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Strategic alliances by financial services firms

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STRATEGIC ALLIANCES BY FINANCIAL SERVICES FIRMS

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ABSTRACT

The importance of strategic alliances in the financial services industry is increasing; however, research focusing on strategic alliances is limited. In this dissertation, I intend to enhance the existing literature by examining the effect of strategic alliances on the value of financial services firms and the level of cooperation between partner firms involved in strategic alliances. The specific objectives of the dissertation are to examine the market reaction to strategic alliance announcements, to examine the pre- and post-announcement long-run abnormal stock performance and operating performance for the participants of strategic alliances, and to examine joint ventures and mergers and acquisitions after strategic alliances.

I examine a sample of strategic alliances made by financial services firms during the years 1986 to 2003 using various data sources such as the Securities Data Corporation (SDC) database, Center for Research in Security Prices (CRSP), Compustat, and Lexis/Nexis. The results show that the market reacts positively to the announcements of strategic alliances by financial services firms. The announcements of alliances increase the value of partner firms by 0.53%. I find no consistent evidence of abnormal stock performance before or after announcements. The market reaction seems to fully capture the wealth effects associated with strategic alliances. Alliance firms experience an improvement in operating performance before alliance announcements and a deterioration afterwards. The deterioration in operating performance after alliance

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announcements is driven by the deterioration in industry performance. Strategic alliance firms are more likely to form joint ventures or merge than randomly selected or matched firms. However, joint ventures or mergers and acquisitions are not common after strategic alliances; only about 5% of alliances are followed with joint ventures and mergers with partner firms. Firms often form alliances without expecting this cooperation to become more involved through joint ventures or mergers. The market reacts more favorably to alliance announcements by firms that are subsequently acquired by the alliance partners. The market seems to be able to predict at the time of the alliance announcement which firms have potential for extending their cooperation. I also find that equity alliances and alliances with prior relationships between partners are more likely to be followed by joint ventures or mergers and acquisitions.

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DEDICATION

I dedicate this dissertation to my parents, who believed in me throughout the years of my study in the United States. Their unwavering support and encouragement made this accomplishment possible.

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CHAPTER 1

INTRODUCTION

To take advantage of growth opportunities, financial services firms can grow internally, join strategic alliances, form joint ventures, or acquire other firms. When compared with an acquisition or joint venture, a strategic alliance is the simplest form of cooperation between firms. Due to the complex and competitive financial market, financial services firms increasingly engage in strategic alliances for different motivations. For example, firms can share resources without incurring substantial risks. If a strategic alliance is successful and firms want to expand their cooperation, they can proceed with a joint venture or merger. An advantage of such a gradual increase in cooperation is the reduction in information asymmetry between firms before they make substantial investments.

The popularity of strategic alliances has attracted the attention of scholars in the management and finance disciplines who have examined different aspects of the issue both theoretically and empirically. However, little research has focused the financial services industry so far. This empirical study is conducted in order to investigate how strategic alliances can affect the value of financial services firms and the cooperation between partner firms after strategic alliances.

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This study also has important practical implications for practitioners such as managers of financial services firms and shareholders of these firms. This study intends to provide insights into alliance activities that might help managers participate more effectively in alliances, from the initial formation to the final outcome. It might also help the shareholders of these firms to have a better idea as to the kinds of alliance activities that firms are engaging in and how these activities might affect their investment.

Therefore, in this dissertation, I examine the effect of strategic alliances on the value of financial services firms and the level of cooperation between partner firms after alliance formation. Chapter 1 of this study is organized as follows. Section 1.1 explains the importance of the use and the evolution of strategic alliances by financial services firms. Section 1.2 presents the purpose and specific objectives of the study. Section 1.3 summarizes the contributions of the study. Section 1.4 presents the plan of the study.

1.1 The Importance of the Use and the Evolution of Strategic Alliances by Financial Services Firms

Besides internal expansion and mergers and acquisitions, strategic alliances have become important means for financial services firms to accelerate growth over the past 20 years. In the 1980s, there were only a few strategic alliances involving financial services firms. Since 1990, however, the number of alliances has increased dramatically. According to the "Report on Consolidation in the Financial Sector," about 1,640 strategic alliances and joint ventures involving financial services firms were formed during 1990-1999 in North America alone, and about half of them were formed during the 2-year period of 1998 through 1999 (Group of Ten, 2001). The substantial increase in the use of strategic alliances by financial services firms was due to the fact that financial markets

became more complex and diversified. Three main factors contributed to this extraordinary change: deregulation in the industry (Gleason, Mathur, & Wiggins, 2003), technology advance, and globalization (Gup & Marino, 2003).

Deregulation in the financial services industry has gone through a long process. The historical reason behind regulation dated back to the stock market crash in 1929. Following the crash, the 1933 Banking Act (the Glass-Steagall Act) was passed to make banks safer. Specifically, the Act prohibited banks from offering commercial banking, investment banking, and insurance services altogether. The Act reduced the risk of speculation when these activities were conducted in one organization (Cornett, Ors, & Tehranian, 2002).

In 1956, the Bank Holding Company (BHC) Act was passed in order to prohibit banks from gaining too much power by forming bank holding companies. BHCs could not engage in most non-banking activities or acquire voting securities of non-banks (Bank Holding Company Act of 1956. Retrieved April 27, 2007, from http://www.fdic.gov/regulations/laws/rules/6000-100.html).

After 1963, banks started to challenge those regulations by underwriting securities such as commercial paper. In most cases, the courts eventually permitted these activities. Thus, in 1987, commercial BHCs were finally allowed to establish separate so-called Section 20 subsidiaries as investment banks. Section 20 of the Glass-Steagall Act (1933) forbade banks from engaging in investment services. In 1997, commercial banks were further able to acquire investment banks as Section 20 subsidiaries in addition to establishing subsidiaries on their own (Cornett, Ors, & Tehranian, 2002).

The deregulation process continued with the establishment of the Financial Services Modernization Act (the Gramm-Leach-Bliley Act) in 1999. This Act essentially ended most depression-era regulation by repealing the Glass-Steagall Act and amending the Bank Holding Company Act of 1956 by allowing for the creation of financial holding companies. As a result of these changes in regulation, financial holding companies were allowed to own banks as subsidiaries and other subsidiaries involved in various kinds of financial services such as investment and insurance services (Cornett, Ors, & Tehranian, 2002).

Deregulation in the financial services industry induced competition, which sparked a substantial number of strategic alliances. Thus, more alliances arose within the financial services industry itself between different financial services providers, such as banks and investment services firms (Gleason, Mathur, & Wiggins, 2003)

New technologies are also dramatically changing the financial services industry. Automated Teller Machines (ATMs) allow customers to access their bank accounts, check account balances, and make withdrawals and deposits without a bank teller. Electronic payment systems manage payments and receipts of payments electronically. Online banking (or internet banking) allows customers to perform transactions and payments over the internet through banks' secure websites. All these services were developed in order to provide more comprehensive and convenient services to the customers. As the competition in the industry becomes more intense, banks lacking technological expertise are searching for necessary partners. Thus, technological changes induce more cross-industry alliances between financial services firms and technology firms (Gup & Marino, 2003).

Modern communication and transportation systems and a political/legal environment intent on encouraging international trade and finance set the stage for globalization. With the extensive development of worldwide relationships between countries, in order to maintain competitive advantage, financial services firms can no longer focus only on the domestic market. With international growth, it becomes more and more important for financial services firms to expand their customer bases and keep their market shares. When financial services firms lack financial capital, human capital, experience, or expertise to go abroad through internal expansion or mergers and acquisitions, strategic alliances provide a means to overcome these problems. These firms gain further benefits by acquiring new knowledge, new customers, and new distribution systems as well as accessing hard-to-get-in markets and experiencing lower production costs. Thus, globalization induces more international alliances in the financial services industry (Gup & Marino, 2003).

With this increasingly complex and diversified financial market, international alliances, technology alliances, and short-term alliances targeting unique but important opportunities are likely to become more common (Spekman, Isabelle, & MacAvoy, 2000).

Despite the recent popularity of strategic alliances in the financial services industry, limited research has been done to examine them. Gleason, Mathur, and Wiggins (2003) and Chiou and White (2005) conducted two of the few pioneer studies. It is a timely opportunity for this study to enhance the existing literature by providing a more comprehensive and detailed investigation of the issue. It is important for this study to provide insight into alliance activities that might help firms to participate more

effectively in alliances, from the initial formation to the final outcome, as well as help shareholders of these firms to have a better understanding of alliance activities and how these activities affect their investment.

1.2 Purpose and Specific Objectives of the Study

In this dissertation, I intend to enhance the existing literature regarding strategic alliances. My main purpose of the study is to examine the effect of strategic alliances on the value of financial services firms and the level of cooperation between partner firms after strategic alliance formation. The specific objectives of the dissertation are as follows:

1. To examine the market reaction to strategic alliance announcements on average and to investigate the difference in market reactions for alliances with different characteristics.

2. To examine the long-run abnormal stock performance for the participants of strategic alliances before and after the alliance announcements and to compare it to that of industry peers.

3. To examine the operating performance for the participants of strategic alliances before and after the alliance announcements and to compare it to that of industry peers.

4. To examine the likelihood of joint ventures being formed after strategic alliances and to compare it to that of other randomly selected or matched firms.

5. To examine the likelihood of mergers and acquisitions after strategic alliances and to compare it to that of other randomly selected or matched firms.

6. To examine the market reaction to alliance announcements for alliances followed by joint ventures or mergers and acquisitions.

1.3 Contributions of the Study

The study provides two main contributions to the existing literature by examining the effect of strategic alliances on the value of financial services firms and the level of cooperation between partner firms after strategic alliances.

First, the study enhances the strategic alliance literature by providing a comprehensive analysis of alliances. Previous studies of strategic alliances focus on the market reaction to the announcement using the event-study methodology. Some of them further investigate the post-announcement stock performance or pre- and post-announcement operating performance. In this study, I conduct a more comprehensive analysis, examining not only the market reaction to the announcement, pre- and post-announcement stock performance of the partner firms, and pre- and post-announcement operating performance of the partner firms, but also the level of cooperation between strategic alliance partners after strategic alliance announcements. I examine the likelihood of joint ventures or mergers and acquisitions after strategic alliances and compare it to that of other randomly selected or matched firms. I further examine the market reaction to alliance announcements for alliances followed by joint ventures or mergers and acquisitions.

Second, the dissertation contributes to the study of the financial services industry by focusing only on strategic alliances and by extending the sample period. Due to deregulation in the industry, technology advancements, and globalization that make the financial markets more complex and diversified, there has been a substantial increase in strategic alliances by financial services firms in the past 20 years. However, limited research has been conducted to examine strategic alliances in the financial services

industry. Even though quite a few studies have been conducted to investigate different aspects of alliance activities through the years, with a wide range of industries included in the samples, the results of those papers are not directly applicable to alliances in the financial services industry. Gleason, Mathur, and Wiggins (2003) and Chiou and White (2005) are two of the few pioneer studies that focus on strategic alliances made by financial services firms. Gleason, Mathur, and Wiggins (2003) examine a sample of joint ventures and strategic alliances of financial services firms during the period of 1985 to 1998. Chiou and White (2005) examine a strategic alliance sample of Japanese financial institutions for the period of 1997-1999. Although similar to these two studies, my study focuses only on strategic alliances formed by U.S listed financial services firms.

Differently from Gleason, Mathur, and Wiggins (2003), I exclude joint ventures from my strategic alliance sample. Strategic alliances are less complex than joint ventures, as they do not involve the creation of a new entity; thus, joint ventures have an essentially different ownership structure for control of assets and more defined property rights (Das, Sen, & Sengupta, 1998). Studies also show that strategic alliances and joint ventures tend to be created under different circumstances and involve different outcomes. Chan, Kensinger, Keown, and Martin (1997) show that strategic alliance firms tend to exhibit better operating performance than same-industry firms before strategic alliances, while Mohanram and Nanda (1996) show that firms experience performance deterioration before joint ventures. Chan, Kensinger, Keown, and Martin (1997) find that only 5 of their 345 sample alliances evolved into a joint venture or a merger between the partners. In contrast, Bleeke and Ernst (1995) find that 80% of joint ventures end in a takeover by one of the partners.

Furthermore, the sample period (1986-2003) of my study covers an entire business cycle and the deregulation process of the financial services industry, while Gleason, Mathur, and Wiggins (2003) end their sample period in 1998, just before the passage of the Financial Services Modernization Act (Gramm-Leach-Bliley Act) in 1999. As a result of the changes in regulation, financial holding companies are allowed to own banks as subsidiaries and other subsidiaries involved in all kinds of financial services such as investment services and insurance services. These regulatory changes help create more alliances within the financial services industry itself and thus increase the number of alliances formed by financial services firms as a whole.

Different from Chiou and White (2005) who investigate alliances in Japan, I examine alliances of U.S. listed firms and intend to provide a comparison of the alliance activities in the U.S. versus those in Japan.

In summary, by finishing this dissertation, I intend to make contributions to the existing literature of strategic alliances and the financial services industry by providing a longer sample period, a cleaner and more restricted sample, and a more thorough analysis.

1.4 Plan of Study

The remainder of the dissertation is organized as follows. Chapter 2 provides a literature review of the relevant studies. It includes theoretical background on strategic alliances such as real option theory, resource dependence theory, signaling theory, transaction-cost economics theory, and business strategy theory. This chapter also includes relevant empirical evidence from earlier studies. Chapter 3 presents my research design, including hypotheses, sample description, data collection, and research methodology. Chapter 4 reports the empirical results of the analysis. Chapter 5 presents

the conclusions and implications of this study and presents recommendations for future

research.

CHAPTER 2

LITERATURE REVIEW

As today's financial services market becomes more and more complex, strategic alliances become more and more popular for firms to explore new opportunities and maintain their competitive advantage in the market. With alliances' increasing importance, scholars in both the finance and management disciplines are exploring related issues and intend to provide insight into alliance activities that might help firms participate more effectively in the alliances, from the initial formation to the final outcome. Research studies might also help firms to prevent the resulting failures that are common for many alliances.

The management literature has provided a great deal of insight into the motivations for participating in strategic alliances, with strong theoretical research including five appealing theories: business strategy theory, real option theory, resource dependence theory, signaling theory, and transaction-cost economics theory. Case studies of individual alliances are also analyzed in order to illustrate the pros and cons of the alliances and the details of the allying process. Analysis of the choice between the use of alliances and other methods of expansion such as mergers and acquisitions is also a popular issue.

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In finance, instead of focusing on the theoretical justification for firms joining in alliances as much of the management literature does, the majority of research has been conducted in regard to quantifying the impact on the value of the firms associated with the alliances and further ascertaining the determinants of value creation.

The literature review of the related studies is organized as follows. I first define the term "strategic alliances" as used in this study in order to prevent further confusion, and then I provide a thorough theoretical background regarding the motivations of firms participating in strategic alliances that is largely based on the management literature. Next, I provide a detailed review of the related empirical literature regarding strategic alliances from studies in both the finance and management areas. In order to give an overall picture of alliance activities, I also give a brief description of the strategic-alliance formation process as well as the drawbacks that might cause the failure of strategic alliances. At the end of the literature review, I present a summary on how my study is related to the existing research.

2.1 Definition of Strategic Alliances

The definition of strategic alliances has taken various forms in the literature through the years. In spite of some degree of variation, several elements seem to be common and essential. First, an "inter-firm" strategic alliance is an activity or relationship with two or more firms involved (Gilroy, 1993; Parkhe, 1993; Gulati, 1998; Mockler, 1999). Second, in a "cooperative" strategic alliance, firms involved cannot act independently but must work with each other (Gilroy, 1993; Parkhe, 1993; Ireland, Hitt & Vaidyanath, 2002). Third, "common goal" firms get into a strategic alliance to achieve a certain shared aspiration, which in turn is beneficial to the individual partner firms

(Parkhe, 1993; Varadarajan & Cunningham, 1995; Mockler, 1999). Fourth, in a "sharing resources" strategic alliance, various resources such as capital, human resources, or technology are pooled together from the partner firms (Parkhe, 1993; Varadarajan & Cunningham, 1995; Gulati, 1998; Ireland, Hitt, & Vaidyanath, 2002). Fifth, a strategic alliance is a "hybrid" network organizational form, which is somewhere between internal expansion and acquisitions. (Borys & Jemison, 1989; Kensinger & Martin, 1991; Lorange & Roos, 1992).

In some studies, strategic alliances refer to any type of cooperative activities, which includes both alliances and joint ventures, while in other studies joint ventures are not included. This inconsistency in the literature forces me to first define the term "strategic alliance" for this study. A strategic alliance in this study is defined as a cooperative business activity with two or more organizations that share resources, responsibilities, risks, and rewards for achieving common goals, but no separate entity such as a joint venture is created.

Based on certain criteria, strategic alliances can be further classified. In the literature, different classifications are formed, depending on the needs of the studies. Some common classification schemes are listed as follows.

The first type of classification is based on the degree of equity investment and contractual control (Harrigan, 1985). Strategic alliances can be classified into two forms: non-equity alliances and equity alliances (Hitt, Ireland, & Hoskinsson, 2004). Non-equity alliances are less formal, pure contractual alliances without any equity investments between the partner firms. Partner firms are only sharing resources and achieving common goals but are having no contractual control. Equity alliances are alliances with

equity investments involved in the agreements. As the degree of equity investment increases, the alliances tend to be more formal and partners have more contractual control. Equity alliances have increased rapidly through the years. Pekar and Margulis (2003) document that only 25% were equity alliances in a sample of 3,000 alliances during the period of 1997 to 1999, while during the period of 2000 to 2002, the percentage of equity alliances jumped to 66% in a sample of 2,500 alliances.

Equity alliances can be further classified into two types: minority equity alliances and cross-equity holding alliances (Pekar & Margulis, 2003). Minority equity alliances are equity alliances in which minority amounts of equity investments are made in one partner by another partner in an alliance and the investments are less than 50% of the stock holdings. For example, in 1994, The Hongkong and Shanghai Banking Corporation (HSBC) Holdings and Banco del Sur del Peru, a unit of Luksic Group's Invesiones Financieras subsidiary, formed a strategic alliance; and in the agreement, HSBC agreed to purchase a 10% stake in Banco del Sur del Peru. Cross-equity holding alliances are alliances in which partners make equity investments in each other. For example, in 2001, Banco Bilbao Vizcaya Argentaria (BB) and Telefonica SA (TS) formed a strategic alliance to provide investment services in Spain. In the agreement, TS made a 3% equity investment in BB, and BB increased its stock holding in TS from 8% to 10%.

The second type of classification is based on the time period of the commitment and level of investment. Short-term alliances of fewer than five years are transactional and involve less funding; long-term alliances of more than five years increase the level of investment; and to the extreme, in permanent alliances, the funding ranges from cross-equity holding to wholly owned subsidiaries (Harbison & Pekar, 1998).

The third type of classification is based on alliance activities. As alliance activities can involve hundreds of different of activities, such as financial services, marketing services, internet services, insurance services, etc, the alliances are usually classified into broad activity groups. One approach is illustrated in Vyas, Shelburn, and Rogers (1995). The study examines the degree of profitability associated with firms in mature industries and high-tech industries, and strategic alliances are classified into two forms: market-related and technology-related alliances.

The fourth type of classification is based on the geographic regions of the alliance partners. Domestic alliances are alliances with partner firms from one country, while international alliances are alliances with partner firms from different countries (Gleason, Mathur, & Wiggins, 2003).

The fifth type of classification is based on the industries of the partner firms. Within-industry/horizontal alliances are alliances with partner firms from the same industry, while cross-industry/diversifying alliances are alliances with partner firms from different industries (Gleason, Mathur, & Wiggins, 2003).

2.2 Theoretical Background--Why Financial Services Firms Participate in Strategic Alliances

There are five prevailing theories in the literature explaining the motivations for forming strategic alliances. They are business strategy theory, real options theory, resource dependence theory, signaling theory, and transaction-cost economics theory.

2.2.1 Business Strategy Theory

Based on the original framework of the five forces that determine the attractiveness of a market (Porter, 1979), Porter (1986) states the determinants of the

formation of strategic alliances: the threat from new-entry firms and substitute products, the bargaining power of suppliers and buyers, and the competition among firms. Strategic alliance firms, recognizing these forces, typically adopt one of three strategies: become and remain the lowest cost firm in the industry, differentiate their products from others, or focus on a narrow market niche in order to outperform their competitors.

Forming strategic alliances can be very useful to raise entry barriers in the industry and effectively reduce potential threats from future competition. Partner firms thus are able to maintain their competitive positions in the market (Vaidya, 1999).

Strategic alliances are often used as a strategic means for integrating or diversifying to expand the scale and/or scope of their operations. Firms participating in within-industry/horizontal alliances are seeking different geographic markets, expanding their product line, or eliminating competition. Firms participating in cross-industry/diversifying alliances are seeking new expertise, new geographic or product markets (Gleason, Mathur, & Wiggins, 2003). Strategic alliances help firms in mature industries to enter into new and emerging industries. Market share can be gained by either entering a new geographic market or entering a new product market. When accessing new markets, strategic alliances represent a less costly means of acquiring resources without paying a high acquisition premium.

Furthermore, when firms seek global growth opportunities but lack financial capital, experience, or expertise necessary to undertake internal expansion, strategic alliances provide a means to overcome these problems. Alliances are also useful when certain foreign governments prohibit international mergers. Such barriers can be removed

by entering strategic alliances with local firms from within those countries (Gleason, Mathur, & Wiggins, 2003).

2.2.2 Real Options Theory

An option is something offered for choice. In finance, the options are usually referred to as financial options, which are derivative contracts, including call options and put options. The holder of a financial option has the right but not the obligation to buy or sell a specific amount of a financial instrument on or before a specific date at a specific price, and the payoff is determined by the price of the financial instrument, such as a common stock (Kolb, 2002).

Even though businessmen have been making investment choices for centuries, Myers (1977) incorporates the idea of options into the business investment decision. Rather than dealing with financial instruments, Myers introduces the concept of a real option associated with tangible assets such as equipment. For example, when making an investment in a project, the firm has the real option of expanding, deferring, or abandoning the project in the future. Similar to a financial option, a real option is also the firm's right but not the obligation to make a decision. Different from a financial option, a real option is a non-tradable contract. Only the firm itself can decide how to deal with the investment and cannot sell that right to others. The value of the investment can be greatly affected by the real option, and currently the widely used methods for valuing the real option are closed-form solutions, partial differential equations, and binomial lattices.

Based on the real options theory, Seth and Chi (2005) further associate the real option concept with strategic alliances. They argue that making strategic alliance decisions can be thought of as real options offered to the alliance partners. During the

alliance process, according to the market environment and other factors, the alliance partners have the right but not the obligation to make decisions and take actions. If the prospects of the alliance seem to be good, the partner firms may continue cooperating and even enhance the investment. If everything seems to be unclear, the firms may halt the investment to conduct further investigation. If the prospects turn out to be unappealing, the firms may terminate the alliance and withdraw their resources. The flexibility of the alliance options creates value for the partner firms.

The flexibility of the alliance options further benefits the partner firms by allowing quick expansion and separation without divesting problems. Jensen (1993) argues that when a firm tries to divest its high-cost assets or excess capacity due to a change in the market environment, contracting problems such as negotiating contracts with unions, suppliers, or other stakeholders make it difficult for the firm to divest the resources at the optimal time. Furthermore, during the divestment process, the managers of integrated corporations or joint ventures are often unwilling to release the on-hand resources and downsize the firms, as they think that might hurt their managerial performance and interrupt their careers. Thus, instead of actively engaging in a divesting process, managers often try to hold the resources that should be divested as long as they can, which creates agency costs associated with divergent management-shareholder interests (Jensen, 1986a, b). However, when forming an alliance, the firms pool their resources; and when the alliance is terminated, the resources do not have to be divested and are still controlled by the managers of the partner firms. In this case, strategic alliances avoid divesting and associated agency costs.

The flexibility associated with strategic alliances also benefits the partner firms by allowing firms to try out different partners when developing new technologies or new marketing plans. Thus, rapid-growth firms and high-technology firms that are seeking partners would benefit more from this flexibility of alliances (Mody, 1993).

2.2.3 Resource Dependence Theory

In today's business world, firms often cannot secure and/or retain all the resources they need, and therefore must interact with others. These resources can be materials, human capital, financial capital, knowledge, skills, expertise, technologies, experience, etc. However, to a certain extent, when firms recognize that they have to depend heavily on other organizations for some resources, they need to minimize that dependency as much as possible. There are three main issues that need to be considered when this situation happens: what the costs to the firms would be if they keep depending on others, what the costs to the firms would be if they abandon using those resources, and what the firms should do if conflicts arise between them and the firms that provide the dependent resources (Pfeffer & Salancik, 1978).

In order to minimize resource dependency, firms usually adopt one of two strategies: buffering or bridging (Scott, 2002). Using the buffering approach, firms try to increase their tolerance for the loss of those external resources for a limited period of time. Using the bridging approach, firms try to enhance their relationships with the external firms that are providing the dependent resources in order to avoid their loss.

Entering strategic alliances is one of the bridging strategies. By allying with others, firms extend their resource bases instead of relying solely on others. The partner firms may also exchange and gain knowledge and ability in the process, lower their costs,

and achieve economies of scale in production, and the resources pooled are used more efficiently (Lorange & Roos, 1992).

2.2.4 Signaling Theory

By entering strategic alliances with other participants in the market, firms provide signals of the quality of their resources (Stuart, Hoang, & Hybels, 1999). If firms have low-quality resources, maintaining strategic alliances with other firms would be costly (Spence, 1974). The signal benefit is especially greater for young and small firms in comparison to mature and large firms (Gulati & Higgins, 2003). For start-up and small firms, less information is available in the market; thus, keeping strategic alliances serves as a good signal of the quality of the firms.

2.2.5 Transaction-Cost Economics Theory

When buying a product, price is not the only cost; other costs such as information-collecting costs and bargaining costs are also included. Those costs besides price are called transaction costs.

When firms are conducting transactions to acquire assets, different organizational structures are chosen in order to minimize the transaction costs. The specificity level of the asset is an important determinant for choosing the structure (Williamson, 1975). When the specificity level of the asset is relatively low, the transaction can be conducted in an external market. When the specificity level of the asset is relatively high, the transaction is internalized within the organization. In between, hybrid organizational structures such as strategic alliances or joint ventures can be formed. Thus, firms choose the organizational structure with greater control of the asset when the specificity level of the asset increases.

Strategic alliances may achieve optimal decision making with lower costs. In order to achieve optimal decision making, there are two prerequisites: the person who makes the decision possesses the knowledge, and the decision is associated with rewards and penalties. Either delegating or transferring the knowledge can be done when the authority does not possess the knowledge; however, both of these methods for transaction are costly (Jensen & Meckling, 1992). Entering a strategic alliance is less costly than acquiring a firm and both firms benefit from the transaction; thus, the partner firms possess the knowledge to make decisions, and they share the benefits and costs associated with the decisions they make. This is especially beneficial when high transfer costs occur in a transaction involving research and development.

2.2.6 Other Motivations for Forming Strategic Alliances

By entering strategic alliances, firms experience different levels of risk reduction and sharing. Regardless of whether firms engage in domestic or international expansions, entering strategic alliances helps them to reduce and share the production risks and financial risks (currency and exchange-rate risks) (Kvint, 1998). The risk of poor decision making by a single firm is reduced, as partner firms in alliances tend to have more objective opinions regarding the partnership; and with better decisions, the risk of failure for such an investment may further be reduced (Baum & Oliver, 1991). The risk of uncertainty associated with the changing markets is reduced when firms acquire knowledge and information from partners (Kogut, 1988), and possible competitive risks associated with new-entry firms may be reduced in the future (Balakrishnan & Koza, 1993; Chi & McGuire, 1996).

Forming strategic alliances between the acquirers and targets prior to mergers and acquisitions reduces information asymmetries through learning and solves adverse selection problems. Mergers and acquisitions are important means for firms to expand and pursue growth opportunities. However, when the information needed for the transaction is not distributed evenly between the participants of the transaction, an adverse selection problem occurs: a "bad" target is more likely to be chosen. By entering an alliance, the target and acquirer pool their resources first and enter the tryout phase in order to obtain knowledge about each other before final negotiation for transferring resources. Through this learning process, information is redistributed between the partners, and information asymmetry is reduced. The acquirer especially discovers target-specific information, noticing target's strengths, weaknesses, and corporate culture (Kale, Singh, & Perlmutter, 2000), which helps the acquirer to decide whether the target is the right one to choose. Thus, forming suitable alliances serves as due diligence to solve the adverse selection problem for the acquisition (Arend, 2004a). When the risk of adverse selection is significant in a market, the reduction of information asymmetry is enhanced by the alliance (Balakrishnan & Koza, 1993).

2.2.7 Summary

As described above, different theories have provided different explanations for why financial services firms might choose to participate in strategic alliances. The different theories are not mutually exclusive but rather focus on different aspects of the motivations for forming strategic alliances. Business strategy theory suggests that forming alliances can help avoid entry barriers and provide market extension. Real options theory suggests that forming alliances can provide organizational flexibility.

Resource dependence theory suggests that forming alliances can provide resource extension and reduce dependency. Signaling theory suggests that keeping alliances can provide a signal of the quality of the firm. Transaction-cost economics theory suggests that forming alliances can minimize transaction costs and achieve optimal decision making. Other motivations for entering strategic alliances include risk reduction and sharing as well as information asymmetries reduction prior to mergers and acquisitions.

2.3 Related Empirical Literature of Strategic Alliances

With the increasing importance and popularity of strategic alliances over the past 20 years, the scholars in both the finance and the management disciplines have been empirically examining different aspects of strategic alliances based on the fundamental theories.

One big stream of studies on strategic alliances examines the market reaction to the alliance announcements and the impact on the value of the firms associated with the alliances. Most of the studies first obtain the associated values using event-study methodology and then determine the differences in the value created based on the alliance firms' characteristics (firm size, firm age) and the type of alliance (equity, non-equity, international, domestic) in which the firms are engaged.

Another group of studies investigates the relationships between strategic alliances and mergers and acquisitions. The main topics involve examining the choice between alliances and mergers and acquisitions by the firms and discovering the impact of strategic alliances on mergers and acquisitions when the target and the acquirer were strategic alliance partners.

The third group of studies focuses only on equity alliances instead of the whole population of strategic alliances. The most popular issue in this group of studies is to examine the incentives of equity investment in the strategic alliances.

There are many other topics and issues that have been studied through the years, such as the firm risk associated with alliances, the problem of opportunism in strategic alliances, and the marginal contribution of an additional alliance being added to an alliance portfolio.

2.3.1 Studies Regarding Strategic Alliances and Firm Values

2.3.1.1 Financial Services Industry

There are two pioneer studies that examine strategic alliances in the financial services industry: Gleason, Mathur, and Wiggins (2003) and Chiou and White (2005).

Gleason, Mathur, and Wiggins (2003) examine a sample of strategic alliances and joint ventures of financial services firms during the period of 1985 to 1998. The authors obtain the data from Securities Data Corporation (SDC) International Joint Ventures database. Accounting-based data are from Standard and Poor's Research Insights, while stock market returns data are obtained from the Center for Research in Security Prices (CRSP). They identify banking, insurance, and investment services firms as follows: banking includes Standard Industrial Classification (SIC) codes 6021 and 6022, insurance companies include SIC codes 6300s and 6400s, and investments services include SIC codes 6200s. They further restrict the sample to strategic alliances with at least one financial services firm with financial data available and remove the firms with multiple announcements within the 6-, 12-, or 18-month holding period. The final sample consists of 628 announcements with 728 participants.

The authors conduct an event study to evaluate the market reaction to strategic alliance and joint venture announcements. They estimate the parameters during the 100-day period ending 11 days before the announcement date. The announcement period includes days -1 to 1 relative to the announcement day and -1 and 0 relative to the announcement day. A significance test based on Boehmer, Musumeci, and Poulsen (1991) is constructed.

The authors then estimate the post-announcement 6-, 12-, and 18-month average holding-period abnormal returns relative to the returns of industry- and size-matched firms. To create the matched sample, for each sample firm they first find all firms with the same 4-digit SIC code, and then from these firms they choose the one with the total assets closest to that of the sample firm to be in the matched sample. The average difference between the sample firm and the matched firm holding-period returns is the average holding-period abnormal return.

They find that the announcements of strategic alliance and joint venture firms are associated with 0.66% average cumulative abnormal returns. The abnormal returns are positive and significant for domestic, international, horizontal, and diversifying strategic alliances and joint ventures. Furthermore, the authors find that strategic alliance and joint venture firms outperform matching firms after the announcements for the holding-period return.

Chiou and White (2005) examine the strategic alliances sample of Japanese financial institutions for the period of 1997-1999. The authors identify the sample announcements from Nihon Keizai Shimbun (*Japan Economic Times*), Nikkei Interactive Net, and Yomiuri Shimbun. The sample is further restricted to alliances only involved

with financial firms and with at least one publicly traded Japanese financial firm. If there is other news such as bond/credit-rating changes, corporate control affairs, dividends, earnings, financing arrangements, legal affairs, loan-loss reserves, or share repurchases being announced during the 3 days before and 1 day after the sample announcement, the observation is dropped. The final sample consists of 109 announcements with 169 Japanese financial firms.

The authors conduct an event study to evaluate the market reaction to strategic alliance announcements using the market model. They estimate the market model parameters during the 200-day period ending 20 days before the announcement date. The announcement period includes days -1 and 0 relative to the announcement day. Following the methodology used by McConnell and Nantell (1985), the authors first form an equally weighted portfolio of alliance partner firms for each of the 109 alliances and then treat each portfolio as one security for calculating the test of significance.

The authors further use three regression models to conduct the cross-sectional analysis. All the dependent variables are the alliance abnormal returns. The independent variables include intra-group dummy (dummy=1 if the alliance firms are within the same *keiretsu,* a bank-centered business group), inter-group dummy (dummy=1 if the alliance firms are from different *keiretsu*), equity tie-up dummy, insurance business dummy, investment business dummy, asset management dummy, investment banking dummy, multiple-business dummy, comprehensive-business dummy, etc.

They find that, on average, announcements of strategic alliances increase the value of partner firms. When compared with mergers in which target firms usually gain substantially at the cost of the acquiring firms, the partners of the alliances are more

concerned with a "win-win" situation, and the value gains from the alliances are spread more fairly among the partners. Smaller partners and inter-group alliances tend to experience larger percentage gains than larger partners and intra-group alliances. However, no significant difference is found in the abnormal returns between domestic-foreign and domestic-domestic alliances.

2.3.1.2 Other Industries

Several studies examine the impact on the value of the firms associated with alliances in a wide range of industries, including those by Chan, Kensinger, Keown, and Martin (1997), Das, Sen, and Sengupta (1998), and Haeussler (2004).

Chan, Kensinger, Keown, and Martin (1997) examine the value creation of 345 non-equity strategic alliances for the partnering firms during the period of 1983 to 1992. The main purpose is to determine the differences in the value created based on the alliance firms' characteristics and the type of alliance in which the firms are engaged.

The authors obtain the sample of firms from both the Lexis/Nexis database (including the Business Wire, PR Newswire, Southwest Newswire, Reuters, and United Press International) and the Dow Jones News Retrieval Service database (including the Dow Jones News Wire and the *Wall Street Journal*). They use "strategic" and "alliance" with different types of agreements, such as licensing, marketing, distribution, supply, production, manufacturing, development, research, and technology in searching for announcements and find 345 announcements of 460 partnering firms with at least one partner's common stock available in the Center for Research on Security Prices (CRSP) daily returns files.

The authors first conduct an event study to evaluate the market reaction to strategic alliance announcements using the market model described in Dodd and Warner (1983). Chan et al. estimate the market model parameters during the 150-day period ending 21 days before the announcement date. The announcement period includes days -20 and +5 relative to the announcement day. Abnormal returns are averaged across firms for each of the 26 event days, and significance tests based on a standardized test statistic are constructed. Using a 2-day (-1, 0) average abnormal return does not alter the conclusions. They further compare the wealth changes experienced by pairs of partner firms in order to determine whether the wealth effect is due to value creation or wealth transference in an alliance between partners of different sizes.

Second, the authors use regression analysis to conduct the cross-sectional analysis. The dependent variable is the announcement-date abnormal return. The independent variables are firm size (log of market value of equity), growth opportunities variable (the ratio of market value to book value of assets), high- versus low-tech industry classification variable, and the horizontal versus non-horizontal alliances industry-focus variable.

Third, the authors use the procedure of Mikkelson and Partch (1994) to examine both the level of the firm's operating performance and its changes during the period of two years before and two years after the announcement of the strategic alliance. The value of return on common equity, operating return on assets, and undistributed cash-flow return on assets are compared with each firm's median industry performance. Wilcoxon rank sum tests are used to determine the statistical significance.

The authors show that the market reacts positively to strategic alliance announcements, especially announcements by high-tech firms, with no evidence of wealth transfer. Furthermore, they find that strategic alliance firms experience better operating performance two years before and after alliances than industry peers.

Das, Sen, and Sengupta (1998) examine the impact on the value of the firms associated with the strategic alliance announcements. They argue that the determinants of the associated value are the nature of the strategic alliance, the characteristics of the partners, and the relative resource dependency between the partners.

The authors use the alliance announcements from the *Wall Street Journal* and the *Financial Times*. They obtain the sample data of the announcements from *Information Technology Strategic Alliances* (ITSA User's Manual, 1992) during 1987-1991. Furthermore, they restrict the sample by excluding joint ventures and multiparty alliances and by dropping alliance announcements with either an earnings or a dividend announcement reported five days before or after the announcement.

The authors conduct an event study to evaluate the market reaction to strategic alliance announcements using the market model. They estimate the market model parameters during the 190-day period ending 10 days before the announcement date. The announcement period includes days -3 to +3 relative to the announcement day. Abnormal returns are averaged across firms for each of the 7 event days, and significance tests based on a standardized test statistic are constructed.

By examining a sample of 119 strategic alliances during 1987-1991 using an event-study approach, the authors find that technological alliances yield greater abnormal returns than marketing alliances. Furthermore, firm profitability and size are negatively

correlated with the abnormal returns. Thus, the authors conclude that the most beneficial partners in an alliance are smaller partners in technological alliances. On the other hand, marketing alliances are still able to create benefits for smaller or less profitable firms that form alliances with larger or more profitable partners.

Haeussler (2004) examines the market reaction to strategic alliances by German firms during the period of 1997-2002 and analyzes the potential determinants of the abnormal returns. The sample consists of 1,037 ad hoc strategic alliance announcements in Germany during the sample period. Stock prices of announcing firms are obtained from Thompson Financial Datastream.

Using the event-study approach, the author calculates abnormal returns following the procedure shown in Brown and Warner (1985) and Watts (1973). Multivariate analysis is conducted to address the determinants of the resulting abnormal returns such as size, age of the partner firm, and alliance characteristics.

The author concludes that the German stock market reacts positively to the announcements of strategic alliances and negatively to the terminations of strategic alliances. The market reaction is more favorable for high-technology firms, old firms, smaller firms, and firms not making equity investments in partner firms.

2.3.1.3 Summary

These five papers have all provided detailed performance insights into alliance activities using a similar event-study methodology, but samples with different characteristics. Gleason, Mathur, and Wiggins (2003) and Chiou and White (2005) focus on the financial services industry, while Chan, Kensinger, Keown, and Martin (1997), Das, Sen, and Sengupta (1998), and Haeussler (2004) examine a wide range of industries.

Chan, Kensinger, Keown, and Martin (1997), Das, Sen, and Sengupta (1998), and Gleason, Mathur, and Wiggins (2003) use U.S. market data; while Haeussler (2004) uses data from Germany, and Chiou and White (2005) use data from Japan. Gleason, Mathur, and Wiggins (2003) include alliances and joint ventures in their sample; Das, Sen, and Sengupta (1998), Haeussler (2004), and Chiou and White (2005) include only strategic alliances; while Chan, Kensinger, Keown, and Martin (1997) focus on non-equity alliances. The time period of the samples ranges from 1983 to 2002, while the sample size ranges from 109 to 1,037 alliances. All of the studies except Gleason, Mathur, and Wiggins (2003) use multiple regression analysis with abnormal returns as the dependent variable to identify the determinants of the abnormal returns.

The main findings are consistent across the studies. All the event studies show that the announcements of strategic alliances are associated with positive average cumulative abnormal returns, which means that the market reacts positively to strategic alliance announcements, and the value of the partner firms therefore increases.

Although the main focus is on the general announcement effect of the alliances on the partner firms, these studies have provided additional detailed findings. The market reacts negatively to the terminations of strategic alliances (Haeussler, 2004). The abnormal returns are positive and significant for domestic, international, horizontal, and diversifying strategic alliances (Gleason, Mathur, & Wiggins, 2003). The market reaction is more favorable for smaller firms (Chiou & White, 2005; Das, Sen, & Sengupta, 1998; Haeussler, 2004), high-technology firms (Chan, Kensinger, Keown, & Martin, 1997; Das, Sen, & Sengupta, 1998; Haeussler, 2004), old firms (Haeussler, 2004), less profitable firms (Das, Sen, & Sengupta, 1998), and firms not making an equity investment in

partner firms (Haeussler, 2004). Strategic alliance firms outperform matching firms after the announcements for the market return (Gleason, Mathur, & Wiggins, 2003) and strategic alliance firms experience better operating performance two years before and after alliances than industry peers (Chan, Kensinger, Keown, & Martin, 1997). As for differences between the inter- and intra-group alliances, Chiou and White (2005) find that inter-group alliances tend to experience larger percentage gains than intra-group alliance announcements.

2.3.2 Studies Regarding Strategic Alliances and Mergers and Acquisitions

Some extant literature investigates the relationships between strategic alliances and mergers and acquisitions, including Hagedoorn and Sadowski (1999), Hagedoorn and Duysters (2002), Porrini (2004), Jandik and Kali (2006), and Reuer and Ragozzino (2006).

Hagedoorn and Sadowski (1999) examine a sample of 6,425 strategic technology alliances during the period 1970-1993 to explore the determinants of the transition from strategic technology alliances to mergers and acquisitions. Using the data from the MERIT-CATI data bank for alliances and the Securities Data dataset for mergers and acquisitions; the authors estimate a Poisson regression model to test their hypotheses. As they find only 2.6% of the strategic technology alliances in the sample leading towards final mergers and acquisitions, they conclude that instead of a transition strategy, the strategic technology alliances stand alone and provide partners with opportunities to learn new technologies and gain flexibility.

Hagedoorn and Duysters (2002) examine a sample of 153 U.S., Canadian, and European Fortune 500 companies that had formed a minimum of five strategic

technology alliances and/or merger and acquisitions during the period of 1993-1994 using multinomial logit analysis. They find that companies that are primarily active in high-tech sectors prefer strategic technology alliances rather than mergers and acquisitions; in contrast, companies that favor mergers and acquisitions over alliances are mostly found in the low-tech sectors, and companies that are primarily active in medium-tech sectors have a mixed strategy preference over mergers and acquisitions, but not vice versa. Furthermore, the preference for mergers and acquisitions decreases with the size of the firms; in other words, smaller firms prefer alliances rather than mergers and acquisitions.

Porrini (2004) exams a sample of 437 acquisitions in the manufacturing sector completed during the period 1988-1997 and investigates whether the alliance experience between the target and acquirer affects acquisition performance. The author conducts robust regressions with change in return on assets as the dependent variable, previous alliance experience between the target and acquirer as the independent variable, and other control variables. The author concludes that the previous alliances between the targets and acquirers positively correlated with acquisition performance, which implies that such alliances provide acquirers an opportunity to acquire target-specific information which benefits acquisition performance.

Jandik and Kali (2006) examine a sample of international strategic alliances, international joint ventures, and cross-border mergers (with U.S. bidders) announced between 1985 and 2000. Using multivariate probit analysis and announcement abnormal returns analysis, they found that when legal systems improve and information asymmetry is reduced, arms-length arrangements such as strategic alliances and joint ventures

replace relational arrangements. If legal/political environments continue to improve, eventually arms-length deals will take the place of internal firm contracting.

Reuer and Ragozzino (2006) examine a sample of mergers and acquisitions during the period of 1992-2002. The study investigates whether strategic alliances and Initial Public Offerings (IPOs) could potentially lessen the risk of adverse selection in the acquisitions of new ventures. These researchers use binary, logistic regressions with a maximum likelihood estimator and 2-limit Tobit models. The authors find that inter-firm alliances between acquirers and targets reduce information asymmetries prior to mergers and acquisitions. Furthermore, prior alliances between acquirers and targets or the targets' IPOs reduce the likelihood of using stock, or the amount of stock used, to finance acquisitions of these targets afterwards.

In summary, the main findings regarding strategic alliances and mergers and acquisitions are that corporate alliances are not necessarily a transition strategy leading to mergers and acquisitions; small firms and companies primarily in high-tech sectors prefer strategic technology alliances rather than mergers and acquisitions; the alliance experience between the target and acquirer benefits acquisition performance; strategic alliances replace relational arrangements and further edge out internal firm contracting when legal systems improve and information asymmetry is reduced; and alliances between acquirers and targets reduce information asymmetries prior to mergers and acquisitions.

2.3.3 Equity Alliances Studies

Several studies examine the incentives of equity investment in strategic alliances, including Pekar and Margulis (2003), Filson and Morales (2006), and Mathews (2006).

Pekar and Margulis (2003) discuss why equity alliances are taking center stage and why major corporations are now choosing alliances over the "buy" or "build" options to stimulate growth and increase corporate wealth. The authors discuss the different equity alliance types and highlight characteristics, benefits, and limitations of each. They compare alliances with acquisitions in terms of wealth creation, revenue growth, and probability of success and present some real-world examples and insights from executives.

Filson and Morales (2006) develop a model of monitored and staged investment to explain why equity investment is involved in Research and Development (R&D) strategic alliances. They argue that the use of equity serves as a monitoring tactic that resolves uncertainty before committing more resources to the project. The authors use a large sample of 4,344 biotechnology alliances formed from the mid-1970s until May 2001 and use a probit model in their analysis. The empirical results support their model.

Mathews (2006) develops a model for studying the incentives of using equity in strategic alliances. An alliance between an entrepreneurial firm and an established firm improves efficiency for both partners. However, the established firm tends to enter the partner's market after the knowledge transfer. By assuming that, after forming an alliance, the firms become competitors of equal size in the entrepreneurial firm's market and that the firms cannot negotiate directly on profits or entry but can only transfer equity while forming an alliance, the author argues that equity can eliminate the established firm's entry incentive. When the established firm has a larger stake in the entrepreneurial firm's monopoly profits, the established firm's entrance into the entrepreneurial firm's market becomes less attractive. When the entrepreneurial firm sells a large enough equity

stake to an established firm, the established firm's non-entry payoff is always larger than the entry payoff if the established firm holds an equity interest in the entrepreneurial firm while also entering the entrepreneurial firm's market at the same time.

In summary, the main finding in the above-mentioned studies is that equity investment in an alliance can serve a monitoring purpose, resolve uncertainty before committing more resources, and eliminate the potential entry incentive of the alliance partners.

2.3.4 <u>Other Strategic Alliances Studies</u>

Besides the above issues that are widely explored, other topics such as risk (Arend, 2004b; Robinson, 2006), opportunism (Smith, 2005), and marginal value (Wassmer, 2004) associated with strategic alliances are examined in the existing literature.

Chung, Singh, and Lee (2000) use a sample of underwriting syndicates for new common stock issues by U.S. investment banking firms during the period of 1980-1989 to investigate the formation of strategic alliances. They conclude that the likelihood of an alliance being formed between investment banks is positively related to the complementarily of their capabilities and their similarity of status. The authors find an inverted U-shaped relationship between the probability of forming an alliance with a potential partner by the leading bank and their business relationship over the past three years. Investment banks seem to follow a balancing strategy that provides more opportunities to their past partners until they come to believe they are over-dependence on their old partners. Then they start exploring potential new partners in the market.

Arend (2004b) uses an event-study methodology to examine how alliance activity affects firm risk. The implied volatility of a firm's stock price is used as the risk measure.

He tests his hypotheses in the U.S.-based computing industry (i.e., SIC codes 737, 357, 367--computer software, hardware, and components, respectively) during the period of 1984 to 1994. The results show that volatility increases when the alliance and each firm have similar core activities; volatility decreases when the alliance has a governance form more like a joint venture or when alliance activity functions to set a technical standard. The author states that how managers engage in alliance activity can have a significant impact on the risk related to the value of shareholders.

Wassmer (2004) addresses the problem of the marginal contribution of each additional alliance added to an alliance portfolio using abnormal stock market returns as a measure. The author argues that an important determinant for value creation is the portfolio size. Portfolio size is defined as the number of alliances and partners in an alliance portfolio. Other important factors for value creation are whether the partner is a prior partner or a new partner and the number of alliances the focal firm has with a particular partner.

Smith (2005) addresses the problem of opportunism in strategic alliances. The author argues that the contractual board consisting of representatives from each partner with equal power provides an incorporated control on opportunism. The governance structure of alliances improves information flow and coordination of strategic-level decisions by forcing the alliance agreement to be implemented. Thus, an integrated check against opportunism by partners is one of the advantages of alliances.

Robinson (2006) investigates 70,000 international strategic alliances from 1985 to 1999 using a self-developed model of internal capital markets and regression analysis. He finds that alliances typically occur between industries with different risk characteristics.

If a firm has activities in different industries, then the alliances tend to occur in an industry that is riskier on average. The author also argues that the alliance activities cluster in risky, high-growth, high-tech industries and that certain types of contracts which are more easily enforced between firms than within firms result in successful alliances.

2.3.5 Summary

The existing empirical literature of strategic alliances provides strong evidence for supporting the theories that I mention in the previous section and provides more detail about the increase in strategic alliance activity over the past 20 years. The studies show that the value of the firms studied increased when they became involved with strategic alliances; the studies examine the impact of alliances in relation to other firm activities, such as mergers and acquisitions and joint ventures; and provide management of the firms with insights into the differences between types of alliances. Even though much research has been conducted, there are still important issues to be examined, and it is important to do so as strategic alliances are becoming more frequently employed as firms attempt to compete in a more complex and globalized market.

2.4 Strategic Alliance Formation Process

In this section, I will briefly describe how a strategic alliance is formed. First of all, based on the market environment, the firm identifies its objectives for developing its business, assesses the resources needed to achieve its objectives, and discovers existing gaps between its actual capabilities and needed capabilities. In order to compensate for gaps in capabilities, the firm can either develop these capabilities itself, cooperate with others, or engage in mergers and acquisitions. The firm also needs to determine why

forming a strategic alliance is a better choice than the other options (Harbison & Pekar, 1998).

Choosing potential partners is a difficult task. Harrigan (1985) classifies the choice into two categories based on the firm's motivation. In order to improve its competitive position in the industry, the firm looks for partners to enhance its existing strategic position by eliminating competitors and influencing the evolution of the industry. In order to achieve planned business development in a market, the firm finds partners that possess the potential for strengthening its current strategic position by exploring synergies, transferring expertise, or expanding through diversification. In order to screen out unsuitable partners, the firm should assess the strengths and weaknesses of each of the potential partners. If the potential partners have engaged in any strategic alliances before, a detailed check on these past experiences is a must. The past experiences of potential partners are references for their performance in future alliances. Even though the partner firms have complementary motivations when they agree to join the alliance, they do not have to have the same motivation. Anticipating and thinking from each partner's point of view helps the firm to avoid conflicts later on.

The firm then needs to assess the value creation of the alliance and to decide what to offer and gain. The firm recognizes any potential difficulties, determines how the ownership of the alliance is divided between or among the partners, projects what the potential capability difference is after the alliance, and identifies what potential product advantage could be delivered after the alliance from the customers' points of view (Harbison & Pekar, 1998).

The firm needs to assess the impact of the alliance on stakeholders, including investors, workers, suppliers, customers, regulatory officials, etc, and to establish a system that forces the managers who are in charge of the alliance to consider the interests of all the stakeholders (Harbison & Pekar, 1998).

In order to negotiate effectively, the firm needs to assess its bargaining power by answering the following questions: What are the key capabilities and resources the firm brings into the alliance? Why and how does the firm need to protect its know-how? What are the resources the partner firms bring into the alliance and what are they seeking from the alliance? If the partner firms have past alliance experiences, the firm needs to study how the partners negotiated the alliance agreements before (Harbison & Pekar, 1998).

When negotiating the alliance, it is important to quantify the level of opportunity brought in or afforded by the alliance. This enhanced opportunity may help to smooth the obstacles during the negotiations and keep the negotiations moving forward. On the other hand, it also prevents wasting time on negotiations if the opportunity is too limited (Harbison & Pekar, 1998).

Before implementing the alliance, a detailed plan of integration of the partner firms needs to be discussed. The plan should include assigning high-ability managers to the alliance, making clear the responsibilities and authorities of the managers, structuring the alliance to meet the objectives of the alliance instead of those of the individual partner firms, establishing a periodic review process, setting up the procedures to deal with the termination of the alliance, and determining the penalty and exit obligations (Harbison & Pekar, 1998).

When implementing the alliance, the partner firms need to set up timetables and measurement tools to track the progress of the alliance and, at the same time, keep an eye on competitors. If problems arise during the life of the alliance, the partner firms need to have open communication channels in order to avoid alliance failure (Harbison & Pekar, 1998).

In summary, the formation process of a strategic alliance starts by identifying the objectives and potential partners, identifying pros and cons, negotiating with potential partners on the agreement, and ends up with implementing the agreement. In order to create a successful alliance and achieve prospective objectives, some key factors need to be considered when forming an alliance. If the partner firms are former competitors, how does the alliance alter their competitive positions? If there is a cross-industry skill being transferred in the alliance, how do partner firms protect their know-how? After forming the alliance, what are the effects on stakeholders and on the value of the firms, what are the obligations and rights of the partner firms, what is the degree of control each firm has over alliance activities, and, furthermore, what are the legal liabilities? Answering such questions as the preceding is necessary when forming an alliance (Harbison & Pekar, 1998).

2.5 Failures of Strategic Alliances

From either a theoretical or empirical perspective, strategic alliances can be beneficial for partner firms. However, when two or more firms engage and cooperate in one activity, it is not surprising that problems occur before accomplishing common goals stated in the agreement. Any kind of problem that arises during a strategic alliance might cause the failure of the alliance. According to an executive survey, about 30% of

alliances were considered complete failures; 39% were clear successes (Kalmbach & Roussel, 1999). These results illustrate that strategic alliances break down easily during the alliance process. The drawbacks that might cause the failures of strategic alliances are summarized as follows.

The first major issue that might cause alliance failure is cultural differences. The number of alliances between partners from different countries is increasing (Harrigan, 1987; Harrigan, 1988). After the formation of an alliance, everything else seems to be all right; however, the culture clashes make the alliance relationship difficult (Fedor & Werther, 1996; Vyas, Shelburn, & Rogers, 1995). Cultural differences refer not only to cultural issues of different countries, but also to different corporate cultures. Different corporate cultures between firms of the same nationality also cause failures of strategic alliances (Vyas, Shelburn, & Rogers, 1995).

The second major drawback in regard to alliance failure is the difference in gains. In alliances, partners not only share the efforts and resources, but also share the rewards. When the rewards are not shared equally, those firms that get less are more likely to withdraw from the alliances (Harrigan, 1988; Slowinski, Seelig, & Hull, 1996).

The third major drawback of strategic alliances is related to a difference in control. Sometimes the implementation of the strategic activities occurs outside of the control of one or more partner firms and makes them feel uneasy about being in the alliance.

Other drawbacks of strategic alliances include losing proprietary know-how, depending on partners for skills (Lei & Slocum, 1991), great liquidation costs of the alliances when partner firms separate (Day, 1995), and allying with competing firms that

hamper the existing alliance (Singh & Mitchell, 1996).

2.6 Summary

As a result of the intensive review of past and current literature, I have gained knowledge of what has been done and what I may do in terms of enhancing the understanding of alliances. Definitions for "strategic alliances" provided in the existing literature help me to define "strategic alliances" for purposes of this study, which contains five essentials that appear in earlier studies and which lessens the confusion as to what an alliance is. The review of theoretical studies also provides me with a better understanding regarding the motivations for alliance activities. It also helps me to establish a framework upon which to conduct my own empirical research. The review of empirical studies helps me to seek research areas that I can further explore in order to contribute to the existing literature, such as the value of strategic alliances in the financial services industry, the issue of equity alliances, and the relationship between alliances and mergers and acquisitions. The literature review also provides reference for sample collection procedures and methodologies for use in this study. Furthermore, the alliance formation process and reasons for alliance failures help me to view the entire realm of alliance activities, which might induce future research on testing the choice of partners in the formation of alliances as well as the probabilities of failure.

CHAPTER 3

RESEARCH METHODOLOGY

In this chapter, I present my research design for this dissertation. The first part of this chapter presents the hypotheses for this study based on the theoretical and empirical literature review. The second part of this chapter provides the data sources, the procedure to obtain the sample, and the detailed sample descriptions. The third part of this chapter presents the research methodologies employed for hypotheses testing and the variables used in the study.

3.1 Hypotheses

According to all five theories regarding the motivations for participating in strategic alliances discussed in Chapter 2, strategic alliances create value for the partner firms. This suggests a positive overall market reaction to the strategic alliance announcements by financial services firms. This value creation is supported by the findings of existing empirical studies (Gleason, Mathur, & Wiggins, 2003; Chiou & White, 2005).

According to business strategy theory, strategic alliances are often used as a strategic means to expand the scale and/or scope of firm operations. When the partner firms seek new expertise, new resources, or new product markets, they may engage in

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cross-industry alliances. When the partner firms seek new geographic markets, expanding existing product lines, or raising industry barriers against potential entry by new competitors, they may participate in within-industry alliances. The partner firms typically pool complementary skills, techniques and other resources to increase their market power in their industry (Chan, Kensinger, Keown, & Martin, 1997). Even though strategic alliances can create value regardless of whether the alliances are cross-industry or within-industry, prior studies such as Gleason, Mathur, and Wiggins (2003) show that integrating (within-industry) alliances or joint ventures create more value than diversifying (cross-industry) alliances or joint ventures by financial services firms. Thus, I expect that the market reaction is more favorable for financial services partner firms that participate in within-industry alliances than cross-industry alliances.

In order to retain competitive positions in a market experiencing rapid technological advance, such as the dynamic evolution in telecommunications, firms often seek global growth opportunities. Business strategy theory argues that when firms lack financial capital, experience, or expertise to go abroad through internal expansion, strategic alliances provide a means to overcome these problems. Alliances are also useful when certain foreign governments prohibit international mergers. Furthermore, besides corporate culture differences, country culture differences also occur in international alliances between partners; therefore, greater information asymmetry reduction is achieved between international alliance partners than between domestic alliance partners. In the meantime, financial risk such as currency and exchange rate risk is also reduced through international alliances. Thus, I expect that the market reaction is more favorable for financial services partner firms which participate in international alliances than

domestic alliances and that the market reaction is more favorable for financial services partner firms which participate in alliances with cross-border activities than alliances involving within-border activities. Gleason, Mathur, and Wiggins (2003) find that international alliances and joint ventures entered into by financial services firms create more value than domestic alliances.

Stuart, Hoang, and Hybels (1999) suggest that equity investment signals a greater level of commitment and an additional level of confidence in an alliance. The partner firms work more closely, participate more actively in their alliances, take more advantage of alliance activities, and further reduce the risk of alliance failures. Allen and Phillips (2000) demonstrate that abnormal returns are largest when an alliance announcement is combined with one partner taking an equity stake in the other. Thus, I expect that market reaction is more favorable for financial services partner firms that participate in equity alliances versus firms that participate in non-equity alliances.

When partner firms have been involved in related activities before the current alliance, their prior experience with each other creates a social network and provides important information about the reliability and capability of their partners (Gulati, 1995). Such prior learning establishes a better foundation for the new alliance and reduces the risk of alliance failure. Thus, I expect that the market reaction is more favorable for financial services partner firms that have prior relationships than firms that have no prior relationships.

As a result of deregulation in the financial services industry, financial services firms are now allowed to participate in all kinds of financial services activities such as banking services, insurance services, and investment services activities. Real options

theory suggests that the flexibility associated with strategic alliances benefits the partner firms by allowing firms to try out different strategies when developing new plans. Business strategy theory also suggests that strategic alliances are often used as a means to expand the scope of operations. Thus, I expect a stronger market reaction when partner firms participate in financial services activities other than their own activities, in which they could not become involved before deregulation.

If the market reaction does not capture all the wealth effects of the alliance announcements and if the market underreacts or overreacts to the announcements of strategic alliances, I expect abnormal long-run stock performance after the alliance announcements. This anticipated result is supported by the findings of Gleason, Mathur, and Wiggins (2003). They find significant positive long-run abnormal holding period returns for 6-, 12-, and 18-month holding periods after the alliance and joint venture announcements.

When forming a strategic alliance, firms evaluate each potential alliance partner's strengths and weaknesses before choosing a final alliance partner. It would be reasonable to expect potential alliance partners check perspective partners' past strategic alliance experience in the market (Harbison & Pekar, 1998). According to signaling theory, firms provide signals as to the quality of their resources when participating in alliances, as keeping alliances with low-quality resources would be costly. Therefore, the partner firm chosen should outperform other firms in the same industry when meeting complementary motivations in an alliance. I expect that the financial services partner firms experience better operating performance than industry peers before strategic alliances. Chan, Kensinger, Keown, and Martin (1997) show that strategic alliance firms tend to exhibit

better operating performance than same industry firms two years before strategic alliances.

Based on resource dependence theory, partner firms exchange and gain knowledge and ability through the alliance process, lower their costs, achieve economies of scale in production, and use the resources pooled more efficiently (Lorange & Roos, 1992). Chan, Kensinger, Keown, and Martin (1997) find that strategic alliance firms experience better operating performances than industry peers two years after entering alliances. Thus, I expect that financial services partner firms experience improvements in operating performance and outperform their industry peers after entering alliances.

According to the theoretical literature, strategic alliances reduce information asymmetries between the partner firms. By pooling resources together, partners of alliances get the chance to obtain knowledge about each other before becoming more involved or getting into negotiations for final transfer of resources. Mody (1993) states that alliances represent experimental organizational forms that can evolve over time and give rise to joint ventures or mergers. Haspeslagh and Jemison (1991) and Hurry (1993) also argue that collaboration such as strategic alliances open the way for a potential merger or lead to an acquisition of partners. Thus, I expect that financial services partner firms are more likely to form joint ventures or enter into mergers and acquisitions with partners than other firms. If the market can predict which firms have the potential to extend their cooperation through joint ventures or mergers and the market expects that such cooperation will be beneficial, the market reaction should be more favorable for financial services partner firms that form joint ventures or merge with partners following an alliance.

3.2 <u>Sample</u>

In the literature, the sample sizes of the alliance studies vary widely, from only 96 alliances (Arend, 2004b) to 1,037 alliances (Haeussler, 2004). Some studies include joint ventures (Gleason, Mathur, & Wiggins, 2003), while others do not (Das, Sen, & Sengupta, 1998). Most of the studies use U.S. data, while some investigate alliances in other countries such as Germany (Haeussler, 2004) and Japan (Chiou & White, 2005). The industries examined in these studies, again, vary from paper to paper. Most of the studies include a wide range of industries, while others focus on one industry, such as Gleason, Mathur, and Wiggins (2003) and Chiou and White (2005) who examine alliances in the financial services industry and Arend (2004b) who examines alliances in the computer industry. Time periods covered by the studies start from as early as the mid-1970s to late 2002, with the sample period as short as two years (Hagedoorn & Duysters, 2002) to as long as 25 years (Filson & Morales, 2006).

For this study, I obtain the sample of strategic alliances of financial services firms from the Securities Data Corporation (SDC) database covering the period 1986 through 2003. The SDC database starts providing comprehensive data on alliances in 1984; however, I find no strategic alliances that satisfy my sample selection criteria prior to 1986. I examine long-run abnormal stock performance and operating performance of the sample firms three years after strategic alliance announcements and also examine the level of cooperation between partner firms after the alliances; therefore, the sample period ends in 2003, which leaves me three years of data to conduct those analyses. The 18-year sample period covers an entire business cycle and the deregulation process in the

financial services industry, which allows me to examine strategic alliances in this industry more thoroughly.

The initial sample includes strategic alliances with at least one firm involved in banking, insurance, or investment services. I use Kenneth French's 49 industry portfolios to identify banking, insurance, and investment services firms: banking includes Standard Industrial Classification (SIC) codes 6000 through 6199, insurance services firms include SIC codes 6300 through 6411, and investment services firms include SIC codes 6200 through 6299 and 6700 through 6799.[1] I obtain SIC codes from the Center for Research in Security Prices (CRSP) at the beginning of the alliance announcement months. When SIC codes in CRSP are not available for certain firms, I obtain them from Standard and Poor's Compustat. Then I restrict my sample to strategic alliances with at least one financial services partner firm included in CRSP at the time of the alliance announcement. The same restriction is imposed by Gleason, Mathur, and Wiggins (2003), who also examine the stock market reaction to the strategic alliance and joint venture announcements in the financial services industry. My sample is further restricted to alliances that are completed and signed, while those with pending or letters of intent are excluded. The final sample consists of 795 strategic alliances. Only financial services firms in these alliances are considered as sample firms, not their non-financial partners; thus the final sample includes 861 financial services firms. As some of the alliances involve more than one financial services firm with financial data available, the number of firms in the sample is larger than the number of alliances.

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[1] This classification is available on Kenneth French's website:
http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/det_49_ind_port.html

In order to fulfill the purpose and objectives of this empirical study, I use different data sources including SDC, CRSP, Compustat, and Lexis/Nexis. From the Joint Ventures/Alliances section of the SDC Mergers and Acquisitions database, I obtain the following variables describing the sample strategic alliances: the deal number of an alliance, the date when an alliance is announced, the 6-digit partial cusips of an alliance's participants, the names of an alliance's participants, the main activities of an alliance, the number of participants in an alliance, the status of an alliance (e.g., completed/signed, pending, letter of intent, terminated, etc.), whether the participants of an alliance are from different countries, whether the activities of an alliance occur in different countries, whether an alliance has a specified time the alliance is intended to last in the alliance agreement, and detailed text description of the alliance.

The announcement date of an alliance is a key variable for this study, especially when examining the market reaction to the alliance announcement. Therefore, after obtaining the announcement date of an alliance from the SDC database, I check Lexis/Nexis for further confirmation. Lexis/Nexis offers full-text online news, business, legal, legislative, and regulatory information. For each of the 795 alliances in the sample, I search business and finance news and news wires sections using the names of an alliance's participants. Most of the announcement dates found in Lexis/Nexis are consistent with the announcement dates reported in the SDC database, while some are days later. For the final announcement dates in the sample, I use the dates reported in the SDC database, which seems to provide earlier announcement dates. Due to the sample size, it is not possible to ensure that there is no other news relating to sample firms right

before or at the time of strategic alliance announcements. However, I have no reason to expect that such news would be biased towards positive or negative news.

From CRSP, I obtain the stock market returns for the market reaction analyses and the long-run abnormal stock performance analyses. From Kenneth French's website, I obtain the data for the 4-factor model analysis. I use both CRSP and Compustat data for the operating performance analysis and for providing the financial characteristics of the sample firms.

From the Joint Ventures/Alliances section of the SDC Mergers and Acquisitions database, I obtain the following variables for examining joint ventures between partner firms after strategic alliances: the date when a joint venture is announced, the date when a joint venture is effected, the 6-digit partial cusips of a joint venture's participants, and the status of a joint venture (e.g., completed/signed, pending, letter of intent, terminated, etc.). From the SDC Mergers and Acquisitions database, I obtain the following variables for examining mergers and acquisitions between partner firms after strategic alliances: the date when a merger and acquisition is announced, the date when a merger and acquisition is effected, the 6-digit partial cusip of the acquirer firm, the 6-digit partial cusip of the target firm, and the status of a merger and acquisition (e.g., completed, withdrawn, status unknown, etc.).

Table 3.1 provides the number and percentage of strategic alliances by year. The sample covers the 1986 to 2003 period. The distribution shows a similar pattern as shown in the "Report on Consolidation in the Financial Sector" (Group of Ten, 2001). Only about 1% of sample alliances occur in the 1980s; however, since 1990, the number of alliances increases dramatically, with the highest number in the late 1990s. Fifty-three

percent of sample alliances occur during the 4-year period 1997 to 2000. Deregulation in the financial services industry in 1997 that allowed commercial banks to acquire investment banks as Section 20 subsidiaries and the Financial Services Modernization Act passed in 1999 seem to induce strategic alliances in the industry. Sixty-six percent of sample alliances occur after 1996, and 40.63% occur after 1998.

Table 3.1
Distribution of strategic alliances by year.

Year	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Number of alliances	1	3	1	3	7	18	25	40	43	63
Percent of alliances	0.13	0.38	0.13	0.38	0.88	2.26	3.14	5.03	5.41	7.92

Year	1996	1997	1998	1999	2000	2001	2002	2003		Total
Number of alliances	63	91	114	128	91	52	29	23		795
Percent of alliances	7.92	11.45	14.34	16.10	11.45	6.54	3.65	2.89		100.00

The sample includes strategic alliances by financial services firms announced during 1986 to 2003 reported in the Securities Data Corporation (SDC) database. I limit the sample to alliances involving at least one firm in the financial services industry (SIC codes of 6000 through 6199 for banking; 6300 through 6411 for insurance services; and 6200 through 6299 and 6700 through 6799 for investments services). I restrict the sample to financial services firms included in CRSP at the time of the announcement.

Table 3.2 provides the distribution of strategic alliances by the number of alliance partners. The number of partners varies from 2 to 16; however, more than 89% of sample alliances involve only two partners, and less than 2% involve more than four partners. Furthermore, most sample alliances do not have time restrictions concerning the length of the alliance; almost 95% of alliances are open-length alliances (not reported in the table).

Table 3.2
Distribution of strategic alliances by number of partner firms.

Number of partners	2	3	4	5	6	7	8	10	16	Total
Number of alliances	709	54	17	6	3	3	1	1	1	795
Percent of alliances	89.18	6.79	2.14	0.75	0.38	0.38	0.13	0.13	0.13	100.00

The sample includes strategic alliances by financial services firms announced during 1986 to 2003 reported in the Securities Data Corporation (SDC) database. I limit the sample to alliances involving at least one firm in the financial services industry (SIC codes of 6000 through 6199 for banking; 6300 through 6411 for insurance services; and 6200 through 6299 and 6700 through 6799 for investments services). I restrict the sample to financial services firms included in CRSP at the time of the announcement.

Table 3.3 provides the distribution of strategic alliance firms by industry. Banks account for about 36.82% of the sample firms, and commercial banks are the most common in this industry group. Insurance services firms account for about 15.68% of the sample firms, and life insurance firms are the most common in this industry group. Investment services firms account for about 47.50% of the sample firms, and holding offices which own the securities of banks or other firms and exercise a certain degree of control over those firms' activities are the most common in this industry group. Overall, investment services firms participate in strategic alliances the most, banks second, and insurance services firms the least.

Table 3.3
Distribution of strategic alliance firms by industry.

Industry	Number of firms	Percent of firms
Banks (6000 through 6199)	317	36.82
Commercial banks (6020 through 6029)	144	16.72
Foreign bank and branches (6080 through 6082)	35	4.07
Others	138	16.03
Insurance services (6300 through 6411)	135	15.68
Life insurance (6310 through 6319)	42	4.88
Fire, marine, and casualty insurance (6330 through 6331)	38	4.41
Others	55	6.39
Investment services (6200 through 6299 and 6700 through 6799)	409	47.50
Holding offices (6710 through 6719)	190	22.07
Security brokers and dealers (6211)	93	10.80
Others	126	14.63
Total	861	100.00

The sample includes 795 strategic alliances by financial services firms announced during 1986 to 2003. These alliances involve 861 banking, insurance, or investment services firms. I obtain SIC codes from CRSP at the beginning of the alliance announcement month. When the SIC code in CRSP is not available, I obtain it from Compustat.

Table 3.4 provides financial characteristics of the sample firms. I obtain the market value of equity from CRSP at the beginning of the alliance announcement month. I obtain accounting variables from Compustat at the end of the fiscal year before the alliance announcement. I estimate the book-to-market ratio following Fama and French (1993) and Tobin's q as the ratio of total assets minus the book value of common equity plus the market value of common equity to total assets. The sample consists of large financial services firms with average total assets of $104,332.30 million, ranging widely from $1,555.38 million in the bottom quartile to $126,933.00 million in the top quartile. The mean market value of equity of the sample firms is $13,438.85 million, and the mean book value of common equity is $6,962.05 million. The average sales for these alliance firms are $11,245.66 million, the mean book-to-market ratio is 0.56, and the mean

Tobin's q is 1.48.

Table 3.4
Characteristics of strategic alliance firms.

Variable	Mean	Bottom quartile	Median	Top quartile
Total assets, $M	104,332.30	1,555.38	31,471.50	126,933.00
Market value of equity, $M	13,438.85	276.27	2,679.30	14,034.56
Book value of common equity, $M	6,962.05	332.28	3,466.55	9,324.00
Sales, $M	11,245.66	366.91	5,231.81	17,008.00
Book-to-market ratio	0.56	0.31	0.45	0.63
Tobin's q	1.48	1.04	1.10	1.37

The sample includes 795 strategic alliances by financial services firms announced during 1986 to 2003. These alliances involve 861 banking, insurance, and investment services firms. I obtain the market value of equity from CRSP at the beginning of the alliance announcement month. I obtain accounting variables from Compustat at the end of the fiscal year before the alliance announcement. I estimate the book-to-market ratio following Fama and French (1993). I estimate the Tobin's q as the ratio of total assets minus the book value of common equity plus the market value of common equity to total assets.

3.3 Methodology

In order to test the hypotheses that I present in Section 3.1, I estimate cumulative announcement-period abnormal returns, holding-period industry- and size-adjusted abnormal returns, and calendar-time abnormal returns implied by the 4-factor model.

3.3.1 Market Reaction to Strategic Alliance Announcements

In this study, I use cumulative abnormal returns during the announcement period to evaluate the market reaction to strategic alliance announcements. Abnormal returns are estimated as differences between stock returns and returns predicted by the market model. Stock returns of the alliance partner firms and returns of the value-weighted portfolio of all CRSP firms are obtained from CRSP.

In the literature, a great deal of variation is associated with the time period for estimating the parameters of the market model (estimation period) and the time period for

calculating the abnormal return of the market model (event window). The estimation period can be as short as 100 days (Gleason, Mathur, & Wiggins, 2003) or as long as 200 days (Chiou & White, 2005). The event window for calculating the abnormal return also varies widely, from 1 day--the announcement day (Arend, 2004b), to 26 days around the announcement day (Chan, Kensinger, Keown, & Martin, 1997).

I estimate the market model parameters during the 150-day period ending 30 days before the announcement date reported in the SDC database. For the whole sample, the announcement periods to be examined include announcement day 0 (a 1-day event window), days -1 to +1 relative to the announcement day (a 3-day event window), days -3 to +3 relative to the announcement day (a 7-day event window), and days -5 to +5 relative to the announcement day (an 11-day event window). These are the commonly used event windows in the existing literature. A longer event window would only reduce the power of the test (Brown & Warner, 1985). For the comparison of subsamples, I focus on 1-day abnormal returns since they have a similar significant value and a lower standard deviation than 3-day cumulative abnormal returns.

I first examine the entire sample of 861 alliance firms to test the hypothesis that the market reacts positively to strategic alliance announcements by financial services firms. In order to test other hypotheses regarding the market reaction to alliance announcements, I break the sample firms into different groups and examine the differences in the market reaction to the alliance announcements between these groups.

To classify cross-industry and within-industry alliance partner firms, I obtain the non-financial services partner firms for each of the alliances in the sample. In this classification, only the announcements with at least two firms available in CRSP are

included. If an alliance involves at least one firm from an industry other than the financial services industry, I categorize the partner firms of the alliance as cross-industry alliance partners. Otherwise, if an alliance involves firms only from the financial services industry, the partner firms are classified as within-industry alliance partners. For example, on March 16, 1999, three firms--Yahoo! Inc. from the computer-integrated systems-design industry, Bank One Corp. from the financial services industry, and First Data Corp. from the financial services industry--formed a strategic alliance to provide credit card processing services for those online stores on Yahoo's website in the United States. As this alliance has one firm from other than the financial services industry, the partner firms are categorized as cross-industry alliance partners. On August 27, 2003, ING Group NV and Kookmin Bank formed a strategic alliance to engage in bancassurance activities (the selling of insurance products through banks) in South Korea following the new Korean bancassurance regulations for the selling of insurance products through banks. As this alliance has both firms from the financial services industry, the partner firms are categorized as within-industry alliance partners.

Some multiple-partner alliances have partner firms without SIC codes available in CRSP; I check further whether the other partner firms with SIC codes available are in the same industry. If they are in the same industry, I have to exclude these announcements, since I cannot categorize the partner firms without identifying the industries for all the partner firms. However, none of the announcements in the sample fit this situation. If the partner firms for which SIC codes are available are not in the same industry, I can categorize the partner firms as cross-industry alliance partners.

I use the variable obtained from the SDC database that indicates whether the activities of an alliance occur in different countries in order to make a geographic classification. If the variable is "Y," the partner firms of that alliance are classified as partners of alliances with cross-border activities. If the variable is "N," the partner firms of that alliance are classified as partners of alliances with within-border activities. For example, on November 2, 1999, Citigroup Inc. from the United States and Nikko Beans Inc. from Japan formed a strategic alliance and agreed to sell each other's products in their own countries. As this alliance has activities occurring in two countries--the United States and Japan--the partner firms are categorized as partners of alliances with cross-border activities. On March 4, 2003, Prudential PLC and UBS AG formed a strategic alliance and agreed to work together to provide life insurance services in France. As this alliance has activities occurring only in one country, France, the partner firms are categorized as partners of alliances with within-border activities.

I use the nation of the alliance participant obtained from the SDC database to identify whether the participants of an alliance are from different countries to provide a further geographic classification. If the partner firms of an alliance are from different countries, the firms are classified as partners in international alliances. If the partner firms of an alliance are from the same country, the firms are classified as partners of domestic alliances. For example, on January 28, 1998, Mellon Bank Corp. from the United States and Tokyo-Mitsubishi Asset Management, a unit of Bank of Tokyo-Mitsubishi from Japan, entered a strategic alliance and agreed to work together to offer investment management services. As this alliance has firms from two countries--the United States and Japan--the partner firms are categorized as partners in international alliances. On

August 3, 2002, Community Bancorp of New Jersey and GMAC (General Motor Acceptance Corp.) Commercial Mortgage Corp. formed a strategic alliance. Under the alliance agreement, both firms agreed to provide financial services in the United States. As this alliance has both firms from one country, the United States, the partner firms are categorized as partners of domestic alliances.

To classify equity alliance and non-equity alliance partner firms, I obtain equity investment information of sample alliances from the SDC database. For each of the alliances in the sample, I read the detailed text information about the announcement. The text may provide information about which partner firm is the investor, how many shares of stock are purchased, what is the purchase price, or what percentage of the shares is purchased. If I am able to find equity investment information about at least one partner firm buying equity in another partner firm in an alliance, the partner firms of that alliance are classified as equity alliance partners. If I am not able to find any equity investment information, I classify the partner firms of the alliance as non-equity alliance partners. For example, on May 21, 1998, Fleet Financial Group and Parallel Corp. formed a strategic alliance to combine Fleet Financial Group's real estate financing methods with Parallel Corp.'s client base. Under the alliance agreement, Fleet Financial Group acquired a 20% equity holding in Parallel Corp. As this alliance has one partner firm buying a minority equity stake (less than 50%) in another partner firm, the firms are categorized as equity alliance partners.

The partner firms of an alliance might have been involved in any cooperative relationship before the alliance announcement, which I define as a prior relationship. To classify the alliance firms by prior relationships, I search for evidence of relationships

between alliance partners before the alliances in the SDC Mergers and Acquisitions database as well as Lexis/Nexis for three years before the alliances. If any relationship can be found between any two partner firms in an alliance before the alliance announcement, the alliance partner firms are classified as partners in strategic alliances with prior relationships. If no evidence of a prior relationship can be found in the SDC or Lexis/Nexis, the partner firms are classified as partners of strategic alliances without a prior relationship. For example, on November 22, 1999, PNC Bank and LendingTree, Inc. formed a strategic alliance. Under the alliance agreement, both firms work together to provide customers more loan options when customers are visiting an online-banking center--iVillage.com. On March 6, 1998, these two firms had already engaged in another relationship when PNC Bank joined LendingTree, Inc. along with three other regional banks--Zions Bancorp, National City Corp., and GreenPoint Financial Corp.--to establish LendingTree.com and provide a competitive bidding process for mortgages, auto loans, credit lines, and credit cards. As these two partner firms had cooperated prior to this alliance, they are categorized as partners in strategic alliances with a prior relationship.

Financial services sample firms participate in a total of 37 different alliance activities reported in the SDC. I classify the alliance activities into broad activity groups: financial services activities, marketing services activities, and other activities. The financial services activities are further broken down into banking services, financial services, insurance services, and investment services activities. The reason for this classification is that financial services activities and marketing services activities are the two most common types of alliance activities for financial services firms. I use the names of the alliance activities as reported in the SDC except for marketing services activities,

which include both marketing services and advertising services activities. For each sample alliance, I use the main activity that is reported first in the database.

The next two classifications are based on the industry and activity classifications. First, the sample is classified into four groups regarding financial services firms participating in their own financial services activities in alliances: banks participating in banking activities, insurance services firms participating in insurance services activities, investment services firms participating in investment services activities, and firms participating in other than their industry activities. Second, the sample is classified into seven groups regarding financial services firms participating in financial services activities other than their own activities in alliances: banks participating in insurance services activities, banks participating in investment services activities, insurance services firms participating in banking activities, insurance services firms participating in investment activities, investment services firms participating in banking activities, investment services firms participating in insurance activities, and financial services firms participating in other than above mentioned activities.

In order to investigate the differences in the market reaction to alliance announcements between these groups, I use analysis of variance to test for differences in means and the Kurskal-Wallis test to test for differences in medians.

3.3.2 Long-run Abnormal Stock Performance

I use two methodologies to estimate long-run abnormal stock performance for the participants of strategic alliances: holding-period industry- and size-adjusted abnormal returns and calendar-time abnormal returns implied by the 4-factor model. Even though holding-period abnormal returns methodology is better for measuring investor experience

related to the alliance announcements, it assumes cross-sectional independence of returns possibly leading to inflated t-statistics (Fama, 1998; Mitchell & Stafford, 2000).

When an alliance firm is delisted from CRSP before the end of the returns estimation period, the delisting bias would affect firm returns in the analysis. In order to avoid this delisting bias, I add CRSP delisting return of the alliance firm as the last month return by following Shumway (1997) and Shumway and Warther (1999). If the CRSP delisting return is not available for an alliance firm and the firm is delisted because of performance reasons, I add -30% as the last month return for NYSE and AMEX firms and -55% for NASDAQ firms.

I estimate pre- and post-announcement holding-period abnormal returns of the alliance firms relative to the returns of industry- and size-matched firms. To create the matched sample, for each alliance firm I find all firms with the same 2-digit SIC code, and from these firms I choose the one with the market value of equity closest to that of the alliance firm to the matched sample. I obtain the SIC codes and market values of equity of alliance firms and matched firms at the beginning of the announcement month. Strategic alliance firms are excluded from the matched sample for the three years before and the three years after the announcements.

I calculate the holding-period return for each firm in the strategic alliance sample and the matched sample using the following formula:

$$HPR_{i,a,b} = \left[\prod_{t=a}^{b} (1 + R_{i,t}) \right] - 1, \tag{1}$$

where $HPR_{i,a,b}$ is holding-period return for the alliance or matched firm i during the period from a to b; $R_{i,t}$ is the monthly return on common shares of the alliance or matched firm i in month t. The difference between the strategic alliance firm and the matched firm

holding-period returns is the holding-period abnormal return. When alliance or matched firm returns are unavailable for the whole post-announcement holding period, I follow Hertzel, Lemmon, Linck, and Rees (2002) and use firm returns for the longest period available. I use a cross-sectional t-statistic to evaluate the statistical significance of holding-period abnormal returns for the strategic alliance firms (Barber & Lyon, 1997).

I reexamine pre- and post-announcement abnormal returns of the alliance firms using the 4-factor model. I estimate 1-year (2-year, 3-year) pre-announcement calendar-time abnormal returns for the participants of strategic alliances using the following procedure: Each month, I identify all firms that announced strategic alliances during the next year (two years, three years) and calculate average monthly returns for these firms (R_{pt}). I estimate 1-year (2-year, 3-year) post-announcement calendar-time abnormal returns for the participants of strategic alliances using the following procedure: Each month, I identify all firms that announced strategic alliances during the last year (two years, three years) and calculate average monthly returns for these firms (R_{pt}).

The remaining part of the procedure is the same for the pre- and post-announcement returns for the participants of strategic alliances. I estimate the 4-factor model using three Fama and French (1993) factors and a momentum factor (Carhart, 1997):

$$R_{pt} - R_{ft} = \alpha + \beta_m (R_{mt} - R_{ft}) + \beta_s SMB_t + \beta_h HML_t + \beta_u UMD_t + \varepsilon_t, \qquad (2)$$

where R_{ft} is the risk-free rate for month t, $(R_{mt} - R_{ft})$ is the excess return on the market, SMB_t is the difference in returns between portfolios of small and large stocks, HML_t is the difference in returns between high and low book-to-market stocks, and UMD_t is the difference in returns between portfolios of high and low prior return stocks. Fama and

French (1993) introduce the estimation procedure for the three factors. Carhart (1997) introduces the estimation procedure for the momentum factor. I obtain all the data on these factors from Kenneth French's website.[2] The intercept term α from the 4-factor model determines the monthly abnormal return for the participants of strategic alliances. According to Mitchell and Stafford (2000), factor models are not able to explain stock returns in some cases, and they suggest using an adjusted α. I then follow their methodology and estimate the adjusted α relative to the expected α, which I calculate as the average α of 1,000 4-factor models of random samples with the same size and book-to-market characteristics as the strategic alliance sample. I also estimate the implied abnormal returns of the alliance firms for the 1-year to 3-year periods using the formula $(1 + \alpha/100)^n - 1$, where n is the number of months in the estimation period.

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[2] Kenneth French's website: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

CHAPTER 4

RESULTS

In this chapter, I report the empirical results of the analysis. Sections 4.1, 4.2, and

4.3 present the results regarding the wealth effects of strategic alliances by financial

services firms. Sections 4.4, 4.5, and 4.6 present the results regarding the level of

cooperation after strategic alliances by financial services firms.

Section 4.1 provides the results for market reaction to strategic alliance

announcements. Section 4.2 presents the results for long-run abnormal stock performance

of the sample alliance firms before and after strategic alliance announcements. Section

4.3 provides the results for operating performance of the sample alliance firms before and

after strategic alliance announcements. Section 4.4 reports the results related to joint

ventures after sample strategic alliances. Section 4.5 reports the results related to mergers

and acquisitions after sample strategic alliances. Section 4.6 provides the results for

market reaction to strategic alliance announcements for alliances followed by joint

ventures or mergers and acquisitions. Finally, Section 4.7 summarizes all the results.

4.1 Market Reaction

Table 4.1 presents announcement-period 1-day Abnormal Returns (ARs) and 3-

day, 7-day, and 11-day Cumulative Abnormal Returns (CARs) for strategic alliance

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financial services firms. Return data for event-study methodology are available for 782 sample firms. The announcement periods include Announcement Day (AD), days -1 to +1 relative to the Announcement Day (AD-1 to AD+1), days -3 to +3 relative to the Announcement Day (AD-3 to AD+3), and days -5 to +5 relative to the Announcement Day (AD-5 to AD+5).

Table 4.1
Market reaction to strategic alliance announcements.

Announcement period	Mean (t-statistic)	Median (p-value)
AD	0.40%*** (2.86)	0.12%** (0.015)
AD-1 to AD+1	0.53%** (2.36)	0.10%** (0.040)
AD-3 to AD+3	0.08% (0.28)	-0.12% (0.799)
AD-5 to AD+5	0.39% (1.18)	-0.01% (0.581)

The table presents announcement-period Abnormal Returns (ARs) for the Announcement Day (AD) and Cumulative Abnormal Returns (CARs) for AD-1 to AD+1, AD-3 to AD+3, and AD-5 to AD+5 event windows for strategic alliance firms. Return data for event-study methodology are available for 782 sample firms. The ARs are estimated using a market model. I estimate market model parameters during the 150-day period ending 30 days before the announcement date. T-statistics are cross-sectional t-statistics. P-values are signed rank test p-values.
***, **, and * Significance at the 1 percent, 5 percent, and 10 percent levels, respectively (2-tail tests).

For the whole sample, the mean announcement-day AR is 0.40% (significant at the 1% level), and the median is 0.12% (significant at the 5% level). Similarly, Chan, Kensinger, Keown, and Martin (1997) report an average of 0.64% AR at the day of the alliance announcement for a sample of non-equity alliance firms, while Haeussler (2004) finds an average of 3.8% AR for a sample of German firms. The mean 3-day CAR for my sample is 0.53% (significant at the 5% level), and the median is 0.10% (significant at the 5% level). Similarly, Gleason, Mathur, and Wiggins (2003) report 0.66% 3-day CARs for

a sample of financial services firms announcing strategic alliances or joint ventures. Longer announcement periods for my sample result in positive but insignificant CARs. The market reaction results are also consistent with Das, Sen, and Sengupta (1998) and Chiou and White (2005), who report positive average cumulative abnormal returns associated with the alliance announcements using different event windows. The findings support the hypothesis that the market reacts positively to strategic alliance announcements by financial services firms.

Table 4.2 presents the market reaction to strategic alliance announcements by alliance classifications. The announcement period is the announcement day reported in the SDC.

Table 4.2

Market reaction to strategic alliance announcements by alliance classifications.

	Mean (*t*-statistic)	Median (*p*-value)	Number of observations
Banks (6000 through 6199)	0.46%*** (2.68)	0.26%*** (0.004)	288
Insurance services (6300 through 6411)	-0.04% (-0.16)	-0.10% (0.649)	117
Investment services (6200 through 6299 and 6700 through 6799)	0.50%** (2.00)	0.07% (0.161)	377
Cross-industry strategic alliances	0.67%* (1.75)	0.30%** (0.014)	214
Within-industry strategic alliances	0.40% (1.06)	0.04% (0.501)	88
Difference, *p*-value	0.240	0.125	
Alliances with cross-border activities	1.13%*** (2.80)	0.66%*** (0.010)	51
Alliances with within-border activities	0.35%** (2.38)	0.11%* (0.066)	731
Difference, *p*-value	0.171	0.037**	
International strategic alliances	0.21% (0.92)	0.12%* (0.081)	239
Domestic strategic alliances	0.49%*** (2.77)	0.11%* (0.075)	543
Difference, *p*-value	0.373	0.657	
Equity alliances	0.10% (0.26)	0.17% (0.906)	23
Non-equity alliances	0.41%*** (2.85)	0.11%** (0.015)	759
Difference, *p*-value	0.706	0.814	
Strategic alliance partners with prior relationships	0.13% (0.17)	0.29% (0.211)	57
Strategic alliance partners without prior relationships	0.43%*** (3.02)	0.11%** (0.030)	725
Difference, *p*-value	0.584	0.537	

The table presents announcement-day Abnormal Returns (ARs) for strategic alliance firms by alliance classifications. The ARs are estimated using a market model. I estimate market model parameters during the 150-day period ending 30 days before the announcement date. The strategic alliance announcement day is reported in the SDC. Cross-industry alliances involve at least one firm from other than the financial services industry. Within-industry alliances involve firms only from the financial services industry. Alliances with cross-border activities are alliances where activities occur in more than one country. Alliances with within-border activities are alliances where activities occur in one country. International alliances involve firms from different countries. Domestic alliances involve firms from only one country. Equity alliances are alliances where at least one partner firm buys equity in another partner firm. I search for evidence of relationships between partners of alliances before the alliances in the SDC Mergers and Acquisitions database as well as Lexis/Nexis. *T*-statistics are cross-sectional *t*-statistics. *P*-values are signed rank test *p*-values. I use analysis of variance to test for differences in means and the Kurskal-Wallis test to test for differences in medians.

***, **, and * Significance at the 1 percent, 5 percent, and 10 percent levels, respectively (2-tail tests).

From the industry classification, the results show that investment services firms experience an average announcement-day AR of 0.50% (significant at the 5% level), and banks experience an average AR of 0.46% (significant at the 1% level) and a median value of 0.26% (significant at the 1% level). AR for insurance services firms is not significantly different from zero. Thus, the market reacts positively when banks and investment services firms participate in alliances, but this is not the case for insurance services firms. The results are consistent with Gleason, Mathur, and Wiggins (2003) who report positive and significant CARs for commercial banks and investment services firms announcing strategic alliances or joint ventures. However, they also find significant positive market reactions for insurance services firms.

From the cross-industry/within-industry classification, the results show that cross-industry alliance partners experience an average announcement-day AR of 0.67% (significant at the 10% level) and a median value of 0.30% (significant at the 5% level); while within-industry alliance partners experience a mean AR not significantly different from zero. The results are different from the findings of Gleason, Mathur, and Wiggins (2003) which show that integrating (within-industry) alliances or joint ventures gain more value than diversifying (cross-industry) alliances or joint ventures for the financial services partner firms.

From the cross-border/within-border activities classification, the results show that partners of alliances with cross-border activities experience an average announcement-day AR of 1.13% (significant at the 1% level) and a median value of 0.66% (significant at the 1% level). Partners of alliances with within-border activities experience a lower

mean AR of 0.35% (significant at the 5% level) and a lower median value of 0.11% (significant at the 10% level).

From the international/domestic classification, the results show that partners of international alliances experience an insignificant average announcement-day AR and a median value of 0.12% (significant at the 10% level). Partners in domestic alliances experience a mean AR of 0.49% (significant at the 1% level) and a median value of 0.11% (significant at the 10% level). The results are different from the findings of Gleason, Mathur, and Wiggins (2003) which show that international alliances or joint ventures gain more value than domestic alliances or joint ventures.

From the equity investment classification, the results show that non-equity alliance partners experience an average announcement-day AR of 0.41% (significant at the 1% level) and a median value of 0.11% (significant at the 5% level); while equity alliance partners experience an insignificant mean AR.

From the prior relationship classification, the results show that alliance partners without prior relationships experience an average announcement-day AR of 0.43% (significant at the 1% level) and a median value of 0.11% (significant at the 5% level); while alliance partners with prior relationships experience an insignificant mean AR.

I also examine the difference in announcement-day ARs between cross-industry alliance partners and within-industry alliance partners, partners of alliances with cross-border activities and partners of alliances with within-border activities, partners of international alliances and partners of domestic alliances, equity alliance partners and non-equity alliance partners, as well as alliance partners with prior relationships and alliance partners without prior relationships. I find no significant differences in the

market reaction to alliance announcements between these groups except for the difference in medians between alliances with cross-border activities and within-border activities. The median market reaction to announcements of alliances with cross-border activities is 0.66%, while it is 0.11% for alliances with within-border activities; the difference is significant at the 5% level. Similarly, Chiou and White (2005) find no significant difference in the abnormal returns between international and domestic alliances. The results cannot support the hypotheses that the market reaction is more favorable for financial services partner firms that participate in within-industry alliances than cross-industry alliances; firms that participate in international alliances than domestic alliances; firms that participate in equity alliances than non-equity alliances; and firms that have prior relationships than have no prior relationships. The non-parametric tests support the hypothesis that the market reaction is more favorable for financial services partner firms that participate in alliances with cross-border activities than alliances involving within-border activities.

I also find that cross-industry alliances, alliances involving within-border activities, domestic alliances, non-equity alliances, and alliances among partners without prior relationships are more common than other types of alliances by financial services firms.

Table 4.3 reports announcement-day ARs for strategic alliance firms by alliance activities. I use the names of the activities as reported in the SDC except for marketing services, which include both marketing services and advertising services. The market reaction is positive and significant for alliances involved in banking services, financial services, investment services, and marketing services. The mean AR is 0.68% for

banking services (significant at the 10% level), 0.74% for financial services (significant at the 5% level), 1.75% for investment services (significant at the 5% level), 0.55% for marketing services (significant at the 5% level), and 0.65% for financial services as a whole (significant at the 1% level). The median AR is 0.30% for banking services (significant at the 10% level), 0.14% for financial services (significant at the 10% level), 0.48% for investment services (significant at the 5% level), 0.33% for marketing services (significant at the 5% level), and 0.16% for financial services as a whole (significant at the 5% level). The mean and median ARs for insurance services and other services are statistically insignificant and have lower values. The results show that the market reaction is positive for the financial services partner firms that are involved in financial services activities such as banking services or investment services in the alliances.

Table 4.3

Market reaction to strategic alliance announcements by alliance activities.

	Mean (*t*-statistic)	Median (*p*-value)	Number of observations
Financial services	0.65%*** (3.41)	0.16%** (0.026)	300
Banking services	0.68%* (1.84)	0.30%* (0.070)	70
Financial services	0.74%** (2.53)	0.14%* (0.062)	113
Insurance services	-0.23% (-0.78)	-0.34% (0.199)	71
Investment services	1.75%** (2.58)	0.48%** (0.033)	46
Marketing services	0.55%** (2.06)	0.33%** (0.016)	110
Other services activities	0.16% (0.67)	0.02% (0.717)	372
Financial services firms that participate in their own activities	1.02%*** (2.95)	0.32%** (0.015)	122
Banking firms that participate in banking activities	1.20%*** (2.71)	0.41%*** (0.001)	51
Insurance services firms that participate in insurance services activities	0.07% (0.17)	-0.10% (0.863)	45
Investment services firms that participate in investment services activities	2.29%** (2.07)	0.82% (0.148)	26
Financial services firms that participate in other than their industry activities	0.29%* (1.88)	0.09% (0.105)	660
Difference between financial services firms that participate in their own activities and firms that participate in other than their industry activities	0.73%* (1.87)	0.23% (0.107)	

The table presents announcement-day Abnormal Returns (ARs) for strategic alliance firms by alliance activities. The ARs are estimated using a market model. I estimate market model parameters during the 150-day period ending 30 days before the announcement date. The strategic alliance announcement day is reported in the SDC. I use the names of alliance activities as reported in the SDC except for marketing services, which includes both marketing services and advertising services. *T*-statistics are cross-sectional *t*-statistics. *P*-values are signed rank test *p*-values. I use analysis of variance to test for differences in means and the Kurskal-Wallis test to test for differences in medians.

***, **, and * Significance at the 1 percent, 5 percent, and 10 percent levels, respectively (2-tail tests).

Table 4.3 (Continued)

	Mean (t-statistic)	Median (p-value)	Number of observations
Financial services firms that participate in banking, insurance, investment services activities other than their own activities	-0.20% (-0.67)	-0.31% (0.260)	65
Banking firms that participate in insurance services activities	-1.32%** (-2.98)	-1.08%*** (0.006)	13
Banking firms that participate in investment services activities	1.09% (1.43)	0.47% (0.208)	15
Insurance services firms that participate in banking activities	3.61%	3.61%	1
Insurance services firms that participate in investment services activities	0.90% (1.01)	0.44% (0.438)	5
Investment services firms that participate in banking activities	-0.95%* (-1.77)	-0.58%* (0.074)	18
Investment services firms that participate in insurance services activities	-0.21% (-0.48)	0.09% (0.787)	13
Financial services firms that participate in other than above mentioned activities	0.46%*** (3.02)	0.13%*** (0.004)	717
Difference between financial services firms that participate in banking, insurance, investment services activities other than their own activities and firms that participate in other than above mentioned activities	-0.66% (1.28)	-0.44%* (0.078)	

The table presents announcement-day Abnormal Returns (ARs) for strategic alliance firms by alliance activities. The ARs are estimated using a market model. I estimate market model parameters during the 150-day period ending 30 days before the announcement date. The strategic alliance announcement day is reported in the SDC. I use the names of alliance activities as reported in the SDC except for marketing services, which includes both marketing services and advertising services. T-statistics are cross-sectional t-statistics. P-values are signed rank test p-values. I use analysis of variance to test for differences in means and the Kurskal-Wallis test to test for differences in medians.

***, **, and * Significance at the 1 percent, 5 percent, and 10 percent levels, respectively (2-tail tests).

When financial services partner firms participate in their own financial activities in the alliances, the mean AR is 1.02% (significant at the 1% level) and the median is 0.32% (significant at the 5% level). More specifically, when banks participate in banking activities, the mean AR is 1.20% (significant at the 1% level) and the median is 0.41% (significant at the 1% level); when investment services firms participate in investment activities, the mean AR is as high as 2.29%, significant at the 5% level. Furthermore, there is a statistically significant difference in means between the market reactions to

financial services firms when participating in their own activities and participating in any other activities in the alliances; the difference of 0.73% is significant at the 10% level. The results show that the market reaction is more favorable for financial services partner firms that are involved in their own financial services activities in the alliances than for alliance firms that participate in other than their industry activities.

When banks participate in insurance services activities in the alliances, the mean AR is -1.32% (significant at the 5% level) and the median is -1.08% (significant at the 1% level). When investment services firms participate in banking activities in the alliances, the mean AR is -0.95% (significant at the 10% level) and the median is -0.58% (significant at the 10% level). Furthermore, there is a statistically significant difference in medians between the market reactions to financial services firms when participating in financial services activities other than their own activities and participating in any other activities in the alliances; the difference of -0.44% is significant at the 10% level. The results are inconsistent with the hypothesis that the market reaction is more favorable for financial services partner firms that are involved in financial services activities other than their own activities in the alliances.

In summary, the market reacts positively to the strategic alliance announcements by financial services firms. Banks, investment services firms, cross-industry alliance partners, partners of alliances with cross-border activities, partners of alliances with within-border activities, partners of domestic alliances, non-equity alliance partners, alliance partners without prior relationships, alliance partners participating in banking services activities, alliance partners participating in financial services activities, alliance partners participating in investment services activities, alliance partners participating in

marketing services activities, alliance partners participating in their own financial services activities, banks participating in banking activities, and investment services firms participating in investment activities gain significant values for alliance announcements.

Even though different types of alliances provide different benefits and are likely the result of different motivations, there are no significant differences in the market reactions across most of them. The market reacts more favorably when firms form alliances with cross-border activities and participate in their own financial sector activities in the alliances, while the market reacts more unfavorably to partner firms participating in new financial services activities other than their own activities. The market seems to believe that the financial services firms would benefit from participating in alliance activities for which they have the expertise and experience. The results of this study provide financial services firms additional guidance for selecting from among various types of alliances when they elect to participate and collaborate with other firms.

4.2 Long-run Abnormal Stock Performance

Table 4.4 presents the stock performance during the three years before strategic alliance announcements estimated using holding-period industry- and size-adjusted abnormal returns (Panel A) and calendar-time abnormal returns implied by the 4-factor model (Panel B). None of the holding-period abnormal returns are statistically significant. The abnormal returns determined by intercept α and $Adj.$ α in the 4-factor model are also not statistically significant. Therefore, I find no evidence of abnormal stock performance before alliance announcements with either of the methodologies.

Table 4.4
Stock performance before strategic alliance announcements.

Panel A: Holding-period abnormal returns

	One year	Two years	Three years
Mean	2.32%	2.87%	-4.97%
(*t*-statistic)	(0.76)	(0.59)	(-0.82)

Panel B. Calendar-time returns

$$R_{pt} - R_{ft} = \alpha + \beta_m(R_{mt} - R_{ft}) + \beta_s SMB_t + \beta_h HML_t + \beta_u UMD_t + \varepsilon_t$$

	α (*t*-statistic)	Adj. α (*t*-statistic)	β_m (*t*-statistic)	β_s (*t*-statistic)	β_h (*t*-statistic)	β_u (*t*-statistic)
One year	0.0197 (0.08)	-0.0550 (-0.21)	1.3157*** (21.31)	0.2311*** (3.04)	0.6547*** (6.95)	-0.0459 (-0.86)
Implied 1-year AR	0.24%	-0.66%				
Two years	0.1473 (0.67)	0.0992 (0.45)	1.2204*** (22.78)	0.2056*** (3.12)	0.5688*** (7.02)	-0.0580 (-1.26)
Implied 2-year AR	3.60%	2.41%				
Three years	0.2448 (1.24)	0.1534 (0.78)	1.1653*** (23.97)	0.1578*** (2.61)	0.5003*** (6.84)	-0.0902** (-2.14)
Implied 3-year AR	9.20%	5.67%				

Panel A reports holding-period abnormal returns of the alliance firms estimated relative to the returns of industry- and size-matched firms. Strategic alliance firms are excluded from the matched sample for the three years before to three years after the announcement. *T*-statistics reported in parentheses are cross-sectional *t*-statistics. Panel B reports results from the 4-factor model. To estimate 1-year (2-year, 3-year) period abnormal monthly returns, each month I identify all firms that made strategic alliances during the next year (two years, three years) and calculate equally weighted average-monthly returns for these firms (R_{pt}). R_{ft} is the risk-free rate, $(R_{mt} - R_{ft})$ is the excess return on the market, SMB_t is the difference in returns between portfolios of small and large stocks, HML_t is the difference in returns between high and low book-to-market stocks, and UMD_t is the difference in returns between portfolios of high and low prior-return stocks. The monthly abnormal return of the alliance firms is determined by the intercept term α. The adjusted intercept is estimated relative to the expected intercept obtained from 1,000 calendar-time portfolio regressions of random portfolios with the same size and book-to-market characteristics as the strategic alliance firms. I also estimate implied abnormal returns of the alliance firms for the 1- to 3-year periods $((1 + \alpha/100)^n - 1$, where n is the number of months in the estimation period).
***, **, and * Significance at the 1 percent, 5 percent, and 10 percent levels, respectively (2-tail tests).

Table 4.5 reports the stock performance during the three years after strategic alliance announcements estimated using holding-period industry- and size-adjusted abnormal returns (Panel A) and calendar-time abnormal returns implied by the 4-factor model (Panel B). During the first year after alliance announcements, alliance firms outperform industry- and size-matched firms by 4.10%, although the difference is only significant at the 10% level. This result is consistent with Gleason, Mathur, and Wiggins (2003) who find that strategic alliance and joint venture firms outperform their industry- and size-matching firms after the announcements using 1-year holding-period abnormal returns. However, there is no evidence of holding-period abnormal returns during later years in my study. Furthermore, I find no evidence of abnormal stock performance using the 4-factor model in any of the time periods after alliance announcements. Thus, I do not have consistent results when using these two methodologies to support the hypothesis that the long-run abnormal stock performance is positive after the alliance announcements.

Table 4.5

Stock performance after strategic alliance announcements.

Panel A: Holding-period abnormal returns

	One year	Two years	Three years
Mean	4.10%	4.36%	4.09%
(*t*-statistic)	(1.84)*	(1.45)	(1.25)

Panel B. Calendar-time returns

$$R_{pt} - R_{ft} = \alpha + \beta_m(R_{mt} - R_{ft}) + \beta_s SMB_t + \beta_h HML_t + \beta_u UMD_t + \varepsilon_t$$

	α (*t*-statistic)	*Adj.* α (*t*-statistic)	β_m (*t*-statistic)	β_s (*t*-statistic)	β_h (*t*-statistic)	β_u (*t*-statistic)
One year	-0.0486 (-0.19)	0.0056 (0.02)	1.0451*** (17.03)	0.3313*** (4.52)	0.4596*** (5.09)	-0.1714*** (-3.30)
Implied 1-year AR	-0.58%	0.07%				
Two years	0.0936 (0.37)	0.1164 (0.46)	1.0594*** (16.94)	0.2739*** (3.66)	0.5240*** (5.70)	-0.2190*** (-4.10)
Implied 2-year AR	2.27%	2.83%				
Three years	0.1261 (0.52)	0.1518 (0.62)	1.0748*** (17.74)	0.2640*** (3.64)	0.5503*** (6.18)	-0.2306*** (-4.46)
Implied 3-year AR	4.64%	5.61%				

Panel A reports holding-period abnormal returns of the alliance firms estimated relative to the returns of industry- and size-matched firms. Strategic alliance firms are excluded from the matched sample for the three years before to three years after the announcement. *T*-statistics reported in parentheses are cross-sectional *t*-statistics. Panel B reports results from the 4-factor model. To estimate 1-year (2-year, 3-year) period abnormal monthly returns, each month I identify all firms that made strategic alliances during the last one year (two years, three years) and calculate equally weighted average-monthly returns for these firms (R_{pt}). R_{ft} is the risk-free rate, (R_{mt} –R_{ft}) is the excess return on the market, SMB_t is the difference in returns between portfolios of small and large stocks, HML_t is the difference in returns between high and low book-to-market stocks, and UMD_t is the difference in returns between portfolios of high and low prior-return stocks. The monthly abnormal return of the alliance firms is determined by the intercept term α. The adjusted intercept is estimated relative to the expected intercept obtained from 1,000 calendar-time portfolio regressions of random portfolios with the same size and book-to-market characteristics as the strategic alliance firms. I also estimate implied abnormal returns of the alliance firms for the 1- to 3-year periods ($(1 + \alpha/100)^n - 1$, where n is the number of months in the estimation period).

***, **, and * Significance at the 1 percent, 5 percent, and 10 percent levels, respectively (2-tail tests).

4.3 Operating Performance

In order to test the hypotheses regarding the operating performance of the strategic alliance firms, I estimate the raw and adjusted operating performance of the sample alliance firms during the three years before and the three years after strategic alliances.

The operating performance measures used are the ratios operating income to assets and returns on assets of the alliance firms. I estimate the ratio of operating income to assets of the alliance firms as operating income before depreciation (Compustat item 13) divided by total assets (item 6). When interest income figures (item 62) are available for the alliance firms, I add them to operating income before depreciation. Return on assets of the alliance firms is estimated as net income (item 172) divided by total assets (item 6). I obtain all Compustat items of the alliance firms at the end of the fiscal year.

To estimate adjusted operating performance of the alliance firms, I adjust performance measures using industry medians. I first define industries of the sample firms using 4-digit SIC codes. If fewer than ten firms are found using a 4-digit SIC code, I then use their 3-digit SIC code. If again fewer than ten firms are found using a 3-digit SIC code, I then use their 2-digit SIC code. Wilcoxon signed-rank tests evaluate the statistical significance of the results.

I then estimate the differences in operating performance between three years before and one year before alliance announcements, one year before and one year after alliance announcements, and one year before and three years after alliance announcements. The same procedure is also used for adjusted operating performance.

Table 4.6 presents the operating performance around the alliance announcements. The results show that the sample firms improve operating performance before strategic alliance announcements. From Year -3 to Year -1, the ratio of operating income to assets goes up by 0.11%, significant at the 5% level, and return on assets increases by 0.05%, significant at the 10% level. After strategic alliance announcements, firms experience deterioration in operating performance. From Year -1 to Year 1, the ratio of operating income to assets deceases by 0.04%, significant at the 5% level, and return on assets decreases by 0.01%, significant at the 5% level. From Year -1 to Year 3, the ratio of operating income to assets deceases by 0.06%, significant at the 5% level. However, changes in adjusted performance measures suggest that this deterioration is driven by deterioration in industry performance. Around alliance announcements, alliance firms and same-industry firms have similar ratios of operating income to assets, while the returns on assets are significantly lower for alliance firms. This finding is different from Chan, Kensinger, Keown, and Martin (1997) who find that strategic alliance firms outperform their industry peers two years before through two years after alliance announcements without significant improvement or deterioration in operating performance for a sample of primarily high-tech firms. My results contradict the hypothesis that the financial services partner firms experience better operating performance than industry peers before strategic alliances. The results also contradict the hypothesis that the financial services partner firms experience improvement in operating performance and outperform their industry peers after the alliances.

Table 4.6

Operating performance around strategic alliance announcements.

Fiscal year relative to the event year	Raw performance measures, medians		Adjusted performance measures, medians	
	Operating income / assets	Return on assets	Operating income / assets	Return on assets
-3	3.03%	1.11%	-0.09%	-0.02%
-2	3.27%	1.15%	-0.06%	-0.03%
-1	3.43%	1.16%	-0.04%	-0.06%***
0	3.28%	1.15%	-0.06%	-0.08%***
1	3.01%	1.09%	-0.06%	-0.13%***
2	3.08%	1.15%	-0.06%	-0.04%**
3	3.04%	1.18%	-0.12%	0.00%
Year -3 to -1	0.11%**	0.05%*	0.11%**	0.00%
Year -1 to 1	-0.04%**	-0.01%**	0.07%	0.01%
Year -1 to 3	-0.06%**	0.04%	0.13%	0.17%***

The table reports the raw and adjusted median ratios of operating income to assets and returns on assets before and after strategic alliances. Adjusted variables are estimated relatively to industry medians. To estimate the statistical significance of adjusted medians and differences in time, I use the Wilcoxon signed-rank test.

***, **, and * Significance at the 1 percent, 5 percent, and 10 percent levels, respectively (2-tail tests).

4.4 Joint Ventures after Strategic Alliances

Mody (1993) states that alliances represent experimental organizational forms and that they can evolve over time and give rise to joint ventures. However, Chan, Kensinger, Keown, and Martin (1997) find that only five of their 345 sample alliances are followed by joint ventures. In order to test the hypothesis that the financial services partner firms are more likely to form joint ventures with partners than other firms and whether strategic alliances are used to prepare for joint ventures, I examine the joint ventures between strategic alliance partner firms after alliance announcements using both the SDC database and Lexis/Nexis.

As the number of participants in sample alliances ranges from 2 to 16, I obtain the non-financial services partner firms for each of the sample alliances and pair the sample

firms with their partner firms. As the number of participants of joint ventures in the Joint Ventures/Alliances section of the SDC Mergers and Acquisitions database ranges from 2 to 17, I pair the joint venture participants and create a joint venture set. Then I search the pairs of alliance partners in the joint venture set for any joint ventures that have effective dates that are later than the announcement dates of the sample alliances. If effective dates are not available for some joint ventures in the joint venture set, the announcement dates are used instead for the comparison.

Besides the joint ventures found in the SDC, I search the names of those paired alliance firms in the sections of business and finance, mergers and acquisitions, and all available wire reports three years after the alliance announcements in Lexis/Nexis. I use pairs among the alliance firms for searching, because a joint venture might only take place between two firms instead of all the firms in an alliance.

After searching for joint ventures in both the SDC and Lexis/Nexis, I check for any repeats for the same pairs of partner firms. I keep only those joint ventures with a completed/signed status, and the effective dates are the earliest among the repeats.

In Table 4.7, I present the number of strategic alliance firms that expand their cooperation by setting up joint ventures with their alliance partners. In Panel A, I examine my full sample of 795 strategic alliances by financial services firms. By searching the SDC and Lexis/Nexis databases, I find only 14 joint ventures after the formation of strategic alliances (1.76% of all alliances).

Table 4.7
Joint ventures after strategic alliances.

Panel A: Full sample of strategic alliances

	Strategic alliance sample	Random sample	Difference	P-value
Number of strategic alliances	795	795		
Number of joint ventures	14	0	14	
Percentage of joint ventures	1.76	0	1.76***	0.000

Panel B: Restricted sample of strategic alliances

	Strategic alliance sample	Matched sample	Difference	P-value
Number of strategic alliances	267	267		
Number of joint ventures	12	1	11	
Percentage of joint ventures	4.49	0.37	4.12***	0.002

In Panel A, I examine the sample of 795 strategic alliances by financial services firms announced during 1986 to 2003. I search the Joint Ventures/Alliances section of the SDC Mergers and Acquisitions database and Lexis/Nexis to find which strategic alliance firms formed joint ventures with alliance partners after the alliance. For comparison, I create a random sample by replacing each firm in the strategic alliance sample by a randomly selected CRSP firm included in the database at the time of the alliance. In Panel B, I examine the sample restricted to strategic alliances with at least two firms included in CRSP at the time of the alliance. For comparison, I create a sample matched by the 2-digit SIC code and the market value of equity at the beginning of the alliance announcement month. To test the differences in percentages of joint ventures between the samples, I calculate z-statistics and report the corresponding p-values.
***, **, and * Significance at the 1 percent, 5 percent, and 10 percent levels, respectively (2-tail tests).

Forming a joint venture is a common event these days in the competitive market environment. There were about 60,446 joint ventures formed during the 1990s around the globe (Moskalev & Swensen, 2007). To eliminate the possibility that joint ventures are as likely among strategic alliance firms as among any other firms, I create a random sample of firms and search the SDC database for joint ventures among these firms. I use a random sample instead of a matching sample because the majority of the full sample firms are not included in CRSP or Compustat and I cannot obtain firm characteristics to use for matching. The random sample is created by replacing each firm in a strategic alliance by a randomly selected CRSP firm included in the database at the time of the

alliance announcement. I require that the same random firm not be included in the same strategic alliance more than once. The random sample excludes strategic alliance firms in my sample. I find no evidence of joint ventures for the random sample firms after strategic alliance dates. To test the statistical significance of difference in the percentages of joint ventures for alliance and randomly selected firms, I calculate the z-statistic and report the corresponding p-value. The test shows that the strategic alliance firms are more likely to create joint ventures than randomly selected firms, significant at the 1% level.

In Panel B of Table 4.7, I examine the sample restricted to 267 strategic alliances with at least two firms included in CRSP at the time of the alliance announcement. Twelve of these strategic alliances (4.49%) are followed by joint ventures. For comparison, I create a sample matched by the 2-digit SIC code and the market value of equity at the beginning of the alliance announcement month, then search the SDC database for joint ventures among these matched firms. I find one joint venture created by the matched firms after strategic alliance dates. To test the statistical significance of difference in the percentages of joint ventures for alliance and matched firms, I calculate the z-statistic and report the corresponding p-value. The test shows that the strategic alliance firms are more likely to create joint ventures than matched firms, significant at the 1% level.

In summary, the results support the hypothesis that strategic alliance firms are more likely to form joint ventures with partners than randomly selected or matched firms. However, joint ventures are not common after strategic alliances; only about 1.76% of alliances in my sample result in joint ventures. Similarly, Chan, Kensinger, Keown, and Martin (1997) find only 1.45% of their 345 sample alliances evolve into joint ventures.

This finding suggests that firms often form alliances without expecting this cooperation to become more involved through joint ventures. Therefore, instead of a preparation strategy for forming joint ventures later on, a strategic alliance seems to stand alone as an organizational strategy itself and provides alliance partners with other motivations.

4.5 Mergers and Acquisitions after Strategic Alliances

Mergers and acquisitions are an important means for firms to expand or explore growth opportunities. However, because of the information asymmetry between the target and the acquirer, the bidding price may be incorrect or the targets with bad quality may be selected. Strategic alliances between the target and the acquirer before the acquisition can help to reduce this information asymmetry. By pooling resources together and doing the tryout, the partners of the alliance get the chance to obtain knowledge about each other before getting into negotiations for the final transfer of resources. It is a trial marriage and is an important first step before eventually undertaking a merger or acquisition (Balakrishnan & Koza, 1993). Haspeslagh and Jemison (1991) and Hurry (1993) also argue that collaboration such as forming a strategic alliance opens the way for a potential merger or leads to an acquisition of partners. To test the hypothesis that the financial services partner firms are more likely to undertake mergers and acquisitions with partners than other firms and determine whether strategic alliances are used to prepare for mergers and acquisitions, I examine mergers and acquisitions between the strategic alliance partner firms following alliance announcements using both the SDC database and Lexis/Nexis.

As the number of participants in sample alliances ranges from 2 to 16, I first obtain the non-financial services partner firms for each of the sample alliances and pair

the sample firms with their partner firms. Then I search these pairs in the SDC Mergers and Acquisitions section for any deals that have effective dates that are later than the announcement dates of the sample alliances. If effective dates are not available for some deals in the SDC, I use the announcement dates instead for the comparison.

Besides the mergers and acquisitions found in the SDC, I search the names of those paired alliance firms in the sections of business and finance, mergers and acquisitions, and all available wire reports three years after the alliance announcements in Lexis/Nexis. I use pairs among the alliance firms for searching, because mergers and acquisitions might only take place between two firms instead of all the firms in an alliance.

After searching for mergers and acquisitions in both the SDC and Lexis/Nexis, I check for any repeats for the same pairs of partner firms. I keep only those mergers with status as completed, and the effective days are the earliest among the repeats.

In Table 4.8, I present the number of strategic alliance firms that expand their cooperation by merging with their alliance partners. In Panel A, I examine my full sample of 795 strategic alliances by financial services firms. By searching the SDC and Lexis/Nexis, I find only 23 mergers and acquisitions after the formation of strategic alliances (2.89% of all alliances).[3]

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[3] Initially I found 28 announcements of mergers and acquisitions by strategic alliance firms; however, two of them were withdrawn, another two were pending, and one was in unknown status.

Table 4.8
Mergers and acquisitions after strategic alliances.

Panel A: Full sample of strategic alliances

	Strategic alliance sample	Random sample	Difference	P-value
Number of strategic alliances	795	795		
Number of mergers and acquisitions	23	0	23	
Percentage of mergers and acquisitions	2.89	0	2.89***	0.000

Panel B: Restricted sample of strategic alliances

	Strategic alliance sample	Matched sample	Difference	P-value
Number of strategic alliances	267	267		
Number of mergers and acquisitions	6	0	6	
Percentage of mergers and acquisitions	2.25	0	2.25**	0.013

In Panel A, I examine the sample of 795 strategic alliances by financial services firms announced during 1986 to 2003. I search the SDC Mergers and Acquisitions database and Lexis/Nexis to find which strategic alliance firms merged with alliance partners after the alliance. For comparison, I create a random sample by replacing each firm in the strategic alliance sample by a randomly selected CRSP firm included in the database at the time of the alliance. In Panel B, I examine the sample restricted to strategic alliances with at least two firms included in CRSP at the time of the alliance. For comparison, I create a sample matched by the 2-digit SIC code and the market value of equity at the beginning of the alliance announcement month. To test the differences in percentages of mergers and acquisitions between the samples, I calculate z-statistics and report the corresponding p-values.
***, **, and * Significance at the 1 percent, 5 percent, and 10 percent levels, respectively (2-tail tests).

Mergers and acquisitions are frequent events. The "Report on Consolidation in the Financial Sector" shows that 7,634 mergers and acquisitions occurred in the financial services industry during the 1990s around the world (Group of Ten, 2001). To eliminate the possibility that mergers are as likely among strategic alliance firms as among any other firms, I again create a random sample of firms and search the SDC database for mergers and acquisitions among these firms. I find no evidence of mergers and acquisitions for the random sample firms after strategic alliance dates. To test the statistical significance of difference in the percentages of mergers for alliance and randomly selected firms, I calculate the z-statistic and report the corresponding p-value.

The test shows that the strategic alliance firms are more likely to merge than randomly selected firms, significant at the 1% level.

In Panel B of Table 4.8, I examine the sample restricted to 267 strategic alliances with at least two firms included in CRSP at the time of the alliance announcement. Six of these strategic alliances (2.25%) are followed by mergers and acquisitions. For comparison, I again create a sample matched by the 2-digit SIC code and the market value of equity at the beginning of the alliance announcement month, then search the SDC database for mergers among these matched firms. I find no evidence of mergers and acquisitions for matched firms after strategic alliance dates. To test the statistical significance of difference in the percentages of mergers for alliance and matched firms, I calculate the z-statistic and report the corresponding p-value. The test shows that the strategic alliance firms are more likely to merge than matched firms, significant at the 5% level.

In summary, the results support the hypothesis that strategic alliance firms are more likely to merge with partners than randomly selected or matched firms. However, mergers and acquisitions are not common after strategic alliances; only about 2.89% of alliances in my sample are followed by mergers and acquisitions. Similarly, Hagedoorn and Sadowski (1999) also find only 2.6% of the strategic technology alliances in their sample leading towards final mergers and acquisitions. This finding suggests that firms often form alliances without expecting this cooperation to become more involved through mergers. Thus, instead of a transition strategy for entering mergers and acquisitions, strategic alliances seem to stand alone as an organizational strategy itself and are a reflection of partners' ulterior motives.

4.6 Market Reaction to Alliance Announcements for Alliances followed by Joint Ventures or Mergers and Acquisitions

Table 4.9 presents the announcement-day ARs for strategic alliance firms that extend their cooperation after strategic alliance announcements. The ARs are estimated using a market model. I estimate market model parameters during the 150-day period ending 30 days before the announcement date. Joint ventures or mergers and acquisitions after the alliances are found from the earlier analysis. If the market can predict which firms will extend their cooperation and the market expects that such cooperation will be beneficial, there should be a more favorable market reaction to the alliance announcements for alliances followed by joint ventures or mergers and acquisitions. I use analysis of variance to test for differences in means and the Kurskal-Wallis test to test for differences in medians.

Table 4.9
Market reaction to strategic alliance announcements for alliances followed by joint ventures or mergers and acquisitions.

	Mean (t-statistic)	Median (p-value)	Number of observations
Partners of strategic alliances followed by joint ventures between partners	1.11% (1.31)	0.84% (0.119)	14
Other strategic alliance partners	0.39%*** (2.73)	0.11%** (0.023)	768
Difference between alliances followed by joint ventures and other alliances	0.72% (0.68)	0.73% (0.287)	
Partners of strategic alliances followed by mergers and acquisitions between partners	1.82%* (1.94)	0.17% (0.326)	23
Acquiring firms	-0.18% (-0.64)	-0.27% (0.588)	13
Target firms	4.43%** (2.38)	2.24%* (0.064)	10
Difference between acquiring firms and target firms	-4.61%** (-2.79)	-2.51%* (0.055)	
Other strategic alliance partners	0.36%** (2.53)	0.11%** (0.021)	759
Difference between alliances followed by mergers and acquisitions and other alliances	1.46%* (1.75)	0.06% (0.507)	

The table presents announcement-day Abnormal Returns (ARs) for strategic alliance firms. The ARs are estimated using a market model. I estimate market model parameters during the 150-day period ending 30 days before the announcement date. The strategic alliance announcement day is reported in the SDC. I search the SDC Mergers and Acquisitions database and Lexis/Nexis to find which strategic alliance firms formed joint ventures or merged with alliance partners after the alliance. T-statistics are cross-sectional t-statistics. P-values are signed rank test p-values. I use analysis of variance to test for differences in means and the Kurskal-Wallis test to test for differences in medians.
***, **, and * Significance at the 1 percent, 5 percent, and 10 percent levels, respectively (2-tail tests).

I find no significant differences in the market reactions for firms participating in alliances followed by joint ventures. It seems that the market is not able to predict joint ventures or does not believe them to be beneficial to the firms. The results cannot verify the hypothesis that the market reaction is more favorable for financial services partner firms that form joint ventures with partners following alliances.

The results are different for mergers and acquisitions. The mean abnormal return for partners of alliances followed by mergers and acquisitions is 1.82%, while for others

it is only 0.36%, the difference is significant at the 10% level. The results support the hypothesis that the market reaction is more favorable for financial services partner firms that merge with partners after the alliances. Furthermore, the favorable market reaction is concentrated among target firms. The target firms have a 4.43% mean abnormal return and 2.24% median abnormal return, higher than those of the acquirer firms, significant at the 5% and 10% level, respectively. The results suggest that the market is able to identify those partner firms of alliances that are more likely to be followed by mergers and acquisitions.

In order to find out what types of alliances are more likely to be followed by joint ventures or mergers and acquisitions, I further examine the percentages of alliances followed by joint ventures or mergers and acquisitions across different types of alliances. Table 4.10 reports the distributions of strategic alliances followed by joint ventures or mergers and acquisitions. When alliances involve banks, insurance services firms, or investment services firms, the percentages of alliances followed by joint ventures or mergers and acquisitions are 3.79%, 4.44%, and 5.62%, respectively. I find no significant differences in the percentages of follow-up joint ventures or mergers and acquisitions between cross-industry alliances and within-industry alliances, alliances with cross-border activities and alliances with within-border activities, as well as international alliances and domestic alliances.

Table 4.10
Distributions of strategic alliances followed by joint ventures or mergers and acquisitions.

	Number of strategic alliances	Number of following joint ventures or mergers and acquisitions	Percentage of following joint ventures or merges and acquisitions
Banks (6000 through 6199)	317	12	3.79
Insurance services (6300 through 6411)	135	6	4.44
Investment services (6200 through 6299 and 6700 through 6799)	409	23	5.62
Cross-industry strategic alliances	219	18	8.22
Within-industry strategic alliances	48	5	10.42
Difference, p-value			0.646
Alliances with cross-border activities	54	2	3.70
Alliances with within-border activities	741	35	4.72
Difference, p-value			0.704
International strategic alliances	239	11	4.60
Domestic strategic alliances	543	26	4.79
Difference, p-value			0.908
Equity alliances	25	7	28.00
Non-equity alliances	770	30	3.90
Difference, p-value			0.007***
Strategic alliances with prior relationships between partners	51	6	11.76
Strategic alliances without prior relationships between partners	744	31	4.17
Difference, p-value			0.097*
Total	795	37	4.65

The sample includes 795 strategic alliances by financial services firms announced during 1986 to 2003. I search the SDC Mergers and Acquisitions database and Lexis/Nexis to find which strategic alliance firms formed joint ventures or merged with alliance partners after the alliance. Cross-industry alliances involve at least one firm from other than the financial services industry. Within-industry alliances involve firms only from the financial services industry. Alliances with cross-border activities are alliances where activities occur in more than one country. Alliances with within-border activities are alliances where activities occur in one country. International alliances involve firms from different countries. Domestic alliances involve firms from only one country. Equity alliances are alliances where at least one partner firm buys equity in another partner firm. I search for evidence of relationships between partners of alliances before the alliances in the SDC Mergers and Acquisitions database as well as Lexis/Nexis. To test the differences in percentages of joint ventures or mergers and acquisitions between the subsamples, I calculate z-statistics and report the corresponding p-values.

***, **, and * Significance at the 1 percent, 5 percent, and 10 percent levels, respectively (2-tail tests).

I find that the percentage of equity alliances followed by joint ventures or mergers and acquisitions is 28%, while for other alliances it is only 3.90%; the difference is significant at the 1% level. The percentage of alliances with prior relationships between partners followed by joint ventures or mergers and acquisitions is 11.76%, while for other alliances it is only 4.17%; the difference is significant at the 10% level. The results show that equity alliances and alliances with prior relationships between partner firms are more likely to be followed by joint ventures or mergers and acquisitions.

4.7 Summary

In this chapter, I present the empirical results of the analyses. Using the event-study methodology, I find that there is a positive overall market reaction to the strategic alliance announcements by financial services firms; that the market reaction is more favorable for financial services partner firms that participate in alliances with cross-border activities than alliances with within-border activities; that the market reaction is positive for financial services partner firms that are involved in financial services activities such as banking services or investment services in the alliances; and that the market reaction is more favorable for financial services partner firms that are involved in their own financial services activities in the alliances versus alliance firms that participate in other than their industry activities. The results also show that the market reaction is less favorable for financial services partner firms that are involved in alliances with financial services activities other than their own industry activities.

Using two methodologies to estimate the long-run abnormal stock performance for the participants of strategic alliances, I find that the results support only the hypothesis that long-run abnormal stock performance is positive after alliance

announcements in the 1-year period, using the holding-period abnormal return methodology.

By examining the operating performance of the alliance firms, I find that the financial services partner firms experience worse operating performance than industry peers before and after strategic alliances. The results also show that the sample firms improve operating performance before strategic alliance announcements, while the performance deteriorates afterwards.

The results for joint ventures or mergers and acquisitions after the strategic alliances provide support for the hypothesis that the financial services partner firms are more likely to form joint ventures or get into mergers and acquisitions with partners than other firms. Finally, the results of market reactions to strategic alliance announcements for alliances followed by joint ventures or mergers and acquisitions support the hypothesis that the market reaction is more favorable for financial services partner firms that merge with partners after the alliances.

CHAPTER 5

CONCLUSIONS

Due to deregulation of the financial services industry, technological advances, and globalization, the financial market has become more complex and diversified. Over the past 20 years, strategic alliances have become important means for accelerating growth for financial services firms. Strategic alliances can be very useful in raising entry barriers in the financial services industry and effectively reducing potential threats from future competition. Partner firms are thus able to maintain their competitive positions. Strategic alliances can be used as a strategic means for integrating or diversifying to expand the scale and/or scope of operations. The flexibility of the alliance option benefits the partner firms by allowing quick expansion and separation without their experiencing divesting problems and allows firms to try out different partners when developing new technologies or new marketing plans. By allying with others, firms extend their resource bases instead of relying solely on others. The partner firms also exchange and gain knowledge and ability in the process, lower their costs, achieve economies of scale in production, and use the resources pooled more efficiently. By entering strategic alliances with other participants in the market, firms provide signals of the quality of their resources and experience risk reduction and sharing. Furthermore, forming strategic

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alliances between acquirers and targets prior to mergers and acquisitions reduces information asymmetries through learning and solves adverse selection problems.

Given the increasing importance of strategic alliances in the financial services industry, but limited prior research, this study provides a more comprehensive and detailed investigation of the issue. My study contributes to the understanding of the wealth effects of strategic alliances on financial services firms and the level of cooperation between partner firms after strategic alliance announcements. By providing insight into strategic alliances, this study may help managers of financial services firms to participate more effectively in alliances, from the initial formation to the final outcome.

The sample period (1986-2003) covers an entire business cycle and the deregulation process in the financial services industry. Without including a wide range of industries in the sample, the results directly reflect the value creation by alliances in the financial services industry. The study contributes to the understanding of the wealth effects of strategic alliances on financial services firms by providing a comprehensive analysis of the market reaction to alliance announcements, pre- and post-announcement abnormal stock performance of the financial services partner firms, and pre- and post-announcement operating performance of the partner firms. Furthermore, the study adds to the existing literature by examining the level of cooperation between strategic alliance partner firms after alliance announcements, such as joint ventures or mergers and acquisitions.

I examine a sample of financial services firms that were involved in strategic alliances during 1986 to 2003. I find that strategic alliance announcements have a positive effect on the wealth creation of financial services firms. The results show that

announcements of strategic alliances increase the value of partner firms by 0.53%, which provides support for financial services firms to maintain active participation in strategic alliances or to enter into strategic alliances in the future. I find no consistent evidence of abnormal long-term stock performance before or after alliance announcements. Therefore, the positive wealth effect of strategic alliances seems to be fully captured by the market reaction to alliance announcements. Alliance firms improve their operating performance before alliance announcements. After alliance announcements, operating performance deteriorates; however, this deterioration is driven by the deterioration in industry performance.

Some alliance partners extend their cooperation after alliance announcements. Consistent with the hypothesis that firms use strategic alliances to reduce information asymmetries between alliance partners before getting involved in more committed partnerships, I find that strategic alliance firms are more likely to form joint ventures or merge than randomly selected or matched firms. However, joint ventures and mergers and acquisitions are not common after strategic alliances are formed; only about 5% of alliances are followed by joint ventures or mergers of partner firms. This finding suggests that firms often form alliances without expecting this cooperation to become more involved through joint ventures or mergers. Reasons other than preparation for joint ventures or mergers are more common for strategic alliances of financial services firms. I also find that the market reacts more favorably to alliance announcements by firms that are subsequently acquired by the alliance partners. The market seems to be able to predict at the time of the alliance announcement which firms have the potential for extending their cooperation. The results also show that equity alliances and alliances with prior

relationships between partners are more likely to be followed by joint ventures or mergers and acquisitions.

In this study, I provide a comprehensive analysis on evaluating the wealth effects of strategic alliances for financial services firms and the level of cooperation between partner firms after strategic alliance announcements. Similar methodologies can be employed to analyze strategic alliances in other industries, which might provide insights into alliance activities for other industry participants.

I also find that financial services alliance partners experience an improvement in operating performance before alliance announcements and a deterioration afterwards. The deterioration in operating performance after alliance announcements appears to be driven by deterioration in industry performance. It is possible that the alliance firms anticipate a downturn in the industry, and use alliances as a defensive strategy. Further research should be conducted to explore the reasons behind this pattern of improvement and deterioration in operating performance of strategic alliance firms, such as under-performing firms more actively participating in alliances and engaging in earnings management before forming alliances in order to attract better potential alliance partners.

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