The International Journal of Business and Finance Research
Vol. 10, No. 1, 2016, pp. 39-52
ISSN: 1931-0269 (print)
ISSN: 2157-0698 (online)

IBFR
www.theIBFR.com

STATES OF THE ECONOMY AND GEOGRAPHIC INVESTMENT DECISIONS

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ABSTRACT

We examine the impact of economic conditions on firm performance after geographic expansions and divestures. We conjecture that different economy conditions during which a firm expands in and out of geographic territories affect the firm's ability to transform its resources into competitive edges. The difference in the ability of a firm to convert resources to advantages, in turn, leads to variations in operating performance subsequent to geographic expansions and divestures. We conduct empirical tests of our hypotheses using corporation self-disclosed segment data from 1979 to 2008 from COMPUSTAT. We find that, during weak economic cycles, geographic expansions result in sustained long-term profitability. Specifically, firms' geographic expansion decisions contribute 5.4% and 3.9% per year to industry-adjusted annual return on assets (ROA) over 4- and 5-year periods, respectively. On the other hand, geographic divestures enacted during a weak economy do not help improve firm performance. Moreover, both strong and weak economic conditions enhance performance of geographic expansion over two years but have no long-term effects. Finally, the state of the economy during which time geographic divesture takes place does not affect subsequent operating performance.

JEL: F2, L1, L25

KEYWORDS: Geographic Diversification and Divesture, Operating Performance, Resource-Based View

INTRODUCTION

The conjecture that major corporate investment decisions are highly influenced by market cycles has been studied extensively in the business literature. For example, Baker, Stein and Wurgler (2003) show that stock price has a huge impact on equity-dependent firms' investment decisions. Similarly, it is found that mergers and acquisitions (M&A) are often affected by concurrent equity market movements. In general, when equity price is near its peak, more M&A activities take place. Shleifer and Vishny (2003) present evidence that M&A decisions are driven by the conditions in the equity market. In terms of real economy, during the "dot-com" bubble from 1998 to 2000, there were over $1.5 trillion worth of merger and acquisition announcements per year in the U.S. market; while in 2001, after the bubble burst, there were only half as much (Rhodes-Kropf and Viswanathan, 2004). Again, in 2006 and 2007 when stock indices hit new high in all major equity markets, a record number of mergers and acquisitions took place all over the world (finance.mapoftheworld.com). Interestingly, an adverse development in the stock market often triggers companies to scale down their operations as well. Such swamp into mergers and acquisitions in a good economy and the rush into divesture during economic downturn have been well documented in the business press. For instance, PWC' 2009 survey of US executives on divestiture activities revealed that 69% of the respondents planned similar or increased level of divestiture activity in 2010 after the market crash of 2008 and 2009. However, whether these investment decisions result in favorable financial returns has not been fully examined yet. The objective of the study is to empirically document the extent to which the economic cycle impacts firms' operating performance subsequent to an important corporate investment decision, *namely geographic diversification and divesture*.

To examine the impact of different economic states on firms' geographic diversification decisions, we first classify the U.S. economic condition into three categories, strong, stable, and weak, based on the U.S. annual Gross Domestic Product (GDP) growth rate. We define an economy as "strong" when the annual U.S. GDP growth rate is above 4%, and "stable" when the annual GDP grown rate is between 2.5% and 4%; A "weak" economy is reached when the U.S. annual GDP growth is less than 2.5%. We, then, measure each firm's operating performance subsequent to its geographic diversification or divesture using 2-year, 3-year, 4-year, and 5-year average return on assets (ROA) and net profit margin (also known as return on sale, or ROS). We obtained financial data from COMPUSTAT Business Information File to calculate ROA and ROS from 1979 to 2008. Our regression results show that, geographic expansions that are initiated during weak economic cycles lead to higher excess accounting returns in the medium term (4- and 5-year). On average, they increase industry-adjusted ROA by 5.4% and 3.9% per year over 4- and 5- year periods, respectively. Contrary to a popular belief, geographic divestures in response to adverse economic conditions do not result in better financial performance after controlling for firm size. On the other hand, we find that economic conditions can positively affect performance subsequent to geographic expansion in the intermediate term – two years, but not long term. Performance after divesture is not affected by any economic state.

In sum, we extend the literature by empirically documenting that the relationship between geographic diversification/divesture and profitability varies across different economic states. We show that geographic diversification decision made when the economy is in the upward trend does improve long-term performance. Moreover, economic conditions only show short term effects on diversification performance. Our evidence is consistent with our hypothesis that macroeconomic conditions could positively affect firms' ability to transfer their competitive advantages when they expand to new geographic territories. The remainder of the paper is organized as follows: in Section 2, we review the relevant literature and presents our hypotheses; in Section 3, we summarize our data and describe our research methodology; Section 4 reports empirical findings; and we discuss our conclusions in the final section.

LITERATURE REVIEW

Diversification decisions are among the most important decisions that firms make. Logically speaking, diversification allows firm to expand and grow into different product or geographic markets to seek better performance. In academic research, different hypotheses regarding the effect of diversification on firm performance have been developed in several disciplines. The strategic management literature posits that diversified firms achieve better performance due to the synergy effect or improved market power (Palich et al., 2000). Studies in the economics literature postulate that, diversification creates an economy of scale (Saunders, 1994), which reduces marginal cost; and in return it leads to better operating results. Stein (1997) proposes that diversified conglomerates can build an efficient internal capital market, which allows them to centralize capital resources and to allocate funds for capital expenditures without additional external scrutiny. Finally, research also shows that diversification can lower a firm's overall risks because the negative impact of one faltered operation could be offset by the stronger performance of other operations within the same enterprise. Taken together, a firm's performance is expected to improve as it diversifies.

However, the return on diversification is not unanimously positive in reality. For instance, from 1980s to 1990s, the business world actually witnessed a trend moving from diversification to specialization (Comment and Jarrell, 1995). Many diversifications were associated with disappointing results rather than superior performance. Two strands of research have tried to explain the discrepancy between the theory and the reality. In the economics and finance literatures, many researchers argue that the advantages of diversification are often driven away by the increased costs due to the managers' self-interests in empire-building (Roll, 1986) or more executive compensations (Yermack, 1996). Jensen and Meckling (1979) coin such value-destroying effect caused by managers' self-interests as "agency cost".

The management literature posits that the inconclusive relation between diversification and performance is associated with the degree of relatedness of business units when they are combined together. In his seminal study, Rumelt (1974) pioneers the idea that only related diversification can deliver better performance. Many subsequent studies find supportive evidence (e.g., Palepu, 1985, Simmonds, 1990; Singh and Montgomery, 1987). Theoretically, the resource-based view (RBV) also provides compelling explanations in support of Rumelt's hypothesis. RBV contends that only efficient or successful resource sharing will result in improved operating performance. Wan et al. (2011) find that some specialized resources owned by a firm may not be mobile or easily transferrable across unrelated product markets. When such resources are shared within related or similar business units, they help create the economy of scale and increase profits. On the other hand, if these resources are shared among unrelated business units, the costs associated with processing the immobility or untransferrability of resources will outweigh the intended benefits and eventually reduce the firm's profits. Palich et al. (2000) document that; a U-shaped relationship exists between diversification and performance depending upon the mobility of firm resources.

The literature on diversification generally distinguishes between product (both physical products and services) diversification and geographic diversification. Geographic diversification is defined as a firm chooses to expand into new geographic areas. Over the last two decades, as it becomes easier and less costly to transfer capital cross boarders, corporations have been aggressively entering into new territories, global markets in particular. As a result, geographic diversification also attracted a lot of academic research. The benefits and costs of geographic diversification have been analyzed from a variety of perspectives. Geographic diversification is often stimulated by a maturing home market (Wan, 2005), the desire to reduce overall risk exposure (Cotugno and Stefanelli, 2012), achieving synergy (Saunders, 1994) in order to reduce production costs, developing economy of scale and scope, increasing organizational learning, and taking advantage of the inter-relatedness among business segments and geographic areas (Chao, Seung, Zhao, and Hsu, 2012). Different hypotheses on the success or failure of diversification strategies within a country, a region (such as the European Union or North America), or international markets have also been developed. Common factors that affect the performance of geographic diversification are the culture similarities or distance, political and legal environment, and economic policies (see Chiang and Harris, 2013, for a review). Similar to the findings in product diversification research, empirical studies of geographic diversification showed mixed results in terms of firm performance (Gande, Schenzler, and Senbet, 2009; Ruigrok, Amann, and Wagner, 2007).

In many cases, multinational diversity is found to be more profitable than product diversity (Baele and Inghelbrecht, 2007; Freund, Trahan, and Vasudevan, 2007; Gande, Schenzler and Senbet, 2009; Kyaw, Manley, and Shetty, 2011). However, geographic diversification must be contained within limits, lest firms become stretched too far (Qian, Li, Li, and Qian, 2008; Wiersema and Bowen, 2008). Meanwhile, contingencies are often found to affect geographic diversification performance. For example, Kyaw and Zong (2011) show that, investing in developing countries create extra value for U.S.-based multi-national corporations, while investing in advanced countries has a negative impact on their performance. Diversification strategies are more likely to lead to superior performance in specific home country environments (Barnes and Hardie-Brown, 2006; Wan and Hoskisson, 2003). In extreme cases, geographic diversification may cause losses, due to the costs of learning to operate in a new environment, as well as those related to creating a more complex organization (Deng and Elyasiani, 2008). However, the extant literature has neither examined the return to firms' geographic divesture decisions, nor has any research looked into how firm performance may be affected by the macroeconomic conditions under which diversification or divesture decisions are made.

To address this void, we investigate the performance of firms' strategic decisions on geographic diversification and divesture across two different economic states in the present study. We first classify the economic status into three states: weak, strong, and uncertain, and then conduct our analysis on the former two states. We postulate that the macroeconomic climate affects the performance of geographic

diversification or divesture. Building upon the resource-based view (RBV) in product market diversification and performance research, we argue that the economic conditions under which a firm diversifies into (out) different geographic regions affect the firm's ability to transfer and share its key resources. Such ability will, in turn, affect the performance afterwards. In a weak and recessionary economy, stock price declines across board and market sentiment turns pessimistic. Under these conditions, companies face reduced future cash flows, fewer growth opportunities, and less certain investment environment. To compensate for such high-risk/low-return setting ex ante, companies demand more scrutiny when they adventure to new geographic territories. Moreover, due to depressed stock prices, investments are more likely to be made with cash, and companies will be motivated to take advantage of undervalued equity price when acquiring other companies (Kusewitt, 1985; Rhodes-Kropf and Viswanathan, 2004). Taken together, depressed economic conditions drive firms to be more selective, which improves firms' capability in successfully managing assets and enhancing their ability to transfer and share specialized resources when they diversify into different geographic regions. Divesture activities during economic downturn should also help firms consolidate their resources as less profitable or inefficient units are reduced. Performance is expected to improve accordingly as well. On the other hand, when the economy becomes stronger, equity price rises and more capital will be available. More importantly, affluent capital supply motivates firms to commit more capital investments, such as geographic expansions, with less contemplation.

For example, Kusewitt (1985) find that more expansionary strategies are enacted when stock markets are following an upward momentum, which often increases the likelihood to over-expand and to over-pay for acquisitions. Such optimism-induced business strategies could increase the likelihood of less prudent decisions and weakens firms' capability in successful resource transferring and sharing. Nevertheless, better economic condition is also associated with easier and cheaper capital. As the cost of capital decreases, firms become more profitable in general. Therefore, we argue that, in strong economic status, whether geographic diversification will lead to better performance depends on the relative strength of the two opposite effects. If the positive effect of easy capital outweighs (underweights) the negative effect of less prudent decisions, geographic diversification strategies taken in strong economy will lead to better (worse) performance. The case of divesture overwhelmingly occurs during economic downturn. Divesture during strong economic state does not appear to merit any specific examination. In addition, we are not certain how firms will perform when they diversify or divest within an uncertain economic status. Given the amount of confounding effects, it is beyond the scope of this paper. We summarize our hypotheses as the following: *Hypothesis 1: Ceteris paribus, geographic expansion or divesture in a weak economy will result in better performance. Hypothesis 2: Geographic expansion in a strong economy will result in better (worse) performance if easy capital outweighs (underweights) less prudent decisions.*

DATA AND METHODOLOGY

Data

Most researchers who include macroeconomic conditions in their studies of diversification have only used short-term metrics as reflected by stock prices. The time frame of these measures tends to only include the period of time during which the decision takes place. For example, Lubatkin and O'Neill (1987) use stock prices in the days preceding and following a merger to define the market state. In studying stock price response to diversification announcements, Lubatkin and Chatterjee (1991) define an economic cycle by the direction of Value Line's stock market composite. A bear cycle represents a general downward movement lasting at least six months, a bull cycle represents a general upward movement of the same duration, and a stable cycle represents at least a six-month period that shows no discernible movement. Within the same vein, Kusewitt (1985) uses the ratio of the average of S&P 500 index of the third month prior to the acquisition to the average of S&P 500 index of the transaction month in order to determine the market sentiment.

In this study, we first classify the economy into three states: weak, stable, and strong based on the annual U.S.

Gross Domestic Product (GDP) growth rate. The economy is classified as "weak" if the rate is less than 2.5%, "stable" if the rate falls between 2.5% and 4%, and "strong" if the rate is above 4%. We use the growth rate of GDP level to measure the state of economy for the following reasons: (1) We are primarily interested in the longer-term operating results of corporate geographic investment strategies. GDP captures economic status and sentiment and matches the long-term performance we intend to examine. (2) Many studies have shown that contemporaneous stock returns often correlate with subsequent operating performance due to the transaction costs associated with corporate investments (Bouwman, Fuller, and Nain, 2009; Rhodes-Kropf and Viswanathan, 2004; Wan and Hoskisson, 2003). GDP, on the other hand, is not directly related to the transaction cost of geographic investment decisions. Therefore, using GDP to measure macroeconomic states makes our test on subsequent firm performance more statistically powerful.

Despite the large body of research on geographic diversification and divesture, there is no consensus on how to measure the outcome of these strategies, which also explains some discrepancies in past findings. Approaches vary along several dimensions. Common metrics include both subjective and qualitative assessments and objective measurements, such as financial and accounting figures. Interestingly, researchers who have attempted both qualitative and quantitative measures often find no correlation between these performance criteria (Papadakis and Thanos, 2010). Moreover, the time frame of performance measure also differs greatly, from short-term horizons (e.g., a few days before and after the acquisition announcement) to long-term time ones (up to five years after the merger or acquisition is completed) (Zollo and Meier, 2008). Short-term windows are by far the most frequently used in evaluating acquisition performance (Zollo and Meier, 2008), but a longer time period is better suited to determine the sustained performance (Fang, Wade, Delios, and Beamish, 2007; Hyland, 2008). The most common performance measures include stock returns and accounting returns. In the present study, we choose to measure performance using accounting returns for the following reasons: (1) Stock prices are often affected by market-wide factors (Barnes and Hardie-Brown, 2006; Savor and Lu, 2009; Shahrur and Venkateswaran, 2009). Systematic risks play an important role in determining stock returns and they are not directly related to firm-specific investment decisions. (2) Stock price has been shown to be a better proxy of measuring market expectation rather than company performance itself (Zollo and Meier, 2008). (3) Equity price may be confounded by political and economic conditions beyond conventional geographic territory. For example, the stock price of a non-U.S. company is strongly influenced by the extent of the company's non-domestic activities (Lombard, Roulet, and Solnik, 1999) and capital flows within the U.S. (Kalemli-Ozcan, Reshef, Sørensen, and Yosha, 2010). Given these concerns, we choose accounting measures.

Our primary metric is return on assets (ROA). ROA shows how profitable a company is relative to its total assets, and it is calculated as earnings before interest and taxes scaled by total assets (also known as EBITOA). ROA allows us to avoid any potential taxation issues (Wan and Hoskisson, 2003). We employ longer-term measurement periods (i.e., 2- to 5-year average ROA) to overcome the potential issues of managerial manipulation of accounting earnings (Akbulut and Matsusaka, 2010). As well, we believe that the consequence of a corporate strategy often does not reveal itself immediately. Documenting the operating results up to a 5-year period facilitates a better understanding of the longer-term effects of different geographic investment strategies. Moreover, since raw ROA varies significantly across different industries, we use excess return on assets (XROA) to control for industry effects. XROA is calculated by subtracting the median ROA of each firm's 2-digit SIC industry from its raw ROA. We compute the average XROA over 2 to 5 years subsequent to geographic diversification or divesture decisions.

Our alternative measure is profit margin. Profit margin shows a company's profitability as a percentage of its total revenue. We calculate it as earnings before interests and taxes divided by revenue. Similar to XROA, to control for industry effects we employ abnormal profit margin (XPM), which is the firm's profit margin minus the median profit margin of its 2-digit SIC industry. The average abnormal profit margin is also measured over 2-5 years following geographic diversification or divesture. In addition, we include several variables that have been found to affect the results of diversification studies as controls. 1) Experience: A firm's previous experience with diversification may influence its success in later diversification decisions. However, the sign

of such effect is uncertain. On one hand, higher diversification rates may lead to greater success due to prior experiences. On the other hand, high diversification rates could lead to problems with absorbing too many new businesses (Kusewitt, 1985; Markides, 1995). The variable "Experience" in this study counts the number of times that the firm has expanded (divested) geographically before to control for firms' past experiences. 2) Size: larger firms consistently engage in a larger degree of diversification activities (Borghesi, 2008; Kyaw and Zong, 2011). In this study, the natural logarithm of the firm's total assets at the beginning of each year is employed to measure firm size. 3) Concentration: concentration represents the degree of business concentration in any geographic segment. It is computed as the sum of square of the percentage of each geographic segment's sales relative to total sales. We obtain financial data from Standard & Poor's COMPUSTAT Business Information File (BIF) for the period of 1979-2008, subject to the availability of variables used in the regression models. BIF contains company self-disclosed segment information, including each company's 4-digit Standard Industrial Classification (SIC) code, its number of geographic segments, total assets, the number of employees, net income, various expenses of each segment. Firms in the finance industry were excluded because their accounting information cannot be easily compared with those in other industries. Table 1 presents the summary statistics. Panel A shows the statistics for all cases during the sample period, while Panels B and C report descriptive statistics for diversification and divest subgroups respectively.

The median firm of all cases had $150.747 million in sales, $198.436 million in assets and employed 542 people. Firms had between 1 and 31 geographic segments during the sample period, with more than half of the observations having only one geographic segment as shown by the median of segments. While the median firm earned a 5% return on assets (ROA), the average ROA of all firms is negative 12.44 %. Of the total 24,108 firm-year observations, 6,154 (25.6%) observations experienced geographic expansions during 1979 and 2008, and 392 (1.6%) observations had geographic divestiture. The remaining cases (about 70% of 24,108 observations) observations showed no change in geographic composition. The following empirical analysis will *only* focus on diversification (6,154 cases) and divesture (392 cases) subgroups. The firms in the expansion subsample ranged from having no experience with geographic expansion to having expanded five times previously. More than half of the observations in this subgroup have no prior experience with such activity. The firms that divested geographic segments were larger in size in terms of sales, assets, and numbers of employees. The firms in the divestiture subgroup also ranged from the most experienced firm that has contracted six times previously to having no prior experience. At first glance, firms learn to enter and leave different markets as they become more experienced in geographic expansion.

Methodology

To test the effect of geographic diversification/divesture decision on subsequent performance, we run the following regression model, Model I, using panel data for strong and weak economic status respectively. Model I is specified as the following:

$$XROA_n = a_0 + a_1 Expansion + a_2 Divesture + a_3 Size + a_4 Experience + a_5 Concentration + \varepsilon$$

XROA denotes Excess Return on Assets. It is calculated as the return on assets for the firm-year observation less the median return on assets of the firm's industry with the same 2-digit SIC code. $XROA_n$ is the average annual Excess Return on Assets for the firm year observation over *n* years; Expansion is an indicator variable. It is equal to 1 if the firm has more geographic segments than the year before. Divesture is an indicator variable. It is equal to 1 if the firm has fewer geographic segments than the year before. The remaining variables are as defined earlier. In this model, the impact of a geographic expansion (divestiture) on performance alone is reflected in the coefficient a_1 (a_2). All other unaccounted factors are pooled in the intercept term, a_0. Total excess returns after geographic expansion (divestiture) will be reflected in a_0+a_1 (a_0+a_2). To show different effects of different economy status, we run the regression separately for strong and weak economy. In the weak economy, we expect both a_1 and a_2 to be positive as firms become selective and efficient (Hypothesis 1). Under strong economy, we expect a_2 to be positive and significant since geographic expansion is hypothesized to improve

firm performance if cheaper capital outweighs other concerns (Hypothesis 2). However, a_1 is unclear since limited evidences have been found under such condition.

Table 1: Summary Statistics of the Sample Firms

Panel A: All Firm-year Cases During 1979 – 2008						
	Mean	**Median**	**Min**	**Max**	**Std. Dev.**	**N**
Total sales (millions)	$1,938.86	150.75	0	374,526	10,085	24,108
Total assets (millions)	4,126.29	198.44	0	2,017,263	42,533	24,108
# Employees	6,511.46	542	0	905,766	28,383	24,108
# Geographic Segments	1.45	1	1	31	1.41	25,232
Return on Assets (%)	-12.44	5.21	-37,150	2,185	391	17,275
Panel B: Firms That Diversified Geographically (25.6% of all cases)						
	Mean	**Median**	**Min**	**Max**	**Std. Dev.**	**N**
Total sales (millions)	1,992.66	95.53	0	374,526	12,160	6,154
Total assets (millions)	4,656.10	133.79	0	1,916,658	52,852	6,154
# Employees	6,122.34	393	0	905,766	29,458	6,154
# Geographic Segments	1.78	1	1	31	1.82	6,750
Return on Assets (%)	3.25	4.77	-116.58	64.66	22.55	207
Experience	0.18	0	0	5	0.45	6,750
Panel C: Firms That Divested Geographic Segments (1.6% of all cases)						
	Mean	**Median**	**Min**	**Max**	**Std. Dev.**	**N**
Sales (millions)	8,423.56	610.85	0	184,632	21,175	392
Assets (millions)	25,406.43	840.99	0.079	2,017,263	146,379	392
# Employees	22,787	2,700	0	905,766	48,766	392
# Geographic Segments	1.45	1	1	31	1.41	372
Return on Assets (%)	-12.44	5.21	-37,150	2,185	391	156
Experience	0.19	0	0	6	0.50	6,824

Note: We obtain annual sales, total assets, the number of employees, and the number of geographic segments from COMPUSTAT Business Information File over the period of 1979-2008. "Experience" counts the number of times that the firm has expanded (divested) geographically before. Table I presents summary statistics for these variables for all cases, the diversification subgroup, and divesture subgroup.

To test the effect of economic condition on the operating results of geographic divestiture and divesture strategy, we run the following regression, Model II, using panel data approach. We separate diversification and divesture in two regressions as well. Model II is specified as the following:

$$XROA_n = b_0 + b_1 Weak + b_2 Strong + b_3 Size + b_4 Experience + b_5 Concentration + \varepsilon$$

"Weak" is an economic state indicator variable. It is equal to 1 if the firm expanded geographically in a year when the annual GDP growth rate is less than 2.5%; "Strong" is another economic state indicator variable. It is equal to 1 if the firm expanded geographically in a year when the annual GDP growth rate is more than 4%; other variables are as defined earlier. In this model, weak and strong are the dummy variable, which indicate the status of the economy in year *n*. Control variables are defined in the same way as in Model I. For the divesture subsample, we expect b_1 to be positive and significant for divesture (Hypothesis 1) but uncertain for expansion. The coefficient of 'strong' dummy, b_2, should be significant but sign is uncertain for expansion (Hypothesis 2) and insignificant for divesture.

We choose a panel data analysis approach because each firm may have multiple years of data, so throughout the sample period, a firm could experience geographic expansion and/or contraction multiple times. A panel data analysis is appropriate in this case as it takes into consideration the heterogeneity in both cross-sectional and time-series dimensions. Such application of regression models is more complex than those for simple cross-sectional data sets but can reveal the dynamics that are difficult to detect with cross-sectional data (Dougherty, 2007).

RESULTS

In the first pass, we examine the median $XROA_s$ with different economic status and geographic strategies. We summarize the results in Table 2. Based on these findings, geographic divestiture appears to be the one that resulted in a more consistently positive excess return on assets regardless of economic condition. Neither of these two specific geographic strategies seems to stand out as the "better one" in a strong economy. The better strategy in a weak economy would appear to be divesture, as it results in positive excess average returns on assets over 3-, 4-, and 5-year period.

Table 2: Median Excess Returns on Assets over 5-year Period

Panel A: Operating Performance Subsequent to Diversification or Divesture in a Weak Economy			
	Expansion	**No Change**	**Divestiture**
$XROA_2$ (%)	-1.105	-0.740	-0.431
$XROA_3$ (%)	-1.039	-0.655	0.116
$XROA_4$ (%)	-0.928	-0.559	1.403
$XROA_5$ (%)	-1.006	-0.620	0.596
Panel B: Operating Performance Subsequent to Diversification or Divesture in a Strong Economy			
$XROA_2$ (%)	-1.441	-1.104	-2.254
$XROA_3$ (%)	-1.394	-0.983	-2.399
$XROA_4$ (%)	-1.190	-0.912	-2.966
$XROA_5$ (%)	-1.025	-0.732	N/A

Note: "XROA" represents Excess Return on Assets. It is calculated as the return on assets for the firm-year observation less the median return on assets of the firm's industry with the same 2-digit SIC code."$XROA_n$" is the average annual Excess Return on Assets for the firm year observation over n years. Table 2 summarizes average $XROA_n$ subsequent to diversification or divesture under weak economy in Panel A and under strong economy in Panel B, respectively.

The analysis shown in Table 2, however, does not take into account the other factors that may have contributed to the variation in excess return on assets, such as firm size, past experience of a strategy, and the firm's degree of concentration in a geographic area. Therefore, a panel study analysis is conducted using regression Model I and II, which controls for these effects. Both models were specified in Section 3. We first jointly test the effects of different strategies under different economic conditions. Findings are shown in Tables 3 and 4. Table 3 reports the results of different geographic strategies taken in a weak economy. The coefficients for geographic expansion are statistically significantly positive in years 4 and 5, which implies that expanding geographically (as opposed to remaining unchanged) in a weak economy results in sustained higher excess return on assets as we predicted. Expansion in a weak economy contributes on average 5.4% and 3.9% per year to industry-adjusted ROA over 4- and 5-year periods, respectively. Consistent with our hypothesis, as firms become more selective, geographic diversification leads to improved performance. Divesture does not show any significance in helping boost performance during the weak economy. None of the variables are significant at the conventional levels. Consolidating resources in weak economy seems more complicated than it appears.

Table 3: Regression Results for Geographic Decisions Made in Weak Economy

	Intercept	Expansion	Divestiture	Firm Size	Experience	Concentration	N
$XROA_2$	-3.32***	0.068	0.048	0.472***	-0.006	0.123	7,154
$XROA_3$	-0.47*	-0.007	0.020	0.103***	0.016**	-0.219	5,860
$XROA_4$	-0.55	0.054*	-0.018	0.116***	0.015	-0.235	5,012
$XROA_5$	-0.45	0.039**	-0.005	0.099***	-0.004	-0.214	4,285

*Note: "XROA" represents Excess Return on Assets. It is calculated as the return on assets for the firm-year observation less the median return on assets of the firm's industry with the same 2-digit SIC code."$XROA_n$" is the average annual Excess Return on Assets for the firm year observation over n years. "Expansion" is an indicator variable. It is equal to 1 if the firm has more geographic segments than the year before. "Divestiture" is an indicator variable. It is equal to 1 if the firm has fewer geographic segments than the year before. "Firm Size" is calculated as natural log of the firm's total assets at the beginning of the year. "Experience" indicates the number of times the firm diversified (divested) prior to the firm-year observation when the "Diversification" ("Divestiture") indicator variable is 1. "Concentration" represents the degree of business concentration. It is calculated as the sum of square of the percentage of each geographic segment sales. *: significant at 10% level, ** significant at 5% level, ***: significant at 1% level.*

Table 4 presents the results of different geographic strategies taken in a strong economy. None of these coefficients are significant at the conventional level, which indicates that no specific strategy alone appears to yield any additional return on assets when economy is in an upward trend. According to our hypothesis II, it appears that less prudent decisions compromise cheaper financing resources to some extent. Interestingly, intercepts are significant in all four different measuring periods. We contend that, even though diversification or divesture alone does not necessarily produce any noticeable effect, they might interact with other unidentified factors and actually reduce firm profitability.

Table 4: Regression Results for Geographic Decisions Made in Strong Economy

	Intercept	Expansion	Divestiture	Firm Size	Experience	Concentration	N
$XROA_2$	-0.68***	0.018	-0.029	0.102***	-0.005	0.031	4613
$XROA_3$	-0.65***	0.002	-0.006	0.092***	-0.006	0.091	3736
$XROA_4$	-0.50***	0.017	0.009	0.072***	0.002	0.039	3136
$XROA_5$	-0.76**	0.023	0.023	0.092***	0.001	0.191	2682

*Note: "XROA" represents Excess Return on Assets. It is calculated as the return on assets for the firm-year observation less the median return on assets of the firm's industry with the same 2-digit SIC code. "$XROA_n$" is the average annual Excess Return on Assets for the firm year observation over n years. "Expansion" is an indicator variable. It is equal to 1 if the firm has more geographic segments than the year before. "Divestiture" is an indicator variable. It is equal to 1 if the firm has fewer geographic segments than the year before. "Firm Size" is calculated as natural log of the firm's total assets at the beginning of the year. "Experience" indicates the number of times the firm diversified (divested) prior to the firm-year observation when the "Diversification" ("Divestiture") indicator variable is 1. "Concentration" represents the degree of business concentration. It is calculated as the sum of square of the percentage of each geographic segment sales. *: significant at 10% level, ** significant at 5% level, ***: significant at 1% level.*

To isolate each strategy and test the effect of economic condition, Model II regress both economic indicators onto performance for divesture and diversification subsamples respectively. We present the findings in Tables 5 and 6. Table 5 reveals the results of geographic expansion made in different economic states, while Table 6 presents the results of geographic divesture subsample. In both tables, intercepts are negative, which is consistent with the findings in Table 3 and Table 4. Looking across Tables 5 and 6, the intercept terms are more negative in the earlier years than in later years for the geographic expansion group (Table 5) and the geographic divesture group (Table 6). These findings are consistent with the fact that immediate expense incurs in early years of expansion and contraction, thereby reducing immediate-term returns.

In Table 5, the coefficients for both economic indicators in row 1 are statistically positive, implying that economic conditions affect the performance after geographic expansion in a positive fashion, but such advantage can only sustain for a short period of time. We argue that these advantages are attained either by having cheaper and more readily available capital during a strong economy or by more prudent contemplation

during weak economy contributes, both of which offset the immediate expenses after expansion. And more importantly, these benefits appear to be short-lived. Coefficients are much smaller in the 3-year, 4-year and 5-year regressions and become insignificant. With regard to geographic divesture, the results reported in Table 6 suggest that the state of the economy under which a firm reduces its geographic spread does not seem to affect firm performance. There are several reasons why the results are not in line with our predictions. It is possible that firms' performance after divesture is also related to other structural changes, such as layoff and reduction in R&D, which requires more detailed information that is not contained in our current data source. Future research on these topics will help discern what specific factors contribute to the success or failure of geographic divestures.

Table 5: Regression Result for Firms That Expanded Geographically

	Intercept	Weak Economy	Strong Economy	Firm Size	Experience	Concentration	N
$XROA_2$	-2.63***	0.282***	0.316***	0.357***	-.0126	0.013	4607
$XROA_3$	-0.90***	-0.089	0.123	0.122***	-0.017	0.166	3494
$XROA_4$	-0.78***	0.057	0.045	0.100***	0.026	0.115	2767
$XROA_5$	-0.89***	0.066	0.038	0.103***	0.006	0.200	2213

*Note: "XROA" represents Excess Return on Assets. It is calculated as the return on assets for the firm-year observation less the median return on assets of the firm's industry with the same 2-digit SIC code. "$XROA_n$" is the average annual Excess Return on Assets for the firm year observation over n years. "Weak Economy" is an indicator variable. It is equal to 1 if diversification took place when the annual GDP growth rate is less than 2.5%. "Strong Economy" is an indicator variable. It is equal to 1 if diversification took place when the annual GDP growth rate is more than 4%. "Firm Size" measures the size of the firm. It is calculated as natural log of the firm's total assets at the beginning of the year. "Experience" indicates the number of times the firm expanded geographically prior to the firm-year observation. "Concentration" represents the degree of business concentration. It is calculated as the sum of square of the percentage of each geographic segment sales. *: significant at 10% level, ** significant at 5% level, ***: significant at 1% level.*

Table 6: Regression Result for Firms That Divested Geographically

	Intercept	Weak Economy	Strong Economy	Firm Size	Experience	Concentration	N
$XROA_2$	-0.52***	-0.081	-0.048	0.065***	0.078	0.135	193
$XROA_3$	-0.47***	-0.049	0.004	0.056***	0.094	0.125	145
$XROA_4$	-0.11	-0.019	-0.053*	0.029	0.007	0.093	89
$XROA_5$	n/a	n/a	n/a	n/a	n/a	n/a	

*Note: "XROA" represents Excess Return on Assets. It is calculated as the return on assets for the firm-year observation less the median return on assets of the firm's industry with the same 2-digit SIC code. "$XROA_n$" is the average annual Excess Return on Assets for the firm year observation over n years. "Weak Economy" is an indicator variable. It is equal to 1 if divesture took place in a year when the annual GDP growth rate is less than 2.5%. "Strong Economy" is an indicator variable. It is equal to 1 if divesture took place in a year when the annual GDP growth rate is more than 4%. "Firm Size" is calculated as natural log of the firm's total assets at the beginning of the year. "Experience" indicates the number of times the firm divested prior to the firm-year observation. "Concentration" represents the degree of business concentration. It is calculated as the sum of square of the percentage of each geographic segment sales. *: significant at 10% level, ** significant at 5% level, ***: significant at 1% level.*

To test the robustness of our tests against different variable measurement, we conduct the same statistical analysis using abnormal profit margin (XPM) as the measure of firm performance. Although the results are not reported here, they are qualitatively similar to the findings using excess return on assets. Additionally, we run our regression analyses using both Maximum Likelihood (ML) and Residual Maximum Likelihood (REML) estimators. The results are not reported here, but they are qualitatively similar as well.

CONCLUDING COMMENTS

Corporate strategic decisions have substantial impact on their performance in the future. These decisions are constantly affected by concurrent economic status. The goal of this study is to explore the performance of geographic diversification and divesture decisions made during positive and negative economic environments. Prior empirical studies have not provided consistent findings, thus the present study is designed to shed some

light on such discrepancy. Specifically, we examine the effect of different economic status on the performance subsequent to geographic divesture and expansion strategies.

Our results show that, expansion during weak economic conditions lead to better long-term performance. Expansion contributes to industry-adjusted return on assets by 5.4% and 3.9% per year over 4- and 5-year periods, respectively. Contrary to the conventional view, divesture during economic downturn does not directly provide any positive financial outcome. We also test how different economic conditions affect both strategies. Our results also suggest that both strong and weak economic conditions help yield higher excess returns over a two-year period for corporations that expanded geographically. However, no long-time effect is statistically significant in our findings. Taken together, we argue that during weak economy, firms are more selective and more cautious about their investment, expansion in particular. Such prudence makes firms more successful in sharing their competitive edges and become more competitive, which eventually lead to better than average performance. Divesture during economic down time does not appear to be a quick fix as many have expected.

Finally, our results need to be interpreted with some cautions. Our sample is biased toward expansion subgroup, which may partially explain why such strategy presents more statistically significant results. As well, we have not included the interaction between economic status and diversification/divesture decisions. Future research can shed more light by addressing these issues.

REFERENCES:

Akbulut, M. & Matsusaka, J. (2010) "50+ Years of diversification announcements", *Financial Review,* 45, p. 231-262

Baele, L, & Inghelbrecht, K (2007) "Time-varying integration and international diversification strategies" EFA 2006 Zurich Meetings Paper. Available at SSRN: ssrn. com/ abstract = 852665, accessed August 31, 2011

Baker, M., J. Stein & Wurgler, J (2003) "When does the market matter? Stock prices and the investment of equity-dependent firms" *Quarterly Journal of Economics,* 118(3): p. 969-1005

Barnes, E. & Hardie-Brown, G (2006) "The diversification puzzle: Revisiting the value impact of diversification for UK firms" *Journal of Business Finance & Accounting*, 33 (9&10): p. 1508-1534

Bouwman, C., Fuller, K., & Nain, A. (2009) "Market valuation and acquisition quality: empirical evidence", *Review of Financial Studies,* 22, p. 633-679

Borghesi, R., (2008) "Value, Survival, and the evolution of firm organizational structure", *Financial Management*, Vol. 36 (3), p. 5-31

Chao, M.C-H., Seung, H.K., Zhao, H., & Hsu, C-C (2012) "Performance implications of MNEs diversification strategies and institutional distance", *Thunderbird International Business Review*, 54(5): p. 667-681

Chiang, C. & Harris, C (2013) "Geographic Diversification and the US Economy", Proceedings, The Eastern Academy of Management International Conference, Seville, Spain, June, 2013

Comment, R. & Jarrell, G.A. (1995) "Corporate Focus and Stock Returns", *Journal of Financial Economics*, 37 (No. 1): p. 67-87

Cotugno, M., & Stefanelli, V. (2012) "Geographical and product diversification during instability financial period: Good or bad for banks?", *International Research Journal of Finance and Economics*, 85: p. 87-100

Deng, S., & Elyasiani, E. (2008) "Geographic diversification, bank holding company value, and risk", *Journal of Money, Credit and Banking,* 40(6): p. 1217-1238

Dougherty, C. (2007) "Chapter 14: Introduction to Panel Data Models", *Introduction to Econometrics*, Oxford University Press: p. 408-423

Fang, Y., Wade, M., Delios, A., & Beamish, P.W. (2007) "International diversification, subsidiary performance, and the mobility of knowledge resources", *Strategic Management Journal*, 28: p. 1053-1064

Freund, S., Trahan, E.A., & Vasudevan, G.K. (2007) 'Effects of global and industrial diversification on firm value and operating performance", *Financial Management*, Winter: p. 143-161

Gande, A., Schenzler, C., & Senbet, W. (2009), 'Valuation effects of global diversification', *Journal of International Business Studies,* Vol. 40 (9), p. 1515-1532

Hyland, D.C. (2008) 'The long-run performance of diversifying firms", *Journal of Economic Finance*, 32: p. 294-310

Jensen, M. & Meckling, W. (1979) "Theory of the Firm: Managerial Behavior, Agency Cost, and Ownership Structure", *Economic Social Institutions*: p. 163-231

Kalemli-Ozcan, S., Reshef, A., Sørensen, B.E., & Yosha, O. (2010) "Why does capital flow to rich states?", *The Review of Economics and Statistics,* 92(4): p. 769-783

Kusewitt, Jr., J.B. (1985) "An exploratory study of strategic acquisition factors relating to performance", *Strategic Management Journal* 6(2): p.151-169

Kyaw, N.A., Manley, J., & Shetty, A. (2011) "Factors in multinational valuations: Transparency, political risk and diversification", *Journal of Multinational Financial Management*, 21(1): p. 55-67

Kyaw, N.A, & Zong, S. (2011) "The influence of geographic location on performance of US-based multinationals: An empirical analysis", *Journal of International Finance and Economics*, 11(1): p. 91-109

Lombard, T., Roulet, J., & Solnik, B. (1999) "Pricing of domestic versus multinational companies", *Financial Analysts Journal*, March/ April: p. 35-49

Lubatkin, M., & Chatterjee, S. (1991) "The strategy shareholder value relationship: Testing temporal stability across market cycles", *Strategic Management Journal*, 12: p. 251-270

Lubatkin, M., & O'Neil, H. (1987), "Merger strategies and capital market risk", *Academy of Management Journal*, Vol.30, No. 4, p. 665-684

Markides, C.C. (1995) "Diversification, restructuring and economic performance", *Strategic Management Journal*, 16(2): p. 101-118

Palepu, K. (1985) "Diversification strategy, profit performance and the entropy measure", *Strategic Management Journal*, 6 (3): p. 239-255

Palich, L.E., Cardinal, L.B., & Miller, C.C. (2000) "Curvilinearity in the diversification-performance linkage: An examination of over three decades of research" *Strategic Management Journal*, 21: p. 155-174

Papadakis, V.M., & Thanos, I.C. (2010) "Measuring the performance of acquisitions: An empirical investigation using multiple criteria", *British Journal of Management*, 21(4): p. 859-873

Qian, G., Li, L., Li, J., & Qian, Z. (2008) "Regional diversification and firm performance", *Journal of International Business Studies*, 39: p. 197-214

Rhodes-Kropf, M., & Viswanathan, S. (2004) "Market valuation and merger waves", *Journal of Finance*, 59(6): p. 2685-2718

Roll, R., (1986) "The Hubris hypothesis of corporate takeovers. Journal of Business", 59 (2): p. 197-216

Ruigrok, W., Amann, W., & Wagner, H. (2007) "The internationalization-performance relationship at Swiss firms: A test of the s-shape and extreme degrees of internationalization", *Management International Review*, 47(3): p. 349 – 368

Rumelt R.P., (1974) *Strategy, Structure, and Economic Performance, Division of Research*, Harvard Business School, Boston, MA

Saunders, A. (1994) "Banking and Commerce: An Overview of the Public Policy Issues", *Journal of Banking and Finance*, 18, p. 231–54

Savor, P.G., & Lu, Q. (2009) "Do stock mergers create value for acquirers?", *Journal of Finance*, 64 (3): p. 1061-1097

Shahrur, H., & Venkateswaran, A. (2009) "Industry prospects and acquirer returns in diversifying takeovers", *Journal of Financial Research*, 32(1): p. 23-51

Shleifer A. & Vishny, R. (2003) "Stock market driven acquisitions", *Journal of Financial Economics,* 70 (3): p. 295-311

Simmonds, P.G. (1990) "The combined diversification breadth and mode dimensions and the performance of large diversified firms", *Strategic Management Journal,* 11: p. 399-410

Singh, H., & Montgomery, C.A. (1987) "Corporate acquisition strategies and economic performance", *Strategic Management Journal*, 8(4): p. 377-386

Stein, J. (1997) "Internal Capital Markets and the Competition for Corporate Resources", *Journal of Finance,* 52 (1): p. 111-133

Wan, W.P. (2005) "Country resource environments, firm capabilities, and corporate diversification strategies", *Journal of Management Studies,* 42 (1): p. 161-182

Wan, W.P., & Hoskisson, R.E. (2003) "Home country environments, corporate diversification strategies, and firm performance", *Academy of Management Journal*, 46(1): p. 27-45

Wan, W.P., Hoskisson, R.E., Short, J.C. & Yiu, D.W. (2011), "Resource-based theory and corporate diversification: accomplishments and opportunities", *Journal of Management,* 37(5): p. 1335-1368

Wiersema, M.F., & Bowen, H.P. (2008) "Corporate diversification: The impact of foreign competition, industry globalization, and product diversification", *Strategic Management Journal*, 29: p. 115-132

Yermack, D. (1996) "Higher Market Valuation of Companies with a Small Board of Directors", *Journal of Financial Economics 40* (2): p. 185-211

Zollo, M. & Meier, D. (2008) "What is M&A performance?", *Academy of Management Perspectives*, 22(3): p. 55-77

ACKNOWLEDGEMENT

We want to thank Dr. Claudia Harris for her contribution to an early version of this study. Dr. Harris passed away in 2013.

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