, while operational flexibility helps a firm improve efficiency. These

distinctions we identified are largely consistent with notion of strategic change vs. operational change in turnaround and strategic management research in general (Hofer, 1980). The third benefit of entrepreneurial potential, refers to a firm's ability to innovate and introduce new products into an existing market, or ability to discover new market. This benefit is different from strategic flexibility in that the latter is more focused on modifying competitive position in the current markets, although both are long term oriented and externally focused. Entrepreneurial potential allows a firm to break from its old ground by creating a totally new set of value chain within the firm.

Advantages of international operation

While the internationalization is a bumpy and risky process, it is reasonable to assume that those firms having successfully internationalized their operations would gain valuable benefits mentioned above. These benefits will gain them advantages in attempting turnarounds when their survival is threatened.

Real option perspective argues that established multinational operation enables firm to develop critical anti-risk mechanisms in particular the gained operational flexibility, which can keep organizations nimble and adaptive to environmental changes (Kogut, 1983, 1985; Bowman and Hurry, 1993). Operational flexibility arises when international operation enables multinational firms to mitigate the shocks of volatility in external environments by offering opportunities to exploit the differences in country-specific operational factors such as financial systems (Rangan, 1998; Kogut and Kulatilaka, 1994; Decker, 2016), labor markets (Coucke and Sleuwaegen, 2008), and tax systems (Devereux and Griffith, 1998). In other words, the operational risk of international firms would decrease as firms succeeded in international expansion due to

network of intra-organizational cooperation among subsidiaries, awareness of variation in international production markets and shared ownership (Ioulianou, Trigeorgis and Driouchi, 2017). Following this argument, it can be expected that when dealing with severe performance decline, internationalization would increase a declining firm's chance of recovery, because it offers greater operational flexibility that help reduce downside risk and withstand losses (Bowman and Hurry, 1993). From the perspective of retrenchment and recovery in turnaround management (Robbins and Pearce, 1992), these international firms would have more options in streamlining their operations through retrenchment. For example, thanks to differences in labor laws on layoff in different countries, an international company can rationalize their decisions of downsizing time, downsizing scale and compensation in a multinational environment, which are critical to creating slack resources during decline (Trahms, Ndofor & Sirmon, 2013). This flexibility in moving production factors is an advantage for an international firm over a domestic firm whose retrenchment is constrained by one state or one country's legal and institutional environments.

In addition to retrenchment options, operational flexibility can be also reflected in restructuring organizational system to find the best structure that fits a company's strategy. An example of firms resorting to operational flexibility to improve performance is P&G's *Organizational 2005* initiative. In 2000, after two years of performance decline, P&G launched a restructuring project called Organization 2005. The main step in this project was to change the company's structure from a geography-based divisional structure into a product-based divisional structure so that P&G can better evaluate the

performance of a specific product. This structural change option is only available to large, international companies.

Besides the operational flexibility that allows multinational firms to stabilize their performance through optimal retrenchment moves, internationalization also confers strategic options for the firms to use the resources strategically and reposition themselves in changed competitive situations. Unlike operational flexibility that has an internal focus on the exploit of unequal development of factor markets on the supply side of market, strategic flexibility has an external focus targeted at maneuvering external competitive positions on the demand side (Ndofor, Vanenhoven & Barker, 2013). Although this demand side flexibility is tied to the supply side flexibility in terms of gaining liquid assets, demand side flexibility emphasizes the capacity to play defense or offence at the time when demand changes in a target market. The capacity enables the chance to recover at the time of industry decline (Harrigan, 1980). Strategic flexibility offers firms the leeway of managing product portfolio and discovering new opportunities (Nadkarni and Herrmann, 2010), while operational flexibility provides the alternative means to execute the competitive strategies without changing business portfolios (Mitchell, Shaver and Yeung, 1993).

Positioning internationally also increases strategic flexibility of firms because it confers the option of changing competitive advantages/strategies. Compared with domestic firms, international firms would have more strategic choices, such as using different competitive strategies and holding different competitive positions in different international markets (Trąpczyński, 2018). At normal times, internationalized firms may have underexploited or over-exploited certain national markets due to resources and

capability constraints, resulting in sub-optimal competitive positions in their global posture (Hill, Hwang and Kim, 1990). In decline situations, internationalized firms would have the chance to increase value creation by streamlining their products' market positions across the international markets they are involved to optimize their competitive posture globally. Another advantage that an internationalized firm enjoys over its domestic counterparts or less internationalized counterparts is that it may have more strategic options, such as alternative distribution channels to change the competitive situation in a foreign market such as modifying their preferred entry mode in different international markets (Swoboda, Elsner and Olejnik, 2015). In other words, internationalization offers more chance to regain competitiveness and to improve their performance for declining multinational firms.

In addition to operational flexibility and strategic flexibility, internationalized firms would be more experienced in absorbing knowledge that underpin these flexibility (Inkpen, 1998; Joardar and Wu, 2017). The experiences and knowledge contain entrepreneurial potential for firm to pursue new business opportunities and reorientation for recovery from decline. International firms gain knowledge and learning from the right beginning of firm adaptation to unknown international environment (Ferreira, Serra and Reis, 2011). Competition in the international markets helps firms gain a deeper and more comprehensive understanding of the diversity and abundance in customer demands, technological standards, know-hows because many of these innovation-inducing elements are local and nontransferable across organization and national boarders (Blomkvist, Kappen and Zander, 2017). This learning makes international firms more aware of its own internal strength and weakness under different competitive situations.

International operation enhances a firm's capabilities such as innovation (Zahra et al. 2000; Hitt et al. 1997) through the practice such as 'reverse knowledge integration', in which the headquarters learn from innovation of their oversea subsidiaries (Frost and Zhou, 2005). International operation not only helps firms accumulate learning in various contexts and situations (Schmid, Wurster, & Dauth, 2015), but also enables them to absorb learning and use them more effectively and efficiently. Such learning can induce entrepreneurial potential in a firm, which could create more options for a decline firm to reorient itself and do it faster than a domestic counterpart Funken, Gielnik, & Foo, 2018).

International position on firm turnaround

In the small stream of literature on the impact of international position on firm survival, there is no direct investigation of survival attempt of international firms experiencing performance drop. However, we found a few empirical studies that are relevant to the investigation of firm survival under crisis or industrial change, all showing dominantly positive impact of internationalization on firm survival. In a seminal paper with a small sample, Li and Guisinger (1991) observed that failure rate for US firms with at least 10% foreign ownership is significantly lower than domestic firms during 1979 and 1988 as globalization started gaining strength in US economy. Lee and Makhija (2009) reported that two major means of international investments, export and foreign direct investment (FDI), contribute positively to market value of Korean firms caught in Asian financial crisis around 1997. In a study on strategic flexibility's role in managing economic crisis, Grewal and Tansuhaj (2001) found that firm exposure to international market demand has a positive impact on small and midsized Thai firm's performance during Asian financial crisis around 1998, a period similar to that investigated by Lee and Makahija (2009). In

another extensively longitudinal research, Kronborg and Thomsen (2009) found that compared with domestic firms, foreign subsidiaries in Denmark had much lower market exit rate over a period of 110 years between 1895 and 2005. More directly, Coucke and Sleuwaegen (2008) reported that Belgium firms that offshore activities to non-European Union countries are able to improve their chances of survival, compared to their domestic counterparts. Established foreign subsidiary in Belgium also holds an advantage over domestic counterparts. A summary of these relevant studies and ours are shown in Table 1.

These previous studies have not specifically examined the moment when firms attempted turnaround from severe performance drop. It is probably the most telling period where internationalization may help withstand threats of imminent bankrupt. Consistent with empirical evidence produced in previous studies, we adhere to the positive implication of internationalization on risk reduction and develop the following two hypotheses:

Hypothesis 1: Generally speaking, in attempting to turn themselves around from severe performance decline, internationalized firms will have a better chance to achieve turnaround than non-internationalized firms.

Hypothesis 2: Generally speaking, the greater the internationalization, the greater the chance for firms to achieve turnaround from performance decline.

While internationalization creates more options for multinational firms, executing these options and realizing their benefits can still be costly. The costs of execution may exceed the perceived benefits of option. Some scholars, such as Contractor and his colleagues (Contractor, Kundu, and Hsu, 2003; Contractor, 2007), argue that the tradeoff between performance gains and costs may be dependent upon the stages of internationalization that a firm is in. Contractor (2007) particularly suggests that the costs are likely to exceed benefits at the early stage and late stage of internationalization. At the early stage, a company needs to invest heavily in developing international infrastructure and may suffer setback from mistakes. At the late, or high degree of internationalization stage, international firms can become too complex to manage internally (Ghoshal, 1987). Externally, there is always a possibility that extensive exposure to international markets may be overwhelmingly uncertain for multinational firms to handle, a scenario of excessive internationalization. Parallel to this argument, the overall positive relationship between internationalization and turnaround stated in the first two hypotheses may be weakened or strengthened by the stage of internationalization.

We argue similarly that a curve linear relationship exists between the degree of internationalization and the chance to turnaround. At low stages of internationalization, decline firms may not be able to fully leverage on the advantage of internationalization such as scale economies, while at the same time internationalization may distract the attention focus of decline firms, causing firms spread their resources too thin. The US retailer Target's expansion into Canada around 2011 offers such an example. When Target's sales declined due to domestic competition and customer credit card information

breach, their Canadian expansion only exacerbate the crisis situation, instead of helping them.

At the high level of internationalization, complexity of operation may incur greater transaction costs and opportunistic behaviors, making it overwhelmingly challenging to manage (Hitt et al., 1997). Besides, change is harder in large international organizations due to communication and cultural distance between headquarters and oversea subsidiaries. IBM was in this situation before it declined in early 1990. According to Lou Gerstner, some managers of their German subsidiary refused to execute the turnaround plan required by the headquarter (Gerstner, 2009). Besides these anecdotal evidence, Tong and Reuer (2007) have showed in a large scale empirical study that the relationship between multinationality and firm downside risk is curvilinear. Studies on foreignness also show a similar pattern that performance suffers when foreignness is either very high or very low. Those findings are consistent with our argument above. Therefore, we predict the following:

Hypothesis 3: There will be an inverted U-shape relationship between the degree of internationalization and chances of turnaround for decline firms.

Method

To test these hypotheses, we first collected ROI data from publicly traded US firms contained in the CompuStat North American database for the period between 1997 and 2003. The sample and the period were chosen because during the period, the US

firms experienced three major environmental jolts domestically and internationally: the Asia financial crisis happened in 1997, the collapse of internet bubble at the end of 1999 and the events of 911 that temporarily froze the national economy in 2002. These financial, technological and political jolts tested the internal strength of firms and hence make it ideal to study the recovery ability of firms.

Next, we identified decline firms by selecting those meeting the following four criteria: a.) experienced three consecutive years of ROI drop down to levels that are below national risk free rate of return (Schendel, Patton and Riggs 1976; Barker and Duhaime, 1997); b.) experienced loss in the third year of decline; and c.) was a manufacturing firms, given that nature of turnaround attempt is different for service firms and for manufacturing firms (O'Neil, 1986). d.) was a single business firm, which is defined as a firm collecting over 75% of revenue from one 4-digit level SIC industry category.

Applying the above criteria, we were able to identify 166 firms after a screening of the performance patterns of those active firms and inactive firms contained in CompuStat North American database in 2007. Missing values of variables reduced the sample size to 97. ANOVA analysis was conducted to the initial sample and the final sample to check if there is any misrepresentation. The outcomes of the analysis show that the two samples are not different significantly in their initial size and in the average performance during each decline year. Hence, we concluded that missing values are unlikely to affect the results of further analysis.

Measures

Turnaround outcomes we measured the outcomes of turnaround attempt as a dichotomous variable. A successful turnaround attempt is coded 1 and an unsuccessful turnaround attempt is coded 0. Correspondent with our definition of decline, we determine that a turnaround is achieved when firm performance meets the following two criteria in the three years after an identified decline period: a.) achieved three consecutive years of positive return; b.) in these three consecutive years of positive earning, at least one year's ROI should be above national risk free rate of return, which is benchmarked using the 6 month return of US government treasure notes. Such definitions of decline and turnaround capture both the *extent* and *stability* aspects of performance change.

Degree of Internationalization Following previous literature, we measured Degree of Internationalization as the percentage of foreign sales in a firm's total sales. The variable was transformed by talking a logarithm of (1+percentage of foreign sales) to normalize the influence of non-internationalized firms. In addition, we created a dichotomous variable that differentiates between decline firms with international sales (coded 1) and firms without international sales (coded 0).

We also controlled for the following variables that may confound the hypothesized relationship:

Firm size Firm size was used to control for the potential influence of scale. Size was computed as the natural logarithm of total number of employees.

Firm Slack Resources Available slack resources may affect the chance of turnarounds. We controlled for both tangible slack resources and intangible slack resources. For tangible resources, we used SGA intensity, a ratio of firm expenses on Sales and General Administration to total sales. For intangible slack resources, we used firm Capital

Intensity and R&D Intensity. Capital Intensity was calculated as a ratio of Capital investment to total sales. R&D intensity was calculated as a ratio of R&D expense to total sales. All three indices were computed for the year before firm decline (Y0).

Turnaround strategy We also controlled for the changes made by a decline firm to the above three investment dimensions during their turnaround attempts as turnaround strategy variables. Changes in SGA intensity (Sell, General and Administrative expenses/Sales), R&D intensity (R&D/Sales) and Capital Intensity (Capital investment/Sales) were computed at year 3 as opposed to year 2 in decline period, assuming that second year in decline has made the performance decline a pattern of certainty that warrants taking serious measures of changes to declining organizations in year 3 in order to reverse the trend. Therefore, the differences along each of the three intensity measures between year 2 and year 3 when firms were in decline were calculated as three turnaround strategy variables.

Results

Means, standard deviations and Pearson correlation coefficients among the variables were calculated and listed in Table 1. The correlation coefficients indicate that firm size is positively correlated with both internationalization measures ($p < .01$ for degree measure and $p < .05$ for dichotomous measure). The two internationalization measures are highly correlated ($r = .72$; $p < .001$). Interestingly, two of the slack measures, R&D intensity and SGA Intensity are positively correlated before the decline ($p < .01$), but negatively correlated with respect to the changes made to them during declining firms' turnaround attempts. This is indeed consistent with a speculation about the decline

situation: Investments in different activities become highly competitive when slack resources are disappearing in declining organizations (Cameron, Whetten and Kim, 1987). Chance of turnaround is positively correlated with the continuous measure of internationalization ($p < .05$), but not with the dichotomous measure of internationalization.

While the correlation statistics provides some rudimentary support for our hypotheses, more rigorous statistical analyses are necessary to test them. In this study, because the dependent variable is dichotomous, binary logistic regression is an appropriate method for conducting the test. Four binary logistic regression models were run to test the hypotheses one by one. In the first model, only the control variables were used as independent variables in predicting the outcomes of turnaround attempts. In the second model, the dichotomous measure of internationalization was added to the first model to test hypothesis 1. In the third model, the dichotomous measure was replaced with the continuous measure to test hypothesis 2. In the fourth model, a quadratic term of the degree of internationalization was added to the third model to test hypothesis 3. All these regression models passed Hosmer and Lemeshow test of homogeneity of variance. The results of these regressions are presented in Table 2 and are discussed in further details below. Outlier analyses identified two observations as outliers, which were dropped from the sample.

Insert Tables 1 & 2 about here

Hypothesis 1 predicts that internationalized firms will have a greater chance of turnaround than non-internationalized firms. Results from Model 2 support this prediction. The coefficient of dummy variable of internationalization is positive and significant at $p < .05$ level, suggesting that internationalization increases the chance of turnaround. The statistics on additive effect of internationalization to those effects of control variable is consistent with the hypothesis 1 too. The change in -2log likelihood between Model 1 and Model 2 is significant at $p < .05$ level. This indicates that having international sales increases the chance of turnaround.

Hypothesis 2 predicts that the higher the degree of internationalization, the greater the chance of recovery for a declining firm. This hypothesis is strongly supported by results in Model 3. As can be seen from Table 2, the coefficient of degree of internationalization is positive and significant at $p < .01$ level, validating a positive association between the degree of internationalization and the chance of turnaround. The additive statistics also supports the inclusion of the variable, degree of internationalization. The change in -2log likelihood between model 1 and model 3 is highly significant ($p < .01$). Other model statistics such as omnibus test of overall fit and R-squares all improved from the base model after the addition of the degree of internationalization to the dependent variable. Hence, hypothesis 2 is supported.

Hypothesis 3 predicts that the relationship between the degree of internationalization and the chance of recovery for declining firms would follow a shape of inversed U. The coefficient of squared internationalization variable is positive, but not significant at the $p = .10$ level ($p > .50$). This suggests that the hypothesized curve linear relationship is not supported by our sample.

To further explore the relationship between the degree of internationalization and the chance of recovery, we tested a more complicated relationship that seems gaining popularity among international business scholars – an S-curve relationship between degree of internationalization and firm performance (Ruigrok, Amann and Wagner, 2007). To do so, we first transformed the continuous variable of internationalization into a categorical variable, which consists of 4 groups of observations: Group One consists of non-internationalized firms; Group Two consists of low diversified firms (from 0+ to the ¼ percentile in the degree of internationalization variable, or degree of internationalization = .14 in our sample); Group Three consists of moderately internationalized firms (from ¼ percentile in the degree of internationalization variable to ¾ percentile, or degree of internationalization between .14 and .53); Group Four consists of highly internationalized firms (¾ percentile to 100 percentile, or degree of internationalization above .53).

Next, we replaced the continuous variable of internationalization in Model 3 with the new categorical variable of internationalization. After setting the Group One as the reference group, we ran the logistic model (Model 5a in Table 2). The results presented in Model 5a, Table 2 show that significant difference in the outcome variable for firms in Group Three and Group Four exists. Positive coefficients for both groups as opposed to the reference are positive, indicating that firms in these two groups had a better chance of recovery compared with the firms in the reference group (i.e. Group One, $p<.05$). Interestingly, the coefficient for the Group Two, or low level of internationalization is negative indeed. However, it is not significant at acceptable level ($p >.05$). Hence the expectation that initial stage of internationalization hurts performance is not supported.

After that, to test the other side of S-curve, we set the reference group as Group Four (Group with high degree of internationalization). From the results presented in Model 5b, it can be seen that no significant group difference exists between Group Three/Two and Group Four. But a significant difference exists between Group Four and Group One. This suggests that a decline in chance of recovery after certain point in the degree of internationalization is not supported by the data. Together, the results from two sets of regression with categorical variables are consistent with the results in Model 3 and Model 4, indicating convergent validity in the conclusion drawn from the Model 3 and Model 4.

The scatter plots of the results from Model 3 in Figure 1 and Figure 2 visually present the relationship between the degree of internationalization and the chance of turnaround. As can be seen from Figure 1, which includes the non-internationalized firms, the maximum chance of recovery for non-internationalized firms is below 20%, while the maximum chance of recovery for internationalized firms is above 60%. For firms with low degree of internationalization, perceivably a majority of them bear a chance of recovery below 20%, or about the same level of non-internationalized firms. Figure 2 shows that after the non-internationalized firms were removed, there is a visible, consistent increase in the chance of turnaround as the internationalization increases.

Insert Figures 1 & 2 about here

Discussions and Conclusions

Managing international firms is challenging, especially at the time of decline or crisis. Recent theory of real option raises a seemingly paradoxical idea: organizational flexibility, which takes the forms of operational and strategic flexibility, embedded in the complexity of international operation may as well be a potential competitive advantage for international firms over their domestic counterparts, assuming that these international firms have learned through international expansion to adapt to more complex and dynamic environmental conditions, be it at regional or global scale (Luo, 2001; Casillas, Barbero, & Sapienza, 2015). This advantage would be more valuable in hostile situations where growth opportunities have diminished domestically and organizational flexibility becomes paramount for competitive success.

Empirical evidence from recent studies conducted on firms in different countries has been generally supportive of the central argument of real option theory in the context of internationalization (e.g. Lee and Makhija, 2009). This study contributes to this stream of research by complementing the findings of previous studies in two important ways. First, we found that internationalized firms have a better chance to survive severe performance drop than non-internationalized firms. This finding is consistent with the report by Couke and Sluewaegen (2008) that Belgian firms offshoring activities are less likely to be pushed to exit an industry compared with their industry competitors not involved in offshoring activities. However, unlike the studies by Couke and Sluewaegen (2008), our studies used performance decline to control for the survival threatening conditions, thus incorporated a process through which the influence of internationalization on firm survival can be more convincingly built. Another important difference between our study and that of Couke and Sluewaegen (2008) is that our study

examines the influence of internationalization, which captures the potential benefits of market exploration associated with internationalization, while Couke and Sluewaegen (2008)'s study examines the potential benefits of offshoring, or importing services from overseas, which capture mainly the benefits of operational flexibility associated with internationalization.

Second, while some studies found that having a foreign parent improves the chance of survival for a subsidiary (e.g. Coucke and Sleuwaegen, 2008; Kronborg and Thomsen, 2009), our findings show that internationalization also improves the chance of survival for the parent firms. The greater a parent firm goes international, the greater chance for it to withstand the threats of perishing. This finding is consistent with the report by Lee and Makhija (2009), who found that during Asian financial crisis, the value of firms are positively related to the international investment for a sample of Korean firms. Unfortunately, Lee and Makhija's study didn't study the survival chance of firms.

In addition, we found that the influence of internationalization on firm survival seems not to diminish even at the very high degree of internationalization. This suggests that the appealing argument of an inverted U-curve relationship between degree of internationalization and firm performance does not hold when firms are in performance decline. Interestingly, as can be seen from the scatter plots, the chances of turnaround for low level of internationalization increase relatively slowly compared with those at the moderate levels of internationalization. This seems to indicate that liability of foreignness may have a greater negative influence than the liability of complexity in affecting the chance of survival under the circumstance of decline. Or, in other words, high level of complexity confers more benefits of flexibility than operational costs for declining firms.

Future researchers should explore further to separate the opposite influences of costs and flexibility at the high degree of internationalization. This is an important research avenue that has practical implications because it contributes to the debate on the optimum level of internationalization. For practitioners, if their intent is to reduce firm risk, greater levels of internationalization would be more favorable; on the other hand, if their intent is to increase performance, a moderate level of internationalization would maximize short term return, although it may not maximize risk reduction.

Limitations The above findings should be understood with the consideration of several limitations associated with this study. The first limitation is that in this study, we did not differentiate between the influences of various internationalization modes. Scholars of international business have argued that different internationalization modes expose firms to different level of strategic and operational complexity and thus, confer different scale and scope of flexibilities (Rangan, 1998). For example, international sales through exports and sales through foreign subsidiaries create different levels of economy of scale and local involvement for parent companies (McGrath, 1997). It is also likely that some internationalization modes produce more strategic options while others create more operational flexibilities. Future researchers can explore how different internationalization modes influence the chance of turnaround by separating the effects of operational flexibility and strategic flexibility conferred by different internationalization modes.

A second limitation of our study is that our sample consists of firms solely from one country – the United States. Even though the US firms have been among the most studied populations in international business research, this single country setting may pose a potential threat to the generalization of our findings. Our sample selection may be

biased toward the unique financial, economic and institutional environments in which firms in our sample operate. Relatedly, another possible limitation is that we didn't control for the industry level factors that may potentially confound the causality we examined in this study. The main reason that we didn't control for industry level factors such as industry growth rate is that this control seems to go against the assumption of international benefits that industry grows at different rate at different countries. Hence, the growth of industry in the home country should not play a dominate role in affecting the chance of survival for international firms, particularly those with high degrees of internationalization.

Also related to the second limitation, our study didn't examine the scope of internationalization, or multinationality. Considering that the key argument of operational flexibility is associated more closely with the scope of internationalization, it is worth exploring the geographic distribution of international operation to gain a more comprehensive view of the influence of internationalization on firm survival.

Lastly, our criteria of turnaround and decline in sample selection and measurement of dependent variables may be subject to sample selection bias. For example, the decline pattern of lingering firms was excluded in our sample (D'Aveni, 1989). However, considering our criterion of decline identification is more stringent than most past research, the chance of committing type I error in statistical inference based on this sample would be reduced. This gives us more confidence in the conclusion we reached. Furthermore, our use of only US firms in our sample would make our results subject to a potential bias associated with heterogeneous internationalization process of US firms. Because US domestic market is large enough for many of firms to explore first,

these firms are less likely to be ‘born global’ and would have accumulated quite significant amount of experience in competition before they start internationalizing their operation. Thus our sample may not represent firms decline in other national contexts. Lastly, the generalization of our finding may be limited by the specific period of firm decline and turnaround sampled in our study. The external environments could be dramatically different in other periods examined for the similar research.

Managerial implications The main finding that internationalization increases the chance of turnaround has an important implication for practitioners. This finding provides additional motivation and rationale for managers to internationalize their operations. While empirical results on firm performance seem to converge on the notion that there is a potential negative influence of under-internationalization and over-internationalization on firm returns, our findings imply that with respect to reducing chance of failure, geographic diversification seems to defy the odds of these negative consequences. Hence, managers should be confident about using internationalization as a strategic tool for gaining sustainable competitiveness. However, combined with the previous findings on the S- curve relationship between internationalization and firm performance, our findings alert shareholders that to exert effective corporate governance, there is a possibility that managers may over-diversify their firms geographically to pursue risk reduction and defy bankruptcy to an extent that may offset shareholder value.

Also, practically speaking, managers should view geographic diversification as a double edged sword. Complexity associated with internationalization carries load on operation, but it also fosters anti-risk mechanism for learning organizations to explore and may indeed deter competition. Along this line of thinking, managers should pay close

attention to their operational network during the international expansion process. Most of the benefits rely on the operational infrastructure for execution. Given the abundant choices for developing the network, from scope to the mode, managers have a lot of discretion to design their operational infrastructure. It may not be a bad idea to put learning concern in the center of network building so that the firms are better prepared for withstanding loss in the future. Building such a network, however, also takes patience and commitment because learning is idiosyncratic, needs time to take effect and finish its circles.

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Table 1. Means, Standard Deviations and Correlation Coefficients

	Mean	Std. D	1	2	3	4	5	6	7	8	9
1. Firm Size	4.41	10.24									
2. Capital IntensityT0	0.06	0.06	0.03								
3. SGA IntensityT0	0.30	0.26	-.25*	-0.01							
4. R&D IntensityT0	0.12	0.20	-0.15	0.04	.67**						
5. Change in SGA Intensity	-0.01	0.26	-0.10	0.09	-0.06	-.20*					
6. Change in Capital Intensity	0.68	4.28	-0.05	-0.11	0.06	0.08	-0.02				
7. Change in R&D Intensity	0.03	0.40	-0.01	-0.04	0.15	0.13	-.64**	-0.01			
8.Degree of Internationalization	0.19	0.26	.27**	0.09	-0.15	-0.14	0.02	.23*	-0.02		
9.Internationalization (dummy variable)	0.54	0.50	.25*	0.18	-0.15	-.21*	0.09	0.01	-0.14	.72**	
10. Outcomes of Turnaround	0.18	0.39	0.05	-0.04	-0.06	0.00	0.02	-0.06	0.08	.22*	0.16

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

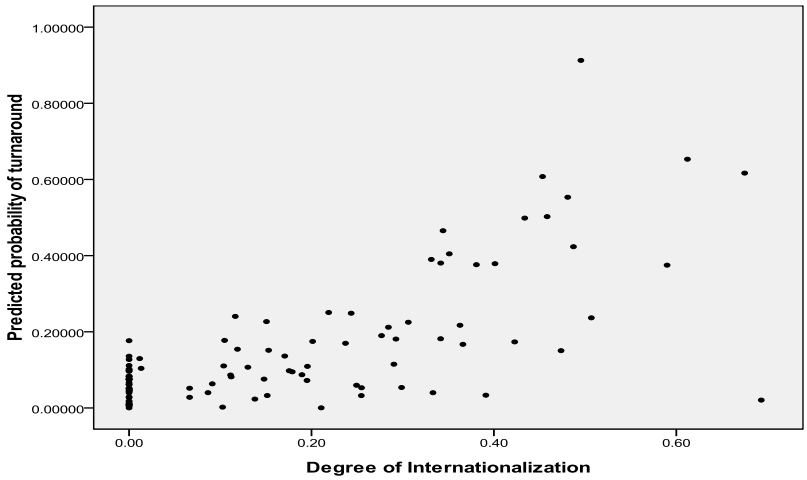
a. Listwise N=95

Table 2. Results of Hypotheses Testing from Logistic Regressions

	Outcomes of Turnaround Attempts					
	Model 1	Model 2	Model 3	Model 4	Model 5a	Model 5b
Constant	-0.52	-2.57	-1.12	-1.74	-1.91	0.45
Firm size	0.26	0.17	0.01	0.17	0.14	0.14
Capital Intensity	-2.99	-3.62	-3.71	-3.08	-3.40	-3.40
SGA Intensity	-5.06	-4.24	-6.44	-0.7	-4.61	-4.61
R&D Intensity	2.3	4.19	2.48	2.33	4.04	4.04
Change in SGA Intensity	1.58	2.2	1.47	1.33	3.12	3.12
Change in Capital Investment Intensity	-0.09	-0.04	-0.09	-0.08	-0.04	-0.04
Change in R&D Intensity	1.21	1.49	0.91	1.39	1.94	1.94
Internationalization (Dummy)		2.27*				
Internationalization (Degree)			4.64**	1.11		
Internationalization Squared(Degree)				3.21		
Non-Internationalized						-2.36*
Low Degree of Internationalization					-18.42	-20.78
Moderate degree of Internationalization					2.00*	-0.36
High Degree of Internationalization					2.36*	
-2 Log likelihood	72.01	67.27	64.71	64.67	64.95	64.95
Change in -2 Log Likelihood		5.83*	7.58**	.34		
Chi-square	10.16	15.23†	17.46*	17.47	21.19*	21.19*
Cox & Snell R Square	.10	0.15	0.17	.17	0.2	0.2
Nagelkerke R Square	0.18	0.26	0.29	.29	0.34	0.34

Note: † = p<.1; * = p<.05; ** = p<.01

Graph 1. Degree of Internationalization and Probability of Turnaround (All firms)



Graph 2. Degree of Internationalization and Probability of Turnaround (Non-internationalized firms excluded)

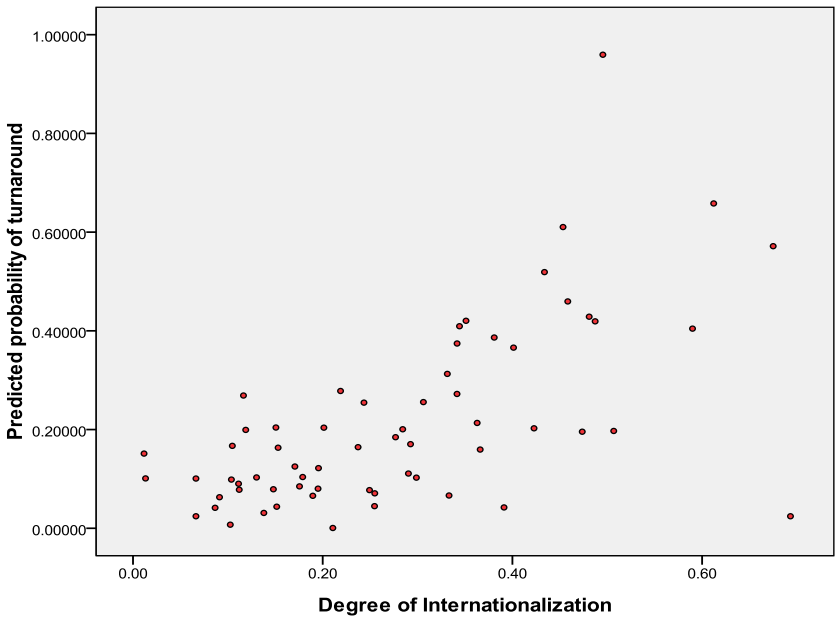


Table 3: Past Research on Firm Survival Post-internationalization

Studies	Sample	Sample in comparison	Start Performance conditions	Risk control mechanisms	Dependent variable	Independent variable	Findings
Grewal and Tansuhaj, 2001	120 small and midsized Thai companies	International parent firms vs. domestic firms	During 1998 Asian financial crisis	Strategic flexibility and foreign market dependence from geographic diversity	Return-on-invest-ment, sales, profit, and growth (Subjective measures)	International demand dependence	International demand dependence is positively associated with performance
Li and Guisinger, 1991	81 foreign nonfinancial firms filing for bankrupt or having been liquidated in US	Foreign subsidiaries vs. domestic firms	During 1979-1988 normal economic and performance condition	Ownership advantages from eclectic paradigm	Business failure (In bankruptcy and liquidation)	Foreign ownership (10% or more)	Failure rate of foreign-controlled firms is significantly lower than that of domestic firms
Coucke and Sleuwaegen 2008	All firms in Belgium registered as manufacturers during 1999-2002	International firms and foreign subsidiaries vs. domestic	During 1999-2002 under industrial change (de-industrialization)	Multinational presence advantages (location advantages); Foreign ownership advantage	Firm removal from registry recorded by National Bank of Belgium	offshoring, foreign ownership	Offshoring domestic firms and foreign owned subsidiary are more likely to survive than domestic firms
Lee and Makhija, 2009	459 Korea international firms	International parent firms vs. domestic firms	Normally performing firms going through 1998 financial crisis	Strategic flexibility from real options	Changes in Tobin's q	Export flexibility and multinational flexibility	Both flexibility indices have a positive influence on Tobin's q
Kronborg and Thomsen, 2009	528 pairs of matching domestic firms and foreign manufacturing subsidiaries in Denmark	Foreign subsidiaries vs. domestic firms, international parents	Longitude from registration to delist over 110 years	Foreign ownership benefits vs. liability of internationalization	Relative exit risk	domestic vs. foreign ownership; firm age	For firms older than 10 years, foreign owned subsidiary have significant higher relative survival rate; the difference is not significant for firms younger than 10 years